“We need all the help we can get”: A Qualitative Examination of Service Provider Perspectives on the Barriers and Facilitators to the Implementation of The Emergency Risk Mitigation Guidelines

by

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We acknowledge and respect the lək̓ʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical relationships with the land continue to this day.

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Abstract

The Risk Mitigation Guidance (RMG) was an interim clinical guidance implemented to respond to both the public health emergency on COVID-19 and the overdose crisis through the provision of pharmaceutical alternatives to the illicit drug supply to facilitate isolation, social distancing, and reduce overdose risk. This study analysed the perspectives from a broad range of service providers, whose work was impacted or related to the RMG, to elucidate a nuanced narrative regarding the perceived facilitators and barriers to RMG implementation. In this study, 24 qualitative interviews were conducted with service providers with the RMG from across British Columbia. Service Providers viewed RMG as a tangible item they could refer to when providing RMG medications to people who clearly fit in the intended target populations. Implementation challenges included, lack of comprehensive guidance and support, inconsistent application of RMG, historical prescribing contexts, the potential risk of destabilizing people on alternative treatments, and diversion. Future research is needed in determining the qualitative and quantitative impacts of pharmaceutical alternative initiatives, particularly in relation to diversion and the initiation of substance use; the relative impact of increased planning in the context of public health emergencies; and deeper analysis into the perspectives of other stakeholders, such as PWUD or pain patients, on the implementation of pharmaceutical alternatives.

Keywords: Risk Mitigation Guidance; pharmaceutical alternatives; safe supply; COVID-19; clinical guidance; emergency response; harm reduction; implementation science; Consolidated Framework for Implementation Research

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I would also like to acknowledge all those who have lost their lives due to senseless unintentional overdose deaths that have resulted from the unregulated drug supply, and to those tirelessly fighting to end this ongoing tragedy.

Introduction

Opioid toxicity deaths and non-fatal overdoses pose a major public health risk in both Canada (Imtiaz et al., 2021; Oviedo-Joekes, 2017) and the United States (Friedman & Akre, 2021). In Canada, illicit opioid overdose deaths claimed the lives of over 29,052 people between January 2016 and December 2021 (Public Health Agency of Canada, 2021). Following the emergence and global spread of the novel coronavirus strain severe respiratory syndrome coronavirus 2 (SARS-CoV-2) and the declaration of COVID-19 pandemic (World Health Organization, 2020), the incidence of accidental opioid overdose death has increased (Ali et al., 2021; Imtiaz et al., 2021). Drug-related overdose deaths increased in Canada by 58% between the first and second quarter of 2020 (Imtiaz et al., 2021) and 96% during the first year of the pandemic (Public Health Agency of Canada, 2021). This rise in overdose deaths was particularly prevalent in British Columbia (BC), Canada with 1773 illicit drug toxicity deaths occurring in 2020 compared to 986 deaths in 2019 (BC Coroners Service, 2022b).

The drastic increase in deaths has been attributed to access interruptions for treatment and harm reduction services (Frost et al., 2022; Russell et al., 2021), border closures and isolation measures disrupting drug supply chains, and reduced ability of people who use drugs (PWUD) to use with others (Glegg et al., 2022). In BC, there was a unique confluence of an existing provincially declared emergency on the overdose crisis (British Columbia Ministry of Health, 2016) and a declared public health emergency on COVID-19 (British Columbia Ministry of Health, 2020), resulting in a situation coined a “Dual Public Health Emergency” (British Columbia Ministry of Health, 2020). In response to this unique situation, British Columbia introduced a novel interim clinical guidance titled *Risk Mitigation in the Context of Dual Public Health Emergencies,* commonly referred to as the *Risk Mitigation Guidance (RMG)* (BC Centre on Substance Use, 2020).

Prior to the dual public health emergency, there was an existing push by academics, harm reduction advocates (BC Centre on Substance Use, 2019), and PWUD (Canadian Association of People who Use Drugs, 2019) for safer alternatives to the illicit drug supply. Also, prior to COVID, there had been physicians in BC and Ontario prescribing tablet hydromorphone to patients at a high risk of overdose to reduce their use of illicit opioids (Browne, 2019; Olding et al., 2020). Though, large scale expansion of pharmaceutical alternatives to the illicit drug supply had not occurred. According to John Kingdon (1984), policy window can occur when a problem is simultaneously recognized, has a potential solution, and there is a political climate for change. The dual public health emergency appears to have been a time when all these factors aligned giving policy makes a policy window to both enact long advocated for change relating to alternatives to the drug supply and address concerns relating to COVID-19. However, policy windows are temporary and if they are unexpected it can create challenges for planning and implementing policy innovations (Guldbrandsson & Fossum, 2009).

Publication of the RMG was followed by an endorsement from the federal Minister of Health of pharmaceutical alternatives to the illicit drug supply (Hajdu, 2020), and a federal class exemption to the Controlled Drugs and Substances Act, Food and Drugs Regulations, and Other Targeted Substances Regulations to prescribe, sell or provide controlled substances to patients for prescribers and pharmacists (Health Canada, 2020). The RMG provided a framework for BC prescribers to provide a limited number of pharmaceutical replacements of the illicit (i.e. opioids, stimulants and benzodiazepines) and licit (i.e. alcohol, tobacco and cannabis) drug supply to people who have or are at high risk of COVID-19 and overdose (BC Centre on Substance Use, 2020). The stated purpose of this initiative was to mitigate the effects of COVID-19 associated safety measures such as border closures and mandatory isolation, decrease exposure of PWUD to COVID-19 while looking for drugs, and prevent withdrawal when PWUD may need to isolate (BC Centre on Substance Use, 2020).

In recent years, prescribers in British Columbia have been taught to sparingly prescribe narcotics and a system of surveillance was created to enforce this new paradigm (Lim, McCracken, & Panagiotoglou, 2021). In fact, by 2015 seven provinces and forty-nine states had implemented efforts to survey and dissuade narcotic prescribing, in the form of prescription drug monitoring programs (PDMP), to reduce rates of prescribed opioids and increase patient safety (Bardwell, Ivsins, Socias, & Kerr, 2021; Rhodes, Wilson, Robinson, Hayden, & Asbridge, 2019; Sproule, 2015). The BC PDMP, named the Prescription Review Program of British Columbia (PRP-BC), is coordinated by the College of Physicians and Surgeons of British Columbia (CSPBC) and provides next day data on all controlled substances prescribed in the province (Furlan et al., 2014). The RMG deviates from the messaging implied by the prescription monitoring programs, in that narcotics were now recommended to be used for preventing withdrawal symptoms, separating PWUD from the illicit drug market and facilitating COVID isolation periods (BC Centre on Substance Use, 2020), when traditionally they have been reserved for specific medical ailments or for treatment of substance use disorder (Lim et al., 2021).

Mobilizing clinical guidance into practice is often challenging. However, implementation science can help to identify and understand these challenges in order to promote effective change (Grol & Grimshaw, 2003). Implementation science "…is the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, improve the quality and effectiveness of health services and care." (Eccles & Mittman, 2006). The Consolidated Framework for Implementation Research (CFIR) is one implementation science framework with a systematic inquiry of interventions to identify factors that may influence implementation. The CFIR integrates and standardizes 19 theories of implementation into a single framework consisting of 39 constructs organized into five domains: characteristics of the intervention, outer setting, inner setting, individuals implementing the intervention, and the process of implementation (Damschroder et al., 2009). Under the CFIR, guidance for systematic data collection, coding, analysis and reporting is available and

may produce valuable findings to improve RMG and future policy implementation. As a novel intervention introduced in BC's dual public health emergency context, the RMG presents a unique opportunity to identify the barriers and strategies to implementation of prescription alternatives to the illicit drug market and COVID-19 isolation measures for PWUD in emergency contexts.

This research is a component of a larger mixed-methods evaluation of RMG that aimed to study the implementation and effects of the RMG on overdose risk and COVID-19 transmission in BC (Nosyk et al., 2021). Prior to the implementation of this research there had been no research on the RMG. There was evidence on medicalized pharmaceutical alternative programs that preceded the RMG including the North American Opiate Medication Initiative (NAOMI) and Study to Assess Longer-term Opioid Medication Effectiveness (SALOME) (Oviedo-Joekes et al., 2016; Oviedo-Joekes et al., 2010). The specific evidence base for RMG comes from a hydromorphone tablet distribution program in BC (A. Ivsins et al., 2020; Olding et al., 2020), randomized control trials on the use of dextroamphetamine for cocaine dependence in Australia (Shearer, Wodak, van Beek, Mattick, & Lewis, 2003), the United States (Grabowski et al., 2004), and the Netherlands (Nuijten et al., 2016). Since then some research has emerged on RMG implementation (McNeil et al., 2022; Moshkforoush et al., 2022; Selfridge et al., 2022), and implementation of similar pharmaceutical alternative programs (Glegg et al., 2022; A Ivsins et al., 2021; McCrae et al., 2022; Palis, MacDonald, Jun, & Oviedo-Joekes, 2021). The purpose of this study is to generate further knowledge into the dynamics that impact the implementation of clinical guidelines for pharmaceutical alternatives to the illicit drug supply. Specifically, this study will analyse the perspectives from a broad range of service providers, whose work was impacted or related to the RMG, to elucidate a nuanced narrative regarding the perceived facilitators and barriers to RMG implementation. This generated knowledge will contribute to informing future implementations of pharmaceutical alternatives to the illicit drug supply, COVID-19 interventions, as well as implementation of clinical guidelines in general and in emergency contexts.

Literature Review

Illicit Drug Market, Overdose Crisis and Harm Reduction

Increased mortality after the COVID-19 emergency declaration can be partially explained by the adverse impacts of COVID-19 on people who use drugs (PWUD), which includes changes in substance use frequency, illicit drug supply, drug use patterns, risk behaviors, service accessibility and requirements of physical distancing (Ali et al., 2021). These changes exacerbated the existing dangers of the illicit drug supply, largely driven by the erratic concentrations and contaminations with extremely potent opioid fentanyl (Bardwell, Ivsins, et al., 2021). Prior to the dual public health emergency in British Columbia, there was an established history of initiatives designed to reduce the negative consequences associated with substance use for people who cannot or are unwilling be abstinent. Initiatives operating in this capacity are known as harm reduction services (Harm Reduction International, 2018). These projects included overdose prevention sites (OPS), community drug checking services, and Take-Home Naloxone (THN) programs (Lysyshyn & Buxton, 2018; Strike & Watson, 2019). Modelling of the impacts of OPS, THN and OAT programs have estimated that in BC, between April 2016 and December 2017, 3030 deaths were averted due to these initiatives (Irvine et al., 2019).

Concerns over the increasing danger of the illicit drug supply have prompted calls for safe supply(Duthie, Mathison, Eyford, & Ghosh, 2022). “Safe supply” is a term that is loosely defined but generally been used to refer to “…a legal and regulated supply of drugs with mind/body altering properties that traditionally have been accessible only through the illicit drug market” by people who use drugs (Canadian Association of People who Use Drugs, 2019). The concept of safe supply is that, in comparison to the unregulated illicit drug market, substances of defined potency and composition can be used with a reduced risk of overdose by allowing PWUD to better control their dosage (Duthie et al., 2022; McNeil et al., 2022). One form of safe supply is the provision of pharmaceutical-grade substances

to PWUD through a prescription by a clinician, these will be referred to as “pharmaceutical alternatives” in this paper.

Pharmaceutical Alternatives and OAT

Pharmacological approaches have been used in efforts to respond to the overdose crisis in Canada and the United States, which have included expanded treatment for substance use disorder with OAT, such as methadone and buprenorphine, and naloxone distribution (Fairbairn, Coffin, & Walley, 2017). Methadone is an opioid agonist that controls cravings, eliminates withdraws symptoms and blocks the effects of other opioids (Nosyk et al., 2013), and shown to be beneficial when applied to untreated patients with opioid use disorder provided they participate and are sustained in treatment (Farrell et al., 1994; Mattick, Breen, Kimber, & Davoli, 2009). Buprenorphine is a partial opioid agonist, which if taken in high doses may act as an antagonist by blocking opioid receptors, creating a ceiling effect (Nosyk et al., 2013). Buprenorphine has been available in Canada since 2007 and is often combined with Naloxone, another opioid agonist that can induce withdrawal if snorted or injected (Ducharme, Fraser, & Gill, 2012; Nosyk et al., 2013).

OAT is supported as an effective measure by a multitude of studies and trials and is considered as the first-line treatment for opioid use disorder (Bruneau et al., 2018). Ongoing treatment with methadone and buprenorphine OAT is associated with decreased all-cause mortality by a factor of 3.2 and 2.2, respectively, when compared to the mortality after the cessation of the OAT (Sordo et al., 2017). Decreases in criminal activity has have also been observed with those engaged in sustained methadone OAT, though this association has not been observed with buprenorphine (Amato, Minozzi, Davoli, & Vecchi, 2011; Rastegar, Kawasaki, King, Harris, & Brooner, 2016). However, a BC retrospective study on opioid use disorder has measured low rates of long-term OAT retention, with only 33% of people diagnosed with substance use disorder currently on OAT and only 16% retained for at least one

year on OAT (Piske et al., 2020). Multiple studies have indicated that short-term use of methadone or buprenorphine to facilitate a detoxification is unlikely to result in long-term abstinence (Nosyk et al., 2012; O'Connor, 2005) and may result in higher mortality risk the month after a relapse (Amato et al., 2011). Relevantly, a study on methadone dose tapering determined that 95% of patients attempting to reduce their methadone were unsuccessful in sustained abstinence (Nosyk et al., 2012). Despite the well supported benefits of OAT, implementation challenges in relation to OAT exist in Canada in that competent and willing prescribers are lacking (Nosyk et al., 2013). Considering the low retention rate and low success in sustained abstinence in the context of an ongoing overdose crisis, there is a clear need for alternative options to separate people who are unsuccessful with OAT from the illicit drug market.

The evidence to support pharmaceutical alternatives to the illicit drug supply comes indirectly from past randomised control trials (RCT) for the use of oral OAT, such as methadone or buprenorphine, and limited applications of injectable diacetylmorphine (DAM), and injectable and oral hydromorphone (BC Centre on Substance Use, 2020). As part of a Canadian study, injectable diacetylmorphine and hydromorphone were provided to patients to assess the safety and effectiveness of these treatments for the treatment of long-term, treatment refractory opioid dependence (Oviedo-Joekes et al., 2010). Studies on heroin-assisted treatment (HAT) have also been conducted in Germany (Haasen et al., 2007), the Netherlands (van den Brink et al., 2003), and Switzerland (Rehm et al., 2001) which all demonstrated positive effects of HAT including reduced illicit drug use, and improved physical and mental health, and increased retention rates when compared to when compared to methadone. Injectable diacetylmorphine has shown to be more effective than oral methadone for patients with severe opioid use disorder who have not fully benefited from conventional treatment (Oviedo-Joekes et al., 2009). Some researchers have suggested that the stalled implementation of diacetylmorphine as a second-line treatment is a result of special interests and politics (Kerr, Montaner, & Wood, 2010). The evidence on

the use of stimulants is less robust, however a systematic review conducted in 2020 concluded that prescription amphetamines are beneficial in treatment for people with psychostimulant use disorder (Tardelli et al., 2020).

Prescribing Contexts

In British Columbia, individual prescribers have been guided via practice guidelines to reduce their prescribing practices of highly controlled substances, including opioids (Fischer & Wood, 2020). In 2016, the CPSBC released new practice standards to deter prescription misuse and death which acted as a legally enforceable minimum standard of professional behaviour and ethical conduct (Lim et al., 2021). Subsequently, Canadian national practice standards regarding opioid prescriptions for non-cancer pain were released (Busse et al., 2017) and the CPSBC modified their practices standards in 2018 to complement them (Lim et al., 2021). Following the CPSBC implementation of similar practice standards in BC, there was a 2% decrease in people prescribed opioids two months after its introduction (Lim et al., 2021). Similarly, prescribers have reported that since the enactment of the *Canadian Guideline for Opioids for Chronic Non-Cancer Pain* there has been a climate of fear when taking on patients who require opioid treatment due to concerns of legal and medical risks (Clarke, Bao, Weinrib, Dubin, & Kahan, 2019; Lim et al., 2021).

Prescribed opioids have been associated with overdose deaths (Makary, Overton, & Wang, 2017; Rummans, Burton, & Dawson, 2018), initiation of illicit opioid use (Compton, Jones, & Baldwin, 2016; Martins et al., 2017), and the development of opioid use disorder (Kolodny et al., 2015; Martins et al., 2017), and opioid diversion has demonstrated a direct proportionality to the number of unwitnessed opioid prescriptions and inverse proportionality to the availability of heroin (Bell, 2010). However, while opioid dispensing in recent years has generally stabilized, opioid related morbidity and mortality have increased (Vojtila, Pang, Goldman, Kurdyak, & Fischer, 2020). These phenomena can be contextualized

in different waves of the opioid overdose deaths, where wave one was associated with prescription opioid overdose deaths, wave two with heroin overdose deaths, wave three with synthetic opioid overdose deaths, and the current fourth wave of increasing overdose deaths resulting from a combination of reduced access to opioid prescriptions, increased access to synthetic opioids, and impacts of COVID-19 (Manchikanti et al., 2022). It is now acknowledged that the overdose public health emergency will continue if action is not taken to change the status quo, and that in the current context prescription alternatives are both ethically permissible and crucial overdose prevention measures (Duthie et al., 2022; Fischer, Lee, & Vojtila, 2020; Fischer & Wood, 2020).

Stricter prescribing guidelines have also been associated with negative outcomes as prescriptions are reduced or terminated, requiring patients to turn to diverted medication or the illicit drug market (Bardwell, Ivsins, et al., 2021). Stricter opioid prescribing guidelines, if applied proactively to prevent earlier waves of opioid deaths, could have helped prevent the increases in opioid dependence in British Columbia, however, experts suggest that the measures were applied after the harms of overprescribing had increased opioid dependence and supported a growing demand for opioids (Fischer & Wood, 2020). In this context, the stricter prescribing measures are argued to have created a gap in the opioid supply, without reducing the opioid demand, and this gap has been filled with illicit opioids (Fischer, Pang, & Jones, 2020). Relevantly, a Vancouver study discovered that among a cohort of people who inject drugs, two thirds had been denied prescription analgesia, of which, 40% then accessed diverted medications and 33% accessed illicit substances (Voon et al., 2015).

Barriers to Medical and Social Care Access

Since the RMG is operated in the context of the medical system, existing disparities and barriers to service access may impact the accessibility to pharmaceutical alternatives provided through the RMG. Disparities in the access and utilization of health and social services have been reported in multiple

intersecting and marginalized groups in Canadian settings, including injection drug users (Prangnell et al., 2016; Wang et al., 2016). While inabilities to access both health and social services have been reported to be over 65% among injection drug users (Wang et al., 2016), similar disparities have also been reported in Indigenous populations (Adelson, 2005; Wylie & McConkey, 2019), PWUD who are Indigenous (Goodman et al., 2017), and PWUD with disabilities (Wood et al., 2005). Discrepancies in care have even been found when clinical protocols are in place to guide care, which have been attributed to care provider incompetence and uncertainty, leaving marginalized populations vulnerable (Goodman et al., 2017; Westergaard, Ambrose, Mehta, & Kirk, 2012).

Geographic disparities exist in access to medical services, and in particular harm reduction or addiction services. Historically in Canada, implementation of harm reduction and SUD treatment programs have focused on large urban settings, creating inequitable access and appropriateness of services for smaller communities (Bardwell & Lappalainen, 2021; Piske et al., 2020; Wang et al., 2016). PWUD in these smaller settings have demonstrated unique patterns of drug use as compared to their urban counterparts such as increased prevalence of inhalation and intranasal associated overdose deaths (Bardwell & Lappalainen, 2021), and have unique needs and conditions, including greater geographical dispersion, limited transportation (Urban Matters CCC, 2019), decreased access to social services, reduced community support for harm reduction, and less availability of harm reduction or addictions trained clinicians (Bardwell & Lappalainen, 2021). One case study in British Columbia found that zoning provisions had been used in some municipalities to restrict access to harm reduction and addiction services resulting in inequitable access to these services across the province (Bernstein & Bennett, 2013). Another inquiry into the establishment of harm reduction services into Indigenous communities raised issues of community size, limited service infrastructure, financial resources, and cultural appropriateness as barriers to implementation (Wardman & Quantz, 2006).

Systemic issues exist in the Canadian medical system in that access to physicians is limited in some jurisdictions. In Canada, people who do not have access to a regular care provider are more likely to be young, male, single, poor, a recent immigrant (Talbot, Fuller-Thomson, Tudiver, Habib, & McIsaac, 2001), or have a chronic health condition, including substance use disorder (Crooks, Agarwal, & Harrison, 2012). In 2019, 17.7% of British Columbians, aged 12 and older, reported that they did not have a regular health care provider (Statistics Canada, 2020). Additionally, a 2017 study of primary care physicians found that primary care service delivery and number of patients per physician was declining in British Columbia (Hedden, Barer, McGrail, Law, & Bourgeault, 2017).

Access to services is also influenced by social dynamics between service providers and PWUD. Stigma is fundamentally social discrediting that may occur through stereotyping, labeling when a more powerful in-group deems a less powerful out-group as negatively different and less desirable (Buchman, Leece, & Orkin, 2017). Stigma, both internalized and experienced, is also an important component in health and service access for PWUD (Carusone et al., 2019; Lloyd, 2013). Stigmatizing experiences and environments towards PWUD have been observed in both the provision of methadone (Anstice, Strike, & Brands, 2009) and antiretroviral therapy (Westergaard et al., 2012). In the case of antiretroviral therapy, stigma in the medical system has resulted in underutilized and restricted access to antiretroviral therapy for people who inject drugs (PWID) especially if the physician had less experience with HIV care (Westergaard et al., 2012).

Research has been conducted to discover strategies to enable marginalized populations to engage with health systems, suggesting that community development to improve the skills, abilities, capacity and leadership within these communities could alleviate barriers (Montesanti, Abelson, Lavis, & Dunn, 2017). Unfortunately, the weakness to the community development approach is that the community must be willing and able to meaningfully engage, sustain the skills and leadership they

developed through this approach. Specifically for PWUD, facilitators for health service access have included situating services within already existing community-based services, low waiting times, allowing walk-ins, taking a person-centred approach, and convenient central locations (Anderson et al., 2022).

Implementation Science

It is a recognized challenge to translate best evidence and clinical guidelines into regular practice despite the result being that patients may receive harmful or inappropriate care (Grol & Grimshaw, 2003). In fact, a Canadian study found that 21.9 percent of clinicians never or rarely used clinical guidelines in hospital settings (Ouimet, Landry, Amara, & Belkhodja, 2006), and a study from the United States found that up to 30% of people receive care contradictory to clinical guidance (Schuster, McGlynn, & Brook, 1998). Inquiry into the effective uptake of clinical guidelines have identified a myriad of potential barriers to evidence implementation including financial disincentives, organisational constraints, perception of liability, prevailing opinion, clinical uncertainty, perceived competence, compulsion to act, and information overload (Oxman & Flottorp, 2001). Conversely, it has also been suggested that clinical guideline uptake could be improved by ensuring stakeholder involvement in development, transparency and reliable evidence synthesis, adaptability to allow for clinical judgement and modifications for local conditions, clarity in messaging, and guidelines formatted in multiple forms for differing stakeholders (Kastner et al., 2015). There are no available studies on the uptake of guidelines in substance use care and treatment, at the time of writing this paper.

Other studies have applied the CFIR to identify barriers and facilitators to interventions related to the implementation of OAT and harm reduction. Among these studies it was found that performance pay, appropriate resourcing, collaborative engagement with stakeholders (Wyse et al., 2022), intervention adaptability, as well as competence and comfort with the intervention acted as facilitators

to implementation(Cooke et al., 2019). These studies also noted barriers relating to alignment of resources and policies with the implementation environment (Meyerson et al., 2020), stigma, and diversion of medication (Bandara, Kennedy-Hendricks, Merritt, Barry, & Saloner, 2021). A review of literature conducted using CFIR on the attitudes of primary care physicians on buprenorphine prescribing found that physicians had concerns about clients behaviour, the medication itself, diversion, their own efficacy in prescribing and negative attitudes broadly towards substance use disorders (Louie, Assefa, & McGovern, 2019). The CFIR has not been applied to implementation of programs, such as the RMG, which focus on the provision of pharmaceutical alternatives to the illicit market without an explicit substance use disorder treatment component.

Study Purpose and Objectives

The purpose of this study is to generate further knowledge into the dynamics that impact the implementation of clinical guidelines for pharmaceutical alternatives to the illicit drug supply. Specifically, this study will analyse the perspectives from a broad range of service providers, whose work was impacted or related to the RMG, to elucidate a nuanced narrative regarding the perceived facilitators and barriers to RMG implementation. This generated knowledge will contribute to informing future implementations of pharmaceutical alternatives to the illicit drug supply, COVID-19 interventions, as well as implementation of clinical guidelines in general and in emergency contexts.

Methodology and Procedure

This project is part of a larger mixed-methods study evaluating RMG as a policy intervention in the context of dual public health emergencies and focusing on the provision of RMG prescriptions for opioids, alcohol, stimulants, benzodiazepines, and other drugs (Nosyk et al., 2021). The full study's objectives were to determine the impact of RMG on COVID-19 infection, non-fatal/fatal overdose, all-cause mortality and continuity of care for substance use disorder and other concurrent health conditions; determine the impact of RMG on the uptake of public health measures to reduce the spread of COVID-19, as well as other behavioural and psychosocial outcomes among people who use substances; and identify individual, interpersonal and systemic barriers and facilitators to RMG implementation based on program uptake from the perspectives of people who use substances, prescribers and other health service providers. The study utilized a 10-week observational study, cross-sectional survey, qualitative interviews, and administrative health data to achieve the stated objectives (Nosyk et al., 2021).

The qualitative arm of the mixed-methods study involved conducting semi-structured interviews with PWUD, health planners and service providers who have either attempted to access, were involved in the delivery or implementation of, or opted to not participate, in RMG. The CFIR was used to both guide the overall study and the five CFIR domains informed the development of the Interview guides. Utilizing a guiding framework increases the efficiency and generalizability of this evaluation while also increasing the ability to interpret research findings (Keith, Crosson, O'Malley, Cromp, & Taylor, 2017).

This project focused solely on the perspectives of service providers involved in RMG, including doctors, nurse practitioners, nurses, pharmacists, outreach workers, and community-based services. Recruitment for this project was conducted using emails and postings sent to selected service settings where RMG was expected to be implemented; email communications sent by research assistants to

known service providers involved with RMG provision; and a snowball sampling method, where participants are asked to refer individuals within their own networks to the study to participate. Interviews were conducted via zoom video call and recorded phone calls with participants and conducted by one other Research Assistant, a Co-Principal Investigator, and me. All interviews were prefaced with an explanation of the purpose of the research, conducted one-on-one between participant and a researcher, and typically lasted 1.5 hours. Informed consent was obtained via consent form sent to participants prior to the interview. Prior to beginning any interview an offer to clarify any questions or concerns about the consent was expressed and confirmation of consent was obtained by the interviewer. Interviews conducted with participants included questions pertaining to the planning of the RMG implementation, experiences attempting to utilize the guidelines, the importance of implementing RMG, and the impacts RMG had on recipients.

Once the recorded interviews were transcribed by research team members, they were then cleaned, to remove any personal or identifying information, by myself with the assistance of other team members. Following this the service provider focused work group developed a coding framework for data analysis, which was subsequently imported into NVIVO with the cleaned transcripts for coding. All coding for service providers was conducted by me. For this study, the focus is on analysis of service provider data to identify themes to the barriers and facilitators that service providers faced regarding RMG implementation.

In total 24 service providers from across six health authorities in British Columbia participated in semi-structured interviews. Participants identified as Physicians (n=7), Nurse Practitioners (n=5), Pharmacists (n=4), Outreach Workers (n=3), and Registered Nurse (n=1); while the remainder identified as being in leadership positions within service provider settings (n=4). Most participants identified as women (n=19) with the remainder identifying as men (n=5). The mean age of participants was 38 years.

Determining the adequacy of sample size in qualitative data is challenging though the concept of saturation is commonly used to justify sample size sufficiency (Vasileiou, Barnett, Thorpe, & Young, 2018). Multiple studies inquiring into this phenomenon have suggested that saturation can be achieved with as low as 16-24 interviews (Hagaman & Wutich, 2017; Hennink, Kaiser, & Marconi, 2017). In this case, this end point can be justified under the justification of saturation.

Subsequently, Braun and Clarke's (2006) 6-phase guide to thematic analysis was inductively applied to identify, analyze and report patterns or themes within the data. These six phases are familiarization with the data, generating codes, constructing themes, reviewing potential themes, defining and naming themes, and producing the report. In line with the first phase of the guide the data were cleaned, read and reviewed by members of the provider-focused working group, including myself, in order to get familiarized with data. Next, I collaborated with the group to inductively generate codes from our initial understanding of the data. We used these initial codes to construct a coding framework and begin coding the data. The coding framework was then applied to code two interviews and changes were made to accommodate the data. Once coding was completed, I used these data to identify themes related to broad aspects of the RMG implementation. I utilized a Constructivist analysis to suggest social and structural contexts that contribute to the information received from service providers and identify themes. These themes were examined to determine how service provider ideas, concepts, perceptions and ideologies shaped the data corresponding to the implementation of the RMG. The themes were then reviewed for comprehensiveness individually and then with the broader working group, then subsequently fully defined. This study is the final report of this process.

Ethical Considerations

Ethics approval was obtained from the University of Victoria Human Research Ethics Board (H20-01125). Participants had the choice to participate by scheduled phone call or zoom meeting. All zoom calls were conducted using the University of Victoria (UVIC) Virtual Private Network (VPN) and hosted by institutionally provided Zoom accounts. Further, all participants were informed that they were welcome to change their zoom name and turn off their camera to maintain confidentiality before commencing any recording. Recordings were taken using dedicated handheld audio recorders or, if using the Zoom, the audio/video recording feature was used.

Immediately after an interview concluded, audio recording files were transferred to the UVIC secured servers with access restricted to members of the research team, then deleted from the laptop and any video files were promptly and permanently deleted. Naming of the files followed a depersonalized, coded systematic and sequential naming format. Any identifying information collected from participants was stored on the secured and restricted access UVIC servers in password protected Excel files. Participants were sequentially assigned codes and tracked in in the password protected and secured document. The anonymized codes were then used in a separate securely stored and password protected document to track demographic information on participants. Audio files were then manually transcribed and subsequently cleaned to remove any potentially identifying information before any analysis was conducted on the interviews.

Considerations were taken when conducting the interviews for possible emotional or psychological discomfort of participants; induced stress; potential risks to status, reputation, or privacy of service providers. In addition to the above security and confidentiality measures, participants were informed of their ability to pause or stop the interview at anytime without consequence and that if they stopped, they would be offered the option to delete their interview and data.

Results

"The risk mitigation guidelines were nice I guess"

Service providers expressed concerns about the initial introduction of the RMG and how the medical community at-large seemed unaware of the new innovation, as compared to the local advocacy networks.

> *"Um, like and, and I feel like when the risk mitigation guidelines were rolled out um, it wasn't like wide spread to the medical community. Like, because like the drug user like activist community know-knew about it, and we were like: 'Look at this! Look at this! See we've got…' You know?"* – Program Coordinator (21121).

This imbalance in knowledge demonstrates the inadequacy of the RMG document alone for uptake in the service provider ecosystem, especially considering that the information was able to reach PWUD but not care providers. Further to the service provider perception of the RMG, they offered split opinions on the value and utility of the RMG document, with some service providers expressing that the guidance was unnecessary for the implementation of safer supply prescribing.

> *" I think the, the initial BCCSU risk mitigation guidelines, um, were helpful. Um, I know we talked about it at the beginning, right at the beginning, before that was released, 'Well, like, you know, we know that these are being prescribed off-label and not what the, you know, indication is.' Um, and that, I know some pharmacists had concerns about that. Um. I think I was less concerned. I mean, a lot of medications that we prescribe are prescribed off label, so I don't know why we need to focus on this medication being prescribed off label and that's an issue when, you know, all these other medications aren't an issue. Um, so I didn't see it as something that I necessarily needed strict guidance for, um, since I knew, um…I guess especially since I had – have a good relationship*

with the doctors at the clinics and know that they're doing their due diligence for making sure someone is an opioid user and we're not giving this to opioid naïve people, and, um, trying to make sure it stays in the hands of people who use drugs and not, ah, you know, and not people who are opioid naïve. Um, yeah, so I don't think…Yeah. The risk mitigation guidelines were nice I guess, but they weren't essential to us implementing." – Pharmacist (24106).

The previous quote highlights frustrations with the role that RMG played in the implementation of pharmaceutical alternatives and that RMG provided "strict guidance" that wasn't necessary. However, other service providers appreciated having the document to refer to and fall back on in their own practice, demonstrating the contrasting perceptions and comfort with pharmaceutical alternatives among service providers.

"I have to like refresh my brain, like what, what I'm supposed to be doing in some of these circumstances. And I kind of am a person who uses guidelines quite a bit, so like, you know, if I'm, if I'm working up a patient for a different aspect of primary care or maybe they have a UTI, if BC Guidelines has a new guideline out, I'll always reference that and just make sure I'm doing like the most up to date, um, kind of treatment plan and investigations. So, so yeah, so that's when I use the risk mitigation guidelines; when I'm working with a patient who requires, um, safe supply." – Nurse Practitioner (23105).

While the RMG provided broad direction for service providers, some expressed frustrations concerning the lack of specificity for program eligibility, which resulted in confusion and inconsistencies in service provision.

"So there's a lot, um, a lot of clinical decision making that you need to make when there's no data or experience or other guidelines anywhere else to help guide you in that. So what that meant is a lot of confusion in the beginning. So there was confusion amongst prescribers because different

ones of us, um, maybe had different ideas over who should or should not qualify because the, the, you know, the inclusion criteria in the documents are extremely broad." – Physician (25107).

The reception of the RMG document by service providers was mixed but the critiques were diverse and were generally posed as constructive feedback. The guidance was viewed as a positive measure that straddled the line of either being too strict or not specific enough to give clear guidance for service providers in diverse roles.

"I don't know whether I should be doing this or not, and for who."

Clear evidence for overdose risk and/or positive COVID-19 test were noted to be facilitators for RMG prescribing. Service providers explained how a positive test for fentanyl or COVID assisted access to safe supply more generally:

"And ya. I mean, if someone's urine has fentanyl in it, it's like a given that they're getting safe supply. I mean there's no question about it. So everyone that comes in to the clinic – Like we already know um, cause they do urine a, samples. So if they've got fentanyl in their urine, if they've have overdosed like they're getting whatever safe supply they want." - Nurse Practitioner (23120).

"So patients that were definitely COVID positive or symptomatic um, we were quite proactive about trying to provide risk mitigation." – Physician (21192).

The above two quotes align well with the stated goals of RMG to mitigate overdose risks and the spread of COVID-19. However, it was also clear that a given recipient's motivation for seeking RMG prescriptions played a role in the facilitating access. One prescriber put it plainly when asked who was getting access to RMG:

"People locally who do get access um, want to engage in treatment to have – And they have treatment goals. People that don't get access um, are usually not" – Physician (22134).

In the example above, treatment goals were identified as a criterion of eligibility even though the RMG document clearly stated it was not a focus on treatment but reducing harms. Along similar lines, some service providers were not supportive of providing stimulant or benzodiazepine prescriptions.

> *"And then also, um, if there is nothing that they are really able to do except for like meth and stuff like that, they – or crack, coke – we don't help them with that situation because we…[Laughs] we just don't, because it's not a life or death situation issue. You know"* – Peer Support Worker (21122).

Interestingly, the decisions to not support non-opioid RMG by service providers focused on overdose risk and disregarded that the other goal of RMG was to also facilitate isolation during COVID-19. The deviation from this and facilitator for stimulant RMG implementation was when the patient was suspected of having pre-existing condition of ADHD.

> *"we're trying more and more to use stimulant safer supply for people who we have strong suspicions of a pre-existing diagnosis of ADHD. Um, because that's where we're, we've noticed clinically the most benefits"* – Nurse Practitioner (2479).

While RMG was not intended to address existing conditions such as ADHD the ancillary benefits were apparently embraced. However, pre-existing conditions of participants acted as both a facilitator and a barrier depending on the nature of the condition. For example, other service providers explained the difficulties of navigating opioid RMG prescriptions to people who suffered from chronic pain:

> "*Um, the second that patient uses opioids off the street even once and crosses that line from a chronic pain patient to a patient with chronic pain and an opioid use disorder, suddenly they can access as much hydromorphone as they could possibly want from us, exclusively in the name of keeping them away from fentanyl. And again, as long as that proximal goal of not having them*

access fentanyl and overdose and die is being met, I'm, you know, somewhat happy, but it's really tricky because they're not two different patient pools." – Physician (25107).

It was clear that both the incongruence between the expectations of those seeking RMG and service providers, and the inconsistences in RMG provision were creating distress for both patients and providers.

"Like that lack of consistency I think really grated at the prescribers because we felt this like moral distress and this inner turmoil. It's like, I don't know what I'm doing. I don't know whether I should be doing this or not, and for who. I don't know how, and that's a really hard way to practice. And for patients, they would be like "I don't know what I'm going to get. I don't know what you're going to make me do." Every visit is a surprise, and that's very stressful. Then that patient's stress ends up, you know, being transference of that. So it was just a very challenging, um, rollout because nothing like this has ever been done before." – Physician (25107).

Service providers were acutely aware of the impact that inconsistent implementation of RMG had on both patients and prescribers but were also internally conflicted. The efforts to balance the needs of people who were seeking prescriptions and the comfort of service providers emerge clearly in these interviews. One service provider explained that this compromise meant that some people would need to use illicit drugs in addition to their RMG prescriptions.

"*I don't think it's a a-at a place where people don't have to use any illicit substance, even when they are prescribed like, max therapeutic doses. But, um, I think it's a good, you know, middle ground for meeting like, prescribers comfort and also meeting um, people's needs in the context of like, high potency fentanyl. I mean I would like to see – I mean obviously we would all like to see people have access to um, you know, tested heroin um, to meet their needs. But that is not currently the case."* – Registered Nurse (211201).

The previous quote highlights the conflicting thoughts that service providers encountered, acknowledging that more would need to be done to separate people from the illicit drug market but feeling like they could not practically meet those needs. This discomfort experienced by prescribers was contextualized in contrast to the typical narcotic prescribing in modern medicine and the history of overprescribing narcotics.

> *"So if somebody was to present with chronic pain to a clinic in Canada or North America – in the US or Canada – we're quite restrictive over there with prescribing, probably to the detriment of patients. But for good reason, because we certainly were, um, probably – the pendulum was too far in the other direction for a significant period of time."* – Physician (25107).

However, other service providers strongly felt that the expertise of PWUD should be acknowledged when providing RMG prescriptions and that more liberal prescribing practices would be appropriate for the more experienced demographic.

> *"These, these folks like um, these folks a-a-almost all of them know how to manage their prescribed medications. Like, when they see an orange 'er a gray morphine, or when they see a dilly four or dilly 8, they know exactly how to manage that. Um, it, you know their – And, and I say most because there are novice users that wouldn't know. And usually those aren't the people that I prescribe um like open endedly."* – Nurse Practitioner (23120).

The previous quote suggests that with enough knowledge of patients, providers could be more confident in providing RMG. However, many providers did not express feeling confident in their ability to implement RMG unless they had previous experience in providing OAT or other forms of prescription alternatives. One provider described RMG as complementing their existing services which already provided pharmaceutical alternatives:

"Ah, well, no, in the sense of a lot – like the pharmacies I've been working at have been already focused in this area, so it's definitely complementary. And it's not adding any – like it's not replacing anything, because it already is there. Um, yeah, I haven't worked at a pharmacy where the focus shifted because of this. Um, the focus was always kind of there." – Pharmacist (24110).

Further, service providers who were used to working in low barrier environments embraced the RMG and aimed to decrease discomfort and improve consistency by collaboratively working to create internal standards in addition to the RMG.

"so I guess we, when, ah, risk mitigation was started and we knew it was mostly going to be dilaudid, we kind of talked to [our team] about their experiences, um, to plan for like workflows and, ah, stopping levels, and kind of what the prescriptions should look like, and, um, what are reasonable doses. Um, so I think we were pretty well prepared, but that's, yeah, we have experience doing I guess somewhat similar programs, even if it was at a different location." – Pharmacist (24106).

While the previous quote demonstrates the positive effects of organizational collaboration, communication, and planning that occurred in services experienced with pharmaceutical alternatives, other service providers expressed their concerns around the lack of education received by the broader population of pharmacists and prescribers.

"I think maybe in general in a wider population, um, I think there is still education that needs to happen for, um, the wider physician and pharmacist population. Um, I do every now and again have heard people that, you know, they, they go visit family for a week or have to stay somewhere else for a week because something's happening at the building they're living in, and then, um, they go into a pharmacy just, you know, a random pharmacy, and they don't get treated the same way. Everyone's very confused as to why they're being prescribed, you know, Kadian and 20 oxys a day

or something. Um, so I think there still needs to be some wider, um, education around the guidelines." – Pharmacist (24106).

Ultimately service providers felt unsupported in the implementation of RMG. Though prescribers, in particular, felt that they had been unwillingly put into a gatekeeping position for alternatives to the illicit drug supply. The following prescriber highlighted the harassment they received as a result of this gatekeeping position and the unfairness of the situation.

"And I just thought, if John Horgan could come down here and get [harassed] for a few days in a row, policy would certainly change a lot faster. But instead, it's all these sweet family doctors who like patients are yelling at us and throwing chairs down the hallway, um, as we're trying to just like figure our way through this conundrum of being a gatekeeper that we don't want to be." – Physician (25111).

The accounts from service providers further support the notion that RMG was being implemented inconsistently across prescribers to the detriment of people seeking prescriptions. In this section, participants reported self-efficacy, confidence, experience and knowledge of RMG as important facilitators of RMG, while stressing uncertainty of eligibility and service provider discomfort as persistent obstacles to implementation.

"What are the potential harms?"

People who were once stable on OAT requesting access to RMG prescriptions was cited by some service providers as a potential harm, although some viewed this as a harm reduction measure for people who may have destabilized on other treatments regardless of RMG availability.

"Um. Yeah, there's, it's mixed. Like I – some people are very supportive of it, and other people, um…you know, see it as, you know, maybe if someone destabilizes and they go on safe supply,

then they sometimes blame the safe supply and not see that as just the addiction. Like the addiction is [laughs] an addiction." – Pharmacist (2393).

The previous service provider pointed out the complexities that they face when weighing the impacts of RMG implementation versus what harms would have occurred regardless. Unfortunately, service providers didn't feel like they had all the information they needed to assess these potential harms.

"I mean, ah, and, and because there's, there's not a big evidence base for it, there's a lot of concerns about could we be causing harm? Um, there's, you know, increasingly there was, you know, a need it seemed for regular, close follow-up, like weekly, regular urine drug screening." – Nurse Practitioner (2479).

Without a robust evidence base for RMG and unknown harms of diverted RMG prescriptions service providers realised the need to identify cases of diversion. Diversion of RMG medications was generally viewed as a negative outcome, though some providers had different perspectives on the potential impact of and response to diversion. The anxiety when considering potential harms of RMG diversion were clearly expressed by many service providers and was explained as being a driver of implementing urine drug screens (UDS). These UDS were introduced to surveil adherence and increase service provider comfort in relation to diversion.

"So we started doing more urine drug screens and, and sort of really focusing on having a monthly drug screen for, for people who were on, um, RMG. And then if people had negative hydromorphone, we would have a conversation with them, um, about why it was negative. And if it was clear that there was a, you know, a history of diversion, then we would stop the prescription." – Physician (2442).

The opinions on UDS were not unanimous, they were generally viewed as a useful tool for increasing service provider comfort. However, providers also acknowledged the complex dynamics of

diversion and the potential harms of UDS on RMG recipients. Particularly, service providers expressed concerns of people who would have otherwise not used opioids being initiated to them through a diverted RMG prescription.

> *"I did like have sort of a sober second thought kind of thing to be like, um, what are the potential harms? And that I think that those potential harms that we thought of at that time we were seeing in terms of diversion and in terms of drug upt – drug use initiation by people who are opiate naïve because of this supply of tablets*." – Physician (25111).

The previous quote demonstrates the dilemmas that service providers wrestled with in regard to RMG implementation. Adding to this, service providers were also concerned about the temporary nature of RMG, particularly around the impact that a sudden withdrawal of RMG prescriptions could have on program participants.

> *"So we were telling folks, like: 'Ya, this is in the context of dual health emergencies and we have no idea if this is going to continue.' So we needed to prepare folks for the, the possibility that their medications, their safer supply that they're being offered, you know, could be pulled at any time."* – Program Coordinator (21121).

Service providers were duly concerned about the discontinuation of the RMG prescriptions and the impact that may have on recipients. This concern was furthered by the service provider below who noted that the RMG prescriptions were not considered to pose an overdose risk to RMG recipients especially in context of the alternative being the illicit street drug supply.

> *"I mean the risk for overdose is – I'm not worried about that with the prescribed drugs. I'm worried about that with the toxic street supply."* – Nurse Practitioner (23120).

In summary, the perceived potential harms of RMG from the perspectives of service providers spanned across diversion, destabilization, drug use initiation, and the discontinuation of RMG. Most of the harms identified related to the potential impacts on people who were not on an RMG prescription rather than any harmful impacts that the intervention may have on the person accessing RMG. The ambiguity of the peripheral impacts was elevated by a perceived lack of salient evidence, thus, service providers took to relying on UDS to mitigate these concerns.

"There isn't really any infrastructure or supports of any kind"

In addition to the guidance itself being viewed as inadequate, service providers felt that the planning of RMG implementation was not sufficient and left the burden on prescribers. As one physician described this process:

> *"Um, it doesn't fell as though there was much planning at any of the levels. Um, the – I guess my experience would be that the guidelines came out and so there was um, a-as far as our m- Like a – As far as a physicians practice goes there was support for the provision of this and it was being done by others. So, so it was something that we were able to do and able to prescribe. Um, it was sort of left to us to figure out how and who and what. And then you know, basically just prescribe a via pharmacy. So there isn't really any infrastructure or supports of any kind."* – Physician (22134)].

The previous quote encapsulates well the frustration that most service providers experienced with RMG implementation and discovering that it was grossly under resourced and unsupported at the institutional and health systems level. The one notable exception being pharmacists who uniquely expressed that they were incentivised to fulfill RMG prescriptions as this equates to an increase in dispensing fees, which facilitated RMG receptivity among pharmacists.

"…the way it works in pharmacy, unfortunately as a pharmacist you can't really bill for much services, so, um, no matter how much knowledge you have or how much you can help or interact with the patient, you can only really bill for how much drugs you're dispensing [laughs]. So it becomes a volume thing, and I mean, risk mitigation guidelines, you're dispensing another medication. So that's increasing the volume, it's increasing the bottom line. So I think, um, that helps with receptivity." – Pharmacist (24110).

Service providers also largely felt unsupported by their respective professional Colleges. However, the degree of concern varied between different professions, with pharmacists feeling more comfortable with their College than physicians or nurse practitioners.

"Um. I don't know. I think we're, I think we're on our own as far as…if they're going to stand up for us like if the College audited us? I don't know, I think we would be on our own." – Nurse Practitioner (23108).

"Yeah. I'm not sure the…The College didn't to my knowledge put out too much. They kind of just condoned the delivery of narcotics and, um, not signing triplicates and things like that." – Pharmacist (24110).

The two previous quotes broadly characterize their respective College's support as either indifferent or unsupportive, and this lack of support was the general perception of most service providers with professional Colleges. Perceived support from health authorities was also variable across the province with some health authorities being view as supportive while others were considered more obstructionist.

"Um, the leadership at [Name of Health Authority], um, which is where we're situated, has been less supportive. I haven't heard really, as a person who prescribes safe supply, um, I've had nothing – I've heard nothing from [Name of Health Authority]." – Nurse Practitioner (23105).

"Um, ya, our leaders are quite keen to, to move this forward. I think a lot of the challenges are just, as I mentioned before, but otherwise there's a high level of endorsement. Um, I'm not sure how far each um, [Name of Health Authority] region is with implementing risk mitigation um, as they respond to community needs. And, they're more closer to a, community than, than us [Name of Team] but um, definitely there has been um, quite, quite a lot of support in this aspect." – Pharmacist (211191).

Even when service providers felt they had the institutional support, the resources needed to implement were not always available. While some service providers felt that they did have sufficient resources to implement RMG, others, particularly those working in clinics, felt that they were severely under resourced.

"We're already working over capacity, and then COVID's happening, and then we're like "Oh, can you also like do this [laughs] non-evidence-based like new sort of experimental thing that we're going to try on our project, like that, um, like with what time? With what resources? Like with what, ah, nurse? Like just like every step along the way of the resources needed to launch this were not provided." – Physician (25111).

Clearly, service providers were provided with a new option for supporting PWUD, but this is evidently where the support stopped, at least for most providers. There were no clear or consistent resources, institutional leadership or supports, except in occasional cases of perceived endorsement from health authority leadership and some coincidental benefit for dispensation by pharmacists.

"… it's a nice step . . . but its not an effective step."

Service providers had mixed opinions on whether RMG was an effective measure to mitigate the spread of COVID or risk of overdose. While the intervention was generally viewed as beneficial, it was also largely considered insufficient. In the words of a pharmacist:

"Um. I mean, it's, it's a nice step. Like if that's the direction they want to go, it's like a step there; but it's not like an effective, um, step [laughs]" – Pharmacist (24110).

Service providers felt that the RMG was not effective at addressing overdose deaths of the toxic drug supply but was able to supplement OAT and promote COVID isolation.

"So when I get asked, you know, has it been successful? Well, we don't have any data for one way or the other, but in terms of helping promote self-isolation in like the COVID hotels? Yeah, it has been successful. It's been a tool that I think's been very helpful for us in promoting self-isolation. Has it been successful in, you know, moving the needle on overdose deaths? Probably not." – Physician (25107).

Several service providers explained that they felt more comfortable providing RMG prescriptions as supplemental to other treatments, such as OAT, especially when the participants would still use street drugs in addition to their OAT.

"Ah, it differs from the guidance as it was kind of offered to individuals who are already stabilized on other treatments like, iOAT or OAT therapy, but continue to use illicit opioids um, infrequently. So the goal there is to offer it to preserve that stabilization that the persons achieved um, in the course of their treatment and, and their safety by disrupting that access to illicit drugs." – Pharmacist (211191).

The previous quote suggests that engagement with forms of OAT acted to facilitate access to RMG by facilitating full separation from the illicit drug market and continued engagement in treatment, as opposed to the partial separation from the illicit market expected from RMG medications alone. Housing status was also raised as an important factor as to whether somebody would be able to access RMG. One service provider aptly explains that people experiencing homelessness are a group of people at high risk

for overdose (BC Coroners Service, 2022a) and experience major access barriers due to their living conditions.

> *"Um, and individuals that are on the streets that, that are, you know, like rapidly dying of overdoses um, can't access safe supply because they don't have somewhere for a pharmacy to deliver to daily, or they can't get to the pharmacy daily. Um, you know, like those are the things that are, are an issue."* – Program Coordinator (21121).

Conversely, access to supportive housing was viewed by service providers as being a facilitator to accessing a RMG prescriptions for several reasons, including reliable access to a range of service providers. The following service provider explains that these additional supports provided them with enough confidence to provide prescriptions with extended durations.

> *"Um, and then the next layer is for our patients in housing, they get seen all the time. Ah, so there's a nurse there 7 days a week, the doctor does rounds once a week, ah, the pharmacist is there. Like they are, they're in 24-hour staffed buildings. They're really robustly supported. Ah, and so for those patients we write 91-day prescriptions."* – Physician (25111).

Difficulties serving people who had pressing needs that went beyond that of an RMG prescription, such as people experiencing homelessness, were noted by service providers. Despite the barriers that some populations faced, service providers agreed that the RMG intervention acted to engage populations that had been previously unconnected to care, however this also meant that many of these people had unmet health needs that needed to be care for.

> *"I would say for some of our patients, um. it's been the main reason why they come to see us. Um, and, which has been great because it sort of does a really awesome way of building relationships. So people who are new to our clinic who don't really know what services we offer, but they've heard that we can provide them with safer alternatives to street drugs and then we get them*

started on that; all of a sudden they're on, you know, more intensive treatment, they're accessing other services. And so it's been, it's a huge priority and has been a really successful tool for helping us to connect with people." – Harm Reduction Worker (23104).

Even though RMG was not perceived as a solution to the overdose crisis by service providers, they still believed that with changes to how the program was delivered and resourced it could have enhanced utility.

"I think they should absolutely be continued. Um, either in their current form or in maybe a form that there's more access or more flexibility. Um. But yeah, I don't…Um, I don't think they necessarily helped so much in the COVID part, um, but they definitely have provided benefit, um, for substance users. I don't know, maybe we could somehow tease out in the guid – in the overdose rates. Maybe they have helped in the opioid, um, crisis as well. We need all the help we can get in the opioid crisis." – Pharmacist (24106).

While service providers perceived pharmaceutical alternatives as working best outside of a medicalized model, they acknowledged that medicalization was an integral step towards more progressive alternatives.

"We love new things. We love, we love doing new things. And we're very keen for the war on drugs to be over. Ah, and I think, like I think about marijuana and how at first marijuana was medicalized and then it was legal, so I think that opioids are going through that same march where we're doing this painful…lega – or medicalized process, and then hopefully it will be legal." – Physician (25111).

Service providers expressed that in their conversations and interactions with people who use drugs that there was a need for expanded scope of safer supply options.

"And so we'd have a different conversation about "Okay, well then what could possibly work that I have within my prescriber toolkit for you right now?" Um, and many times what I was hearing from patients is "We need different things." We need access to medical heroin. We need access to fentanyl that's, you know, medical grade and safe. We need access to these other things, like potentially even cocaine and crystal meth [laughs] that's produced in a way that, you know, we know what the additives are, we know how safe it is, we know it's regulated, et cetera, et cetera." – Physician (2442).

The weight of the current context of overdose and the inability of this measure to effectively address it was not lost on service providers. Service providers acknowledged that the RMG could be used as a tool that previously did not exist and generally perceived it as an overdue progressive step forward. Accordingly, prescribing was partially implemented in ways that did not align with the initial guidance, such as to support OAT or encourage continued engagement with health services.

"…COVID has gotten in the way."

One challenge described by pharmacists was that the increase in demand for specific drugs, in tandem with supply chain disruptions caused by COVID-19 measures, resulted in shortages of some drugs provided under RMG.

"There's been, you know, ah, shortages due to COVID pandemic; also potentially due to a drastic increase in use of particular molecules or particular products that was not expected by the manufacturers, so they've had to ramp up production. Um. And I've, yeah, that's been challenging in implementation [laughs]. Um, sometimes you have to change from one to a brand that they don't want, um, because their preferred brand is not available, um, things like that." – Pharmacist (24106).

Service providers also explained how COVID-19 measures negatively impacted communication between different service providers, which prevented effective advocacy from non-prescribers. The next quote speaks to this issue as experienced by a registered nurse who faced the challenge of not being able to explain to RMG prescribers why it was important for patients to have access to these pharmaceutical alternatives like they were able to before COVID-19.

> *"Um, and then what's gotten in the way is – I mean COVID has gotten in the way. So we haven't been able to have these conversations with prescribers. Like, the-whites of eyes, hearts of the mind types of conversations that I think we should've had. And, people um, ha-prescribers have been so super hyper sen-aware and hypersensitive to COVID. Um, so ya, I don't – I think that's really gotten in the way."* – Registered Nurse (211201).

The impacts of COVID safety measures also extended beyond impeding advocacy by limiting the people who could physically access services. Many service providers described new requirements to limit the number of people in their spaces and how this resulted in many people being turned away.

> *"Um, because of COVID, our door's been locked, so we're limiting the, the people that come through our space, and so it's really hard especially to have that conversation at the front door and to say 'Oh, have you been seen here before?' 'No' 'Well, you'll have to go to one of these other clinics, but it's unlikely that they'll be able to meet your needs.'"* – Harm Reduction Worker (23104).

As described above, when some people were turned away from a service this could mean they would not be able to access RMG medications since provision was sparce. Staffing barriers were also brought up in the context that the COVID response, such as mass vaccinations efforts, pulled staff from other roles and negatively impacted those services.

"*So we're pulling, um, you know, nurses and even, um, you know, administrative, um, staff to be running these large mass clinics, pulling them away from their actual jobs that no one can back fill. And so we have that dichotomy that, you know, great, the Ministry of Health can report to the public that our vaccination rates are doing amazing, but there's a lot of stuff falling through the cracks because we don't have anyone to, to do those jobs."* – Health Service Administrator (23119).

In context of these staffing shortages, other service providers explained how this compounded the pressures of increased demand for RMG prescriptions and required their teams to take on additional and out-of-scope roles to keep the program running.

"So I think like we were very quickly overwhelmed with the number of people that wanted it. Um, we have no like reception or medical office assistant type support, so you know, our nurses are faxing prescriptions, our intake workers are, you know, helping to do the urine collections and stuff like that. Um, so that has been something." – Harm Reduction Worker (23104).

Surprisingly, some impacts of COVID-19 were also expressed by service providers to have been facilitators for RMG implementation, particularly, new policies that were put in place to allow transportation of narcotics.

"So unfortunately, you know, COVID, and there's been no like in person interactions as much in pharmacies. Um, so it's been a big – what I've noticed is there's been delivery is definitely the main way to do it. Um, so the College has allowed for kind of delegation to pharmacy staff to allow for that witnessing piece, so that includes OAT and delivery of safe supply." – Pharmacist (24110).

Pharmacists described the benefits of new policy implemented during the COVID pandemic that allowed their staff to deliver and witness OAT and pharmaceutical alternatives, rather than the pharmacist themselves. Some prescribers commented on the relief that came from new policy that allowed them to

increase the length of daily dispensed prescriptions, which in some cases were RMG medications, and the ability for pharmacists to do emergency refills for daily dispensed medications.

> *"It used to be 60 days was the maximum number of day you could do for a daily dispensed prescription and it changed to 100, and we rounded down to 91 because then it's a multiple of 7 so it would be like a, a, you know, a full number of weeks. And then it also gave the pharmacy a little bit of buffer if we didn't get them the prescription right away, they could do daily dispensed emergency refills."* – Physician (25111).

Service providers stressed the fact that RMG implementation had to be contextualized within the many unique aspects that were introduced with the COVID-19 pandemic and response. These aspects were largely seen as barriers to implementing RMG and included staffing shortages, increased workload, diminished communication between service providers, and reduced capacity to physically accommodate clients. However, in a few cases some policies implemented in this period, such as the easing of prescription delivery requirements and expanded prescribing capabilities, acted as facilitators.

"Each community is so different"

Service providers acknowledged a disparity in RMG implementation for remote and rural areas, particularly in remote Indigenous communities, relative to urban areas. However, even within rural and remote areas there was a noticeable difference between communities. A registered nurse explains that implementation was dependent on the community's historical ability to implement harm reduction measures and the feelings of the limited local prescribers.

> *"Ya, I mean I don't think we're there yet. I um, for each com-each are-each region in each community is so different based on prescribers' comfort and um, what's happening locally. So, some areas um, there it is more implemented. Some areas are further along. And then – Like, for example, in the north like, there's really um, like nothing happening in terms of it. And not to um,*

y-y-you know, a-other people on the ground like support staff, traditional wellness, um, you know, elders, band um, a, band leaders, you know, all these roles are advocating for risk mitigation prescribing however, it's not available." – Registered Nurse (211201).

The primary barriers that were expressed related to the lack of willing prescribers and stigma within the medical system. Practically, in remote communities this meant if their local prescriber was opposed to the RMG or was not confident enough to comfortably prescribe it, then no one in the community would be able to access these pharmaceutical alternatives.

"Um, because it's a medical model, this is where I feel like, perhaps it's a gap for remote communities in a way. Because really it depends on the prescribers available to them and, and if they, if there's stigma around this product being used they're not going to prescribe it and it just increases overall risk. So, I feel that this will not change unless there's a provincial effort that is focused on prescriber engagement and education." – Pharmacist (211191).

If a rural or remote community did have a willing and capable prescriber, the lack of privacy and anonymity afforded to participants as they commuted to services was perceived by service providers as being a barrier. This was explained as being because the services that provided pharmaceutical alternatives were often known in the community as being harm reduction services.

"I think, um, our clinic, um, has an OPS in it, ah, and we're located downtown, there's lots of, um, substance use like visible around our clinic, and so I know for people, for some people, that's not a safe place for them to be. So either it's, it's triggering, or they, they are worried about being seen coming into the clinic here. Like there's lots of stigma around accessing services here. Um, and so I think that's a barrier; knowing that, ah, there aren't a lot of other prescribers offering this and that this is the only option in town, that's definitely a barrier for some people. And so for them, it's

just not feasible for them to come down here and visit the clinic in person" – Harm Reduction Worker (23104).

Even with these barriers in place for communities, the clinics providing prescriptions through the RMG were struggling to keep up with the demand and were left unsupported by other service providers and organizations in town.

"Like it felt kind of like we got slammed with this demand, and, and the team here has been incredible in, um, being flexible and wanting to adapt and accommodate as best as we can, but there was a point when we kind of said…It felt like as a team we were reaching out to other, um, colleagues in the community saying 'This is something that we feel really strongly that we should be offering, we can't do it ourselves, is there anyone who can step in and support us? Or anyone who wants to take it on and support in your setting?' Um, and there was a resounding no." – Harm Reduction Worker (23104).

Service providers further explained that many of these communities have historically been opposed to harm reduction measures and viewed virtual clinics and prescribing as an effective way to facilitate RMG access in these areas.

"I'm seeing patients in [Name of City]. And these are very, very conservative little townships or cities that um, like, some of them don't even want to have an overdose prevention site. Like, there's and there's a lot of, ya. There's a lot of stigmatization of substance use in these locations and so um, we have actually enhanced access to risk mitigation to these communities through [Name of Virtual Clinic]. And it's – I think that patients are – Again, we do things a little bit differently in terms of when they're trans-when they get transferred we try ta keep, take them off of risk mitigation so they're transferable. Or at least find someone that will take them on it if it's proving

to have, you know, ongoing benefit. Um, but I think we've enhanced access for safe supply for our, our smaller communities." – Physician (21192).

The hostile reception and difficulties implementing the RMG in remote and rural communities was not unexpected by service providers involved with these areas, though it was a cause of much frustration. Service providers in these communities expressed working tirelessly and innovating to implement RMG but knew they were unable to meet the demand.

Discussion

The purpose of this paper was to explore the perspectives from service providers on the barriers and facilitators of the RMG implementation and elucidate information that can be used to inform future innovations in pharmaceutical alternatives to the illicit drug supply or policy implementation in emergency contexts. Recent studies on the RMG have been conducted and published as this research was being completed. These studies have taken approaches that have examined the perspectives on implementation from PWUD (McNeil et al., 2022), determined RMG awareness among PWUD (Moshkforoush et al., 2022), conducted case reports (Hong, Brar, & Fairbairn, 2022), and identified predictors of RMG medication adherence (Selfridge et al., 2022). Other recent literature has also been written on prescribing pharmaceutical alternatives outside of RMG contexts, including a characterization of this prescribing in Ontario (Young et al., 2022), a BC based Tablet Injectable Opioid Agonist Therapy program (Weng, Fairbairn, Sutherland, Johnson, & Nolan, 2022), a qualitative examination of access to pharmaceutical alternatives in supportive housing (A. Ivsins, MacKinnon, Bowles, Slaunwhite, & Bardwell, 2022), a Canadian national examination on professional stakeholder perspectives on pharmaceutical alternatives (Foreman-Mackey et al., 2022),and two papers from a national environmental scan on the changing landscape for pharmaceutical alternatives (Glegg et al., 2022; McCrae et al., 2022). This study is the first to examine the perceptions of service providers on the implementation specifically of the RMG. Findings offer unique insights into the perspectives of service providers and provide a nuanced critique on RMG implementation while also acknowledging the implications of the unprecedented contexts in which this innovation took place. Further, this paper offers a unique examination of the implementation and uptake of a clinical guidance focused on the provision of pharmaceutical alternatives.

The findings in this paper align with recent publications examining pharmaceutical alternatives, such as the Hong et al. (2022) case study and McNeil et al. (2022) study, which both found that PWUD reported decreased risk of overdose and reduced illicit drug use through RMG prescriptions. While in this

study, the service providers expressed concerns that RMG was not effectively addressing the overdose crisis from a systematic level and worried about potential negative impacts such as diversion. However, they did often observe benefits at the individual level for those who were able to access and utilize their RMG prescriptions. Findings regarding existing iterations of safe supply from Foreman-Mackey et al. (2022) also closely align with the findings here, emphasizing the challenges of limited willing prescribers, stigma, and susceptibility of programing to political ideologies. Further, the findings from Selfridge et al. (2022) found that opioids prescribed under RMG had increased adherence when prescribed in tandem with meatal health medications and OAT, which is consistent with the dynamics service providers noted between RMG and OAT.

The implementation of the RMG was perceived by the majority of service providers to be poor, particularly in the early stages of implementation involving communication, education, planning and resource allocation. Service providers viewed RMG implementation as disjointed acknowledging that they were caught off-guard with the innovation, that they felt community groups at times were more up-to-date on the program than some service providers, and that they were on their own to figure out and implement the RMG. Implementation science literature on the uptake of clinical guidelines would suggest that these problems could have been addressed with more rigorous initial planning and the utilization of existing recommendations in implementation science including stakeholder engagement in the development of the initial guidance, clarity in messaging, and the publication of multiple forms for different stakeholders (Kastner et al., 2015); however, the literature does not consider guideline implementation in the context of time constraints posed by dual public health emergencies, or the uptake of clinical guidelines in substance use care and treatment. While it is clear that the RMG could have been better planned and implemented, it is unclear to what extent the delays required to accomplish this would have impacted overdose and the spread of COVID-19.

When comparing RMG to the implementation of other interventions, RMG uniquely presented the problem where service providers were unsure of exactly who the intervention was targeted towards, and while there were some clear cases of eligible and ineligible, the grey-zone area was a large point of contention and confusion. Interestingly, existing literature on the implementation of clinical guidelines suggests that leaving room for clinical judgement would be considered best practice (Kastner et al., 2015), though, with RMG it appears there was mixed perception of the RMG being too restrictive and not providing sufficient guidance. Specifically, service providers struggled with clearly conceptualizing who should be eligible for RMG and for what purposes, which was further complicated when intersecting with people who use substances for chronic pain and people who had no interest in pursuing any treatment beyond an RMG prescription. Practically this seemingly resulted in the RMG being implemented for treatment purposes that extended beyond the stated intentions of the guidance and primarily only with opioids, though there were a few service providers who mentioned a small proportion of people receiving stimulant, or, to an even smaller extent, benzodiazepines. In fact, the BC Centre for Disease Control (2022) found that of 12,207 people dispensed RMG prescriptions only 17% received stimulants and 13% received benzodiazepines.

The later stage implementation of RMG was also fraught with difficulties for service providers, especially as it related to diversion of RMG medications. Diversion of pharmaceutical alternatives has been covered in literature previously and has been discovered to not necessarily occur for nefarious purposes (Bardwell, Ivsins, et al., 2021; Bardwell, Small, Lavalley, McNeil, & Kerr, 2021). Similarly, service providers suggested that diversion was related to RMG medications not being of the proper form for preferred routes of administration and of insufficient potency. Regardless, it was considered by service providers to be an implementation barrier. Service providers were particularly concerned about the potential of opioids being access by opioid naïve people and fueling a new wave of dependence, which prompted

providers to begin relying on UDS to identify diversion. In turn, some providers had to discontinue some RMG prescriptions knowing that it may cause conflict with or harm to a participant.

Stigma was discussed in the service provider interviews and has previously been found to be a barrier in OAT implementation (Bandara et al., 2021). Service providers articulated the role of stigma in RMG implementation where other service providers in the health system would take actions or perpetuate dialogue that was perceived as stigmatizing, or PWUD feeling apprehensive to access a service due to the stigma associated with being spotted visiting a known harm reduction site in their community. Less explicit forms of stigma were also discussed in the contexts of negative expressions towards the RMG, its implementation, and harm reduction by the providers' organizations, colleagues, and communities. These forms of stigma were mostly discussed by service providers who live of work in small communities and rural regions where there had been a history of resistance against harm reduction services. While most of these providers explained that they continued to provide RMG despite these barriers, it often meant that they were subjected to hostility, unsupported, and one of the only groups prescribing in their area.

Prescriber willingness to implement RMG was perceived by service providers to be situated in context of a recent history of prescriber vilification as the drivers of North America's increase in illicit opioid use and subsequent overdose crisis. This dynamic of tightened prescribing regulations and prescriber hesitance is documented in the literature (Clarke et al., 2019; Lim et al., 2021) and it is suggested that these dissuasions contribute to worsening the overdose crisis (Fischer, Pang, et al., 2020). Considering that besides the introduction of the RMG there had been no notable relaxation of practice standards for non-cancer pain or outright support from regulating institutions, it is not unexpected that this hesitancy persisted into RMG implementation. This hesitancy was reinforced by the perceived lack of applicable evidence to the contexts in which RMG was being implemented and the unsupportive professional, social and political environments in which prescribers were operating to utilize the RMG.

Similarly, OAT implementation, as explained by Nosyk et al (2013), faced challenges of a lack of willing and competent prescribers. Further to this point, there was a permeating acknowledgement that prescribers had been thrust unwillingly into a gatekeeping position for what many considered "safe supply". Interviewed prescribers of RMG were generally supportive of "safe supply" but most did not want to be the ones to decide if a PWUD would get access to a regulated supply of substances or was turned back to the illicit market. This dichotomy of prescribers feeling they need to scale RMG prescribing back or at least approach the intervention cautiously while other service providers expected prescribers to prescribe more liberally was a serious point of contention in the implementation of RMG.

Rural service providers stressed a multitude of barriers for RMG implementation in their communities, including lateral violence, community inhospitality, demand overload, transportation challenges, and being the sole harm reduction service provider in their area. Similar challenges have been previously explored within a more generalized scope of rural harm reduction service access (Bardwell & Lappalainen, 2021; Bernstein & Bennett, 2013), particularly the reduced community support for harm reduction, reduced availability of harm reduction and addictions trained clinicians, plus the challenges of overcoming geographical dispersion and limited transportation options (Urban Matters CCC, 2019). Some of these barriers were targeted with the establishment of virtual clinics that provided RMG and the service providers with knowledge of these clinics viewed the resource as a notable facilitator; particularly when it came to addressing geographic dispersion.

Relating back to the CFIR used to guide the study and data collection, the findings have strong alignment with the five domains of CFIR. Concerning the intervention domain, providers viewed the intervention itself as lacking stakeholder engagement, lacking sufficient evidence, and had mixed opinions on the advantage of RMG when comparing the potential harms to the benefits. As for outer setting, implementability of RMG was susceptible to local social and political contexts, was facilitated by newly implemented policies on prescriptions and prescription delivery, and occurred at a time when providers

were already overstretched responding to the dual health crisis in other ways. The inner setting also impacted implementation, where institutional and organizational positions on RMG created implementation climates that impacted provider comfort and confidence with the guidance. Regarding the individual domain, providers stated that experience with OAT or low-barrier harm reduction environments increased self-efficacy to embrace RMG, and believed that knowledge and attitudes on substance use and harm reduction impacted implementation. Finally, relating to the implementation process, the findings suggest that service providers believed the planning at the provincial, regional and local levels was often insufficient leaving providers feeling unsupported and unclear on intervention details.

There are limitations to the study relating to recruitment, participation, and scope. The recruitment methodology was initially targeted towards services and institutions expected to be involved with RMG and then employed snowball sampling to recruit further, which biased participants towards those that were involved to some extent in the implementation of the RMG while those who were not supportive of RMG were less likely to engage. Participation is also expected to be negatively impacted by increased pandemic workload or fears of potential professional backlash from colleagues or regulating institutions.

Conclusion

The accounts of service providers regarding the barriers and facilitators of RMG implementation paint a picture of an innovative initiative that was rushed to policy without sufficient planning, engagement, and communication at provincial, regional, and community levels. The importance of RMG was not lost on service providers, rather, with the exception of a few highly experienced and motivated groups, they were caught off-guard, confused about the policy change and felt unjustly burdened in a time of unprecedented stress on the existing systems from COVID-19 pandemic and restrictions. It is plausible an appropriate amount of time was spent on RMG planning in a triage situation with COVID-19, however, this was not a sentiment felt by service providers.

While the intended effect of RMG was to facilitate isolation and reduce overdose, the actual implementation regularly deviated from this in practice. Primarily, service providers explained that RMG prescriptions were most feasible in participants who were either already on OAT or were attempting to get onto OAT where the RMG prescription was used as a supplement to other treatment. The findings suggest that this implementation challenge was reflective of service provider perspectives that RMG failed to get substantial buy-in from the service provider ecosystem for a variety of reasons including, most foundationally, that providers felt that the innovation itself was unclear, poorly planned, and under-resourced.

Implementation challenges from the perspectives of service providers included a lack of comprehensive guidance provided on and by the RMG document itself (particularly around program eligibility), insufficient training and education, inconsistent application of the RMG across the medical system, historical contexts of overprescribing and tightening of narcotic prescribing regulations, risk of RMG medication diversion, risk of destabilizing people on alternative treatments, lack of plan to provide necessary financial and human resources, lack of professional supports or protections from professional

colleges, lack of ability to address the overdose crisis, impacts of COVID-19 on services, and implementation in rural or remote regions. Facilitators to the implementation of RMG were less prominent than the challenges. However, service providers felt participants with housing, who were seeking treatment, or had pre-existing ADHD were better able to gain access to RMG medications. Providers also felt that the RMG document provided them with a tangible item they could refer to when implementing and facilitated provision of RMG medications to people who clearly fit in the intended target populations. Service provider comfort was facilitated by internal collaboration and planning, and application of UDS. Incentivization and new policies regarding narcotic transportation improved uptake for some classes of service provider. Service providers also thought RMG prescribing facilitated encounters with previously unconnected people and that RMG was a necessary step towards a better response to overdose.

The findings in this project align well with previous research on implementation of clinical guidelines and specifically the implementation of OAT. Considering that the RMG was explained by many service providers as being a complement to OAT within the same system, it is not surprising that similar challenges to efficient implementation were encountered with the RMG. Comparing and contrasting knowledge of implementation of clinical guidelines into practice with the findings in this paper reveals a stark alignment in observed challenges and misalignment with previously discovered facilitators. Effective implementation of clinical guidance is difficult without thorough engagement and thoughtful planning for implementation, which did not occur to an appreciable degree with RMG. Common challenges included financial disincentives, organizational challenges, potential liability, social contexts, and clinical uncertainty. However, the RMG implementation was forced by an emergency circumstance to rush the roll-out as a targeted response to address the ongoing spread of COVID-19 in the province and thus is different from most other clinical guideline implementation.

Ultimately, RMG was perceived by service providers as being a challenging but worthwhile intervention in the time of COVID-19 and beyond to support PWUD, however, this already difficult intervention was perceived to be made more difficult, in general, by poor planning, coordination and support from provincial and regional health or governmental entities. Perhaps, many of the perceived barriers could not have been accounted for in such an expedited implementation situation but the lack or ongoing support and transparency only served to exacerbate frustration and uncertainty among service providers.

This study is the first to specifically examine service provider perspectives in the facilitators and barriers of the RMG. Thus the findings offer unique insights for the uptake of clinical guidelines in substance use care and addictions treatment, and directly a nuanced critique on RMG implementation. The research contributes to the existing, but limited, evidence base for the implementation of pharmaceutical alternatives to the illicit drug supply and public health policy implementation in emergency contexts. Future research is needed in determining the qualitative and quantitative impacts of pharmaceutical alternative initiatives, particularly in relation to diversion and the initiation of substance use; the relative impact of increased planning in the context of public health emergencies; and deeper analysis into the perspectives of other stakeholders, such as PWUD or pain patients, on the implementation of pharmaceutical alternatives.

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