



Rapid Review Update 1: What is the effect of the COVID-19 pandemic on opioid and substance use and related harms?

Prepared by: The National Collaborating Centre for Methods and Tools

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The authors declare they have no conflicts of interest to report.

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 2019 (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 September 10, 2020 to answer the question: **What is the effect of the COVID-19 pandemic on opioid and substance use and related harms?**

What Has Changed in This Version?

- Reviews drawing on experiences from previous globally disruptive events have been published to address the anticipated effect of the COVID-19 pandemic on supply, safety, overdoses and deaths associated with opioid and other substance use, although the relevance of other events to the COVID-19 pandemic is not known.
- More Canadian surveillance evidence is available to address effect of the COVID-19 pandemic on overdoses and deaths associated with opioid and other substance use, although making appropriate comparisons to pre-pandemic rates continues to be challenging.
- Expert opinion sources, apart from descriptions of models, were excluded from this update, due to the risk of bias inherent in these sources and the availability of more rigorous evidence.

Key Points

- Minimal cohort, cross-sectional and surveillance evidence is available on the effects of the COVID-19 pandemic on opioid and substance use, including overdoses and deaths, and these findings show increases during the COVID-19 pandemic in some jurisdictions, and decreases or steady levels in others.
- Very limited research evidence exists related to the effect of the COVID-19 pandemic on opioid and substance use and related harms. The overall certainty of this evidence is very low (GRADE), and findings are very likely to change as more evidence accumulates.
- To date, most of the available evidence is based on previous experiences during pandemics and similar events:
 - People who use substances may have reduced access to harm-reduction and treatment services
 - There may be a disruption to the supply of illicit drugs in Canada, affecting availability and cost, and increasing the risk of drug adulteration

- Surveillance data within Canada were identified from several jurisdictions (provincial and regional). No clear pattern of change was observed. Opioid-related overdoses and deaths are influenced by many factors, and it is not certain that changes in these outcomes that occurred during the COVID-19 pandemic are a result of public health measures to reduce the spread of the virus. The variety of indicators (e.g., naloxone administration, emergency calls for overdose, hospitalization for overdose), and the inconsistency in measurement periods and relevant comparators mean that observed trends may not be reliable.
- Preliminary research 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. Some models exist aimed at modifying 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. The overall certainty of this evidence is very low (GRADE), and findings are very likely to change as more evidence accumulates.

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 cross-sectional studies and expert opinion.
- Canadian surveillance data show some changes in rates of overdose and substance-related deaths during the COVID-19 pandemic in many jurisdictions, although rates are difficult to compare due to inconsistent indicator and measurement approaches.
- 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.
- 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

Methods

Research Questions

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

1a) Based on research evidence, what is the effect of the COVID-19 pandemic and similar events on substance use, safety, overdoses, and substance-related deaths?

1b) Based on surveillance data, what is the effect of the COVID-19 pandemic on rates of overdoses and substance-related deaths in Canada?

2) What strategies have been used to mitigate substance use harms during the COVID-19 pandemic?

Search

On June 16, 2020, and again on August 27 and September 10, 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](#)
- [COVID-19 Evidence Alerts](#) from McMaster PLUS™
- [Public Health +](#)
- [COVID-19 Living Overview of the Evidence \(L·OVE\)](#)
- [Prospero Registry of Systematic Reviews](#)
- NCCMT [COVID-19 Rapid Evidence Reviews](#)
- [MedRxiv preprint server](#)
- NCCDH [Equity-informed Responses to COVID-19](#)
- NCCEH [Environmental Health Resources for the COVID-19 Pandemic](#)
- NCCHPP [Public Health Ethics and COVID-19](#)
- NCCID [Public Health Quick Links](#)
- NCCID [Disease Debrief](#)
- NCCIH [Updates on COVID-19](#)
- [Institute national d'excellence en santé et en services sociaux \(INESSS\)](#)
- [COVID-19 and Mental Health \(CMH\) Initiative](#)
- [Uncover \(USHER Network for COVID-19 Evidence Reviews\)](#)
- [Alberta Health Services](#)
- [Canadian Agency for Drugs and Technologies in Health \(CADTH\)](#)
- [Newfoundland & Labrador Centre for Applied Health Research](#)
- [Public Health Ontario](#)

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

The following databases were searched for data relevant to opioid-related harms since March 2020:

- [Canadian Centre on Substance Use and Addiction](#)
- [Government of Canada](#)
- [Canadian Institute for Health Information](#)
- [Statistics Canada](#)
- [Health Canada](#)
- [ICES](#)

What has changed in the methods for this version?

Surveillance data from public health jurisdictions in Canadian provinces and territories were retrieved from provincial, territorial, regional, or municipal public health websites as available. A list of public health jurisdiction webpages searched is available upon 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- and French-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.

Question 1a

	Inclusion Criteria	Exclusion Criteria
Population	General population or opioid users	Alcohol and tobacco users
Intervention	COVID-19 pandemic or previous similar events	
Comparisons	Pre-pandemic	
Outcomes	Changes to substance access, risks, treatment access Opioid and other drug-related overdoses and deaths Changed or new usage of substances	Risks of COVID-19 infection in substance-using populations Alcohol and tobacco usage

Question 1b

	Inclusion Criteria	Exclusion Criteria
Population	Opioid users in Canadian jurisdictions	
Intervention	COVID-19 pandemic	
Comparisons	Pre-pandemic	
Outcomes	Opioid and other drug-related overdoses and deaths; emergency calls for overdoses	

Question 2

	Inclusion Criteria	Exclusion Criteria
Population	People who use substances	Alcohol and tobacco users
Intervention	Any harm reduction or treatment interventions proposed or implemented during the COVID-19 pandemic	
Comparisons	Pre-pandemic harm reduction or treatment interventions	
Outcomes	Adherence to or effectiveness of 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.

Appraisal of Evidence Quality

We evaluated the quality of included evidence using critical appraisal tools as indicated by the study design below. Quality assessment was completed by one reviewer and verified by a second reviewer. Conflicts were resolved through discussion.

Study Design	Critical Appraisal Tool
Synthesis	Assessing the Methodological Quality of Systematic Reviews (AMSTAR) AMSTAR 1 Tool
Cohort	Critical Appraisal Skills Programme (CASP) Cohort Study Checklist
Cross-Sectional	Joanna Briggs Institute (JBI) Checklist for Analytical Cross Sectional Studies
Case Report	Joanna Briggs Institute (JBI) Checklist for Case Reports
Expert Opinion	Joanna Briggs Institute (JBI) Checklist for Text and Opinion

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

The Grading of Recommendations, Assessment, Development and Evaluations ([GRADE](#)) approach was used to assess the certainty in the findings based on eight key domains.

In the GRADE approach to quality of evidence, **observational studies**, as included in this review, provide **low quality** evidence, and this assessment can be further reduced based on other domains:

- High risk of bias
- Inconsistency in effects
- Indirectness of interventions/outcomes
- Imprecision in effect estimate
- Publication bias

and can be upgraded based on:

- Large effect
- Dose-response relationship
- Accounting for confounding.

The overall certainty in the evidence for each outcome was determined taking into account the characteristics of the available evidence (observational studies, some not peer-reviewed, unaccounted-for potential confounding factors, different tests and testing protocols, lack of valid comparison groups). A judgement of 'overall certainty is very low' means that the findings are very likely to change as more evidence accumulates.

Findings

Summary of Evidence Quality

This version adds 3 completed syntheses, 3 in progress syntheses, 11 single studies, 2 commentary/expert opinion sources, and 28 surveillance data sources to the evidence in the previous version, for a total of 62 sources included in this review.

Research Question	Evidence included		Overall certainty in evidence
Based on research evidence, what is the effect of the COVID-19 pandemic and similar events on substance use, safety, overdoses, and substance-related deaths?	Completed syntheses	2	Very Low
	In progress syntheses	4	
	Single studies	2	
Based on surveillance data, what is the effect of the COVID-19 pandemic on rates of overdoses and substance-related deaths in Canada?	Surveillance sources	31	Not assessed
What strategies have been used to mitigate substance use harms during the COVID-19 pandemic?	Completed syntheses	2	Very Low
	Single studies	9	
	Commentary/expert opinions	12	

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 overall certainty of the evidence to support the process of decision making. Where possible, make decisions using the highest quality evidence available.

Question 1a: Based on research evidence, what is the effect of the COVID-19 pandemic and similar events on substance use, safety, overdoses, and substance-related deaths?

Table 1: Syntheses

Reference	Date Released	Description of Included Studies	Summary of Findings	Quality Rating: Synthesis	Quality Rating: Included Studies
New evidence reported September 21, 2020					
Public Health Ontario. (2020, July 28). Substance Use-Related Harms and Risk Factors during Periods of Disruption.	Jul 28, 2020 (Search completed May 27, 2020)	<p>This rapid review explores findings from 28 publications, including grey literature and surveillance sources, reporting on the impact of various events that disrupt drug supply or individuals who use substances:</p> <ul style="list-style-type: none"> • COVID-19 pandemic (global, USA, Canada, Europe) • 1 heroin shortage (Australia) • 2 natural disasters (USA) • 1 terror event (USA) • 1 closure of needle exchange program (Canada) <p>There is minimal overlap between this review and Larney.</p>	<p>This review found these effects on drug supply and harm reduction supports after major events:</p> <ul style="list-style-type: none"> • Increased drug contamination and toxicity • Decreased drug quality and purity • Increased drug prices • Increased violence in drug market • Barriers to harm reduction services • Interruptions to opioid agonist therapy <p>Changes in drug supply after major events were associated with the following:</p> <ul style="list-style-type: none"> • Increased rates of overdose deaths • Increased rates of overdose • Increased rates of substance use-related hospitalizations, including for overdoses and withdrawal 	Moderate	Not reported

<p>Larney, S., Bruneau, J., Raynault, M.F., Meeson, J.S., Høj, S., Minoyan, N., ... Marakenko, I. (2020). <i>Rapid review of the impacts of “Big Events” on people who use drugs and delivery of harm reduction and drug treatment services: Implications for strengthening systems in response to COVID-19.</i></p>	<p>Jun 2020 (Search date not reported)</p>	<p>This rapid review explores findings from 33 publications reporting on the impact of various events (pre-COVID-19) on individuals who use substances:</p> <ul style="list-style-type: none"> • 17 heroin shortages in Australia, UK, Canada and Kenya • 12 natural disasters in USA • 5 economic crises in Europe <p>There is minimal overlap between this review and Public Health Ontario.</p>	<p>This review found these effects on drug supply and harm reduction supports after major events:</p> <ul style="list-style-type: none"> • Changes in drugs used, based on availability • Increased violence in drug market • Changes in demand for harm reduction treatment, where demand decreased after natural disasters and increased after drug shortage events <p>Changes in drug supply after major events were associated with the following:</p> <ul style="list-style-type: none"> • Decreased rates of overdoses and overdose deaths after drug shortage events • Increased rates of risky behaviour, such as poly-drug use and re-using equipment 	<p>Low</p>	<p>Not reported</p>
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Table 2: In-progress Syntheses

Title	Anticipated Release Date	Setting	Description of Document
New evidence reported September 21, 2020			
Schmidt, R., Genois, R., Jin, J., Vigo, D., Rehm, J., & Rush, B. (2020). <i>The impact of epidemics and pandemics on substance use and treatment systems: A systematic review</i> . PROSPERO, CRD42020198670.	Aug 13, 2020	Global	This review will provide a narrative review of how epidemics and pandemics impact substance use and substance use disorders (incidence, prevalence, or other measures of severity) and how the changes in substance use resulting from pandemics impact the treatment and support service delivery systems. Where possible the authors will examine subgroup differences based on age, gender, and co-occurrence of mental health conditions.
Aslam, M.S., Kim, Y.J., & Qian, L. (2020). <i>The impact of substance use disorder among COVID-19 patients: A systematic review and meta-analysis</i> . PROSPERO, CRD42020192320.	Dec 31, 2020	Global	This review will examine the impact of substance use disorder among adolescent COVID-19 patients. Comparisons will be made before COVID-19 and during the COVID-19 pandemic.
Roberts, A. & Rogers, J. (2020). <i>Alcohol and other substance use during the COVID-19 pandemic: A systematic review and meta-analysis</i> . PROSPERO, CRD42020196269	Dec 31, 2020	Global	This review will synthesize the evidence surrounding alcohol and other substance use during the COVID-19 pandemic.
Previously Reported Evidence			
Salanti, G., Papakonstantinou, T., Cipriani, A., Furukawa, T., & Leucht, S. (2020). <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, CRD42020180049.	Oct 1, 2022	Global	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.

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Table 3: Single Studies

Reference	Date Released	Study Design	Participants	Setting	Summary of findings	Quality Rating:
New evidence reported September 21, 2020						
Hawke, L.D., Barbic, S.P., Voineskos, A., Szatmari, P., Cleverley, K., Hayes, E., ... Henderson, J.L. (2020). Impacts of COVID-19 on youth mental health, substance use, and well-being: A rapid survey of clinical and community samples . <i>The Canadian Journal of Psychiatry</i> . Epub ahead of print.	Jul 14, 2020	Cross-sectional	N=622	Canada	<p>This study reports on the results of a survey on mental health and substance use among youth (age 14 to 29) from community and clinical cohorts during the COVID-19 pandemic.</p> <p>Overall, substance use declined during the time of the pandemic in both clinical and community groups. The authors suggest pandemic control measures such as social distancing, limits on groups and other interventions at the community level as possible reasons for the decline in substance use during this period.</p> <p>Despite this overall decrease, 23.2% of youth in the clinical sample and 3.0% in the community sample met screening criteria for a substance use disorder. The specific substances used were not specified, and may include substances other than opioids and illicit substances, which are the focus of this review.</p>	Moderate
Ahmed, O., Brockmeier, D., Lee, K., Chapman, W.C., & Doyle, M.B. (2020). Organ donation during the COVID-19 pandemic . <i>American Journal of Transplantation</i> . Epub ahead of print.	Jul 13, 2020	Cross-sectional	N=19 organizations	USA	<p>This study reports on changes to organ donation and transplantation during COVID-19 and compares program activity during a 90-day period in March to May 2019 and March to May 2020.</p> <p>There was a 35% increase in substance abuse as cause of death among organ donors during the COVID-19 period (2020 vs 2019; n=220 vs n=163, p=0.0001).</p> <p>It is not clear that this change can be directly attributed to the COVID-19 pandemic, but the authors suggest that it warrants further investigation.</p>	Low

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Question 1b: Based on surveillance data, what is the effect of the COVID-19 pandemic on rates of overdoses and substance-related deaths in Canada?

Table 4: Surveillance Data for Overdose-Related Deaths

Province	Jurisdiction	Indicator	During pandemic ¹		Comparison ²		Change ³	Source
			Time	Value	Time	Value		
Provincial/Territorial-level Data								
British Columbia	BC Coroners Service	Illicit drug toxicity deaths	Mar-Jul 2020	758	Mar-Jul 2019	439	+72%	Illicit Drug Toxicity Deaths in BC Report
Nova Scotia	Nova Scotia Health Authority	Overdose deaths	Jan 1-Aug 25, 2020 (8 mos.)	18	Jan-Dec 2019 (12 mos.)	57	-	Nova Scotia Opioid Use and Overdose Framework
Ontario	Public Health Ontario	Opioid-related deaths	Mar-Apr 2020	369	Mar-Apr 2019	352	+5%	PHO Interactive Opioid Tool
Prince Edward Island	Health PEI	Overdose deaths	Apr-Jun 2020 (3 mos.)	1	Jan-Dec 2019 (12 mos.)	5	-	Health PEI Preventing Opioid-Related Overdoses
Regional-level Data								
Ontario (data for 8 of 34 health units)	Brant County Health Unit	Overdose deaths	Jan-Jun 2020 (6 mos.)	9	Jan-Dec 2019 (12 mos.)	35	-	Brant/Brantford Opioid Information System
	Grey Bruce Health Unit	Overdose deaths	Mar 1-Aug 25, 2020 (6 mos.)	9	Jan-Dec 2019 (12 mos.)	16	-	Grey Bruce Monthly Opioid Reports
	Region of Waterloo Public Health and Emergency Services	Overdose deaths	Jan 1-Aug 5, 2020 (7 mos.)	54	Jan-Dec 2019 (12 mos.)	63	-	Overdose Data for Waterloo Region
	Simcoe Muskoka District Health Unit	Overdose deaths	Mar-Apr 2020	17	Mar-Apr 2019	16	+6%	SMDHU Health Stats
	Toronto Public Health	Overdose deaths	Jan-Apr 2020 (4 mos.)	111	Jan-Dec 2019 (12 mos.)	293	-	Toronto Overdose Information System

Québec (data for 1 of 16 regions)	Agence de la santé et des services sociaux de Montréal	Overdose deaths	Jul 2020 (1 mo.)	23 (record high since 2014)	Not available	Santé Montréal Avis à la Population
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¹Where monthly data were available, the start of the pandemic was defined as March 2020

²Where possible, pandemic data were compared to data during the same time period in the previous year.

³**Calculated only if data for comparable period were available for previous year.** Calculated as $100\% \times |(value\ during\ pandemic - value\ during\ comparison)| / value\ during\ comparison$.

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Table 5: Surveillance Data for Overdose and Overdose Emergency Response

Province	Jurisdiction	Indicator	During pandemic ¹		Comparison ²		Change ³	Source
			Time	Value	Time	Value		
Provincial/Territorial-level Data								
Prince Edward Island	Health PEI	Overdoses	Apr-Jun 2020 (3 mos.)	9	Jan-Dec 2019 (12 mos.)	5	-	Health PEI Preventing Opioid-Related Overdoses
Regional-level Data								
Ontario (data for 21 of 34 health units)	Brant County Health Unit	Overdoses	Jan-Jun 2020 (6 mos.)	78	Jan-Dec 2019 (12 mos.)	159	-	Brant/Brantford Opioid Information System
	City of Hamilton Public Health Services	Paramedic responses to opioid overdoses	Mar-Jul 2020	230	Mar-Jul 2019	302	-24%	Hamilton Opioid Information System
	Durham Region Health Department	Paramedic responses to opioid overdoses	Jan 1-Aug 13, 2020	425	Jan 1-Aug 13, 2019	388	+10%	Durham Region Opioid Information System
	Grey Bruce Health Unit	Emergency department visits for overdose	Mar-Jul 2020 (5 mos.)	29	Oct 2019-Feb 2020 (5 mos.)	31	-	Grey Bruce Monthly Opioid Reports
	Halton Region Health Department	Paramedic responses to opioid overdoses	Jan-Jun 2020	85	Jan-Jun 2019	138	-38%	Halton Region Opioid Reporting
		Emergency department visits for overdose	Jan-Jun 2020	58	Jan-Jun 2019	128	-55%	
	Hastings & Prince Edward Counties Health Unit	Opioid overdoses	May 2020	22 (record high)	Not available			HPECHU Media Release
		Emergency department visits for overdose	Jan-Jun 2020	72	Jan-Jun 2019	91	-21%	
	Niagara Region Public Health Unit	Paramedic responses to opioid overdoses	Mar-Jul 2020	348	Mar-Jul 2019	270	+29%	Niagara Region Opioid Usage Statistics
	Ottawa Public Health	Emergency department visits for overdose	Mar-Jun 2020	215	Mar-Jun 2019	201	+7%	OPH Drug Use and Overdose Statistics

Peterborough Public Health	Paramedic responses to opioid overdoses	Apr-Jun 2020 (3 mos.)	54	Jan-Mar 2020 (3 mos.)	49	-	PPH Opioid-Related Harms Status Report
Region of Waterloo Public Health and Emergency Services	Paramedic responses to opioid overdoses	Mar-Jul 2020	512	Mar-Jul 2019	556	-8%	Overdose Data for Waterloo Region
Simcoe Muskoka District Health Unit	Emergency department visits for overdose	Mar-Jul 2020	215	Mar-Jul 2019	289	-26%	SMDHU Health Stats
Southwestern Public Health	Paramedic responses to opioid overdoses	Mar-Jun 2020 (4 mos.)	25	Nov 2019-Feb 2020 (4 mos.)	26	-	SWPH Opioid Monitoring Dashboard
	Emergency department visits for overdose	Mar-Jul 2020 (5 mos.)	62	Oct 2019-Feb 2020 (5 mos.)	49	-	
Public Health Sudbury & Districts	Paramedic responses to opioid overdoses	Jan-Jun 2020 (6 mos.)	278	Jan-Dec 2019 (12 mos.)	486	+14%	Public Health Sudbury & Districts Opioid Surveillance
	Emergency department visits for overdose	Jan-Jun 2020 (6 mos.)	269	Jan-Dec 2019 (12 mos.)	579	-	
Thunder Bay District Health Unit	Paramedic responses to opioid overdoses	Mar-Apr 2020	62	Mar-Apr 2019	64	-3%	TBDHU Opioid Information System
Toronto Public Health	Paramedic responses to opioid overdoses	Mar-Jul 2020	1457	Mar-Jul 2019	1938	-25%	Toronto Overdose Information System
Windsor-Essex County Health Unit	Emergency department visits for overdose	Mar-Jun 2020	103	Mar-Jun 2019	95	+8%	WECHU Opioid Overdose Statistics

¹Where monthly data were available, the start of the pandemic was defined as March 2020

²Where possible, pandemic data were compared to data during the same time period in the previous year.

³**Calculated only if data for comparable period were available for previous year.** Calculated as $100\% \times |(value\ during\ pandemic - value\ during\ comparison)| / value\ during\ comparison$

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Question 2: What strategies have been used to mitigate substance use harms during the COVID-19 pandemic?

Table 6: Syntheses

Reference	Date Released	Description of Included Studies	Summary of Findings	Quality Rating: Synthesis	Quality Rating: Included Studies
New evidence reported September 21, 2020					
Mallet, J., Dubertret, C., & Le Strat, Y. (2020). Addictions in the COVID-19 era: Current evidence, future perspectives a comprehensive review . <i>Progress in Neuro-Psychopharmacology and Biological Psychiatry</i> . Epub ahead of print.	Aug 12, 2020 (Search completed Aug 6, 2020)	This review of expert opinions includes information from 18 studies described as “mostly letters or commentaries” about the impact of COVID-19 on individuals with substance use disorders.	<p>Strategies to mitigate poor outcomes of opioid use disorders during the pandemic: Efforts to treat individuals with opioid use disorders include:</p> <ul style="list-style-type: none"> • Assessment methods that do not involve an initial in-person evaluation, • Stopping face-to-face visits • Avoiding the requirement of urine drug screening • Shifting to telemedicine assessment • Providing naloxone to persons receiving take-home methadone • Safe substitution; offering alternative substances for opioid substitution treatment <p>Stimulants (cocaine, crack):</p> <ul style="list-style-type: none"> • The authors suggest safe inhalation interventions may be required to limit spread of COVID-19 among marginalized individuals who smoke crack cocaine. 	Low	Not reported

Previously Reported Evidence					
<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 (Search completed Apr 1, 2020)</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 • Home delivery of prescriptions 	<p>Low</p>	<p>Not reported</p>

Please note that this information is not available in both official languages because the source of the information is not subject to the Official Languages Act.

Table 7: Single studies

Reference	Date Released	Study Design	Participants	Setting	Summary of findings	Quality Rating:
New evidence reported September 21, 2020						
Uscher-Pines, L., Sousa, J., Raja, P., Mahrotra, M., Barnett, M., & Huskamp, H.A. (2020). Treatment of opioid use disorder during COVID-19: Experiences of clinicians transitioning to telemedicine. <i>Journal of Substance Abuse Treatment.</i> Epub ahead of print.	Aug 29, 2020	Cross-sectional	N=18 clinicians who prescribe buprenorphine	USA	This study in April 2020 found that nearly all interview participants were doing some telemedicine, and more than half were only doing telemedicine visits. Most participants reported changing their typical clinical care patterns to help patients remain at home and minimize exposure to COVID-19, included waiving urine toxicology screening, sending patients home with a larger supply of medications, and requiring fewer visits. Positive impacts of telemedicine included increased access for patients. Negative impacts included less structure and accountability, less information to inform clinical decision-making, challenges in establishing a connection, technological challenges, and shorter visits. The quality and safety of widespread use of telemedicine for opioid use disorder treatment is still unknown.	High
Bandara, S., Kennedy-Hendricks, A., Merritt, S., Barry, C., & Saloner, B. (2020). Early effects of COVID-19 on Programs Providing Medications for Opioid Use Disorder in Jails and Prisons. <i>Journal of Addiction Medicine.</i> Epub ahead of print.	Aug 27, 2020	Cross-sectional	N=16 jail and prison programs that provided methadone and/or buprenorphine treatment for incarcerated populations before COVID-19	USA	This online survey in May 2020 examined challenges and changes to these programs as a result of the pandemic. 63% reported downsizing their programs. 44% made changes to medication dispensation processes. 81% had some program participants released early due to COVID-19 infection risk.	Low

<p>Marcus, T.S., Heese, J., Scheibe, A., Shelly, S., Lalla, S.X., & Hugo, J.F. (2020). Harm reduction in an emergency response to homelessness during South Africa's COVID-19 lockdown. <i>Harm Reduction Journal</i> 17(60).</p>	<p>Aug 24, 2020</p>	<p>Case study</p>	<p>Description of the emergency healthcare response, including responses to the needs of opioid users, in a temporary large homeless shelter in South Africa between 24 March and 6 April 2020.</p>	<p>South Africa</p>	<p>The clinical team prioritized opioid substitution therapy using methadone and COVID-19 screening over generalist healthcare to manage withdrawal and contain tension and anxiety. Key lessons were:</p> <ul style="list-style-type: none"> • The importance of communicating with people directly affected by emergencies, • The value of using methadone to reduce harms during emergencies and • The imperative of including opioid substitution therapy in essential primary healthcare. 	<p>Moderate</p>
<p>Martin, C., Adrés, P., Bullón, A., Villegas, J.L., de la Iglesia-Larrad, J.I., Bote, B., ... Roncero, C. (2020). COVID pandemic as an opportunity for improving mental health treatments of the homeless people. <i>International Journal of Social Psychiatry</i>. Epub ahead of print.</p>	<p>Aug 21, 2020</p>	<p>Cohort</p>	<p>N=27 people experiencing homelessness</p>	<p>Spain</p>	<p>This study followed 27 people residing in a homeless shelter. Participants were provided psychiatric counselling during the 2-month study period.</p> <ul style="list-style-type: none"> • 52.9% had history of substance abuse • 5.9% currently using opiates/methadone; 5.9% currently using cocaine <p>During the study, 6 participants were referred to harm reduction services. At the study's conclusion,</p> <ul style="list-style-type: none"> • 2 maintained abstinence from substances • 2 were receiving services • 1 refused treatment and follow up • 1 had relapsed to cocaine abuse and was awaiting in-patient admission 	<p>High</p>

McKiever, M.E., Cleary, E.M., Schmauder, T., Talley, A., Hinley, K.A., Constantine, M.M., & Rood, K.M. (2020). Unintended consequences of the transition to telehealth for pregnancies complicated by opioid use disorder during COVID-19 pandemic . <i>American Journal of Obstetrics and Gynecology</i> . Epub ahead of print.	Aug 5, 2020	Cohort	N=13 pregnant women with opioid use disorder	USA	<p>This study describes the transition of an outpatient program for pregnant women with opioid use disorder from weekly in-person therapy sessions to virtual meetings.</p> <p>Compared to in-person sessions,</p> <ul style="list-style-type: none"> • Session attendance was significantly lower; • Patients were more likely to require higher doses of medication-assisted therapy due to increased cravings. <p>1 previously stable participant relapsed to substance use and experienced an overdose.</p>	High
Hochstatter, K.R., Akhtar, W.Z., Dietz, S., Pe-Romanshko, K., Gustafson, D.H., Shah, D.V., ... Westergaard, R.P. (2020). Potential influences of the COVID-19 pandemic on drug use and HIV care among people living with HIV and substance use disorders: Experience from a pilot mHealth intervention . <i>AIDS and Behavior</i> . Epub ahead of print.	Jul 23, 2020	Cohort	N=60 people living with HIV and substance use disorder	Wisconsin	<p>People living with HIV and substance use disorder identified as high risk for relapse were invited to access an online substance use disorder support platform and participate in weekly online surveys.</p> <p>Compared to substance use in the 6 weeks prior to the pandemic being declared, in the 6 weeks after 'stay at home' measures were implemented,</p> <ul style="list-style-type: none"> • Proportion of participants using illicit substances increased from 10% to 18%, a non-significant change. • Participants reported less confidence in staying sober. 	Moderate
Roanova, J., Shenoi, S., Zaviryukha, I., Zeziulin, O., Kiriazova, T., Rich, K., ... Yariy, V. (2020). Social Support is Key to Retention in Care during Covid-19 Pandemic among Older People with HIV and Substance Use Disorders in Ukraine . <i>Substance Use & Misuse</i> 55(11), 1902-1904.	Jul 15, 2020	Cross-sectional	N=123 people over age 50 with human immunodeficiency virus	Ukraine	<p>A telephone survey in May 2020, during pandemic lockdown, explored the extent to which patients receiving HIV and substance use treatment continued their therapy. The survey determined that social support is critical to avoiding treatment interruption for older people with HIV with substance use disorders. Supports such as telehealth are recommended.</p>	Low

<p>Rosca, P., Shapira, B., & Neumark, Y. (2020). Isolating the isolated: Implications of COVID-19 quarantine measures on in-patient detoxification treatment for substance use disorders. <i>International Journal of Drug Policy</i>. Epub ahead of print.</p>	<p>Jul 6, 2020</p>	<p>Case report</p>	<p>In-patient detoxification treatment unit for substance use disorders under COVID-19 quarantine measures</p>	<p>Israel</p>	<p>Due to a positive case occurring in the facility, participants being treated for substance use disorder experienced a disruption of service due to mandatory quarantine orders.</p> <p>New guidelines were instituted which saw a reduction in the number of new admissions for treatment (compared to previous months). Patients that refused to comply with isolation measures were forced by order into confinement in hospital.</p> <p>The authors suggest that deferring in-patient treatment for persons in need will likely have deleterious consequences on patients' chances of recovery and subsequent rehabilitation.</p> <p>The authors make recommendations on advanced planning measures that can be used, in future, to better prepare for future cases of COVID-19 infection specifically, and public health emergencies in general.</p>	<p>Low</p>
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<p>Clarke, H., Weinrib, A., Kotteeswaran, Y., Katz, J., Yu, A. & Tanguay, R. (2020). Remote buprenorphine-naloxone initiation as an essential service for people with chronic pain and opioid dependence during the COVID-19 pandemic: case reports, clinical pathways, and implications for the future. <i>Canadian Journal of Pain</i>. Epub ahead of print.</p>	<p>Jun 25, 2020</p>	<p>Case report</p>	<p>N=2 patients with chronic pain and opioid dependence</p>	<p>Canada</p>	<p>This article presents two case reports of managing chronic pain and opioid dependence during the COVID-19 pandemic through telemedicine.</p> <p>Case Report 1 describes the transition of a patient from oxycodone to buprenorphine-naloxone through micro dosing, frequent monitoring by phone and hypnotherapy audio-recordings to manage nausea and vomiting.</p> <p>Case Report 2 describes the transition of a patient from hydromorph contin to buprenorphine-naloxone through telemedicine dialectical behavioural therapy.</p>	<p>High</p>
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Table 8: Commentary/Expert Opinions on Strategies

Reference	Date Released	Jurisdiction	Description	Summary	Quality Rating:
New evidence reported September 21, 2020					
Stolbach, A., Mazer-Amirshahi, M., Schqarz, E.S., Juurlink, D. Wiegand, T.J., & Nelson, L.S. (2020). ACMT position statement: Caring for patients with opioid use disorder during coronavirus disease pandemic. <i>Journal of Medical Toxicology</i> . Epub ahead of print.	Aug 3, 2020	USA	Position statement of the American College of Medical Toxicology (ACMT)	The ACMT recommends modifying regulations and practices related to providing treatment for opioid use disorder during COVID-19 pandemic, while reducing the need for in-person visits. Practices include: <ul style="list-style-type: none"> • Facilitate administration of medications for opioid use disorder to patients who may be quarantined. • Expand use of telehealth. • When in-person evaluations are required, healthcare systems should maintain physical distancing. • Increase use of strategies including remote buprenorphine inductions, administration of long-acting injectable medications, telehealth assessments, and minimization of urine drug screening. 	Moderate
Crowley, D. & Delargy, I. (2020). A national model of remote care for assessing and providing opioid agonist treatment during the COVID-19 pandemic: a report. <i>Harm Reduction Journal</i> 17: 49.	Jul 17, 2020	Ireland	Model in Ireland for opioid agonist treatment during COVID-19 pandemic.	The model involves an initial telephone assessment with COVID-risk triage, a single-patient visit to local services to provide a point of care drug screen and complete necessary documentation and remote video assessment and ongoing management by a GP addiction specialist. A secure national electronic health link system allows for the safe and timely delivery of prescriptions to a designated local community pharmacy.	High

Previously reported evidence					
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	UK	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 • Defer planned detoxifications 	Moderate
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	This paper describes 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>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

<p>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>. Epub ahead of print.</p>	<p>May 21, 2020</p>	<p>Ireland</p>	<p>Authors describe the potential impact of COVID-19 on an addictions psychiatry service.</p>	<p>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 ○ Eliminating therapeutic leave from hospital • For outpatients: <ul style="list-style-type: none"> ○ Telephone support ○ Take-home supplies 	<p>High</p>
<p>Government of Wales. (2020, May 19). Coronavirus (COVID-19): guidance for substance misuse and homelessness services.</p>	<p>May 19, 2020</p>	<p>Wales</p>	<p>This source from the Government of Wales provides guidance for substance misuse and homelessness services in the context of COVID-19.</p>	<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 	<p>Moderate</p>
<p>Dunlop, A., Lokuge, B., Masters, D., Sequeira, M., Saul, P., Dunlop, G., ... Maher, L. (2020). Challenges in maintaining treatment services for people who use drugs during the COVID-19 pandemic. <i>Harm Reduction Journal</i>, 17(1), 26.</p>	<p>May 6, 2020</p>	<p>Australia</p>	<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 • Attention to staff safety 	<p>High</p>

<p>Karamouzian, M., Johnson, C., & Kerr, T. (2020). Public health messaging and harm reduction in the time of COVID-19. <i>The Lancet Psychiatry</i>, 7(5), 390–391.</p>	<p>May 1, 2020</p>	<p>Not specified</p>	<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.</p>	<p>Public health messaging should provide guidance on preparing and using drugs to minimize the risk of COVID-19 infection.</p> <p>Recommendations for investments in harm reduction supplies and services are 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 	<p>High</p>
<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>Canada</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).</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>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, 41</i>(2), 147–149.</p>	<p>April 21, 2020</p>	<p>USA</p>	<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. 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 	<p>High</p>
<p>British Columbia Centre on Substance Abuse (2020, March). Risk Mitigation in the context of dual public health emergencies.</p>	<p>March 2020</p>	<p>British Columbia</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>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>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>High</p>

<p>Canadian Centre on Substance Use and Addiction. (2020). <i>Methamphetamine, the Respiratory System and COVID-19.</i></p>	<p>2020</p>	<p>Canada</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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