

## RAPID REVIEW

# Strategies to Mitigate Risk of Substance Use-Related Harms during Periods of Disruption

## Key Findings

- Periods of disruption threaten the continuity of essential harm reduction, substance use treatment, and other services for people who use substances. Services should develop or update contingency plans in advance and receive supports during periods of disruption to ensure services are maintained.
- Physical distancing and infection prevention and control measures were commonly suggested to allow for service continuity in the context of Coronavirus Disease 2019 (COVID-19). However, COVID-19 public health measures may limit services for people and guidance on mitigating this impact on people who use substances and overdose response was scarce.
- Service coordination, integration, and program adaptations should be considered to ensure access to a variety of harm reduction services and approaches that meet the specific and changing needs of people who use substances during COVID-19.
- Treatment services should consider systems for communication of care plans as a strategy to ensure continuity of care during disruptions, and as well as processes specific to opioid agonist treatment visits, prescribing, and medication access.
- There is limited evaluative evidence on the effectiveness and implementation of the strategies or guidance in the context of disruption, and support for rapid evaluation is needed. Considerations of equity and intersecting social determinants of health that produce substance use-related harms and engagement with people who use drugs should be prioritized in the planning, design, and delivery of emergency planning and mitigation strategies.

## Scope

- This rapid review addresses the following question: What are potential strategies for local and provincial agencies to mitigate substance use-related harms during the COVID-19 response?
- The focus of this review is on strategies (i.e., any plan, action, approach) that aim to mitigate substance use-related harms experienced by people who use substances (e.g., fentanyl, cocaine, other substances). This includes strategies related to harm reduction or substance use treatment during previous periods of disruption or the COVID-19 pandemic, as well as strategies to sustain service delivery to reduce risks with full closure of established services.
- Harms related to alcohol, tobacco, and cannabis were out of scope for this rapid review.

- We define periods of disruption to include any disruption caused by infectious disease, natural disasters, human-caused disasters (e.g., terrorism, war), service closures, or other emergencies that affect the health, social structures, and supports for people who use drugs. When considering this information, it is important to recognize the differences in these disruptions (e.g., duration or whether disruption involved mass displacements, etc.) on their potential impact and applicability to other contexts.
- Strategies included those for harm reduction services including drug checking services, needle and syringe distribution programs (NSP), supervised consumption services (SCS), overdose prevention services (OPS), opioid overdose prevention education and naloxone distribution, as well as outreach. All harm reduction service delivery models were considered (e.g., fixed-sites, mobile services).
- Strategies also included those for substance use treatment services, such as opioid agonist treatment (OAT), residential services, withdrawal management, and psychosocial treatments, offered via inpatient or outpatient settings.
- Further, strategies that generally addressed emergency planning and response among services for people who use drugs were included.
- Provincial harm reduction programs, local drug strategies, physicians, community-based researchers, and people with living and lived expertise of substance use were consulted to review and interpret the results; however, this review lacked broader community engagement processes due to time and feasibility constraints.
- The evidence related to COVID-19 continues to evolve and expand. The information summarized in this rapid review is subject to change as guidelines become updated to incorporate emerging evidence.

## Background

The COVID-19 pandemic continues to be an unprecedented situation worldwide. In Ontario and elsewhere, there have been significant public health measures implemented to limit the spread of COVID-19. Measures implemented include physical distancing, self-isolation, and the closure of many services.<sup>1</sup> Along with the introduction of these measures, the population has experienced changes in social interactions, and access to health and social care services has changed (e.g., physical distancing guidelines limit the capacity of some services, or changes in staff procedures have resulted in reduced hours).<sup>2</sup> One group impacted by these changes are people who use drugs.

People who use drugs experience the coinciding risks of COVID-19 and the ongoing crisis of overdose and drug poisoning. Risks of serious COVID-19 complications among people who use drugs may relate to underlying chronic health conditions (e.g., diabetes, coronary heart disease) and structural factors that limit the ability to physically distance and self-isolate (e.g., experiencing poverty, homelessness).<sup>3</sup> These risks associated with reduced access to health and social services, changes to the drug supply,<sup>4,5</sup> and shifts in substance use behaviours and settings may increase the likelihood of fatal and nonfatal drug poisoning, withdrawal, and other health and social harms.

Recently, the Office of the Chief Coroner of Ontario reported a 25% increase in overdose deaths during the months of the pandemic response (March to May 2020) compared to the same period in 2019,<sup>6</sup> with the disruption and contamination of the drug supply cited as a contributing factor.<sup>7</sup> Amid the COVID-19

pandemic, similar increases in fatal and non-fatal opioid poisonings are occurring in British Columbia (B.C.) and Alberta.<sup>8,9</sup> According to the B.C. Coroners Service, the number of illicit drug overdoses has exceeded 170 for the past three months,<sup>9</sup> with June 2020 being the highest single month of illicit drug overdoses ever recorded in B.C.<sup>10</sup>

Guidance for strategies to reduce the risk of COVID-19 and substance use-related harms among people who use drugs have been introduced.<sup>11,12</sup> These strategies include ensuring that harm reduction and substance use treatment services that existed before the COVID-19 pandemic continue to be offered, and are adapted as necessary so that they can continue operating while minimizing the spread of COVID-19. Identifying and synthesizing the guidance for these strategies and others used in emergency contexts is needed. This information can support public health, health care, and other community care providers collaborating on substance use response planning to mitigate negative health outcomes for people who use drugs during the COVID-19 pandemic. Our objective was to complete a rapid review to synthesize available peer-reviewed and grey literature on guidance and strategies to mitigate substance use-related harms during periods of disruption.

## Methods

- A rapid review was chosen as a method that facilitated responsiveness, feasibility and scope alignment. Rapid reviews are a type of knowledge synthesis whereby certain steps of the systematic review process are compromised in order to be timely.<sup>13</sup>
- English-language records were eligible for inclusion if they: (1) examined barriers or facilitators to service continuity during periods of disruption; (2) outlined lessons learned, considerations, or guidance for the delivery of services; (3) included services for people who use drugs who were 25 years or older during periods of disruption (to focus on adult population rather than children and youth). All types of study designs and years of publication were eligible. Records from Organisation for Economic Co-operation and Development countries as well as countries with high numbers of COVID-19 cases were considered (e.g., China) to focus on contexts more relevant to the current Canadian context. Records were excluded if they focussed only on harm reduction tips for individuals as the focus of our review was on service delivery.
- On May 27<sup>th</sup>, 2020, Public Health Ontario (PHO) conducted a specific search on substance use and COVID-19 in MEDLINE, Embase, and PsycInfo. The search strategy for MEDLINE is presented in Appendix A.
- A bibliography of articles from the Society for the Study of Addiction Medicine was screened, which included articles found in PubMed and published on substance use-related topics and COVID-19 between January 2020 and June 1, 2020. Additional searches were conducted in PubMed to identify peer-reviewed literature on other periods of disruption, using relevant vocabulary.
- Additionally, we screened previously identified peer-reviewed articles on periods of disruption from an older search on a related topic [May 2019].
- These searches were supplemented by a Google search using five strings and targeted searches on the webpages of relevant organizations (e.g., Canadian Centre on Substance Use and Addiction, Canadian Drug Policy Coalition, B.C. Centre on Substance Use, United States (U.S.) Substance Abuse and Mental Health Services Administration (SAMHSA)), with the first 100 results reviewed. Expert

referrals of records and email alerts of information and resources related to opioids were also screened.

- Following our initial searches, preliminary synthesis results were released from a relevant group of studies funded by the [Canadian Institutes of Health Research](#).<sup>14</sup> For the reviews most relevant to our questions, we assessed overlap of the included studies and added articles that we had not previously captured that met our inclusion criteria. We also included guidelines after our initial search that were referred by external experts, and published by the [Canadian Research Initiative on Substance Misuse \(CRISM\)](#)<sup>11</sup> and Toronto Public Health.
- The record selection process was completed by three reviewers. One reviewer screened titles and abstracts. Full-text screening was divided into two sets, with each set screened by separate reviewers. The full-text list of relevant records was reviewed by a third reviewer to determine the final inclusion.
- Data from included records was charted, which involved the record characteristics (e.g., year of publication, study design, setting), aims, population, mitigation considerations, and authors' reported limitations. It was beyond the scope of our review to extract detailed information on clinical aspects such as medication selection and dosing.
- Due to time constraints, critical appraisal of the methodological quality of the included records was not performed.
- To synthesize the results, frequency counts were used for the record characteristics (e.g., year of publication, geographic location, and period of disruption) and a thematic analysis was applied to the guidance on mitigation strategies.<sup>15</sup> For the latter, two reviewers discussed the high-level descriptive themes of mitigation strategies, which was subsequently applied by one reviewer and reviewed by the other.

## Results

- Fifty-one records were included, of which 31 were grey literature records. Most excluded records were opinion articles or supplementary documents referring to a guideline document that was included.
- The 51 records were published between 2005 and 2020. Most were based in the U.S. (n=23) and Canadian context (n=18).
- The majority of records focussed on the COVID-19 pandemic (n=37), and fewer on previous periods of disruptions (n=14). Most records discussed strategies related to substance use treatment services (n=40), followed by emergency planning and response among services for people who use drugs (n=24), and harm reduction services (n=18). A summary of the record characteristics is presented in Appendix B.
- The results reported below are organized by general strategies that could be applied to any service (i.e., emergency planning and response protocols, general COVID-19 measures and information), followed by strategies used in specific services (i.e., harm reduction, substance use treatment). When general strategies were mentioned in documents specific to either harm reduction or substance use treatment services, we did not repeat the information in the section on the specific

service. Records commonly provided information on more than one area, and the most common strategies across records are described herein. A list of considerations within each area is presented in Appendix C.

## General Strategies

### EMERGENCY PLANNING AND RESPONSE

Twenty-four records reported on emergency planning measures to ensure continuity of services for people who use drugs during periods of disruption. These records included periods of disruption that occurred in New Zealand (earthquake, 2011) and Australia (cyclones, 2015 and 2017), Hurricane Sandy (New York and New Jersey, 2012), the 2001 September 11 terrorist attacks in the U.S., and the global COVID-19 pandemic.<sup>4,16-38</sup> Among these records, the most frequent recommendations were to develop contingency plans to ensure access and availability of prescriptions or harm reduction supplies during future potential periods of disruption<sup>16,17,19-24,26-28,30,39</sup> and the need for multidisciplinary collaboration and coordination of emergency response planning.<sup>16,17,19,23,24,26-28,30-32,35,38</sup> Records also commonly highlighted the need for mechanisms for communication between staff, clients, and community partners during emergencies (e.g., communication protocols),<sup>16,17,19,23,24,27,30-33,35</sup> planning for temporary arrangements in possible future and current scenarios,<sup>16,17,19-23,30-32,35</sup> and the development or review internal policies that may need to be adapted during periods of disruption (i.e., staffing changes, increased infection prevention and control measures).<sup>16,18-21,27,30,33,35</sup>

### COVID-19-PUBLIC HEALTH MEASURES AND INFORMATION

Among records that focussed on the COVID-19 pandemic, most reported on how to integrate public health measures designed to reduce the risk of COVID-19 transmission into harm reduction or substance use treatment services for operation during the COVID-19 pandemic. Some specific guidance varied based on the jurisdiction (e.g., guidance about requirements for PPE for staff and clients varied across jurisdictions). Recommendations included:

- Infection prevention and control measures (e.g., hand hygiene, environmental cleaning)<sup>4,18-21,26-28,33-35,38,40-46,52,53</sup> and physical distancing (e.g., limits to number of clients, physical barriers, visual cues)<sup>12,18-21,26,28,29,33-35,38-41,45,47,48</sup> were the most common recommendations among the records.
- Procedures for at-risk, suspected, or confirmed COVID-19 cases among people who use drugs and access acute care settings, shelters, harm reduction, and substance use treatment services (e.g., transfer of care procedures in acute care settings, considering isolation requirements).<sup>18-21,26-29,33,38-40,46</sup>
- Policies related to staffing and staffing interactions with clients of harm reduction and substance use treatment services (e.g., training staff who are responding to overdoses in the proper use of personal protective equipment (PPE), coordinate care activities to limit interactions with suspected or positive COVID-19 patients at hospitals).<sup>18-21,26,28,33-35,38,40,46</sup>
- Clear communication of COVID-19 precautions and policies to clients, staff, and families (e.g., posters on preventing the spread of COVID-19, provide handouts of protocols).<sup>18-21,26,33-35,40,42,46</sup>
- Point-of-care risk assessment and COVID-19 screening.<sup>18-20,26,33,34,38,40</sup>
- The need to provide consistent, simple, and accessible COVID-19 related information to people who use substances in the following specific areas:

- COVID-19 symptoms, risk factors, and public health measures to prevent the transmission of COVID-19<sup>12,18-20,26,27,33,35,40,42-44,48,49</sup>
- Safer substance use strategies (e.g., identifying supports who can be available while using, carrying naloxone, use of a test dose, stocking up on supplies)<sup>20,26,27,40,43,44,46,49,50</sup>
- COVID-19 transmission hygiene-related information directly linked to substance use (e.g., disinfecting surfaces that may be touched when using substances)<sup>20,26-28,40,42,46,49</sup>
- New services, resources, or policies available during COVID-19 (e.g., contactless harm reduction supply pick up options, temporary shelter spaces)<sup>12,19,20,26,34,40,41,43,46</sup>

## Harm Reduction Services

Eighteen records provided guidance about offering harm reduction services during the COVID-19 pandemic.<sup>4,18,20,26-28,34,35,38,40-42,46,50-54</sup> Fourteen records that described harm reduction approaches in substance use treatment services were also included in this section of the report.<sup>12,19,26-30,43-45, 47-49,63</sup>

General guidance for harm reduction services emphasized the need to facilitate and support client access to a range of services and supports that people who use drugs might need (e.g., meeting basic needs, substance use treatment services, access to harm reduction supplies), as well as considerations for alternative service delivery options that may reduce risk of COVID-19 transmission during the pandemic (e.g., mobile applications, hotlines, forums). See Table 1 for a summary of strategies suggested for harm reduction services during the COVID-19 pandemic to continue operations safely and mitigate harms for people who use substances.

**Table 1. Common Strategy Considerations for Harm Reduction Services**

Service Area	Records	Period of disruption	Strategy Considerations
Drug-checking services	38	COVID-19	<ul style="list-style-type: none"> <li>Enhance online presence for those using drugs recreationally at home</li> </ul>
Harm reduction integrated with other services and settings	4,12,19,26-30,38,40,41,43-50,63	COVID-19	<ul style="list-style-type: none"> <li>Establish a harm reduction approach and ensure access to harm reduction services in shelters, community housing, and other temporary housing<sup>4,38,40,41</sup></li> <li>Ensure provision of naloxone access and education for clients treated with OAT or alternative medications (e.g., by working closely with pharmacies and community naloxone distribution programs)<sup>12,19,26-29,43-50,63</sup></li> <li>Establish a harm reduction and trauma-informed approach to the delivery of care during hospitalization including access to hospital-based SCS, naloxone, safer use equipment, and sharp containers<sup>46</sup></li> <li>Consider provision of prescribed supply of opioid for self-administration during hospitalization<sup>46</sup></li> <li>Involve people who use substances in the design and delivery of onsite services in shelter settings<sup>40</sup></li> </ul>
NSP	20,26-28,38	COVID-19	<ul style="list-style-type: none"> <li>Provide larger quantities/no limits of supplies to clients</li> <li>Establish alternative locations or modes of delivery to ensure access to supplies (e.g., self-service, foot outreach, direct mail, mobile service with contact-less delivery, dispensing machines).</li> <li>Communicate changes to program offerings (e.g., hours of operation)<sup>20,26,28</sup></li> </ul>
Outreach services	26,35,38	COVID-19	<ul style="list-style-type: none"> <li>Enhance outreach services with physical distancing measures to ensure reach and access to critical supports and services to those most marginalized</li> <li>Provide larger quantities of pre-packaged supplies, support and referrals<sup>35</sup></li> </ul>

Service Area	Records	Period of disruption	Strategy Considerations
Opioid overdose prevention education and naloxone distribution	4,18,20,26-28,30,34,35,38,41,42,52,53	COVID-19	<ul style="list-style-type: none"> <li>Consider adaptations to reduce COVID-19 transmission including virtual supports, drop offs only for symptomatic clients, avoiding outreach indoors<sup>35</sup></li> <li>Ensure access to and continuation of naloxone distribution including use and administration onsite</li> <li>Guidance on the use of PPE during an overdose response to prevent COVID-19 transmission (e.g., use non-latex gloves, face shield), form of naloxone (e.g., intranasal, intramuscular),<sup>52</sup> and use of rescue breaths or chest compressions varied by jurisdiction and audience.<sup>18,20,34,35,41,42,50,52,53</sup> Some records related to SCS/OPS included information on overdose response but the content is not repeated in that section of our report</li> <li>Provision of naloxone training (e.g., virtual option, online resources)<sup>20,34,53</sup></li> </ul>
Safer supply of substances	4,50,51,54	COVID-19	<ul style="list-style-type: none"> <li>Access to pharmaceutical grade substances (e.g., prescribed opioids, benzodiazepines, stimulants) to support people who use drugs and at increased risk of COVID-19 and substance use-related harms. This approach is meant to reduce the risks associated with the increasingly toxic unregulated drug supply over the past few years (i.e., presence of fentanyl),<sup>55</sup> and not as substance use treatment</li> <li>Outlined within safer supply guidelines were considerations for various medications (e.g., stimulants, opioids), medication access and delivery, regular follow-up, measures to store prescriptions safely, and telemedicine use in rural and remote contexts, and harm reduction strategies<sup>50,51</sup></li> <li>Despite lack of peer-reviewed literature on benefits or harms of safer supply programs, evidence was drawn from alternative treatments that demonstrated benefits<sup>54</sup></li> </ul>
SCS/OPS	18,38,41,42	COVID-19	<ul style="list-style-type: none"> <li>Ensure access to and continuation of existing SCS/OPS including establishing additional SCS (e.g., mobile SCS options, adaptations including closing smoking areas)<sup>38</sup></li> <li>Establish processes for “episodic” or outreach overdose prevention services (e.g., staff in settings who observe people using drugs outside of an established SCS/OPS). Those providing support follow detailed protocol guidance (e.g., staff training in cultural safety and humility, and processes before, during, after drug use)<sup>41</sup></li> </ul>

## Substance Use Treatment Services

Forty records provided guidance about offering substance use treatment services during periods of disruption. These records broadly outlined the need to recognize the multiple and varying needs of diverse groups for service adaptation and provision. Several records reported on challenges experienced when offering substance use treatment services that highlighted the need to address ongoing systemic issues.<sup>17,22,24,25,30-32,36-38,56-59</sup> These ongoing issues included systemic challenges in communications between different groups, such as hospitals, programs, community agencies, regulatory agencies, staff, and patients.<sup>17,22-24,31,36,37,56,57</sup> Other commonly cited challenges during disruptions related to the ability to verify a patient's dose of OAT (e.g., through centralized electronic health records),<sup>17,22-24,31,32,36,37,56</sup> OAT medication availability and access (e.g., medication delivery),<sup>17,23,24,31,37,38,56,57</sup> regulations and navigation of new substance use treatment guidelines in disaster contexts,<sup>17,22,24,30,36,37,56</sup> and issues related to resources (e.g., funding, staff, infrastructure).<sup>22,24,30,31,37,38,56</sup> Following Hurricane Sandy (New York, 2012) and Hurricane Katrina/Rita (New Orleans, 2005), greater barriers were cited for methadone than other substance use treatments (e.g., buprenorphine).<sup>23,36,37,56</sup>

## OPIOID AGONIST TREATMENT (OAT)

The most common recommendations for substance use treatment services focussed on the continuation of and access to OAT in periods of disruption, and several emphasized the importance of applying a harm reduction approach to OAT continuity (e.g., not requiring abstinence from other substances).<sup>17,28,44-47,50</sup>

## OAT MEDICATION ACCESS

Twenty-five records included processes to facilitate prescription access during the earthquake in New Zealand, Hurricane Sandy, the September 11 attacks, and the COVID-19 pandemic.<sup>12,17,20,22-24,26-29,36,38,40,43-50,57,59-61</sup> Often, these processes involved medication delivery by different individuals (e.g., pharmacists, program staff, or a designated person)<sup>12,20,27,29,38,43-45,48,50,60,61</sup> or alternative locations (e.g., an alternate clinic location to access).<sup>17,22-24,26-29,36,38,57</sup>

## OAT PRESCRIBING PRACTICES

Increases in take-home doses including extended prescriptions and additional take-home doses (i.e., less frequent dispensing) with the aim of increasing access and avoiding crowding at OAT services was reported in twenty-two records.<sup>12,17,21-24,26-29,31,32,38,43-45,48,50,56,57,59,62</sup> While there was general consensus in recommending this approach across different periods of disruption (i.e., COVID-19 pandemic, the September 11 terrorist attacks, Hurricane Sandy, and cyclones in Australia), there was some variation in specific practices. One area of variation was guidance about whether and how long take-home doses would be prescribed, ranging from broad (e.g., all patients) to limited approaches<sup>22,24</sup> (e.g., case-by-case review of patient risk factors).<sup>59</sup> Factors considered in the case-by-case reviews ranged from clinical stability, patient safety, community safety (e.g., preventing diversion), or patient circumstances (e.g., ability to safely store medication, disability).<sup>12,21-23,26,28,31,32,40,43,44,48-50,59</sup> Approaches to improving patient and community safety also varied, with considerations of medications with better safety profiles (e.g., preferring buprenorphine over methadone),<sup>12,26,28,43,44,48</sup> different medication formulations (e.g., buprenorphine extended release injection),<sup>24,26,28,38,45,48</sup> and safe medication storage (e.g., lock box).<sup>12,26,28,48</sup>

Other commonly recommended changes to prescribing practices during periods of disruption were reductions in or discontinuation of routine urine screening,<sup>12,21,23,28,29,31,38,44,45,47,48,50,56</sup> prescription modalities (e.g., electronic or telephone prescribing to expedite access),<sup>31,38,44,47-49,57,60</sup> and alternatives to observed dosing of OAT medications (e.g., self-administered).<sup>12,26,27,48,63</sup>

## **PROGRAM DELIVERY**

Sixteen records recommended telemedicine as a strategy for OAT program continuity (wherever possible and appropriate) during the COVID-19 pandemic.<sup>12,20,21,26,28,29,38,43,44,47-49,58,59,63,64</sup> Few records described the need to consider access and equity issues for OAT delivery to different population groups (e.g., people experiencing homelessness, without access to technology).<sup>23,28,38,49,50,63</sup> Other adaptations to OAT program delivery to ensure continuity during periods of disruption included: outreach (e.g., staff locating patients in shelters),<sup>23,38,40,49</sup> reducing barriers or lowering thresholds for program participation (e.g., using telemedicine for buprenorphine initiation),<sup>38,45,49,63</sup> providing in-person services by appointment-only<sup>45</sup> or for certain groups,<sup>44,47</sup> staggering schedules for clients,<sup>21,56</sup> or providing services in alternative locations (e.g., securing a safe location – building or geographic area – where services could continue).<sup>23,26,31,36</sup>

## **INFORMATION SHARING**

Eleven records suggested strategies to increase and strengthen communication between clinics, patients, and prescribers during the COVID-19 pandemic, Hurricane Sandy, and the September 11 terrorist attacks.<sup>12,22,23,26,28,46,48,50,56,57,59</sup> Commonly, the use of multiple communication platforms (e.g., phone message, website, social media, radio),<sup>22,23,48,56,57,59</sup> establishment of a hotline/phone line,<sup>22,56,57</sup> and providing clients with personal contact information of prescribers or alternate clinics was described.<sup>56,57</sup> Based on experiences providing substance use treatment services during and after earthquakes in New Zealand, Hurricane Sandy, Hurricane Katrina/Rita, and Australian cyclones, recommendations to centralize OAT records across various sites to facilitate verification of doses and treatment plans at any location the patient presented for care (e.g., through a government initiative).<sup>17,22,24,30-32,36,37,56</sup>

## **OTHER SUBSTANCE USE TREATMENT SERVICES AND SETTINGS**

Strategies for other substance use treatment services varied by the type of setting. Table 2 provides a summary of strategies suggested for substance use treatment in different settings during the COVID-19 pandemic.

**Table 2. Common Strategy Considerations for Other Substance Use Treatment Services and Settings**

Setting	Records	Period of Disruption	Strategy Considerations
Acute care setting	46	COVID-19	<ul style="list-style-type: none"> <li>• Screen patients for multiple health and social needs (e.g., substance use, mental health, social determinants of health)</li> <li>• Involve addiction medicine consult team and establish patient-centred approach to treatment initiation, titration, withdrawal management or alternative options</li> <li>• Reduce stigma and apply trauma-informed approach to patient care during hospitalization (e.g., ask patients about priorities)</li> <li>• Coordinate care pathway after discharge including referrals to prescribers, psychosocial services, social determinants of health</li> <li>• Employ a hospital-based peer support workers</li> <li>• Establish patient-centred approaches to palliative care planning (e.g., conversations, availability in other settings)</li> </ul>
Community-based organization	58	COVID-19	<ul style="list-style-type: none"> <li>• Consider adaptations to substance use treatment programs to reach people and ensure flexible methods of contact to access for basic needs and support (e.g., by text message, dropping by their place of residence, providing evening and weekend support)</li> </ul>
Outpatient treatment services	28,39	COVID-19	<ul style="list-style-type: none"> <li>• Wherever possible, provide access to outpatient treatment programs</li> </ul>
Residential inpatient services	28,33,38,39,45,65	COVID-19, Hurricane Katrina	<ul style="list-style-type: none"> <li>• Consider the development of a therapeutic community to facilitate transition back to care post-disaster<sup>65</sup></li> <li>• Consider adaptations to services to prevent COVID-19 transmission including delays to services or admissions of new patients,<sup>28,38</sup> strategy for “planned quarantine” upon admission,<sup>45</sup> personal communication platforms to facilitate virtual group sessions<sup>33</sup></li> <li>• Establish or ensure access to cultural practices and opportunities (e.g., virtual engagement with communities)<sup>33</sup></li> <li>• Provision of support options for staff (i.e., childcare)<sup>33</sup></li> </ul>
Shelters	36,38,40	COVID-19, Hurricane Katrina/Rita	<ul style="list-style-type: none"> <li>• Ensure access to substance use treatment supports while at the shelter, offsite, and after discharge (e.g., through partnerships, embedded models)</li> <li>• Make special arrangements in the shelter for those who wish to remain active in their drug use<sup>40</sup></li> </ul>

## PSYCHOSOCIAL SUPPORTS

Generally, records recommended increasing options for psychosocial counselling, where appropriate, to ensure that the mental health of people who use drugs does not decline during disruptions.<sup>12,22,36,48,58</sup> Other guidance recommended psychosocial counselling be offered, but not be a mandatory requirement of OAT.<sup>29,40,44,47,50</sup> Transitions to telemedicine use for individual or group psychosocial support during the COVID-19 pandemic were common.<sup>12,29,39,44,45,47,48,58</sup> Five records recommended the provision of mental health support and resources for staff (e.g., employee assistance programs).<sup>19,22,33,36,56</sup>

More detailed examples of substance use treatment practices to ensure continuity of services and mitigate substance use-related harms during periods of disruption are presented in Appendix D.

## Discussion

This rapid review identified 51 records that offered information on strategies to mitigate substance use-related harms during periods of disruption. Periods of disruption pose a major threat to the continuity of care for people who use substances. Appropriate care and services for people who use substances that meet their needs are often limited prior to periods of disruption (due to stigma, lack of support, etc.), and periods of disruption pose additional challenges to people who use substances and the services provided to them.<sup>66</sup> To ensure these services are maintained, the importance of emergency planning and preparedness was highlighted in the included records. In the context of the COVID-19 pandemic, physical distancing and infection prevention and control measures were commonly recommended to allow for service continuity. Information on harm reduction services in the included records was more recent and limited, and suggestions most often related to naloxone access. Within substance use treatment services, strategies to support access to OAT often included facilitating delivery of prescriptions, providing additional take-home doses, and increasing use of telemedicine. For OAT service provision, the main challenges during periods of disruption were communication between prescribers, services, and patients about medications and care plans.

Descriptions of and evidence on new COVID-19-related harm reduction service adaptations (e.g., reduced number of clients present at a time in an SCS) are still emerging; however, some of the COVID-19 precautions may introduce unintended consequences that reduce accessibility of harm reduction services and conflict with overdose prevention education, and increase the risks of harms. In the included records, there was a heightened focus on naloxone administration and distribution across different settings. This observation may reflect that, prior to the COVID-19 pandemic, this overdose prevention strategy has been widely implemented across multiple jurisdictions. Further, making recommendations on naloxone administration and distribution may be more clear and established in comparison to other emerging adaptations for harm reduction services (e.g., virtual supervision). Calls have been increasing to enhance other strategies that have not been as widely supported or implemented,<sup>67,68</sup> including access to pharmaceutical grade substances in some Canadian jurisdictions (but not all),<sup>69</sup> and evaluations of these safer supply programs are underway to continue to expand the current evidence base. Support for, access to and availability of these programs should be further explored to reduce harms associated with the increasingly toxic, unregulated drug supply during the pandemic.<sup>66,70</sup>

While previous periods of disruption are distinct, several of the systemic challenges identified continue to be relevant to the COVID-19 pandemic (e.g., information sharing, resources). However, there was greater emphasis on pharmacists as key partners in addressing challenges (e.g., facilitating medication

access for OAT) among COVID-19-related records than those on previous periods of disruptions. Many of the strategies proposed to support OAT treatment service access are new, yet several others were established previously and have now been enhanced during the COVID-19 pandemic. Previous research suggests that under non-emergency situations, take-home dose policies,<sup>71-74</sup> pharmacy visits,<sup>75</sup> and geographic location<sup>76-78</sup> are key factors to OAT access perceived by people who use opioids and patients in OAT. However, the effectiveness of take-home doses and pharmacy delivery as strategies to improve OAT access are not yet understood. There is some promising evidence that suggests telemedicine may be an effective alternate method to deliver OAT,<sup>79,80</sup> though thoughtful implementation, monitoring, and quality assessment is required to better understand and mitigate inequities in access.

It is important to note that the records included in this review continue to be updated and new documents are still emerging. Several reviews and guidelines were released on substance use-related harms and strategies during COVID-19 after our initial search date. We note consistencies with these records on the focus of service continuity for people who use substances during the COVID-19 pandemic<sup>81-84</sup> and concerns related to communication, the importance of emergency planning and preparedness, and resources for harm reduction and OAT delivery.<sup>82,84</sup> Guidance from the WHO offers recommendations to enhance activities that foster social connectedness.<sup>81</sup> Though there were not explicit strategies described in the included records, the role of mental health, trauma, and loss of social connection during periods of disruption was recognized and strategies related to increased individual and group counselling, training, and others were outlined.<sup>22,36,56</sup> In the context of the COVID-19 pandemic, there have been increased reports of anxiety, fear, and loss of formal and informal social supports among people who use substances,<sup>66</sup> and services should facilitate access to comprehensive supports to address the mental, physical and social wellbeing of people.

There were several gaps in the records reviewed that should be considered. Firstly, the experiences and priorities of people who use drugs and their family members was underrepresented in these records;<sup>23,25,31,57</sup> thus, limiting our understanding of and ability to meet the changing needs of people who use substances during periods of disruption. Only a few records reviewed noted the need for engagement with people who use drugs and their families in the planning, design, and delivery of emergency plans and strategies,<sup>34,35,40</sup> yet guidance on how to engage during COVID-19 or other previous periods of disruption was lacking. “Nothing About Us Without Us” is a fundamental principle in any work that aims to address the health and wellbeing of people who use drugs, and previous research has demonstrated the importance and potential benefits of engaging people who use drugs in planning, design, and delivery of services (e.g., research relevance),<sup>85-87</sup> and how the priorities of people who use drugs are not always reflected in the existing evidence (e.g., the impact of intersecting identities and stigma and discrimination).<sup>70</sup> Further accessible engagement, equitable integration (e.g., paid employment), and explicit centering of the experiences of people who use drugs and their families is critical for future research, service planning, and practice.<sup>66,70,82,88,89</sup> Guidance on supporting paid positions, regular channels for feedback, and addressing stigma during COVID-19 should be considered.<sup>88,90</sup>

Also, several documents highlighted the need for multidisciplinary coordination and collaboration on emergency planning; however, only a handful of guidance documents were developed in coordination with key partners such as public health, harm reduction, and prescribers. Development of emergency plans and strategies should consider coordination, collaboration, and communication with key community partners to better support clients,<sup>66</sup> facilitate continuity of care, and address challenges. Another gap was the lack of information on appropriate strategies and the resources required to support the implementation of the new guidance and new service adaptations outlined in COVID-19-related documents (e.g., COVID-19 OAT prescribing guidelines, access to PPE and expert consultation, location and capacity of isolation spaces), or how this varies in different contexts. Included records from

previous periods of disruption shed light on resource issues and requirements to respond to the needs of people who use drugs, and further research suggests that there are several barriers to guideline implementation<sup>70</sup> including inadequate resources (e.g., funding, staff) to undertake the guidance.<sup>82</sup> Implementation evaluations, identification of barriers and ways to overcome them, and accountability structures that support adapting to the changing needs of people who use drugs may better support rapid and tailored implementation of mitigation strategies.

The records included in this review also lacked information on the growing dialogue and endorsement of the decriminalization of drug possession for personal use in the context of the ongoing overdose crisis and inequity.<sup>91</sup> Decriminalization of drug possession aims to address the harms associated with criminal justice-based policies including stigma/discrimination, health, and other harms.<sup>91</sup> During the COVID-19 pandemic, the urgency for the need to adopt a model of decriminalization of simple possession has been escalated both globally<sup>92</sup> and nationally with the Canadian Association of Chiefs of Police,<sup>93,94</sup> provincial and municipal governments,<sup>67,95,96</sup> and others,<sup>97,98</sup> calling on the federal government to decriminalize possession. Though the models of decriminalization vary, experiences from more than 25 countries with decriminalization policies demonstrate positive individual and population-level health, social, and economic outcomes.<sup>99</sup>

Overall, there is little evidence available on the effectiveness of strategies to mitigate substance use-related harm during the COVID-19 pandemic.<sup>100</sup> Included records about previous periods of disruption often focused on challenges, lessons learned, and potential solutions rather than the effectiveness of strategies to mitigate substance use-related harms. Formal and informal mechanisms to capture and share learnings more broadly including evaluative research is needed to understand the impact of mitigation strategies on substance use-related harms, access, continuity of care, and unintended consequences.

## Equity Considerations

We know that taken separately, health outcomes during periods of disruption and for people who use substances show strong evidence of inequities. For example, during the COVID-19 pandemic, we see clear evidence of inequities based on racial and ethnic diversity in Toronto neighbourhoods.<sup>101</sup> For people who use drugs, evidence confirms that Indigeneity,<sup>102</sup> race,<sup>103</sup> housing,<sup>104</sup> and other marginalization factors exacerbate the stigma, discrimination, and harms experienced by people who use drugs.<sup>70</sup> Given the focus of this rapid review, inequities should be part of the lens we adopt when reviewing mitigation strategies, particularly for reaching those with the greatest need. However, only a handful of reports considered inequities or a significant driver of inequities - race and Indigeneity.

In the case of records that did include equity considerations, the use of telemedicine was commonly described to carry a high risk of exacerbating barriers to access and inequities.<sup>38,49,58</sup> One record found that people who live with social inequities were significantly more likely to stop attending treatment and counselling when they were transitioned from in-person to virtual care.<sup>58</sup> A related record noted that virtual care is sometimes the only available tool for connecting with people living in rural and remote communities, while recognizing that it has inherent accessibility issues.<sup>51</sup> Few mentioned access and availability of culturally sensitive service provision for Black<sup>36</sup> and Indigenous people who use drugs,<sup>33,42</sup> and some noted the role of stigma during emergency responses and the consequences for people who use drugs.<sup>25</sup>

Recent reviews further point to this significant gap in ethical, equity, and intersectional considerations (e.g., race, Indigeneity, gender, sex) and the impact on access to services during the COVID-19 pandemic.<sup>70,82,89,105</sup> Until we see that records address and fully integrate equity and intersectional lenses, which includes people with living and lived expertise of drug use, it will be difficult to form a holistic understanding of the experiences and outcomes of people who use drugs during periods of disruption.

## Limitations and Strengths

This rapid review has both strengths and limitations. A strength is that it covered a range of potential mitigation strategies for different harm reduction and substance use treatment services. Searches of both published and grey literature allowed for the identification of a number of records that facilitates broad understanding. Summary tables and examples from practice provide further detail on included records that may be helpful for service planning.

One of the limitations is that included records were from various jurisdictions and different periods of disruptions, which poses challenges both to the applicability and interpretation of the results. The results thus focussed on reporting how commonly guidance was cited and highlighting variations rather than directly comparing or critically analyzing the content for areas of disagreements or uncertainty. It is possible that in an effort to synthesize information from several records, practical components of guidelines may not be fully captured. As a result, we reported case examples for further understanding.

In order to be timely, and given the nature of the emerging literature on the impacts of COVID-19, we decided not to do a comprehensive literature search. Thus, there may be relevant records missed due to the use of PubMed for peer-reviewed literature of previous periods of disruption and not searching reference lists of the included records. Further, it is expected that this review may not accurately reflect the experiences of a range of services (i.e., drug checking services), programs, and community-led strategies which may not be formally documented and available in the public domain. We also acknowledge that the priorities of people who use drugs may differ than those presented in existing

records and are not adequately captured as broader engagement was not feasible in the rapid development of this document.

Our scope did not include summarizing specific risk messaging on how to reduce harms of substance use during disruptions, which may be important to individuals using substances. Finally, due to time constraints, the quality of the included records was not assessed and single reviewers were involved in the study selection and data extraction process. However, uncertainties and the list of full-text records were reviewed by the senior author to advise on inclusion.

## Conclusion

The records included in this rapid review provide examples and information on potential strategies to reduce the risk of harm for people who use drugs during periods of disruption. There is an emphasis on the continuity of harm reduction services and treatment provision for people who use drugs, with suggestions for COVID-19 adaptations and strategies to support access to OAT. The research evidence for the mitigation approaches described in these records is limited (i.e., program evaluation) and contextual factors between jurisdictions may impact the applicability of the result to Ontario. There is a need to work in partnership with people who use drugs and their families to ensure their needs are being met by the services offered during periods of disruptions, and to further integrate equity and intersectional lenses to evaluate and continuously improve current strategies and to understand unintended consequences. The information presented in this rapid review can be used as a starting point to inform further dialogue among provincial and local public health bodies, people who use drugs and their families, community agencies, and other service providers. These partnerships are important to plan, implement and assess approaches to reduce risks of substance use-related harms during the concurrent COVID-19 pandemic and ongoing overdose crisis.

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# Appendix A

## Search strategy

The following search was designed by PHO Library Services in Ovid MEDLINE and adapted to the Ovid platform databases Embase and PsycINFO.

### Appendix A - Table 1. Search Strategy in Ovid MEDLINE (1946 to May 26, 2020)

#	Searches
1	("2019 corona virus" or "2019 coronavirus" or "2019 ncov" or "corona virus 19" or "corona virus 2019" or "corona virus 2019" or "corona virus disease 19" or "corona virus disease 2019" or "corona virus epidemic*" or "corona virus outbreak*" or "corona virus pandemic*" or "coronavirus 19" or "coronavirus 2019" or "coronavirus 2019" or "coronavirus disease 19" or "coronavirus disease 2019" or "coronavirus epidemic*" or "coronavirus outbreak*" or "coronavirus pandemic*" or "covid 19" or "covid 2019" or "new corona virus" or "new coronavirus" or "novel corona virus" or "novel coronavirus" or "novel human coronavirus" or "sars coronavirus 2" or "sars cov 2" or "sars cov2" or "sars like coronavirus" or "severe acute respiratory syndrome corona virus 2" or "severe acute respiratory syndrome coronavirus 2" or "severe specific contagious pneumonia" or "wuhan corona virus" or "wuhan coronavirus" or 2019ncov or covid19 or covid2019 or ncov or sarscov2 or "coronavirus response" or "corona virus response").af.
2	((novel or Wuhan or China or Chinese or "seafood market" or "2019" or outbreak* or epidemic* or pandemic*) adj5 (coronavirus* or "corona virus*" or betacoronavirus* or "beta coronavirus*" or "beta corona virus*" or pneumonia* or SARS or "severe acute respiratory syndrome")).af.
3	((coronavirus* or "corona virus*" or betacoronavirus* or "beta coronavirus*" or "beta corona virus*" or SARS or "severe acute respiratory syndrome") adj5 pneumonia*).af.
4	1 or 2 or 3
5	exp Analgesics, Opioid/ or Fentanyl/ or Heroin/ or Heroin Dependence/ or Hydrocodone/ or Hydromorphone/ or Illicit Drugs/ or Narcotics/ or Oxycodone/ or Oxymorphone/ or Opioid

## # Searches

Epidemic/ or Opioid-Related Disorders/ or Street Drugs/ or Substance Abuse, Intravenous/ or Substance-Related Disorders/

6 (acetylfentan#l or carfentan#l or diacetylmorph#ne or fentan#l\* or heroin or hydrocodone or hydromorph#ne or morphine or oxycodone or phentan#l or tramadol or ((injection or intravenous) adj2 "drug use\*") or ((drug or substance\*) adj2 (abuse or addict\* or dependence or misuse))).ab,ti,kw,kf.

7 (opioid\* or opiate\*).ti,ab,kw,kf,hw.

8 5 or 6 or 7

9 4 and 8

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## Appendix B

**Appendix B - Table 1. Record Characteristics**

Note: (1) emergency planning and response; (2) COVID-19 public health measures and information; (3) harm reduction services; (4) substance use treatment services.

Record	Study design	Jurisdiction	Period of Disruption	Program or Service Area			
				1	2	3	4
Blake et al., 2016 <sup>17</sup>	Qualitative	New Zealand	Earthquakes	X			X
Blake et al., 2020 <sup>25</sup>	Qualitative	New Zealand	N/A	X			X
Brar et al., 2020 <sup>50</sup>	Guidance document	Canada	COVID-19		X	X	X
Bruneau et al., 2020 <sup>48</sup>	Guidance document	Canada	COVID-19		X	X	X
Alberta Health Services, 2020 <sup>20</sup>	Guidance document	Canada	COVID-19	X	X	X	X
American Society of Addiction Medicine, 2020 <sup>44</sup>	Guidance document	U.S.	COVID-19		X	X	X
British Columbia Centre for Disease Control, 2020a <sup>41</sup>	Guidance document	Canada	COVID-19		X	X	
British Columbia Centre for Disease Control, 2020b <sup>42</sup>	Guidance document	Canada	COVID-19		X	X	
BCCSU, 2020a <sup>43</sup>	Guidance document	Canada	COVID-19			X	X

BCCSU, 2020b <sup>51</sup>	Guidance document	Canada	COVID-19			X	
CCSA, 2020 <sup>4</sup>	Grey literature report	Canada	COVID-19	X	X	X	X
Cooksey et al., 2020 <sup>33</sup>	Guidance document	Canada	COVID-19	X	X		X
Drug Enforcement Administration, 2020 <sup>64</sup>	Guidance document	U.S.	COVID-19				X
Dong et al., 2020 <sup>46</sup>	Guidance document	Canada	COVID-19		X	X	X
Elliot et al., 2017 <sup>30</sup>	Qualitative	U.S.	Hurricane Sandy	X		X	X
Elton-Marshall et al., 2020 <sup>34</sup>	Guidance document	Canada	COVID-19	X	X	X	
European Monitoring Centre for Drug and Drug Addiction, 2020 <sup>38</sup>	Grey literature report	Europe	COVID-19	X	X	X	X
Frank et al., 2006 <sup>22</sup>	Qualitative	U.S.	September 11 terrorist attacks	X			X
Griffin et al., 2018 <sup>32</sup>	Qualitative	U.S.	Hurricane Sandy	X			X
Gupta et al., 2017 <sup>56</sup>	Qualitative	U.S.	Hurricane Sandy				X
Harris et al., 2020 <sup>49</sup>	Editorial, commentary, correspondence	U.S.	COVID-19		X	X	X
Health Canada, 2020 <sup>60</sup>	Guidance document	Canada	COVID-19				X
Hyshka et al., 2020 <sup>40</sup>	Guidance document	Canada	COVID-19		X	X	X
Jiang et al., 2020 <sup>59</sup>	Editorial, commentary, correspondence	China	COVID-19				X

Lam et al., 2020 <sup>12</sup>	Guidance document	Canada	COVID-19		X	X	X
Matusow et al., 2018 <sup>23</sup>	Qualitative	U.S.	Hurricane Sandy	X			X
Maxwell et al, 2009 <sup>36</sup>	Mixed methods	U.S.	Hurricane Katrina/Rita	X			X
McArthur et al. 2005 <sup>31</sup>	Case study	U.S.	September 11 terrorist attacks	X			X
McClure et al., 2014 <sup>37</sup>	Qualitative	U.S.	Hurricane Sandy	X			X
Ministry of Health and Long-Term Care, 2020a <sup>18</sup>	Guidance document	Canada	COVID-19	X	X	X	
Ministry of Health and Long-Term Care, 2020b <sup>19</sup>	Guidance document	Canada	COVID-19	X	X	X	X
O'dwyer et al., 2020 <sup>24</sup>	Qualitative	Australia	Cyclones	X			X
Peavy et al., 2020 <sup>21</sup>	Editorial, commentary, correspondence	U.S.	COVID-19	X	X		X
Public Health England, Department of Health and Social Services, 2020 <sup>28</sup>	Editorial, commentary, correspondence	United Kingdom	COVID-19	X	X	X	X
Rapid Response Service, 2020 <sup>54</sup>	Grey literature review	N/A	COVID-19			X	
Rogers et al., 2020 <sup>58</sup>	Editorial, commentary, correspondence	U.S.	COVID-19				X
SAMHSA, 2020a <sup>16</sup>	Guidance document	U.S.	N/A	X			
SAMHSA, 2020b <sup>39</sup>	Guidance document	U.S.	COVID-19		X		X

SAMHSA, 2020c <sup>52</sup>	Guidance document	U.S.	COVID-19		X	X	
SAMHSA, 2020d <sup>61</sup>	Guidance document	U.S.	COVID-19				X
SAMHSA, 2020e <sup>62</sup>	Guidance document	U.S.	COVID-19				X
Samuels et al., 2020 <sup>63</sup>	Editorial, commentary, correspondence	U.S.	COVID-19			X	X
Scottish Drugs Forum, 2020 <sup>27</sup>	Guidance document	Scotland	COVID-19	X	X	X	X
Tofighi et al., 2014 <sup>57</sup>	Survey	U.S.	Hurricane Sandy				X
Toriello et al., 2007 <sup>65</sup>	Field report	U.S.	Hurricane Katrina				X
Toronto Public Health, 2020a <sup>35</sup>	Guidance document	Canada	COVID-19	X	X	X	
Toronto Public Health, 2020b <sup>53</sup>	Guidance document	Canada	COVID-19		X	X	
Vecchio et al., 2020 <sup>45</sup>	Editorial, commentary, correspondence	Italy	COVID-19		X	X	X
Welsh Government, 2020 <sup>26</sup>	Guidance document	Wales	COVID-19	X	X	X	X
Wilson et al., 2020 <sup>47</sup>	Editorial, commentary, correspondence	U.S.	COVID-19		X	X	X
Yale Program in Addiction Medicine, 2020 <sup>29</sup>	Guidance document	U.S.	COVID-19	X	X	X	X

## Appendix C

**Appendix C - Table 1. Examples of Strategy Considerations for Emergency Planning and Response**

Strategy Considerations	Records
Set contingency plans for stock, supplies, contact information, and other components to maintain services for people who use substances (e.g., mobile units, power generators, stockpiles)	16,17,19-24,26-28,30,39
Collaborate and coordinate with stakeholders in emergency planning and response (e.g., pharmacists, other OAT programs, develop interagency plans, involve people who use drugs)	16,17,19,23,24,26-28,30-32,35,38
Develop mechanisms for communication for emergency planning (e.g., with staff, partners to communicate emergency-related changes to service provision, alternate modes of communication)	16,17,19,23,24,27,30-33,35
Plan for temporary arrangements for service provision during periods of disruption (e.g., virtual delivery of services, transfer of clients to other services, guest dosing, influx of new patients)	16,17,19-23,30-32,35
Review internal policies to update or develop emergency plans (e.g., staffing policies including availability, coverage, critical positions, and others; infection prevention and control policies; policies and procedures related to take-home dosing, maintaining privacy and confidentiality, payment)	16,18-21,27,30,33,35
Prepare staff and clients for emergency plans (e.g., distribution of emergency kits, emergency drills, provide incoming clients with copies of emergency plans)	16,19,23,30-33,35
Build capacity of staff and stakeholders for emergency response through training (e.g., mental health training, cultural humility, anti-stigma, emergency management, law enforcement training on methadone)	16,22,25,30,31,36,41
Ensure programs are informed and up-to-date based on local information	16,18,20,26,28,29
Consider the needs of different clients (e.g., those with accessibility issues, geographical considerations) and tailor plans to local environment	16,17,19,23,31
Identify and establish organizational leadership for response planning	16,21,31,33
Develop national system for data collection on substance use-related harms	4

**Appendix C - Table 2. Examples of Strategy Considerations for COVID-19 Public Health Measures and Information**

Strategy Considerations	Records
Establish infection prevention and control measures to maintain service provision (e.g., environmental cleaning, hand hygiene, respiratory etiquette, use of PPE)	4,18-21,26-28,33-35,38,40-46,52,53
Introduce physical distancing measures for service provision (e.g., physical barriers, limits to number of clients)	12,18-21,26,28,29,33-35,38-41,45,47,48
Provide clients with information on COVID-19 symptoms, risk factors, measures	12,18-20,26,27,33,35,40,42-44,48,49
Establish procedures for at-risk, suspected, or confirmed COVID-19 cases	18-21,26-29,33,38-40,46
Propose policies related to staffing and staffing interactions with clients of harm reduction and substance use treatment services (e.g., training staff who are responding to overdoses in the proper use of personal PPE)	18-21,26,28,33-35,38,40,46
Clear communication of COVID-19 precautions and policies to clients, staff, and families (e.g., posters on preventing the spread of COVID-19, provide handouts of protocols)	18-21,26,33-35,40,42,46
Provide clients with information on new services, resources, and policies	12,19,20,26,34,40,41,43,46
Provide clients with information on safer substance use strategies	20,26,27,40,43,44,46,49,50
Provide clients with hygiene-related information (e.g., cleaning drug use equipment)	20,26-28,40,42,46,49
Develop process for point of care risk assessment and COVID-19 screening	18-20,26,33,34,38,40
Set up procedures for non-compliance of COVID-19 public health measures	19,26,46
Ensure information is accessible to different client groups (i.e., language, cultural considerations)	19,33,48
Provide clients with information on preparing for different scenarios (e.g., self-isolation, overdose, overdose response)	20,46,50
Support clients self-isolation in care settings and for discharge (e.g., access to entertainment resources, virtual supports, nursing assistants, follow-ups)	33,46

### Appendix C - Table 3. Examples of Strategy Considerations for Substance Use Treatment Services

Program or Service Area	Strategy Considerations
OAT prescription access	<ul style="list-style-type: none"> <li>• Ensure continuation of prescription access through alternative locations (e.g., mobile vans, dispensing stations, guest dosing, hospital dispensing) or delivery options (e.g., by pharmacists)<sup>12,17,20,22-24,26-29,36,38,40,43-50,57,59-61</sup></li> <li>• Establish processes for renewal and refill of prescriptions<sup>43,44,47-49,57</sup></li> <li>• Work closely with partners and other programs to facilitate prescription access<sup>12,23,28,44,48</sup></li> </ul>
OAT prescribing practices	<ul style="list-style-type: none"> <li>• Increase provision of take-home doses including longer duration to ensure continuation of treatment<sup>12,17,21-24,26-29,31,32,38,43-45,48,50,56,57,59,62</sup></li> <li>• Consider decision-making variables regarding take-home doses and duration (e.g., regulatory framework, patient safety, community safety, clinical stability, COVID-19 risk and public health measures, patient variables including access to phone, ability to safely store prescription)<sup>12,21-23,26,28,29,31,32,40,43,44,48-50,59</sup></li> <li>• Reduce or discontinue urine screening to avoid in-person visits i.e., for certain groups<sup>12,21,23,28,29,31,38,44,45,47,48,50,56</sup></li> <li>• Establish different prescription modalities, (e.g., electronic, verbal) to facilitate access<sup>31,38,44,47-49,57,60</sup></li> <li>• Consider changes in OAT formulations when helpful and appropriate (e.g., buprenorphine depot)<sup>24,26,28,38,45,48</sup></li> <li>• Explore alternatives to witnessed dosing (e.g., self-administered, telephone call)<sup>12,26,27,48,63</sup></li> <li>• Establish strategies for safe storage for clients (e.g., carry agreements, safe storage box)<sup>12,26,28,48</sup></li> <li>• Provide interim/replacement medication approaches<sup>27,29,40</sup></li> <li>• Establish a process for missed doses (e.g., virtual assessments, without urine drug screening, lower doses)<sup>12,48</sup></li> <li>• Risk-stratify patients for OAT based on level of risk<sup>44</sup></li> <li>• Work with other systems to understand treatment continuity after incarceration<sup>28</sup></li> <li>• Consider not admitting new patients to facilitate care provision for current clients<sup>56</sup></li> </ul>

Program or Service Area	Strategy Considerations
OAT prescription access	<ul style="list-style-type: none"> <li>• Ensure continuation of prescription access through alternative locations (e.g., mobile vans, dispensing stations, guest dosing, hospital dispensing) or delivery options (e.g., by pharmacists) <sup>12,17,20,22-24,26-29,36,38,40,43-50,57,59-61</sup></li> <li>• Establish processes for renewal and refill of prescriptions <sup>43,44,47-49,57</sup></li> <li>• Work closely with partners and other programs to facilitate prescription access <sup>12,23,28,44,48</sup></li> </ul>
OAT program delivery	<ul style="list-style-type: none"> <li>• Increase use of telemedicine wherever possible and appropriate (i.e., assessment on a case by case basis) <sup>12,20,21,26,28,29,38,43,44,47-49,58,59,63,64</sup></li> <li>• Consider access and equity issues for different population groups (e.g., service to provide phones or credits for clients who don't have them, outreach services) <sup>23,28,38,49,50,63</sup></li> <li>• Offer alternative locations for service delivery and care (i.e., transfer of clients to other programs) <sup>23,26,31,36</sup></li> <li>• Establish rapid access/low-threshold programs (e.g., dedicated hotlines for triage and assessment) <sup>38,45,49,63</sup></li> <li>• Consider adaptations related to scheduling and hours of operation (e.g., reschedule or by appointment-only, staggered schedules for in-person care, offer long hours) <sup>21,22,45,47,56</sup></li> <li>• Keep staff and clients together for familiarity during disaster contexts (e.g., Hurricane Sandy) <sup>56</sup></li> <li>• Consider quality of care and documentation, communication of limitations and patient consent, privacy and confidentiality for telemedicine use <sup>48</sup></li> </ul>
Information-sharing	<ul style="list-style-type: none"> <li>• Increased and ongoing communication between staff, physicians, and clients <sup>12,22,23,26,28,48,50,56,59</sup></li> <li>• Use of diverse communication platforms, e.g., phone line, text messaging, frequently updated webpage) <sup>22,23,48,56,57,59</sup></li> <li>• Access to and centralization of databases/electronic medical records for OAT <sup>17,22,23,30-32,36,37,56</sup></li> <li>• Consider options for remote or alternative access to patient records (e.g., physical dose registries in natural disaster contexts, backup systems) <sup>17,23,29,31,36</sup></li> <li>• Offer access to providers personal contact information <sup>56,57</sup></li> </ul>

Program or Service Area	Strategy Considerations
Psychosocial supports	<ul style="list-style-type: none"> <li>• Increase counselling services<sup>12,22,36,48,58</sup></li> <li>• Increase use of telemedicine for psychosocial supports, wherever possible <sup>29,39,40,44,45,58</sup></li> <li>• Offer counselling or referrals, but not as part of program requirement <sup>29,40,44,47,50</sup></li> <li>• Provide psychosocial support for staff <sup>19,22,33,36,56</sup></li> <li>• Offer group counselling to foster connection between clients during periods of disruption (e.g., Hurricane Sandy) <sup>56</sup></li> </ul>

## Appendix D

Provided below are examples of how substance use treatment services have adapted during or after periods of disruption.

**Appendix D - Table 1. Examples from Substance Use Treatment Practice during Periods of Disruption**

Record	Jurisdiction	Period of Disruption	Setting	Summary
38	Europe	COVID-19	Low-barrier OAT program in Luxembourg operated by a non-governmental organization  Temporary housing and OAT linkage Dublin, Ireland	The service is limited to adults who are not otherwise enrolled in a program, and includes frequent physician visits to prescribe OAT. Clients either visit daily for medication or take up to three days' worth of take-home doses.  Seven residential units were established for people experiencing homelessness and those with underlying health conditions. To run these units, a clinical lead and workers from non-governmental organizations were redeployed. As a result, it was reported that wait times for OAT (specifically OAT) were reduced from 12 weeks to 2-3 days. Prescriptions for benzodiazepines were also made available, and all medication was delivered. No known COVID-19 related deaths have been reported.
49	Massachusetts, U.S.	COVID-19	Low-barrier addiction medicine bridge clinic at a hospital in Boston	A partnership between outreach harm reduction workers and an addiction medicine bridge clinic facilitates telemedicine visit including prescriptions of buprenorphine and naloxone. Decisions regarding the duration of take-home doses were based on phone access, issues of safe storage, and already initiated buprenorphine. Information on harm reduction, HIV prevention, and COVID-19 were also provided.
21	Washington, U.S.	COVID-19	OAT clinic (2,630 patients)	The program was developed and implemented in two phases: 1. Assemble interdisciplinary team to develop plan for accessible OAT, COVID-19 protocols, develop and update policies, and communication; 2. Modify eligibility requirements for take-home doses, increase the amount of take-homes for methadone, put patients on staggered take-home schedules and in-person meetings. Decisions were based on a case by case review that considered patients' vulnerability to COVID-19

Record	Jurisdiction	Period of Disruption	Setting	Summary
				with need for in-person treatment and support. Preliminary results showed that they were able to maintain the same level of admissions as pre-COVID-19 while significantly reducing in-person visits by almost 50%. The OAT program has maintained the same level of admissions as before the COVID-19 pandemic.
58	New England, U.S.	COVID-19	Substance use treatment program located at sexually transmitted infection (STI) clinic and a community-based organization for people who are at-risk or living with HIV	All clients at the STI clinic transitioned to telemedicine and many scheduled additional sessions. For the community-based organization, staff continued with harm reduction outreach, and the treatment model was adjusted to that of a peer-model (i.e., "Peer Recovery Coaches"). The program has reported 15-20 contacts per week. Peers connect with the program physician throughout the week to discuss referrals, challenges, and treatment planning.
63	Rhode Island, U.S.	COVID-19	N/A	The Rhode Island Buprenorphine Hotline was established as a 24-hr hotline that connects people to a physician for an initial assessment and prescription for buprenorphine. Physicians also provide naloxone and harm reduction education and link callers to outpatient treatment services. Authors noted that the hotline has been well received by respondents, harm reduction, and substance use treatment services as a way to access gaps in treatment access.
65	New Orleans, U.S.	Hurricane Katrina	Residential substance use treatment, capacity of 130 adult males	In this case of New Orleans' largest treatment centre, the treatment centre administrators believed that building a strong sense of community among clients would facilitate transition into post-Katrina care. To achieve this goal, they designed a program where clients were given responsibility for developing a therapeutic community and holding each other accountable. For example, one activity included asking a small core group of clients to develop a set of community policies and procedures to guide community and individual level client interactions. These

Record	Jurisdiction	Period of Disruption	Setting	Summary
				activities were expected to help build engagement and community accountability and the result pointed to positive client feedback.
45	Piedmont region, Italy	COVID-19	Specialist treatment centre (~700 patients treated with methadone or buprenorphine)	Actions to reduce risk of substance-related harms and spread of COVID-19 include: infection prevention and control measures including COVID-19 related information; psychosocial support via telemedicine; a phone service committed to new patient assessment and triage; admissions to rehabilitation services during self-isolation; pre-scheduled in-person services with physical distancing measures; options for take-home doses for OAT and delivery; and enhancing harm reduction approaches. There have been no cases of COVID-19 among patients or staff involved in their care.
47	North Carolina, U.S.	COVID-19	Family medicine residency program	This OAT program offers the option for telemedicine for low and moderate acuity, including prescriptions with no urine screening. Operating with physical distancing measures, high acuity patients (i.e., recently used drugs, were new to the program, in their third trimester of pregnancy, or waiting to transfer to a treatment centre) were provided care in-person on a reduced basis (every 2-4 weeks). All patients were offered telemedicine and in-person appointments with a mental health professional.

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