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Rapid Review: What is the effect of the COVID-19 pandemic on opioid and substance use and related harms?

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Date: June 19, 2020

Suggested Citation:

National Collaborating Centre for Methods and Tools. (2020). *Rapid Review: What is the effect of the COVID-19 pandemic on opioid and substance use and related harms?*

<https://www.nccmt.ca/knowledge-repositories/covid-19-rapid-evidence-service>.

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Executive Summary

Background

The COVID-19 pandemic and related public health measures are having broad effects across the population, and are likely to have pronounced effects for people who use opioids and other illicit substances, due to potential changes in supply and in support systems, among other factors. Evidence on the effect of the pandemic on opioid and substance use and related harms will help inform strategies to mitigate harm.

This rapid review was produced to support public health decision makers' response to the coronavirus disease (COVID-19) pandemic. This review seeks to identify, appraise, and summarize emerging research evidence to support evidence-informed decision making.

This rapid review includes evidence available up to June 16, 2020.

In this rapid review, we provide the most recent research evidence to answer the question: **What is the effect of the COVID-19 pandemic on opioid and substance use and related harms?**

Key Points

There has been no scientific assessment to date of the effects of the COVID-19 pandemic on opioid and substance use. Minimal surveillance evidence is available to identify effects on overdoses and deaths, and these findings do not show a consistent trend during the COVID-19 pandemic. Guidance and expert opinion are providing some direction to service providers and people who use illicit drugs, and this direction is summarized in this review. The uptake, feasibility and effectiveness of these strategies is not known.

Evidence related to the main question: *what is the effect of the COVID-19 pandemic on opioid and substance use and related harms*, is summarized under three sub-questions, with most evidence sources addressing both questions 1 and 3:

1. Based on research evidence, what is the effect of the COVID-19 pandemic on substance use, overdoses, and substance-related deaths?

The very limited research evidence on this question points to certain observed or anticipated effects of the COVID-19 pandemic:

- People who use substances have reduced access to harm-reduction and treatment services
- There has been a disruption to the supply of illicit drugs in Canada, affecting the availability and cost, and increasing the risk of drug adulteration
- People who use substances may be at risk for more serious consequences of COVID-19 infection due to pre-existing conditions and vulnerabilities

The evidence is of low (synthesis) or moderate (guidance document) quality; findings are consistent.

2. How have rates of overdoses and substance-related deaths been affected during the COVID-19 pandemic, according to surveillance data?
 - Surveillance data within Canada is currently very limited. Data was identified from only five jurisdictions (two provincial, one regional, two municipal). The limited data and inconsistency in findings mean that no clear trends in overdoses or substance-related deaths have emerged at this time.
 - It is likely that surveillance data is currently being collected by other jurisdictions, but it is not yet readily available.
3. What strategies have been used to mitigate substance use during the COVID-19 pandemic?

There exist some guidance documents and expert opinion pieces on strategies to modify harm reduction or treatment strategies for implementation during the COVID-19 pandemic, as well as strategies to minimize the risk of COVID-19 infection among people who use substances.

New strategies to respond to COVID-19

- Legislation changes, including to the Canadian Controlled Substances Act, allowing longer prescription duration, mail, and remote supplying of medications to treat substance use disorders
- Providing or prescribing alternative substances, such as safe supply of pharmaceutical-grade substances
- Provision of naloxone for unsupervised dosing of medications to treat substance use disorders
- Harm reduction education related to safe use in isolation
- Providing supplies for sanitization in harm reduction kits

Existing strategies that have been enhanced or emphasized due to COVID-19

- Ensuring a safe supply of substances
- Providing drug safety checking
- Providing sterile supplies
- Sanitizing supplies in harm reduction kits

The evidence is of variable quality, with one low-quality synthesis, moderate-quality guidance documents, and high-quality expert opinion sources; findings are consistent.

Overview of Evidence and Knowledge Gaps

- Research on the effect of the COVID-19 pandemic on opioid and substance use and related harms is needed.
- The quality of the available research evidence sources is low; most available evidence is based on expert opinion.
- Limited research has been done on the effect of the COVID-19 pandemic on substance use, overdoses, and deaths, although in-progress reviews may shed light on these questions once complete.
- Similarly, limited surveillance data are available on rates of overdose and substance-related deaths during the COVID-19 pandemic, although as data become available, rates and trends can be explored.
- Little evidence is available on the effectiveness of strategies currently in use or suggested for use to mitigate the harmful effects of illicit drug use during the COVID-19 pandemic.

Methods

Research Questions

What is the effect of the COVID-19 pandemic on opioid and substance use and related harms?

- 1) Based on research evidence, what is the effect of the COVID-19 pandemic on substance use, overdoses, and substance-related deaths?
- 2) How have rates of overdoses and substance-related deaths been affected during the COVID-19 pandemic?
- 3) What strategies have been used to mitigate substance use during the COVID-19 pandemic?

Search

On June 15 and 16, 2020 the following databases were searched:

- Pubmed's curated COVID-19 literature hub: [LitCovid](#)
- [Trip Medical Database](#)
- World Health Organization's [Global literature on coronavirus disease](#)
- Joanna Briggs Institute [COVID-19 Special Collection](#)
- [COVID-19 Evidence Alerts](#) from McMaster PLUS™
- [Public Health +](#)
- [COVID-19 Living Overview of the Evidence \(L-OVE\)](#)
- Cochrane Rapid Reviews [Question Bank](#)
- [Prospero Registry of Systematic Reviews](#)
- NCCMT [COVID-19 Rapid Evidence Reviews](#)
- [MedRxiv preprint server](#)
- Canadian Institute for Health Information (CIHI) [Your Health System](#)
- [ICES](#)
- [British Columbia Centre for Disease Control \(BCCDC\)](#)
- [Public Health Ontario \(PHO\)](#)
- Government of Alberta [Open Government Program](#)
- Vancouver Coastal Public Health [Overdose Surveillance](#)
- Ottawa Public Health [Drug Use and Overdose Statistics](#)
- City of Hamilton Public Health [Opioid Information System](#)
- Windsor-Essex County Health Unit [Opioid Overdose Statistics](#)
- Chatham Kent Public Health Unit [Opioid Surveillance Summary](#)
- [The Centre for Addiction & Mental Health](#)
- [The Canadian Centre on Substance Use and Addiction](#)
- [Institut national de santé publique Québec](#)
- [Ontario Drug Policy Research Network \(ODPRN\)](#)

Additional publications were found by searching the reference lists of included syntheses. A copy of the search strategy is available on request.

Study Selection Criteria

The search results were first screened for recent guidelines and syntheses. Single studies were included if no syntheses were available, or if single studies were published after the search was conducted in the included syntheses. English-language, peer-reviewed sources and sources published ahead-of-print before peer review were included. Surveillance, guidance documents, jurisdictional policies, and expert opinion were included as relevant to the question. When available, findings from syntheses and clinical practice guidelines are presented first, as these take into account the available body of evidence and, therefore, can be applied broadly to populations and settings.

	Inclusion Criteria	Exclusion Criteria
Population	General population	
Intervention	COVID-19 pandemic	
Comparisons	Pre-pandemic	
Outcomes	Opioid-related and other drug-related overdoses and deaths; Any data on increased or new usage, if available	

	Inclusion Criteria	Exclusion Criteria
Population	People who use substances	
Intervention	Any harm reduction or treatment interventions implemented during the COVID-19 pandemic	
Comparisons	Pre-pandemic harm reduction or treatment interventions	
Outcomes	Adherence to intervention	

Data Extraction and Synthesis

Data relevant to the research question, such as study design, population characteristics, interventions or exposure and outcomes were extracted when reported. We synthesized the results narratively due to the variation in methodology and outcomes for the included studies.

The quality of included evidence was assessed using critical appraisal tools as indicated by the type of evidence below. Quality assessment was completed by one reviewer and verified by a second reviewer. Conflicts were resolved through discussion. For some of the included evidence a suitable quality appraisal tool was not found, or the review team did not have the expertise to assess methodological quality. Studies for which quality appraisal has not been conducted are noted within the data tables.

Type of Evidence	Quality Assessment Tool
Synthesis	Health Evidence™ Quality Appraisal Tool
Expert Opinion	Joanna Briggs Institute (JBI) Checklist for Text and Opinion

Completed quality assessments for each included study are available on request.

Findings

Quality of Evidence

This document includes one completed and two in-progress syntheses, five grey literature sources, six expert opinions, and five surveillance data sources for a total of 19 sources included in this evidence review. The quality of the evidence included in this review is as follows:

		Total	Quality of Evidence
Syntheses	Completed	1	Low
	In Progress	2	---
Grey Literature		5	2 Moderate 3 Not appraised
Expert Opinions		6	6 High
Surveillance Data		5	5 Not appraised

Warning

Given the need to make emerging COVID-19 evidence quickly available, many emerging studies have not been peer reviewed. As such, we advise caution when using and interpreting the evidence included in this rapid review. We have provided a summary of the quality of the evidence as low, moderate, or high to support the process of decision making. Where possible, make decisions using the highest quality evidence available.

Table 1: Syntheses

Reference	Date Released	Description of Included Studies	Summary of Findings	Quality Rating: Synthesis	Quality Rating: Included Studies
<p>Ontario HIV Treatment Network Rapid Response Service. (2020). <i>Possible benefits of providing safe supply of substances to people who use drugs during public health emergencies such as the COVID-19 pandemic.</i></p>	<p>Apr 2020 (No date for search reported)</p>	<p>This review synthesizes evidence from:</p> <ul style="list-style-type: none"> • 4 reports of safe supply initiatives in major Canadian cities • 2 reviews on the efficacy of slow release oral morphine for treatment of opioid dependence • 4 clinical trials evaluating hydromorphone or pharmaceutical heroin 	<p>This Rapid Response was prepared by the Ontario HIV Treatment Network to summarize current evidence on safe supply for policy and practice decisions. Safe supply initiatives prescribe pharmaceutical grade substances such as opioids as part of a harm reduction service. Several safe supply programs are in operation across Canada.</p> <p>No peer reviewed literature on the benefits or harms of safe supply was found.</p> <p>Evidence related to safe substitution treatments was cited, showing that alternatives can be used successfully by some opioid users. The authors summarize the considerations advanced by safe supply providers and experts, including that many users are not ready to give up these substances or seek treatment, and that other medications (such as methadone) are not successful for all users.</p> <p>In response to the COVID-19 pandemic, the Canadian Controlled Substances Act has been temporarily amended to improve access to safe supply prescriptions, including:</p> <ul style="list-style-type: none"> • telephone prescriptions • extended prescription duration • transfer of prescriptions between pharmacies; and, • home delivery of prescriptions 	<p>Low</p>	<p>Not reported</p>

Table 2: In-Progress Syntheses

Title	Anticipated Release Date	Setting	Description of Document
<p>Salanti, G., Papakonstantinou, T., Cipriani, A., Furukawa, T., & Leucht, S. <i>Living systematic review on the effects of the COVID-19 pandemic on the general populations' mental health, alcohol/substance abuse and violence.</i> PROSPERO 2020 CRD42020180049.</p>	<p>Oct 1, 2022</p>	<p>Global</p>	<p>This review will synthesize evidence for the prevalence of mental health issues, including substance abuse, as well as changes in mental health symptoms within the general population during the COVID-19 pandemic. As a living review, the authors will continuously update the review as new evidence emerges.</p>
<p>Larney, S., Bruneau, J., Raynault, M.F., & Meeson, J.S. <i>Rapid review of the impacts of "Big Events" on drug-related risks and harms, and delivery of harm reduction and drug treatment services: implications for responding to COVID-19.</i> PROSPERO 2020 CRD42020185079.</p>	<p>Not available</p>	<p>Global</p>	<p>This rapid review will synthesize evidence for the impact of events with major implications for people who use drugs. Events include pandemics, natural disasters, and drug market shocks (abrupt, time-limited shortages or disruptions to illicit drug supply). Authors will include outcomes on risk behaviours and drug-related harms.</p>

Table 3: Grey Literature

Reference	Date Released	Substance(s)	Description	Summary	Quality Rating:
Public Health England & Department of Health and Social Care. (2020, May 29). COVID-19: guidance for commissioners and providers of services for people who use drugs or alcohol.	May 29, 2020	Misused substances	This source from Public Health England provides guidance for drug and alcohol service providers in the context of COVID-19.	<p>It is believed that there are greater risks of severe illness from COVID-19 infection due to pre-existing conditions and vulnerabilities among people who use illicit substances.</p> <p>Recommended practices for service providers include:</p> <ul style="list-style-type: none"> • Observe public health measures; minimize face-to-face contact while providing service • Provide withdrawal support as required • Consider needs of children and families of people who misuse drugs, whose usual supports may not be available • Refer for mental health support if required • Ensure access to opioid substitution treatment including take-home doses, with requisite home safety procedures • Ensure continuity of supply and other supports for self-isolating clients • Prepare for supply disruptions by maintaining stock of equipment and considering alternative substances <p>Defer planned detoxifications</p>	N/A
Government of Wales. (2020, May 19). Coronavirus (COVID-19): guidance for substance misuse and homelessness services.	May 19, 2020	Misused substances	This source from the Government of Wales provides guidance for substance misuse and homelessness services in the context of COVID-19.	<p>Recommended practices include:</p> <ul style="list-style-type: none"> • Observe public health measures • Share information about COVID-19 with clients • Ensure continuity of supply and other supports (e.g., food, check-ins) for self-isolating clients • Prepare for supply disruptions by maintaining stock of equipment and considering alternative substances 	N/A

<p>Canadian Centre on Substance Use and Addiction. (2020, May). Changes Related to COVID-19 in the Illicit Drug Supply and Access to Services and Resulting Health Harms.</p>	<p>May 2020</p>	<p>Illicit drugs</p>	<p>This evidence alert was prepared by the Canadian Community Epidemiology Network on Drug Use (CCENDU), led by the Canadian Centre on Substance Use and Addiction (CCSA). Evidence for this report was collected between March 31 and May 10, 2020 by community representatives in 8 provinces and territories across Canada from community sources as well as anecdotal reports from people who use drugs and those who work with them, such as harm reduction program staff and law enforcement.</p>	<p>There is anecdotal and observational evidence that measures to prevent the spread of COVID-19, such as border closures and physical distancing directives, have disrupted the supply of illicit drugs in Canada, resulting in increased prices and adulteration of drugs. Access to harm reduction, treatment and other supportive services has also been limited.</p> <p>Recommended harm reduction strategies in the context of COVID-19 include:</p> <ul style="list-style-type: none"> • access to reliable, safe drugs • access to naloxone • onsite services and virtual services • deeming harm reduction and treatment services essential, equipping services with PPE and other resources for safe operation • systematically collecting data for substance-related harms 	<p>Moderate</p>
<p>BC Centre on Substance Abuse (2020, March). Risk Mitigation in the context of dual public health emergencies.</p>	<p>March 2020</p>	<p>Opioids</p>	<p>This protocol from the BC Centre on Substance Use provides guidance for service providers in the context of a dual emergency of COVID-19 and opioid overdoses and deaths.</p>	<p>Given concerns associated with the risk of withdrawal, exposure to COVID-19, and exposure to a limited and toxic drug supply, it is recommended that:</p> <ul style="list-style-type: none"> • Illicit substances are replaced with prescribed or regulated substances. • Harm reduction best practices to prevent overdose are recommended for people who continue to use illicit substances during the COVID-19 pandemic, including not using alone while maintaining distance, and the availability of take-home naloxone. • Telemedicine be used, given restrictions and limited availability of in-person visits. • Ensure continuity of supply and other supports (e.g., food, check-ins) for self-isolating clients 	<p>N/A</p>

<p>Canadian Centre on Substance Use and Addiction. (2020). <u>Methamphetamine, the Respiratory System and COVID-19.</u></p>	<p>2020</p>	<p>Methamphetamine</p>	<p>This report was prepared by the Canadian Centre on Substance Use and Addiction (CCSA) and summarizes health risks to people who use methamphetamine during the COVID-19 pandemic.</p>	<p>The report warns that people who use methamphetamine may be at an increased risk of COVID-19 infection due to environmental, social and behavioural risk factors, and because methamphetamine affects the adaptive immune system. The report also cites evidence to suggest that COVID-19 infections are potentially more severe for people who use methamphetamine, due to the effects of methamphetamine on the immune system, heart and lungs.</p> <p>Recommendations for service providers include:</p> <ul style="list-style-type: none"> • follow infection prevention guidelines • reduce risk of client exposure to COVID-19 by prescribing replacement substances • provide harm reduction education for clients, emphasizing not using alone while maintaining safe distance • continuing to provide drug checking services to check for contaminants while maintaining physical distancing <p>Recommendations for people who use methamphetamine include:</p> <ul style="list-style-type: none"> • follow infection prevention guidelines • practice safer drug use, with sterile supplies and with trusted others (while maintaining distance) • consider alternatives if supply is affected 	<p>Moderate</p>
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Table 4: Expert Opinion

Reference	Date Released	Setting	Substance(s)	Summary	Quality Rating:
McCann Pineo, M., & Schwartz, R.M. (2020, June 4). Commentary on the coronavirus pandemic: Anticipating a fourth wave in the opioid epidemic. <i>Psychological Trauma: Theory, Research, Practice, and Policy</i> . Epub ahead of print.	June 4, 2020	New York City, USA	Opioids	<p>Authors focus on the impact of public health measures to restrict the spread of COVID-19 on opioid harm reduction and treatment services, as well as efforts to mitigate this impact.</p> <p>The Substance Abuse and Mental Health Administration (SAMHSA) and the Drug Enforcement Agency (DEA) rapidly responded to pandemic with regulatory changes allowing opioid use disorder prescriptions via telemedicine, allowing prescriptions of numerous doses of opioid use disorder medications, and facilitating home delivery of opioid use disorder prescriptions.</p>	High
Dietze, P.M., & Peacock, A. (2020). Illicit drug use and harms in Australia in the context of COVID-19 and associated restrictions: Anticipated consequences and initial responses. <i>Drug and Alcohol Review</i> , 39(4), 297–300.	May 23, 2020	Australia	Illicit drugs	<p>Authors emphasize the potential impact of the COVID-19 pandemic on the supply and use of illicit drugs in Australia, as well as harm reduction and treatment programs.</p> <p>Efforts to continue provision of harm reduction and treatment include:</p> <ul style="list-style-type: none"> • physical distancing measures at the Melbourne Supervised Injecting Room • needle-and-syringe programs now providing postal or home delivery • policy changes have allowed longer prescription duration for medication-supported treatment • policy changes to allow unsupervised dosing and providing naloxone to those dosing while unsupervised 	High
Columb, D., Hussain, R., & O’Gara, C. (2020). Addiction psychiatry and COVID-19: impact on patients and service provision. <i>Irish Journal of Psychological Medicine</i> , 1–5.	May 16, 2020	Ireland	Prescription and over-the-counter medications	<p>Authors describe the impact of COVID-19 on an addiction’s psychiatry service. The authors anticipate an increase in addictions psychiatry service needs due to stress related to COVID-19, although at the time of writing, inpatient admissions had remained comparable to previous years.</p> <p>Practices to respond to COVID-19 include:</p> <ul style="list-style-type: none"> • For inpatients: <ul style="list-style-type: none"> ○ Small groups ○ Enhancing supports 	High

				<ul style="list-style-type: none"> ○ Eliminating therapeutic leave from hospital ● For outpatients: <ul style="list-style-type: none"> ○ Telephone support <p>Take-home supplies</p>	
Dunlop, A., Lokuge, B., Masters, D., Sequeira, M., Saul, P., Dunlop, G., Ryan, J., Hall, M., Ezard, N., Haber, P., Lintzeris, N., & Maher, L. (2020, May 6). Challenges in maintaining treatment services for people who use drugs during the COVID-19 pandemic . <i>Harm Reduction Journal</i> , 17(1), 26.	May 6, 2020	Australia	Illicit drugs	<p>Harm reduction and addictions experts identify challenges for treatment services during the COVID-19 pandemic.</p> <p>Recommendations include:</p> <ul style="list-style-type: none"> ● Public health measures ● Take-home doses and supplies ● Access to naloxone ● Prescribing changes ● Supports for self-isolation ● Access to COVID-19 screening for people who may mistake symptoms for withdrawal <p>Attention to staff safety</p>	High
Karamouzian, M., Johnson, C., & Kerr, T. (2020, May). Public health messaging and harm reduction in the time of COVID-19 . <i>The Lancet Psychiatry</i> , 7(5), 390–391.	May 2020	Not specified	Illicit drugs	<p>Authors emphasize the importance of public health messaging directed at people who use drugs, particularly those who are homeless or marginalized, citing an increased risk of infection in these populations and reduced access to treatment or harm reduction services. Public health messaging should provide guidance on preparing and using drugs so as to minimize the risk of COVID-19 infection.</p> <p>Recommendations for investments in harm reduction supplies and services are also provided, including:</p> <ul style="list-style-type: none"> ● providing sanitizing supplies in harm reduction kits ● treatment continuity plans, such as amending prescription regulations to allow longer prescription durations and at-home dosing ● providing safer drug alternatives, such as tablet-based or injectable slow-release morphine 	High
Green, T.C., Bratberg, J., & Finnell, D.S. (2020). Opioid use disorder and the COVID 19 pandemic: A call to sustain regulatory easements and further expand access to treatment . <i>Substance Abuse</i> , 41(2), 147–149.	April 21, 2020	US	Opioids	<p>This article identifies the roles of pharmacists in responding to the changing needs of people with opioid use disorders in the context of COVID-19.</p> <p>Pharmacies are likely to remain open during a pandemic and, thus, can play an important role as sources of substance use treatment support and medication.</p>	High

				<p>Recommendations include:</p> <ul style="list-style-type: none">• Increased use of telehealth and online support groups• Regulation changes to support increased access to methadone and to take home doses and supplies• Access to naloxone and sterile supplies	
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Table 5: Surveillance Data

Source	Province	Reference	Date Released	Summary	Quality Rating:
BC Centre for Disease Control	British Columbia	Illicit Drug Overdose Events	2020	The weekly number of paramedic-attended overdose events is higher in April, May, and June 2020 than in most previous weeks in 2019.	N/A
	British Columbia	Overdose Response Indicator Report	Apr 2020	The rate of paramedic-attended overdose events shows no clear pattern in 2020 relative to previous years. Illicit overdose deaths appear to be higher than average since Feb 2020.	N/A
Vancouver Coastal Health	British Columbia	Overdose surveillance	June 2020	Rates above the historical average are reported in many weeks of 2020, for weekly overdose visits at 9 emergency departments and at supervised consumption sites and overdose prevention sites.	N/A
Hamilton Public Health	Ontario	Hamilton Opioid Information System	June 2020	No clear trend is observed for monthly paramedic responses to overdose incidents in 2020 or weekly emergency department overdose visits.	N/A
Windsor-Essex County Health Unit	Ontario	Opioid Overdose Statistics	June 2020	Reported monthly emergency department overdose visits were higher than previous years in March and May 2020.	N/A

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