



Harm reduction worker safety during the COVID-19 global pandemic

NATIONAL RAPID GUIDANCE

VERSION 1 - GUIDANCE DOCUMENT



CRISM-ICRAS

Canadian Research Initiative
in Substance Misuse

Initiative Canadienne de
Recherche en Abus de Substance



CIHR IRSC

Canadian Institutes of Health Research
Instituts de recherche en santé du Canada

Citation

To quote this document:

Elton-Marshall, T., Ali, F., Hyshka, E., Shahin, R., Hopkins, S., Imtiaz, S., Graham, B., & Rehm, J. *Harm reduction worker safety during the COVID-19 global pandemic: National Rapid Guidance*. Toronto, Ontario: Canadian Research Initiative in Substance Misuse; July 06, 2020. 50 p. Version 1.

Version 1, July 06, 2020

This publication is available in English. A French version will be available on the Canadian Research Initiative in Substance Misuse (CRISM)'s website: <https://crism.ca>

Land Acknowledgement

We respectfully acknowledge that the work to complete this rapid guidance document was hosted on Treaty 13 territory of many nations including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Wendat people, and is now home to many diverse Indigenous Peoples including First Nations, Inuit and Métis Peoples.

We recognize that the ongoing criminalization, institutionalization, and discrimination against people who use drugs disproportionately harm Indigenous Peoples, and that continuous efforts are needed to dismantle colonial systems of oppression. We are committed to the process of reconciliation with Indigenous Peoples, and recognize that it requires significant and ongoing changes to the health care system.

We hope that this guidance document helps to reduce the harms faced by people who use drugs in the COVID-19 pandemic.

About the Canadian Research Initiative in Substance Misuse

Funded by the Canadian Institutes of Health Research (CIHR), the Canadian Research Initiative in Substance Misuse (CRISM) is a national research-practice-policy network focused on substance use disorders, comprising four large interdisciplinary regional teams (Nodes) representing British Columbia, the Prairie Provinces, Ontario, and Quebec/Atlantic. Each CRISM node includes regional research scientists, service providers, policy makers, community leaders, and people with lived experience of substance use disorders. CRISM's mission is to translate the best scientific evidence into clinical practice, health services, and policy change. More information about CRISM can be found at: <https://crism.ca>.

About this Document

This document is one of a series of six national guidance documents, rapidly developed by the CRISM network at the request of the Government of Canada. Collectively, the six documents address urgent needs of people who use substances, service providers, and decision makers in relation to the COVID-19 pandemic. The urgent nature of this work required rapid development and dissemination of this guidance.

The guidance provided in this document is subject to change as new information becomes available. Readers should note that the intent of this document is to provide general guidance rather than detailed procedural and logistical advice. Readers are advised to consult local public health and medical authorities for specific input on navigating their own unique regulatory and policy environments, as necessary.

The CRISM/COVID-19 guidance documents cover the following topics:

- Supporting People Who Use Substances in Shelter Settings During the COVID-19 Pandemic
- Telemedicine Support for Addiction Services
- Harm Reduction Worker Safety (this document)
- Strategies to Reduce SARS-CoV-2 Transmission in Supportive Recovery Programs and Residential Addiction Treatment Services
- Supporting People Who Use Substance in Acute Care Settings
- Strategies to Help Individuals Self-Isolate for People who use Drugs

Completed documents may be accessed at: <https://crism.ca/projects/covid/>. Each document was developed by a core CRISM national authorship committee, drawing on expert knowledge, available scientific evidence, and a review of relevant documentation from Public Health authorities. Draft documents produced by each authorship committee were reviewed by pan-Canadian panels of content and clinical experts. People with lived and living experience of substance use have participated in the production of the CRISM/COVID-19 guidance document series, either as part of review or authorship committees. A Canadian Institutes of Health Research (CIHR) Directed Operating Grant to CRISM provided funding for this work.

Disclaimer for Health Care Providers

The recommendations in this guidance document represent the view of the National Operational Guidance Document Review Committee, arrived at after careful consideration of the available scientific evidence and external expert peer review. The application of the guidance contained in this document does not override the responsibility of health care professionals to make decisions appropriate to the needs, preferences, and values of an individual patient, in consultation with that patient (and their guardian[s] or family members, when appropriate), and, when appropriate, external experts (e.g., specialty consultation). When exercising clinical judgment in caring for patients, health care professionals may take this guidance document into account while upholding their duties to adhere to the fundamental principles and values of their relevant code of ethics. Nothing in this guidance document should be interpreted in a way that would be inconsistent with compliance with those duties.

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Conflict of Interest

Detailed Summary- Disclosure of Interests (DOI) for CRISM Rapid Response COVID-19 Harm Reduction and Worker Safety Guidance Document

In accordance with the Guidelines International Network's Principles for Disclosure of Interests and Management of Conflict (Schunemann et al., 2015) authorship committee members and external reviewers were asked to disclose all sources and amounts of direct and indirect (i.e., research support) remuneration from industry, for-profit enterprises, and other entities that could potentially introduce real or perceived risk of bias. In addition, authorship committee members and external reviewers were asked to report indirect sources of bias, such as academic advancement, clinical revenue, and professional or public standing that could potentially influence interpretation of research evidence and formulation of recommendations. Of note, two of the authorship members are CRISM staff members.

No authorship committee members and external reviewers were excluded from participation due to direct financial conflicts of interest. Of the 25 authorship committee members and external reviewers, ten nine (40%) acknowledged potential direct conflicts of interest. Of these, five (20%) acknowledged employment or consulting with organizations including hospitals/health authorities, professional or regulatory associations, community outreach agencies or federal funding agencies, one (4%) of which (an external reviewer) has acted in a consulting role for a commercial entity (Merck). Five (20%)

disclosed receiving research support and funding, including grants, sponsorships and collaborations. Two (9%) of which have received payment to participate in review activities, while two (9%) received non-monetary support in the form of paid travel. Of consideration, an external reviewer received research funding prior to guidance document involvement from two commercial entities (Gilead and Merck), which could theoretically benefit from document recommendations.

None of the authorship committee members or external reviewers reported any commercial conflicts of interests such as investment interests or intellectual property conflicts. One (4%) reviewer indicated they had provided expert opinion or testimony on the subject of these guidelines, while two (9%) members disclosed holding a position of office where they represented the interests or defended a position related to these guidelines.

In relation to indirect conflict of interests (such as academic advancement, clinical revenue streams and expert status), twelve (48%) reported this potential. None of the authorship committee or external reviewers indicated a potential for clinical revenue to be influenced by these guidelines. Six (24%) members disclosed that they had previously published on the effectiveness of an intervention recommended in this guideline, such as addiction treatment, while five (22%) indicated they are actively conducting research on a topic that could be influenced by the recommendations. Importantly, eight (32%) members disclosed that their personal or professional experience, including advocacy and support for harm reduction practices, or area of specialization (e.g., addiction medicine) could influence their perspective on the topic and recommendations.

Acknowledgments

CRISM would like to acknowledge the authorship committee for guiding the development of the initial draft of this document and revisions to the content, and the reviewer committee for providing their expertise, knowledge, and support. We would like to acknowledge the CRISM Node Managers: Denise Adams (Prairies), Nirupa Goel (BC) and Aissata Sako (Quebec/Atlantic) for their leadership; S. Ahmed Hassan, Omer Syed Muhammad Hasan, and Frishta Nafeh for research support; and Valeria Saavedra and Kevin Hollett for graphic design support. CRISM also wishes to thank Gina Lepage of Traductions Lepage for her assistance with translating the guidance document into French. This work was funded by the Canadian Institutes of Health Research (CUG-171602).

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ABBREVIATIONS

AGMP: Aerosol generating medical procedures

CIHR: Canadian Institutes of Health Research

COVID-19: Novel Coronavirus disease of 2019

CRISM: Canadian Research Initiative in Substance Misuse

PPE: Personal Protective Equipment

PWUD: People who use drugs

PWLE: People with Lived or Living Experience

SCS: Supervised Consumption Sites

1.0 Key points of the guidance document

- The rapid spread of COVID-19 and its increased burden on the health care system has especially impacted structurally vulnerable communities, and particularly people who use drugs (PWUD).

- Harm reduction settings and interventions are critical for preventing and reversing drug overdoses, providing harm reduction equipment to prevent infectious disease (e.g. HIV) spread, linking people to treatment and health care and providing other supports to PWUD. During the pandemic, harm reduction services can offer an important opportunity for providing education on community-based infection prevention and control. They are perhaps even more crucial during a pandemic when access to equipment and a predictable drug supply may be more difficult to obtain.

- Workers in harm reduction settings are at a risk of contracting infectious diseases such as COVID-19 as they often work in close contact with program participants and may come into contact with body fluids (such as blood, vomit, mucus and exhaled droplets). They may need to respond to urgent situations such as overdoses, which can place them at an even greater risk of infection (i.e. limited time to augment PPE).

- The current guidance document provides consolidated information based on the best available evidence to offer national recommendations for protecting harm reduction workers and clients in harm reduction settings from COVID-19.

- As there are many different harm reduction settings, which vary in terms of access to and need for resources, the focus of these recommendations are for application within harm reduction sites in fixed locations including supervised consumption sites.

- PPE (masks, gowns, gloves, goggles/face shields) reduces risks to harm reduction workers by preventing exposure to pathogens when used correctly.

- Governments must also offer the highest level of required protection to all health care workers including individuals working in harm reduction settings and to allocate the necessary PPE resources, as well as to prepare for pandemics and other outbreaks by stockpiling PPE.

- Harm reduction services should implement measures to ensure that adequate physical distancing and/or separation between individuals, such as staff and clients are maintained consistently, to help minimize risk of COVID-19 transmission.

2.0 Purpose and Scope

2.1 BACKGROUND

On March 11, 2020, COVID-19 was declared a global pandemic by the World Health Organization (Heymann and Shindo, 2020). Coronaviruses are a large family of viruses that include viruses such as the ones that cause the common cold and the Middle East Respiratory Syndrome (MERS-CoV), and Severe Acute Respiratory Syndrome (SARS-CoV). COVID-19 is defined as an illness caused by the novel coronavirus, which is now called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). COVID-19 was initially identified during a respiratory outbreak in Wuhan City, Hubei Province, China, on December 31, 2019, where cases of pneumonia with an unknown cause were reported to the World Health Organization. Following the continued rise in infections, on January 30, 2020, the WHO declared the outbreak a public health emergency of concern, based on the high potential for the virus to spread internationally.

COVID-19 is spread from person to person, through respiratory droplets, which are produced once an infected person coughs or sneezes, through talking or breathing in close proximity to an infected person, or through contact with contaminated surfaces. Globally, 216 countries, areas or territories have been affected by COVID-19, with over 6.5 million confirmed cases and over 380,000 confirmed deaths (WHO, 2020a). In Canada, as of June 23, 2020, there are 101,963 confirmed cases and 8,454 deaths (Government of Canada, 2020a).

Compounded by the increased burden on health care systems, both internationally and nationally, the rapid spread of COVID-19 has undeniably impacted marginalized communities, and particularly people who use drugs (PWUD). PWUD are at an increased risk of complications from COVID-19 due to pre-existing and underlying health conditions, including lung disease such as asthma/COPD, compromised immune systems and diabetes (Wood et al., 2020). PWUD may additionally be at greater risk due to other vulnerabilities such as homelessness, utilization of shelters, as well as limited access to critical harm reduction services and programs.

In response to COVID-19, public health experts have employed and recommended a variety of countermeasures, aimed at reducing the transmission and population impact of COVID-19. Public health orders, such as physical distancing, self-isolation and closures of non-essential businesses and gatherings have been implemented across the country. While these public health measures are conducive in attempting to control the pandemic, PWUD still require access to harm reduction services, such as supervised consumption sites, and as a result, may experience many unintended

negative consequences. A particular concern has been the increase of opioid-related overdose deaths and problematic substance use in Canada (Government of Canada, 2020b). In April 2020, Toronto Paramedic Services reported the highest number of illicit opioid-related deaths in a month, since September 2017 (Government of Canada, 2020b). The British Columbia Coroners Service identified 170 suspected illicit drug toxicity deaths in May 2020. This represents a 93% increase over the number of deaths in comparison to May 2019 (n=88) and a 44% increase over the number of deaths in April 2020 (n=118) (British Columbia Coroners Service, 2020). In May 2020, Alberta Health Services said EMS crews were called to 246 opioid-related emergencies in Edmonton alone, compared to 108 opioid-related emergencies in May 2019 (Alberta Health Services, 2020a). Additionally, during the last week of May and first week of June, there were 16 overdose deaths in the Edmonton area (Alberta Health Services, 2020a).

As such, workers in harm reduction settings play an extremely pivotal role in facilitating access and providing harm reduction to PWUD, especially in the context of COVID-19, where risks for transmission, illness and substance-use related harms are heightened. We define the term harm reduction worker broadly to encompass all staff who provide services in fixed locations such as safe consumption sites (not just regulated health care professionals).

2.2 PURPOSE

The purpose of this document is to provide recommendations for protecting workers and clients in harm reduction settings from COVID-19 based on the best available existing evidence. Workers in harm reduction settings can be at a heightened risk of contracting infectious diseases such as COVID-19 particularly because they often work in close contact with program participants and may come into contact with body fluids (such as blood, vomit, mucus and exhaled droplets). These individuals may need to respond to urgent situations such as overdoses, which can place them at an even greater risk of infection.

Harm reduction settings are critical for preventing and reversing drug overdoses and other harms (e.g. bloodborne infections), for providing access to, and safe disposal of harm reduction supplies (e.g. needles), and for providing support to PWUD (e.g. peer programming, support groups). During the pandemic, harm reduction services can also offer an important opportunity for extending the reach of the health care system by providing education on the ways to protect oneself to prevent the spread of COVID-19. They are perhaps even more crucial during a pandemic when access to equipment and a consistent drug supply may be more difficult to obtain. Harm reduction services are also important at this time because social supports may be limited (as individuals are told to either self-isolate or to keep their number of contacts small). Yet using drugs with another individual present reduces likelihood of mortality if an overdose occurs.

It is therefore necessary to keep harm reduction services operational during the pandemic while also ensuring staff and client safety. Harm reduction services are designed to encourage easy use by limiting barriers to access services. However, some barriers may be introduced as an unintended consequence of new measures to protect workers (e.g., physical distancing may lead to longer lines to enter facilities). These barriers may be a deterrent to people using the services, reducing accessibility.

We recognize that there are many different harm reduction settings, which vary in terms of access to resources such as PPE, therefore the focus of these recommendations is for application within harm reduction sites in fixed locations including supervised consumption sites, with a goal of later expanding to other settings (e.g. community). Some of the recommendations may not be feasible in certain circumstances (e.g., if there is a shortage of personal protective equipment (PPE) and N-95 masks are unavailable). However, we believe that it is important to advocate for the best level of protection for workers in harm reduction settings.

Health care workers have expressed frustration with infection and prevention control guidelines that are long or unclear and local guidelines that do not match national guidelines (Houghton et al, 2020). With the proliferation of information about COVID-19, harm reduction workers may feel inundated with information (Houghton et al., 2020). The current guidance document therefore provides consolidated information based on the best available evidence to offer national recommendations for protecting workers in harm reduction settings from COVID-19.

2.3 INTENDED AUDIENCE

This document is intended to provide guidance to individuals working in supervised consumption sites or other fixed locations (e.g. needle exchange), including managers, frontline staff, public health officials, and other staff providing or supporting delivery of harm reduction services for people who use substances during COVID-19. We define the term harm reduction worker broadly to encompass all staff, volunteers and non-employees who provide services in fixed locations such as supervised consumption sites (not just regulated health care professionals). For guidance pertaining to harm reduction workers in temporary shelters see a related document in this CRISM series ([Supporting People Who Use Substances in Shelter Settings during the COVID-19 Pandemic](#)).

Although policies vary by jurisdiction, it is also important to acknowledge that some harm reduction services include People with Lived Experience (PWLE) most of whom are engaged as volunteers, as salaried or hourly workers, or compensated via honoraria (Becu & Allen, 2017; Greer et al., 2017). These positions may not have employment protections such as a union or benefits. These individuals may therefore not feel empowered or financially able to take time off when experiencing symptoms of COVID-19 or to ask for personal protective equipment (PPE). To ensure protection of volunteers,

staff and clients in harm reduction settings, it is critical that individuals with symptoms or high-risk exposures (e.g. direct contact with a known positive case) be able to stay home and that universal standards for training and PPE use be applied to protect all individuals in these settings.

This document provides general guidance for supporting worker's safety within harm reduction settings across Canada, based on current and best available evidence. Implementation processes may vary depending on local, regional, or provincial/territorial jurisdictions. As such, readers should consult with local public health officials to ensure they are operating in accordance to their own unique policy and regulatory environment, if necessary.

2.4 EVIDENCE SELECTION AND REVIEW

Evidence was based on a systematic search of the peer-reviewed literature and a search of grey literature. There were many gaps identified in the existing literature and a need for recommendations in other settings (e.g. community outreach settings). This guidance document is an evolving document, which will be updated as new information becomes available.

2.4.1 Peer-Reviewed Literature Search

A search was conducted on Medline and Embase using OVID on May 11, 2020 to identify articles focusing on harm reduction personnel/worker safety. Since research related to COVID-19 is currently very limited and in early stages, the combination of keywords and MeSH terms used included wording related to respiratory illnesses and viral pneumonia (including Severe Acute Respiratory Syndrome [SARS]) to reflect the infectious disease literature more broadly. Initially, search terms related to supervised consumption sites were included, however, there was a lack of relevant articles. Therefore, a broad screening/inclusion criteria was implemented to identify any relevant articles that would be applicable to harm reduction worker safety in supervised consumption sites. No date restrictions were applied. Editorials and letters were excluded and only English language publications were included. Further details about the search strategy including a list of keywords used are presented in **Appendix 2: Search Strategy on page 35**.

A total of 696 articles were retrieved. Two individuals independently screened all titles and abstracts of the papers for inclusion, and in case of any conflicts, full texts were obtained. After screening for relevance, 24 papers were reviewed. Through a screening of reference lists, four additional systematic reviews were identified (Jefferson et al., 2011 and Couper et al., 2020; Chu et al., 2020; Bartoszko et al., 2020) and 1 expert guidance document (Edelson et al., 2020). Therefore, the total number of articles reviewed was 29. All recommendations and sources including ratings of the strength of the evidence (where available) are presented in **Appendix 3: Strength of Evidence According to**

Recommendations on page 35. Where possible, recommendations were based on the highest level of evidence (a systematic review/meta-analysis). However, it is important to note that even where systematic reviews were available, the certainty of the evidence was often low. This highlights the need for additional research to inform best practice guidelines in the future.

None of the studies identified focused on workers in harm reduction facilities. It was therefore necessary to consult the grey literature to fill in gaps in recommendations specific to harm reduction settings.

2.4.2 Grey Literature Search

Present grey literature was obtained via searches of general databases and websites, including provincial and national government websites. The search strategy, which focused on worker safety in harm reduction settings amid COVID-19, included pertinent keywords such as ‘harm reduction’, ‘worker safety’, ‘COVID-19’, and related terms and variations. The grey literature was comprehensively searched between May 5 to May 27, 2020 using web searching (e.g., Google), searching references of other reports, and by asking for resources from experts. The grey literature included reports, community resources, and government resources, which contained information regarding COVID-19 and harm reduction safety, as well as other infectious disease protocols and information that may be relevant. As before, all documents were restricted to the English language for this initial guidance. Subsequent versions of this document will be updated with French language sources. Snowballing of references and citation lists of relevant papers were also reviewed to identify additional resources. A total of 63 sources from the grey literature were identified to support the peer-reviewed evidence.

An independent CRISM authorship committee (n=8) and external reviewers (n=17), made up of experts and people with lived and living experience from each regional CRISM Node was assembled to participate and review this guidance document. Feedback and recommendations of committee members were sought through email communication as well as teleconferences when needed. Feedback from the authors and reviewers were collated and incorporated to develop Version 1 of this guidance document.

3.0 Results

The results presented below offer recommendations based on the peer-reviewed academic literature, and where applicable, grey literature and community resources. The summary of the strength of the evidence for recommendations is provided in **Appendix 3: Strength of Evidence According to Recommendations on page 35**.

While we recognize that some recommendations derived from the results of the search may not be applicable or relevant to every harm reduction setting, it remains imperative to highlight the evidence. The recommendations outlined below offer insight as to how the health of harm reduction workers could be protected with regards to the following measures: physical measures, screening, hand hygiene, personal protective equipment (PPE), cleaning and disinfecting and responding to an overdose.

3.1 PHYSICAL MEASURES

Harm reduction services should implement measures to ensure that adequate physical distancing and/or separation between individuals, such as staff and clients are maintained consistently, to help minimize risk of COVID-19 transmission. A systematic review and meta-analysis found that a distance of 1 metre probably reduces the risk of COVID-19 infection but that 2 metres is likely more effective (Chu et al., 2020). The study also found that for every additional 1 metre of distancing, the reduced risk of transmission could increase 2.02 times (Chu et al., 2020).

Physical measures could include physical barriers such as plexiglass windows, partitions or high walled cubicles, ensuring 2 metre (6 feet) separation between work stations when physical barriers are not possible (Government of Canada, 2020c; Alberta Health Services, 2020b). Additionally, signage or physical markers (using tape, cones, table or chairs), and/or dedicated staff providing and facilitating direction, could be used to provide direction about appropriate physical distance (Government of Canada, 2020c). In order to further limit unnecessary close contact and maintain physical distancing, place markers (e.g. taped lines) should be marked on the floor to ensure distances of 2 metres are easily visible to clients, for example when lining up to access harm reduction supplies (Government of Canada, 2020c; Alberta Health Services, 2020b).

It is advised that booths or tables at supervised consumption services should be a minimum of 2 metres apart. If services are using the existing infrastructure, signage, such as a chair, tape or cone, can be placed on every other booth/table to ensure sufficient distancing, from other injection booths (Hyshka et al., 2020).

Transparent partitions are needed to allow interactions to occur, such as completing paperwork, and/or picking up supplies (National Collaborating Centre for Environmental Health, 2020). These partitions should be designed to adhere to public health measures of physical distancing, and minimize airflow. The openings on the partitions should be kept as small as possible, and should be positioned on the partition to not compromise the breathing zone of either the user or the provider.

Further details regarding best practices for physical barriers during COVID-19 are available: [National Collaborating Centre for Environmental Health](#).

3.2 SCREENING

A critical strategy to reduce the risk of COVID-19 transmission is to screen staff and clients for COVID-19 and quickly respond to suspected cases (e.g. offer testing, support isolation). To help reduce the risk of transmission to staff and clients, all sites and facilities should undertake passive and active screening (Ontario Ministry of Health, 2020a). These screening measures should be applied to both the staff and clients.

3.2.1 Passive Screening

Signage should be posted on all entry points of every facility, which should prompt anyone to self-identify to a designated person/location if they believe they have symptoms of COVID-19, based on the latest [case definition of COVID-19](#). Case definitions are used for surveillance purposes and they help identify probable and confirmed cases. Masks and hand hygiene stations should be available upon arrival with signs directing clients to wear masks and sanitize their hands.

3.2.2 Active Screening: Clients

- Clients should be screened for symptoms and possible exposures by harm reduction workers upon arrival;
- Harm reduction workers conducting screening should be situated behind a physical barrier, or standing 2 metres away from clients.

3.2.3 If a Client Screens Positive

- If a client screens positive, and the harm reduction workers have assessed that the client still requires access to the service, staff should instruct the client to perform hand hygiene and wear a medical mask (provided on site);

- If possible, place the client in a separate area, to avoid contact with other clients in common areas;
- Encourage the client to practice appropriate hand hygiene/cough etiquette, and provide tissues alcohol-based hand rub and a waste bin;
- Staff should provide services to the client using appropriate PPE (as described in Table 1: **Summary of PPE Recommendations for Staff on page 24**).

Additionally, if a client screens positive, advise them to self-isolate and assist with facilitating access to COVID-19 testing. It is important to note that the duration of self-isolation may differ by province, and as such, recommendations should be based on provincial guidelines.

When possible, harm reduction workers can also direct clients to the Health Canada self-assessment tool to review their symptoms and connect with provincial and territorial assessment tools and information: <https://ca.thrive.health/covid19/en>.

3.2.4 Active Screening: Staff

As part of routine practice, harm reduction workers should regularly monitor themselves for fever and symptoms. They should be reminded to stay home if they are not well. These settings that are providing frontline service should create and implement sick leave policies that are non-punitive, flexible and consistent with public health guidance, to encourage workers to stay home (Chow et al., 2020).

Workers should be screened at the beginning of their shift for fever and symptoms consistent with COVID-19. If they screen positively, workers should be reminded to keep their mask on and leave the workplace. Staff with symptoms should also be tested. Information about when harm reduction workers with either a confirmed or suspected case of COVID-19, may return to work can be found here: [Criteria for Return to Work for Healthcare Personnel with Suspected or Confirmed COVID-19 \(Interim Guidance\)](#).

For more information regarding staff screening and cohorting of shifts, see Hyshka et al., 2020 ([Supporting People who use Substances in Shelter Settings during the COVID-19 Pandemic](#)).

It is important to note that staff and clients may be asymptomatic, and as such, may not screen positive for COVID-19. It is thus critical for each service to maintain proper physical distancing between clients and staff, perform hand hygiene regularly, and thoroughly clean and disinfect the facility, to minimize transmission of COVID-19 (Hyshka et al., 2020).

3.3 HAND HYGIENE

Hand hygiene (hand washing) is critically important to prevent the spread of COVID-19. A common misconception is that hand hygiene is not needed when gloves are worn. In fact, contamination often occurs when removing gloves or gowns (Casanova et al., 2008 Kim et al., 2015). Thus, effective handwashing remains an important strategy even after gloves are removed.

Hand hygiene should be performed frequently. It is therefore recommended that sites provide easy access to a handwashing station or hand sanitizer for both harm reduction workers and clients. It is particularly important to remember to wash hands before and after physical contact, after contact with body fluids, and after contact with shared surfaces (Kim et al., 2015). Hand hygiene must be performed before and after donning and doffing PPE (Kim et al., 2015). Hands should be washed using soap and warm water (Kim et al., 2015). Hands should be washed for at least 20 seconds (CDC, 2020a). For detailed steps on handwashing see: [Reduce the Spread of COVID-19: Wash your hands](#).

If unavailable and hands are not soiled with visible contaminants, alcohol-based hand rub (ABHR) can be used (Kim et al., 2015). It is recommended that ABHR contain a minimum of 60% ethanol or 70% isopropanol (CDC, 2020a).

Jewelry, adhesive nails, and nail polish should also be avoided because they can become contaminated by COVID-19 and inhibit hand hygiene effectiveness (Toronto Public Health, 2020).

3.4 PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE reduces risks to harm reduction workers by preventing exposure to pathogens if used correctly. SARS-CoV-2 remains on surfaces for up to 3 days (van Doremalen et al., 2020) suggesting that it can be transferred inadvertently when removing PPE if not executed correctly. It is also recommended that PPE should not be re-used except when adequate supplies cannot be obtained otherwise (Casanova et al., 2010). PPE of a more breathable material is recommended because it offers similar protection to water-repellant material but is much more comfortable (Verbeek et al., 2020).

PPE should be used as a precaution against contact and droplet transmission when any direct care is being provided (e.g. support given within two metres [six feet] of the client or any physical care; Toronto Public Health, 2020).

3.4.1 Types of PPE

Masks

We encourage governments to consider the importance of offering the highest level of protection to all health care workers including individuals working in harm reduction settings and to allocate the necessary PPE resources when available, as well as to prepare for pandemics and other outbreaks by having such resources in stock. Most Canadian provincial/territorial guidelines recommend the use of N-95 masks aerosol generating medical procedures only.

The current literature on the relative efficacy of N-95 masks compared to medical masks is conflicting and evidence is weak with the evidence in favour of N-95 masks often relying on expert opinions (Jefferson et al., 2011; Bartoszko et al., 2020; Godoy et al., 2020; Chu et al., 2020; Offedu et al., 2017). Evidence has suggested that medical masks are very effective and are less expensive, more readily available and more comfortable over longer periods of time compared to N-95 masks (Jefferson et al., 2011). A systematic review suggested limited evidence of the superior effectiveness of N-95 masks over medical masks (Jefferson et al., 2011) and a second review indicated that there is “low certainty evidence” that medical masks and N95 respirators offer similar protection during non-aerosol generating medical procedures (Bartoszko et al., 2020). We therefore recommend the use of medical masks for non-aerosol generating medical procedures (AGMP) consistent with existing Canadian guidelines. A list of medical procedures that are not considered AGMPs based on current existing evidence is available here: [COVID-19: Aerosol Generation from Coughs and Sneezes](#).

There is evidence suggesting that an N-95 mask may be more protective than a medical mask during AGMP (Chu et al., 2020). We therefore recommend that an N-95 be used if AGMP are being performed (e.g., Bag-Valve-Mask use with high flow oxygen therapy, manual ventilation, or intubation (PHO, 2020a)). An N-95 mask should be worn as well as gown, gloves, and eye protection (goggles or a face shield) (WHO, 2020b). In order to be fully effective, an N95 mask should be fit tested to achieve a close facial fit (Godoy et al., 2020). It is therefore recommended that individuals who are responsible for responding to an AGMP be mask fit tested, trained in appropriate donning and doffing and have access to an N-95 mask closely available. It is also important to note that facial hair can impact the seal and consequent efficacy of an N-95 mask.

All masks should be disposed of if soiled or wet, after close contact with an individual with COVID-19 (or with COVID-19 symptoms), after use during an AGMP, or after contamination with bodily fluids (Godoy et al., 2020). Hand hygiene is required before removal and after disposal of the PPE.

Gowns

Gowns protect against exposure to pathogens (Chen, 2009; Nishiura, 2005; Seto, 2003; Teleman, 2004; Yin, 2004). Long gowns are recommended because they are easier to remove without contamination risk and offer superior protection compared to aprons (Verbeek et al., 2020).

Gloves

In combination with frequent hand washing, gloves are an important way to prevent exposure to pathogens (Chen, 2009; Nishiura, 2005; Seto, 2003; Teleman, 2004; Yin, 2004). Long gloves may offer more coverage and limit exposure (Jones et al., 2020). Gloves must be changed in between client interactions with hand hygiene in between as well. While gloves are protective, wearing of gloves does not replace good hand hygiene.

Goggles and Face Shields

Use of goggles or masks with goggles for eye protection is effective against splash or spray of body fluids including aerosolized particles from coughing (Chu et al., 2020). Face shields also provide protection from splash or spray of bodily fluids and aerosols but their primary purpose is for eye protection and we therefore don't recommend their use on their own (in place of a mask) (Godoy et al., 2020).

3.4.2 Summary of PPE Recommendations

The PPE to be used will differ according to the role or activity being performed and the risk involved. Table 1 summarizes the PPE to be used for staff and clients (on next page).

Summary of PPE Recommendations for Staff

Harm reduction services	Activity	Role	Type of Mask	Other PPE
Screening	Preliminary contact not involving direct contact	Staff responsible for screening	If physical distancing with a barrier is possible a mask is not needed.	
Harm reduction facilities (indoors)	Providing direct care (no aerosol-generating procedures)	Harm reduction workers	Medical mask	Gloves Eye protection (goggles or face shield)
	Direct care (aerosol-generating medical procedures are frequently performed)	Harm reduction workers	N-95 mask for individual providing direct care during AGMP. Others should stay at least 2 metres away.	Gown Gloves Eye protection (goggles or face shield)
	After an AGMP	Cleaners	A medical mask is recommended for cleaning.	Gown Gloves Eye protection (goggles or face shield)
Administrative areas	Administrative tasks that do not involve direct contact with clients	All staff, including harm reduction workers	Maintain physical distancing (when not feasible, medical masks should be used in shared spaces e.g. hallways).	No additional PPE required

Summary of PPE Recommendations for Clients

Harm reduction services	Activity	Target personnel or clients	Type of Mask
Screening	Any procedures related to screening Non-Medical masks should be distributed to all clients upon entry, if available	Clients without symptoms suggestive of COVID-19	Non-Medical mask
	Any procedures related to screening Non-Medical masks should be distributed to clients	Clients with symptoms suggestive of COVID-19	Non-Medical mask
Harm reduction facilities (indoors)	Any activity except during oxygen delivery or AGMP	Clients without symptoms suggestive of COVID-19	Non-Medical mask
	Any activity except during oxygen delivery or AGMP	Clients with symptoms suggestive of COVID-19	Non-Medical mask
	During high pressure oxygen delivery or AGMP	Clients with or without symptoms suggestive of COVID-19	No mask because responders are able to wear appropriate PPE

3.5 DONNING AND DOFFING PPE

Protocols for putting on (donning) and removing (doffing) PPE correctly and in proper sequence are needed to prevent contamination (Verbeek et al., 2020). Doffing often occurs after a long shift and workers may be more prone to mistakes. Therefore, providing instructions while doffing is recommended as it leads to fewer errors and lowers the risk of contamination (Verbeek et al., 2020). Public Health Ontario (PHO) has recommendations for putting on and removing PPE. The procedures are as follows (PHO, 2020b; CDC, 2020b):

3.5.1 How to Put On (Don) PPE Gear

More than one donning method may be acceptable. Below is one example of donning in a situation where full PPE is needed. Note that steps can be skipped where equipment is not being used.

1. **Perform hand hygiene** using soap and water or hand sanitizer if not available.
2. **Put on gown.** Tie neck and waist ties securely. Assistance may be needed from another staff member.
3. **Put on mask.** Place mask over nose and under chin. Secure ties, loops or straps. If the mask has a nosepiece, it should be fitted to the nose with both hands, not bent or tented. Do not pinch the nosepiece with one hand. Respirator/facemask should be extended under chin. Both your mouth and nose should be protected. Do not wear respirator/facemask under your chin or store in pocket.
 - **N-95 Mask:** Respirator straps should be placed on crown of head (top strap) and base of neck (bottom strap). Perform a user seal check each time you put on the respirator.
 - **Medical Mask:** Mask ties should be secured on crown of head (top tie) and base of neck (bottom tie). If mask has loops, hook them appropriately around your ears.
4. **Put on protective eyewear.** Put on eye protection and adjust to fit. Face shields provide full face coverage; they should fit over the brow.
5. **Put on gloves.** Put on gloves, ensuring not to tear or puncture the gloves. Gloves should cover the cuff (wrist) of gown.

3.5.2 How to Take Off (Doff) PPE Gear

More than one doffing method may be acceptable. Below is one example of doffing in a situation where full PPE is needed. Note that steps can be skipped where equipment is not being used.

1. **Remove gloves.** Ensure glove removal does not cause additional contamination of hands. Gloves can be removed using more than one technique (e.g., glove-to-glove or skin-to skin). Grasp outside edge near the wrist and peel away, rolling the glove inside-out. Reach under the second glove and peel away. Discard gloves immediately into waste receptacle.
2. **Remove gown.** Untie all ties (or unsnap all buttons), starting with waist ties, then neck ties. Pull the gown forward from the neck ties and roll it so that the contaminated outside area of the gown is to the inside. Rolls off the arms into a bundle. Dispose in trash receptacle (or laundry where applicable). Some gown ties can be broken rather than untied. Do so in a gentle manner, avoiding a forceful movement. Reach up to the shoulders and carefully pull gown down and away from the body.
3. **Perform hand hygiene.**
4. **Remove eye protection.** Carefully remove face shield or goggles by handling the ear loops, straps or back and pulling upwards and away from head. Dispose into waste receptacle or into appropriate container to be sent for reprocessing. Personally-owned eyewear may be cleaned by the individual after each use.
5. **Remove mask.** Do not touch the front of the respirator or facemask. Untie bottom tie then top tie, or grasp straps or ear loops. Pull forward off the head, bending forward to allow mask to fall away from the face. Discard immediately into waste receptacle.
6. **Perform hand hygiene** after removing the N-95 respirator/facemask.

For visual instructions see: [Public Health Ontario recommended steps](#).

3.6 BARRIERS AND FACILITATORS TO FOLLOWING INFECTION PREVENTION AND CONTROL GUIDELINES

3.6.1 Training

It is important that management demonstrate support for infection prevention and control guidelines to encourage uptake among harm reduction workers (Houghton et al., 2020). This includes clear communication of protocols and mandatory training in the proper use of PPE needed (Houghton et al., 2020; Kim et al., 2015). Repeated training and participation in drills may also increase adherence and reduce errors (Honda & Iwata, 2016).

Active training on the proper use and steps needed to don and doff PPE using video or computer simulation or spoken instructions may be more effective than passive training (lectures or no added instructions) (Verbeek et al., 2020). Additionally, training videos on donning and doffing procedures have been shown to be just as effective as in person instructor led training, reducing the need for contact during COVID-19 (Christensen et al., 2020).

3.6.2 PPE Fit

It is important that PPE fit correctly to ensure that it is effective and to encourage use (Houghton et al., 2020). In particular, N-95 masks should be fit tested and fit testing should be up to date given that the fit can change with changes in weight, facial hair, etc.

3.6.3 Heat Stress

PPE can create heat stress because of reduced air flow which impacts compliance with PPE use and may lead to heat related illnesses such as heat stroke and dehydration (Honda & Iwata, 2016). It is therefore important to be aware of this in warmer climates or during summer months in facilities that do not have air conditioning. Staff should be monitored for signs of heat stress, drink plenty of fluids and have sufficient opportunities to take a break/remove PPE where possible.

3.6.4 Use of Masks and Participants

Some participants in harm reduction services may react negatively to the use of masks or other PPE by harm reduction workers, particularly if it makes them feel isolated or stigmatized (Houghton et al., 2020). Letting clients know in advance that staff and other clients will be wearing masks and the importance of wearing masks to protect both clients and staff may help mitigate these concerns.

3.6.5 Hand Washing Availability

Ideally, harm reduction workers should have access to sinks with running water and soap. Where this is not possible, the next best thing would be provision of hand sanitizing stations (Houghton et al., 2020).

3.7 FACILITY CLEANING AND DISINFECTING

Routine cleaning and disinfecting procedures must be implemented in all facilities to help prevent the transmission of COVID-19. Cleaning and disinfecting of frequently touched surfaces, can limit the transfer of the virus (Government of Canada, 2020d). Standard existing cleaning protocols should be

followed including ensuring that cleaning products are effective against Hepatitis C, SARS-CoV-2 and HIV (where protocols exist). As such, surfaces frequently touched with hands, such as: ID badges, keys, doorknobs, elevator buttons, light switches, handrails, tables, countertops, faucet tables, and electronics- are most likely to be contaminated, and require routine cleaning (Toronto Public Health, 2020). It is recommended that facilities choose products that both clean and disinfect all at once. Cleaning products remove germs, dirt and impurities from surfaces, but do not necessarily kill germs. Disinfecting products kill germs on surfaces using chemicals (PHAC, 2020a; CDC, 2020c). Disinfectants should be readily available to staff for sanitizing surfaces after use. Facilities should only use approved-hard surface disinfectants that have a Drug Identification Number (8-digit number given by Health Canada that confirms the product is approved and safe for use in Canada). While most disinfectants will work against coronavirus, the approved disinfectants are supported by evidence following drug review, indicating that they are likely to be highly effective and may be used to clean potentially contaminated surfaces (Government of Canada, 2020d).

3.7.1 How to Clean and Disinfect (CDC, 2020c)

Hard (Non-porous) Surfaces (door knobs, countertops, tables etc.):

- If surfaces look visibly dirty, they should be cleaned using soap or detergent and water prior to disinfection;
- Use only approved hard-surface disinfectants that have a Drug Identification Number. A [list of disinfectants with evidence for use against COVID-19 can be found here](#);
- Use disposable cloths, such as paper towels or wipes; and
- Follow the manufacturer's instructions for concentration, application method and contact time.

Soft (Porous) Surfaces (carpeted floors, rugs etc.):

- Remove visible contamination with appropriate cleaners indicated for use on these types of surfaces;
- After cleaning, if the items can be placed into the laundry, then launder those items in accordance with the manufacturer's instructions, using the warmest appropriate setting for the items and then dry items completely; and
- If items cannot be cleaned in the laundry machine, then use [disinfectants that have a Drug Identification Number](#) and that are suitable for soft surfaces.

Electronics (tablets, keyboards, touch screens etc.):

- Consider the use of wipeable covers for electronics;
- Remove visible contamination if present;
- Follow the manufacturer’s instructions for all cleaning and disinfecting products; and
- If there are no instructions available from the manufacturers’, consider using alcohol-based wipes or sprays that contain at least 70% alcohol to disinfect the electronics. Surfaces should be thoroughly dried to avoid pooling of liquids.

3.7.2 Personal Protective Equipment (PPE) and Cleaning

Cleaning staff should wear a medical mask disposable gloves and gowns for all tasks in the cleaning process, including handling garbage. Cleaners should be cautious about potential sharp hazards particularly needle stick injuries.

- Cleaning staff must follow donning and doffing protocols as described above;
- Gloves and gowns should be compatible with the disinfectant products being used;
- Additional PPE may be required based on the products being used and whether there is a risk of splash, such as goggles or face shields;
- During cleaning, avoid touching the face (eyes, nose, and mouth);
- Hands must be cleaned immediately after the removal of gloves and doffing guidelines for PPE should be followed as previously outlined; and
- Generally, cleaning staff should perform hand hygiene often.

3.8 RESPONDING TO AN OVERDOSE

There is currently a lack of information about how to appropriately respond to an overdose given the potential risks to harm reduction workers providing medical intervention including rescue breaths and chest compressions. There has been scientific debate about whether CPR is an aerosol generating medical procedure (AGMP). It is known that manual ventilation and intubation are aerosol generating medical procedures and therefore precautions are needed including the use of an N-95 mask (PHO, 2020c). There is a lack of evidence suggesting that chest compressions are aerosol

generating based on a recent systematic review (Couper et al., 2020). The best current evidence therefore suggests that chest compressions alone are not AGMP (PHO, 2020c). This guidance applies to harm reduction settings where it is assumed that PPE is available for use by trained staff. It is important that harm reduction workers are properly trained to respond to an overdose in the context of COVID-19 and individuals are identified as the staff responsible for performing aerosolized medical procedures when the need arises. These individuals should be provided with the appropriate PPE and mask fit tested for N-95 masks (when needed). It is expected that bystanders (those who are not staff designated to respond to an overdose and therefore do not have PPE) should not respond during an overdose in a harm reduction setting.

In order to protect the health of harm reduction workers, it is best to assume that the individual who has overdosed may have COVID-19 and to therefore take appropriate universal precautions. Individuals providing any AGMP care (manual ventilation, high flow oxygen with nasal prongs, intubation) should wear goggles, non-latex gloves, and a gown and should don an N-95 mask prior to administering care (Toronto Public Health, 2020; PHO, 2020a). If overdose response involves non-AGMP procedures a medical mask, goggles and non-latex gloves are sufficient (PHO, 2020a). It is important to note that CPR face shields do not offer sufficient protection (Toronto Public Health, 2020). It is also important to note that nasal naloxone is not an AGMP (for a list of non-AGMP procedures see PHO, 2020d). It is recommended that the room be evacuated during an AGMP except for those providing direct care to allow for proper cleaning (Edelson et al., 2020; Toronto Public Health, 2020). Detailed specific steps for responding to an overdose involving an AGMP can be found here: [COVID-19 Protocol for AGMP in The Works Supervised Injection Site \(SIS\) Environment](#).

While the next iteration of this document will go into specifics with regards to responding to overdoses in different settings- such as within the community-it is important to note the importance and value of providing naloxone kits. Given the rising number of fatal drug overdoses across Canada, harm reduction workers, where possible, should provide and facilitate access to naloxone kits for clients. It is critical to provide essential resources to reduce the risk of overdose when clients leave these harm reduction settings (Dunlop et al., 2020). Evidence has suggested that increasing the use of naloxone in community settings, has reduced reliance on health care providers to reverse overdoses (Slaunwhite et al., 2020). Facilitating access to naloxone kits by harm reduction workers is critical as the risk of opioid overdoses has significantly increased. Training provided to clients should incorporate information on mitigating potential COVID-19 risks to bystanders who respond to an overdose (Alberta Health Services, 2020).

4.0 Conclusion

This document offers recommendations based on the peer-reviewed academic literature, and where applicable, grey literature and community resources. These recommendations address physical measures, frequent hand-washing, use of PPE, barriers and facilitators to infection control adherence, facility cleaning recommendations and how to protect oneself when responding to an overdose. Important measures in harm reduction facilities to protect workers, such as physical distancing and the implementation of physical barriers is imperative, when possible. It is also critical that adequate PPE be available for harm reduction workers in harm reduction settings in order to ensure that services can continue to operate during pandemics.

With regards to PPE, training on the proper use, including donning and doffing protocols are essential to ensure that PPE are effective. The current guidance document outlines recommendations for protecting workers in fixed harm reduction sites, such as supervised consumption sites. The guidance is based on the current best available evidence. Harm reduction workers who work in harm reduction settings, such as supervised consumption sites, are often at a heightened risk of exposure to COVID-19. While we recognize that many local harm reduction settings may offer different guidance based on the availability of resources, and that the evidence suggested in this document may not be practical or feasible in many harm reduction settings, it is imperative to advocate for the most appropriate PPE for every individual working in harm reduction settings.

However, it is important to note that the available evidence for COVID-19 protection in harm reduction settings is limited and the strength of the evidence was often weak. As research becomes available this document will be further updated. The next iteration of this document will be expanded to include other harm reduction settings (e.g. community settings) as this gap has been identified.

Appendix 1: Online Substance Use Resource Listing

Below is a list of online resources on substance use. Please note that this is not an exhaustive list of resources.

Clinical Support Resources for Patients and Healthcare Providers

[Anxiety Canada's free MindShift™ CBT app](#)

This app focuses on assisting in the management of anxiety using scientifically proven strategies (*free for iOS and Android devices*)

[British Columbia Centre on Substance Use: COVID-19](#)

[Canadian Addiction Counsellors Certification Federation](#)

Virtual addiction counselling

[CATIE – Canada's source for HIV and hepatitis C information](#)

[College of Physicians and Surgeons of Newfoundland and Labrador - Opioid Agonist Treatment \(OAT\) Guidance during COVID-19](#)

[Community Addictions Peers Support Association \(CAPSA\) and Breaking Free Online](#)

In response to COVID-19 and the increased risks for those with substance use disorders, the Community Addictions Peers Support Association (CAPSA) has partnered with Breaking Free Online to provide free access to Canadians (service code CAPSA2020)

[Draft Emergency Carry Agreement](#)

[Nova Scotia Department of Health and Wellness: Points to Guide Clinical Decision for OAT Prescribers](#)

[Nova Scotia Health Authority \(NSHA\) Standard Operating Procedures for Opioid Use Disorder Treatment \(OUDT\) Programs](#)

Documents included: Overview and Infection Control Practices SOP, New Admissions and Transfers SOP, Ongoing Client Being Prescribed Methadone SOP, and Clients in Self-Isolation or Quarantine SOP.

[Providence Health Care Nursing Practice Standard Dispensing Injectable Opioid Agonist Therapy to Client With or at Risk of COVID-19](#)

[SMART Recovery Program](#)

This website includes message boards, chat rooms, online meetings, and an online library of recovery resources

[Take Home Naloxone](#)

Free online naloxone training

[Toward the Heart](#)

Free online naloxone training

Harm Reduction Resources

[Canadian Association of People Who Use Drugs \(CAPUD\)](#)

[Canadian Drug Policy Coalition: COVID-19 Harm Reduction Resources](#)

[International Network of People Who Used Drugs: COVID-19 Crisis: Harm Reduction Resources for People who Use Drugs](#)

Mental Health and Substance Use Resources

[Centre for Addiction and Mental Health \(CAMH\): Mental Health and the COVID-19 Pandemic](#)

[Narcotics Anonymous](#)

[Taking Care of Your Mental Health \(COVID-19\)](#)

[Wellness Together Canada: Mental Health and Substance Use Support](#)

Indigenous Communities

[Assembly of First Nations: COVID-19](#)

[First Nations Health Managers Association: COVID-19 Resources and Announcement](#)

Up-to-date information on COVID-19

[First Peoples Wellness Circle: COVID-19 Resources page](#)

Provides printable Information Sheets for Mental Wellness for Community; Parents and Children; Elders and Seniors; and Health Professionals

[Thunderbird Partnership Foundation: Harm Reduction during COVID-19](#)

Support Resources for Healthcare Providers

[Canadian Foundation for Healthcare Improvement \(CFHI\)](#)

Supports partners to accelerate the identification, spread and scale of proven healthcare innovations. Webinar Series: Patient Partnership in a Time of COVID-19

[Health Canada Subsection 56\(1\) Class Exemption for Patients, Practitioners and Pharmacists Prescribing and Providing Controlled Substances in Canada during the Coronavirus Pandemic](#)

In response to the evolving health risk due to COVID-19, to maintain Canadians' access to controlled substances for medical treatments (e.g. treatment of substance use disorders and chronic pain), while they adhere to social distancing guidance from public health officials or if they need to self-isolate, Health Canada has issued exemptions for prescriptions of controlled substances under the Controlled Drugs and Substances Act (CDSA) and its Regulations.

[Mental Health First Aid Canada](#)

Resource hub which provides credible information and resources for mental health for the Healthcare professionals "Resources for Healthcare Sector"

Appendix 2: Search Strategy

Databases searched (using OVID)

1. Medline (Also Epub Ahead of Print, In-Process & Other Non-Indexed Citations)
2. Embase

#	Search Terms	Results
PPE and disease transmission		
1	disease transmission, infectious/ or infectious disease transmission, patient-to-professional/	110681
2	exp Personal Protective Equipment/ or protective clothing.mp. [mp=ti, ab, ot, nm, hw, fx, kf, ox, px, rx, ui, sy, tn, dm, mf, dv, kw, dq]	86707
3	exp Respiratory Protective Devices/	3524
4	or/1-3	194963
Covid and SARS terms		
5	covid-19.mp. or exp Coronavirinae/ or exp Coronavirus infection/ or exp Coronavirus/ or exp Pneumonia, Viral/ or exp Coronavirus Infections/ or covid-19.mp. or exp Betacoronavirus/ or SARS-CoV-2.mp. or 2019-nCoV.mp. or exp Pneumonia, Viral/ or exp SARS Virus/ or exp Severe Acute Respiratory Syndrome/	65500
Worker health safety		
6	exp worker/ or exp safety/ or exp occupational exposure/ or exp patient safety/ or exp occupational disease/ or exp occupational safety/ or exp occupational health/ or worker safety.mp. or exp health care personnel/ or exp Workplace/ or exp safety management/ or exp Accidents, Occupational/ or harm reduction.mp. or exp Harm Reduction/	3199680
Combining covid/sars with worker safety and disease/ppe		
7	4 and 5 and 6	1136
8	limit 7 to (editorial or letter)	261
9	7 not 8	875
10	9	875
11	limit 9 to English language	827
12	limit 11 to human	794
13	remove duplicates from 12	696

Appendix 3: Strength of Evidence According to Recommendations

Recommendation	References	Strength of Evidence	Design
Physical distancing of at least 1 metre is probably effective at reducing virus transmission and 2 metres is likely more effective. A minimum of 2 metres physical distancing where possible is therefore recommended as a precaution.	Chu et al., 2020	Moderate evidence certainty based on GRADE assessment.	Systematic review and meta-analysis
Physical Distancing Implementation Recommendations	Government of Canada, 2020c; Alberta Health Services, 2020b; Hyshka et al., 2020; National Collaborating Centre for Environmental Health, 2020	No GRADE assessment.	Grey literature
Screening Recommendations	Ontario Ministry of Health, 2020a; Hyshka et al., 2020	No GRADE assessment.	Grey literature
Screening Harm reduction settings providing frontline service should create and implement sick leave policies that are non-punitive, flexible and consistent with public health guidance, to encourage workers to stay home.	Chow et al., 2020	No GRADE assessment.	Research letter published in peer reviewed journal
Hand Hygiene Wash hands before and after physical contact, after contact with body fluids, and after contact with shared surfaces and before and after donning and doffing PPE. Hands should be washed using soap and warm water. If unavailable and hands are not soiled with visible contaminants, alcohol-based hand rub (ABHR) can be used.	Kim et al., 2015	No GRADE assessment, based on expert opinion and descriptive studies.	Prevention control guideline document for Middle Eastern Respiratory Syndrome (MERS) prevention. Published in peer reviewed literature.
Hand Hygiene It is recommended that ABHR contain a minimum of 60% ethanol or 70% isopropanol.	CDC, 2020a	No GRADE assessment.	Grey literature

Recommendation	References	Strength of Evidence	Design
Hand Hygiene Hands should be washed for at least 20 seconds.	CDC, 2020a; Public Health Agency of Canada, 2020	No GRADE assessment.	Grey literature
Hand Hygiene Jewelry, adhesive nails, and nail polish should be avoided because they can become contaminated by COVID-19 and inhibit hand hygiene effectiveness.	Toronto Public Health, 2020	No GRADE assessment.	Grey literature
PPE (General) SARS-CoV-2 remains on surfaces for up to 3 days, suggesting that it can be transferred inadvertently when removing PPE if not executed correctly.	Van Doremalen et al., 2020	No GRADE assessment.	Simulation study
PPE (General) PPE should not be re-used except when adequate supplies cannot be obtained otherwise.	Casanova et al., 2010	No GRADE assessment.	Based on single experimental study published in peer reviewed literature
PPE (General) PPE of a more breathable material is recommended because it offers similar protection to water-repellant material but is much more comfortable.	Verbeek et al., 2020	Very low evidence certainty based on GRADE assessment.	Cochrane systematic review
PPE (General) PPE should be used as a precaution against contact and droplet transmission when any direct care is being provided (e.g. support given within two metres (six feet) of the client or any physical care).	Toronto Public Health, 2020	No GRADE assessment.	Grey literature
PPE (Masks) Medical masks are very effective and are less expensive, more readily available and more comfortable over longer periods of time compared to N-95 masks. There is limited evidence of the superior effectiveness of N-95 masks over medical masks.	Jefferson et al., 2011	Study assessments ranged from low to high risk of bias using GRADE assessment.	Cochrane systematic review

Recommendation	References	Strength of Evidence	Design
<p>PPE (Masks)</p> <p>There is evidence that medical masks and N-95 respirators offer similar protection during non-aerosol generating medical procedures (AGMPs). We therefore recommend the use of medical masks for non-AGMPs, consistent with existing Canadian guidelines.</p>	Bartoszko et al., 2020.	Low certainty evidence based on GRADE assessment.	Systematic review and meta-analysis of randomized trials
<p>PPE (Masks)</p> <p>An N-95 mask may be more protective than a medical mask during AGMP.</p>	Chu et al., 2020	Low evidence certainty based on GRADE assessment.	Systematic review and meta-analysis
<p>PPE (Mask) List of AGMPs and IPAC recommendations</p>	PHO, 2020a	No GRADE assessment.	Grey literature
<p>PPE (Masks)</p> <p>An N-95 mask should be worn as well as gown, gloves, and eye protection (goggles or a face shield).</p>	WHO, 2020b	No GRADE assessment.	Grey literature
<p>PPE (Masks)</p> <p>In order to be fully effective, an N95 mask should be fit tested to achieve a close facial fit.</p>	Godoy et al., 2020	No GRADE assessment.	Grey literature
<p>PPE (Masks)</p> <p>All masks should be disposed of if soiled or wet, after close contact with an individual with COVID-19 (or with COVID-19 symptoms), after use during an aerosol-generating procedure, or after contamination with bodily fluids.</p>	Godoy et al., 2020	No GRADE assessment.	Scoping review
<p>PPE (Gowns)</p> <p>Long gowns are also recommended because they are easier to remove without contamination risk and offer superior protection compared to aprons.</p>	Verbeek et al., 2020	Low evidence certainty based on GRADE assessment.	Cochrane systematic review
<p>PPE (Gloves)</p> <p>Long gloves may offer more coverage and limit exposure.</p>	Jones et al., 2020	No GRADE assessment.	Research review article in peer reviewed literature
<p>PPE (Eye Protection)</p> <p>Use of goggles or masks with goggles for eye protection is effective against splash or spray of body fluids including aerosolized particles from coughing.</p>	Chu et al., 2020	Low evidence certainty based on GRADE assessment.	Systematic review and meta-analysis

Recommendation	References	Strength of Evidence	Design
<p>PPE (Face Shields)</p> <p>Face shields also provide protection from splash or spray of bodily fluids and aerosols but their primary purpose is for eye protection and we therefore don't recommend their use on their own (in place of a mask).</p>	Godoy et al., 2020	No GRADE assessment.	Scoping review
<p>PPE Donning and Doffing</p> <p>Protocols for putting on (donning) and removing (doffing) PPE correctly and in proper sequence are needed to prevent contamination.</p>	Verbeek et al., 2020	Very low evidence certainty for doffing based on GRADE assessment.	Cochrane systematic review
<p>PPE Donning and Doffing</p> <p>Providing instructions while doffing is recommended as it leads to fewer errors and lowers the risk of contamination</p>	Verbeek et al., 2020	Very low evidence certainty for mean errors. Low evidence certainty for fluorescence contamination. Based on GRADE assessments.	Cochrane systematic review
<p>PPE Donning and Doffing Recommendations</p>	PHO, 2020b; CDC, 2020b	No GRADE assessment.	Grey literature
<p>Barriers and Facilitators to Adherence</p> <p>It is important that management demonstrate support for infection prevention and control guidelines to encourage uptake among harm reduction workers. This includes clear communication of protocols and mandatory training in the proper use of PPE needed.</p>	Houghton et al., 2020	Moderate confidence based on GRADE-CERQual assessment approach.	Cochrane systematic review.
<p>Barriers and Facilitators to Adherence</p> <p>Repeated training and participation in drills may also increase adherence and reduce errors.</p>	Honda & Iwata, 2016	No GRADE assessment.	Review article published in peer reviewed journal
<p>Barriers and Facilitators to Adherence</p> <p>Active training on the proper use and steps needed to don and doff PPE using video or computer simulation or spoken instructions may be more effective than passive training (lectures or no added instructions).</p>	Verbeek et al., 2020	Very low evidence certainty based on GRADE assessment.	Cochrane systematic review

Recommendation	References	Strength of Evidence	Design
<p>Barriers and Facilitators to Adherence</p> <p>Training videos on donning and doffing procedures have been shown to be just as effective as in person instructor led training, reducing the need for contact during COVID-19.</p>	Christensen et al., 2020	No GRADE assessment.	Single randomized controlled trial published in the peer reviewed literature
<p>Barriers and Facilitators to Adherence</p> <p>It is important that PPE fit correctly to ensure that it is effective and to encourage use.</p>	Houghton et al., 2020	High confidence based on GRADE-CERQual assessment approach.	Cochrane systematic review.
<p>Barriers and Facilitators to Adherence</p> <p>PPE can create heat stress because of reduced air flow which impacts compliance with PPE use and may lead to heat related illnesses such as heat stroke and dehydration. Therefore, staff should be monitored for signs of heat stress and be able to remove PPE where possible.</p>	Honda & Iwata, 2016	No GRADE assessment	Review article in published peer reviewed literature
<p>Barriers and Facilitators to Adherence</p> <p>Some participants in harm reduction services may react negatively to the use of masks by harm reduction workers, particularly if it makes them feel isolated or stigmatized.</p>	Houghton et al., 2020	Moderate confidence based on GRADE-CERQual assessment approach.	Cochrane systematic review.
<p>Barriers and Facilitators to Adherence</p> <p>Ideally, harm reduction workers should have access to sinks with running water and soap. Where this is not possible, the next best thing would be provision of hand sanitizing stations.</p>	Houghton et al., 2020	Moderate confidence based on GRADE-CERQual assessment	Cochrane systematic review
Facility Cleaning and Disinfecting Recommendations	Government of Canada, 2020d; Toronto Public Health, 2020; PHAC, 2020a; CDC, 2020c	No GRADE assessment	Grey literature
<p>Responding to an Overdose</p> <p>There is a lack of evidence suggesting that chest compressions are aerosol generating.</p>	Couper et al., 2020	Very low evidence certainty based on GRADE assessment.	Systematic review

Recommendation	References	Strength of Evidence	Design
<p>Responding to an Overdose</p> <p>Manual ventilation and intubation are aerosol generating medical procedures and therefore precautions are needed including the use of an N-95 mask.</p> <p>Chest compressions alone are not AGMP according to the best current evidence.</p>	PHO, 2020c	No GRADE assessment.	Grey literature
<p>Responding to an Overdose</p> <p>Individuals providing any AGMP care (manual ventilation, high flow oxygen with nasal prongs, intubation) should wear goggles, non-latex gloves, and a gown and should don an N-95 mask prior to administering care.</p>	Toronto Public Health, 2020; PHO, 2020a	No GRADE assessment.	Grey literature
<p>Responding to an Overdose</p> <p>If overdose response involves non-aerosol generating medical procedures, a medical mask, goggles, and non-latex gloves are sufficient.</p> <p>Nasal naloxone is not an AGMP.</p>	PHO, 2020a & 2020d	No GRADE assessment.	Grey literature
<p>Responding to an Overdose</p> <p>It is recommended that the room be evacuated during an AGMP except for those providing direct care to allow for proper cleaning.</p>	Edelson et al., 2020	No GRADE assessment.	Expert guidance published in peer reviewed literature
<p>Responding to an Overdose</p> <p>It is recommended that the room be evacuated during an AGMP except for those providing direct care to allow for proper cleaning.</p>	Toronto Public Health, 2020	No GRADE assessment.	Grey literature
<p>Responding to an Overdose</p> <p>CPR face shields do not offer sufficient protection.</p>	Toronto Public Health, 2020	No GRADE assessment.	Grey literature
<p>Responding to an Overdose</p> <p>Detailed specific steps for responding to an overdose involving an AGMP.</p>	The Works, 2020	No GRADE assessment.	Grey literature

Recommendation	References	Strength of Evidence	Design
<p>Responding to an Overdose</p> <p>It is critical to provide essential resources to reduce the risk of overdose when clients leave these harm reduction settings.</p>	<p>Dunlop et al., 2020</p>	<p>No GRADE assessment.</p>	<p>Opinion article identifying strategies for ongoing management of changes in demand and capacity for harm reduction and treatment services during COVID-19. Published in peer reviewed journal.</p>
<p>Responding to an Overdose</p> <p>Increasing the use of take-home naloxone in community settings can reduced reliance on health care providers to reverse overdoses.</p>	<p>Slaunwhite et al., 2020</p>	<p>No GRADE assessment.</p>	<p>Short communication published in peer reviewed journal.</p>
<p>Responding to an Overdose</p> <p>Training provided to clients should incorporate information on mitigating potential COVID-19 risks to bystanders who respond to an overdose</p>	<p>Alberta Health Services, 2020</p>	<p>No GRADE assessment.</p>	<p>Grey literature</p>

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