BC Centre for Disease Control
Provincial Health Services Authority

Guidance for potential exposures to unregulated substances in hospital settings:

Occupational Unregulated Substance Exposure Steering Committee

This guidance document supports the implementation of the May 7, 2024, Substance Use and Addictions Management in Hospitals (SUAM) policy from the Ministry of Health related to substance use and addictions management in hospitals. It is intended to support health care employers by providing information on responding to suspected use of drugs for inhalation in hospitals including guidance on unintentional exposures to unregulated substances in hospital settings.

Date: May 19, 2026

Table of contents

Table of Contents

Introduction

Unintentional exposures in hospital settings may occur through inhalation (breathing particulates in) and dermal (touching a substance with bare skin) routes. These exposures are generally brief, unplanned events where workers may be exposed to unregulated substances (such as illicit fentanyl, methamphetamine, and crack cocaine) while performing their regular duties. When patients are preparing substances for injection or smoking, there is potential for exposure to other unknown substances and substances produced during combustion.

Unintentional exposures to unregulated substances in hospital settings requires a coordinated and evidence-informed response. This guidance document supports the implementation of the May 7, 2024, Substance Use and Addictions Management in Hospitals (SUAM) policy from the Ministry of Health related to substance use and addictions management in hospitals, specifically:

- *Health care workers will have the necessary education and training and ready access to the necessary PPE to respond to suspected use of drugs for inhalation in hospitals.*
- *Security capacity will be trained and equipped (appropriate access to PPE) to manage instances of exposure to illicit substances; with the necessary training to provide an immediate response to a patient overdose; and training in decontamination following an exposure.*

This guidance is only applicable to unintentional exposures to unregulated substances in hospital settings. Depending on the setting, separate or additional requirements may apply. This document is intended as guidance for employers, as they implement programs and controls to mitigate occupational risk from exposures to unregulated substances. Employers are encouraged to work with their employees throughout the health and safety process.

The May 7, 2024 Substance Use and Addictions Management in Hospitals (SUAM) policy from the Ministry of Health, defines a hospital as a nonprofit institution that:

A. Has been designated as a hospital by the minister responsible for the Hospital Act, and
B. Is operated primarily for one or both of the following purposes:
    - The reception and treatment of persons suffering from the acute phase of illness or disability;
    - The treatment of persons convalescing from or being rehabilitated after acute illness or injury

Employers, supervisors, prime contractors, and workers have responsibilities under the *Workers Compensation Act* and Occupational Health and Safety Regulation. Recommendations and best practices were developed by the Occupational Unregulated Substance Exposure Steering Committee to ensure worker health and safety.

This document was developed by the Technical Working Group on Exposures to Controlled Substances, which includes membership from WorkSafeBC, BC Centre for Disease Control, Health Authorities, and the Provincial Occupational Health and Safety Council. Additional engagement in the development of this document took place with substance use nurses, Integrated Protective Services, and BC Housing.

Exposure to unregulated substances

Short-term exposure to unregulated substances, such as unintentional exposure occurring in hospital settings, poses a low risk for drug poisoning (overdose), and health effects are usually brief and will resolve over a short period of time. Repeated exposure to unregulated substances is of concern as long term health effects are relatively unknown. Various scenarios are identified and categorized in this document to inform response protocols.

Although WorkSafeBC has adopted exposure limits for airborne concentration of fentanyl, conducting air monitoring may not be feasible for brief, infrequent, and unplanned exposures to unregulated substances. Employers are expected to take steps to eliminate unintentional exposure where possible, or to reduce the risk through engineering controls and safe work procedures. See Appendix I for more information about exposure limits for fentanyl.

From the British Columbia Centre for Disease Control (BCCDC) 2018 Harm Reduction Client Survey, more than half of participants identified smoking or inhalation as their preferred method of drug use compared to injection and other methods of consumption. This transition in mode of consumption is consistent with an increase in inhalation exposures in hospitals. There is also potential for blood and body fluid exposures (BBFE), such as needlestick injuries from improperly discarded syringes.

For more information on potential signs and symptoms of exposure to unregulated substances and guidance on post-exposure management, review BCCDC post exposure management guidance.

Responsibilities

Employers, supervisors, prime contractors, owners, and workers have responsibilities under the Workers Compensation Act and Occupational Health and Safety Regulation for ensuring health and safety of workers. The responsibilities listed below are general wording from the Workers' Compensation Act and Occupational Health and Safety Regulation. Throughout this document are tools that can assist in fulfilling these requirements. However, people with decision-making power must consider the specific workplace conditions to determine how best to achieve compliance with these requirements.

See Roles, rights & responsibilities - WorkSafeBC

Employers

- Employers include anyone who contracts the services of others. The contract does not have to be in writing, and payment for services rendered may take various forms. Employers are responsible for protecting the health and safety of both the people who work for them as well as other workers who may be present at their workplace. General health and safety duties for employers are outlined is section 21 of the Worker's Compensation Act, however each employer must determine the specific actions needed to meet these obligations. Some specific responsibilities for acute care employers related to exposure to unregulated substances would include:
    - Identifying and assessing tasks that may result in exposure,
    - Providing equipment, procedures and protective equipment to eliminate or minimize exposure risk.
    - Making sure workers and supervisors are properly trained and supervised to follow safe work procedures and report unsafe conditions.
    - Investigating workers concerns and reports of hazardous conditions, injuries and near misses.
    - Addressing unsafe conditions without undue delay
    - Reporting all injuries to WorkSafeBC that require medical attention.
    - Consulting and cooperating with the Joint Health and Safety Committee in making workplace safety decisions.

Prime Contractors

- Prime Contractors are responsible for coordinating activities relating to the occupational health and safety of employers, workers, and other persons at the workplaces. In a workplace where there are two or more employers working at the same time, a written agreement should identify a prime contractor. If there is no written agreement, the owner is considered to be the prime contractor.
- Prime contractor responsibilities are outlined is section 24 of the Worker's Compensation Act. Some specific responsibilities for prime contractors related to minimizing exposures to unregulated substances may include:
    - Ensuring a system to effectively communicate exposure risk information between employers is established.
    - Reasonably ensure employers who have workers at the workplace are aware of their responsibilities to eliminate or minimize exposure risks to workers and comply with the WCA and OHS Regulation.

- Ensure systems to support compliance with these requirements are established (for example, installing video monitoring systems, fire/smoke alarms, ventilation systems, etc.)

Supervisors

- A supervisor is anyone who instructs, directs and controls workers in the performance of their duties. A supervisor can be any worker — management or staff — who meets this definition, whether or not they have the supervisor title. If someone in the workplace has a supervisor's responsibilities, that person is responsible for worker health and safety. Supervisor responsibilities are outlined in section 23 of the Worker's Compensation Act. Some specific responsibilities of supervisors related to minimizing exposures to unregulated substances include ensuring workers follow safe work procedures and wear protective equipment where required.

Workers

- Workers have the right to know about hazards at the workplace, the right to participate in health and safety activities at the workplace, and the right to refuse unsafe work without reprisal for exercising these rights Workers also have a responsibility to do what they can to keep the workplace safe. Worker responsibilities are outlined in section 22 of the Worker's Compensation Act. Some specific responsibilities of workers related to minimizing exposures to unregulated substances may include:
  - Participating in occupational health and safety activities at your workplace
  - Reporting hazards to your supervisor or employer.
  - Following safe work procedures and acting safely in the workplace at all times.
  - Using protective clothing, devices, and equipment provided.
  - Reporting all injuries and illness or exposures to your employer and getting treatment quickly if necessary.
- Note: In most situations, a peer support worker being paid a regular wage for time worked is considered a worker under the Workers Compensation Act. If there are questions about whether a peer worker qualifies as a worker, contact the WorkSafeBC Employer Service at 1-888-922-2768 for assistance.

Fulfilling the responsibilities

- WorksafeBC has a variety of tools available to help you develop a health and safety program. Develop written policies and safe work procedures in consultation with workers, and make sure they are readily available to workers. Ensure workers are adequately trained in safe work

procedures and provide appropriate supervision to ensure procedures are being followed. See: Getting Started

For more information on working with WorkSafeBC see Appendix II.

Providing care for people with lived and living experience of substance use (PWLLE)

People who use unregulated substances often delay seeking care due to experiences of stigma and discrimination in the health care system, which can result in being admitted in more serious condition due to these delays. Repeated incidents have a cumulative impact, which is difficult to overcome even for providers offering respectful care. Such incidents reinforce worry about an unwelcoming and unsafe environment for care.

Indigenous patients may face harmful assumptions about substance use, which stem from systemic racism and stigma. Stereotyping places Indigenous peoples under increased scrutiny and in situations where health supports and services may be unreasonably withheld.

Due to these barriers to accessing care, the focus in health care should be on creating welcoming and supportive environments where people who use substances can be engaged and maintained in care to meet their self-identified health goals.

Recommendations:

- Employers should provide opportunities for workers providing patient care to engage in further training and education on working with PWLLE to better serve this priority population. For example, there are resources available on creating culturally safe environments for PWLLE in hospital settings.
- Both security and health care staff should provide care in a way that centers dignity, respect, and humility for patients in their care
- Supports such as withdrawal management, substance use treatment, hospital-based OPS, eOPS, and withdrawal management should be considered for people who use substances to engage people in care and reduce risk of unintentional exposure to workers. These supports should be offered in a culturally safe and trauma/violence informed manner.
    - Note: see more information on Minimum Service Standards for OPS
- Employers should consider hiring workers who identify as PWLLE to provide supports and services to patients who use substances. Employers should follow existing Peer Engagement Principles and Best Practices and Health Authority Harm Reduction and Substance Use policies

for working with PWLLE. Infrastructure, staff training and education is needed to better support PWLLE employed to provide eOPS, peer support, and wayfinding in hospitals.
- Evaluation and quality improvement mechanisms related to the implementation of this guidance and related hospital policies should meaningfully involve PWLLE in all steps of the process

BCCDC's People for the Ethical Engagement of Peers (PEEP) Advisory Board was engaged on the development of this section. PEEP represents diverse perspectives of people with current and past substance use history across BC, including people who use stimulants and opioids, youth, Indigenous peoples, and people who are pregnant and parenting.

Risk assessment

Risks assessments are performed by employers to understand health hazards in the workplace and are often done to fulfil the exposure control plan requirements under OHSR 5.54. Risk assessment should be done by a qualified person: WorkSafeBC accepts that a qualified person is a person (or a group of persons) who is knowledgeable of the work, the hazards the work presents, and the means to control the hazards, through education, training, and experience. General tools for risk assessment can be found on the WSBC website, along with healthcare-specific resources.

There are many ways to perform a risk assessment, and there is no specific tool that is required for use: Your workplace may already have a policy or procedure for performing risk assessment.

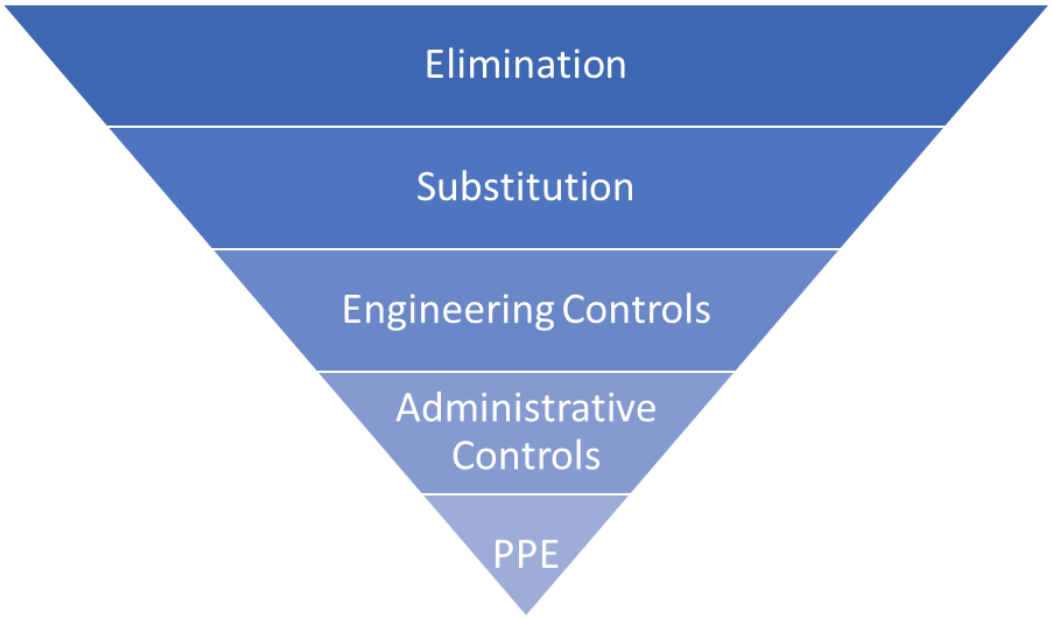
When performing a risk assessment, consider the following:

- The different types of spaces that patients and visitors may occupy, and how they may be categorized for risk (e.g. degree of confinement, total number of people who may be present, supervision of the space, ventilation (natural and mechanical), etc.)
- Locations that patients and visitors may have access to that can conceal illicit substance-related activity and may not have regular monitoring (e.g. washrooms, stairwells, etc.)
- Information about the type of substances that could be smoked, including current information from local/regional drug checking about composition and potency of substances, to assist workers and patients in decision-making regarding precautions
- Employer's policies, procedures, and training
- Routes of unintentional exposure, such as inhalation, skin, inadvertent ingestion, which relate to worker exposure risk
- How to communicate the characteristics, potential risks, and control measures associated with a space to workers so that they can make quick decisions in the event someone is having a medical emergency

Hierarchy of Controls

The hierarchy of controls is a method of determining which actions will best control exposure risks. The following sections will provide some possible actions that can be taken to reduce the health risks associated with unintentional exposures. When controlling a hazard in the workplace, selection of controls should be based on the Hierarchy of Controls. Control measures include: 1) elimination, 2) substitution, 3) engineering controls, 4) administrative controls, and 5) Personal Protective Equipment (PPE).

Each hospital site is unique. The controls utilized to mitigate the risks associated with unintentional exposures to smoke, vapour, and residue exposure may be different. It is important to employ adequate and effective measures at each step of the hierarchy of controls to reduce the risks posed to workers at these sites.



The suggestions that follow are meant to help prevent or minimize unintentional exposures from happening by utilizing best practices when working with people who use substances, and to help reduce exposure when unintentional exposures occur.

Elimination

Elimination is the strongest control in the hierarchy. Although substance use is prohibited in hospitals, unintentional exposures may occur, so the exposure hazard cannot be eliminated.
For reference, here is an excerpt from General Policy Direction for Substance Use and Addictions Management in Hospitals (Ministry of Health):

- *The self-management (injection, inhalation/smoking or other means) of illicit drugs in hospitals or hospital sites is prohibited outside of a designated overdose prevention service site.*
    - *Note: see more information on Minimum Service Standards for OPS*
- *All breaches will be documented in the Patient Safety and Learning System (PSLS) and inform the development of further actions.*

Substitution

Toxic drugs remain the main driver of the drug poisoning emergency. Withdrawal management and Opioid Agonist Therapy (OAT) can reduce the risk of drug poisoning to patients and provide methods of administration for patients that reduce the risk of exposure to workers (e.g. ingestion of medications instead of inhalation).

- BCCSU clinical care guidance can be utilized for withdrawal management and Opioid Agonist Therapy (OAT).
    - Providing Care in Acute Care Settings
    - Acute Care and Opioid Use Disorder
    - Managing Acute Opioid Withdrawal
    - Opioid Agonist Treatment Initiation
    - Opioid Agonist Treatment Maintenance
    - Managing Acute Stimulant Intoxication and Withdrawal
    - Co-occurring Substance Use Principles of Care
- What withdrawal looks like can vary among people who use substances and can include pain, discomfort, and restlessness
- Underlying physical and mental health conditions can impact substance use. Consider substance use in the treatment of all underlying conditions

For reference, here is an excerpt from the General Policy Direction for Substance Use and Addictions Management in Hospitals (Ministry of Health):

- *All patients with substance use disorders will be supported in managing their addiction while in hospital and provided more effective support as needed towards stabilization, withdrawal management, treatment and recovery services both while in hospital and post-discharge into the community.*

- *Addiction specialist care will be provided by on site clinicians or teams and/or through virtual clinical consultation.*

Engineering controls

- Maintain hospital ventilation systems to support elimination of contaminated air from site of exposure
- There may be ways that the facilities department can adjust ventilation as needed, which can remove contaminants or increase ventilation to specific areas in response to smoking events
- Portable High Efficiency Particulate Air (HEPA) cleaners may be used to help clear a space faster
- Exterior windows and doors can be opened to enhance natural ventilation and assist in clearing smoke out of the room
- If possible, fans may be used to vent smoke out of hospital rooms through exterior windows or doors
- Please refer to Appendix III for more detailed, technical information on ventilation in hospitals

Administrative Controls

- Provide overdose prevention services (OPS) for patients and visitors that are designed to minimize exposure to workers by giving patients safer spaces to use unregulated substances.
    - Note: see more information on Minimum Service Standards for OPS
- Education and training on exposure control measures and safe work procedures for health care workers who are likely to encounter situations where exposures to unregulated substances may occur in carrying out their work. If there is capacity, service providers and People with Lived and Living Experience (PWLLE) navigators can provide Episodic Overdose Prevention Services (E-OPS), a form of observed consumption that supports drug poisoning prevention and response.
- Policies are recommended to clarify requirements around the prohibition of unregulated substances.
- Procedures should be in place for responding to reported incidents of consumption in unsupported areas, which help minimize exposure risks to workers, including procedures for safe disposal of any remaining substances.
- Motion sensors, smoke detectors, and timers can be installed in washrooms to help monitor spaces where people may be using without supervision, to detect when a drug poisoning or smoking is occurring. These can alert staff to potential smoking/drug poisoning events, which

will prevent them from entering one unexpectedly. For more information, review the safer bathroom toolkit

For reference, here is an excerpt from General Policy Direction for Substance Use and Addictions Management in Hospitals (Ministry of Health):

Evidence based approaches to staff safety will be implemented with increased staff education.

Exposures to other patients

- For injected or insufflated substances, the risk to bystanders is relatively low: reassure the patient who has been exposed, and take any additional measures for security as dictated by your hospital's policy
- For smoked substances, if there is still smoke present: don PPE before entering the space (see flow chart below). Remove the exposed patient from the room if feasible
- If a patient can be moved, follow the appropriate guidelines for moving patients within your workplace.
- Sometimes, another patient may be exposed to smoke: they may be exposed to residual smoke after someone has smoked, or they may be exposed as someone is actively smoking.
- For smoked substances, if there is no visible smoke present, reassure the patient and monitor them for signs of drug exposure (see "Post-Exposure Guidelines")

Room entry protocols considerations

Hospitals likely already have room entry protocols. The following considerations should be added when working with potential exposures to unregulated substances:

- Not all hazards have an odour, and not all odours are hazardous. If workers smell something new, unusual, or that may be illicit substances, further investigation may be warranted to confirm the source of the odour before taking corrective actions. In addition, odour cannot confirm the absence of smoke. If responding to an odour:
    - Follow your workplace's room entry protocols.
    - Always make sure that there is no uncontrolled fire present.
    - See if source of smell can be identified; if you see visible smoke, proceed to the flow chart below.
    - See if there are ways to increase ventilation or filtration in the area (opening windows, turning on air cleaners, activating HVAC, etc.)
    - If the source of the smell cannot be confirmed, connect with your supervisor/manager to identify the issue and determine appropriate actions
    - Follow workplace reporting requirements as needed.

- If it is suspected that someone has been smoking in a room behind closed doors (i.e. a washroom), check in on the person from outside of the room by knocking and talking to them through the door. Workers can ask a person to stop smoking, but workers should not enter unless there is a health emergency.
- If it is not a health emergency, wait outside of the room until the person leaves and/or until an appropriate number of air changes has occurred since patient has stopped smoking substances (see Appendix III for more information on air changes) before entering the space. If worker is unsure of how long it has been since substances were smoked, they can ask the patient.
- Review patient care alerts or care plan for room before entering, to check for alerts like potential substance use or violence risks. For more information on managing and responding to potentially violent behaviour:
    - Provincial Code White Standard: Overview
    - Manager Guide to the Provincial Code White Standard
    - Employee Guide to the Provincial Code White Standard
    - WorkSafeBC: Violence
    - Contact your health authority occupational health and safety team for more information on specific resources for your health authority and site
- Block off affected area and put up signage that area is closed until the appropriate number of air changes have taken place (see Appendix III for more information on air changes) before entering the space
- Consider how the direction of approach to the person smoking impacts risk of exposure. In most buildings, smoke will rise because of HVAC systems.
    - If any visible smoke is present, avoid plume and approach from upwind where possible
    - If approaching the person smoking from above (as in a stairwell), the concentration of particulate will likely be higher and may lead to a more serious exposure than approaching the person from below
    - Similarly, there may be a higher risk of exposure if the person is smoking on the ground or in a wheelchair than while standing

Tools for Point of Care Risk Assessment

Point of care risk assessments (PCRA) are performed by a worker before entering a space that may have hazards present. PCRA are part of employers safe work procedures, can be performed by anyone who has training in PCRA, and are done “on the spot” when a potentially hazardous scenario is occurring. Individual health authorities may have specific information and protocols on PCRA. The table below has been adapted from the PHSA Controlled Substances Risk Assessment Tool with a focus on exposures to unregulated substances in hospital settings. Note that an exposure is not the same as a

drug poisoning event. Whenever you smell or see smoke, always confirm that there is no fire actively present before proceeding.

Different methods of substance use will affect the potential routes of exposure for the worker.

- Inhalation (smoking) can deposit particles on surfaces, allowing for dermal (skin) exposure. It can also cause inhalation exposures if someone breathes in the smoke.
- Injection (substance use with a needle) can cause substance residues from cooking to be deposited on surfaces. “Cooking” (heating the substance to liquify it before injection) can release very small amounts of substances into the air (note: substances mixed in cold water and not heated would not be considered “cooked”). There is also the risk of needle stick injury if the needle is handled by the worker.
- Insufflation (snorting/inhaling substances through the nose) can cause small amounts of substance residues to be deposited on surfaces. Rarely, powders may become airborne which can lead to inhalation exposures to workers. There is more information on cleaning up powder spills in the Cleaning Guidelines found in Appendix V.

Point of Care Risk Assessment (PCRA) Tool for Encountering Inhalation Exposures

There is an inhalation risk present: do you need to enter the space?

No:	Yes:
• The person who is/was smoking does not need medical attention • There is no other person in the space who needs care or to be removed • There is no other reason to enter the space	• To confirm there is no fire risk • There is another patient in the room who needs to be protected from exposure. • There is a medical emergency happening or medical care that cannot wait (e.g. person is not responsive).
• Refer to the ventilation Appendix III; if you know the air changes per hour (ACH), use it to determine the time needed for clearance in the space. If you do not know the ACH, you can estimate it based on table 2 within Appendix III, or wait approximately 69 minutes before entering the space (as approximately 69 minutes would clear out ~99% of the room's air at 4ACH; check with your building's HVAC team to confirm air changes). • See if there are ways to increase ventilation or filtration in the area (opening windows, turning on air cleaners, activating HVAC, etc.)	• Perform a PCRA; don PPE as needed. • Follow appropriate room entry procedures per your hospital guidelines. • If possible, move the affected patient to a new space so that respiratory protection will not be required during care; if the patient is moved to a new space, wear PPE in accordance with the care being provided. Follow the appropriate patient moving guidelines for your workplace. • Limit time within the space to as little as possible. • See if there are ways to increase ventilation or filtration in the area (opening windows, turning on air cleaners, activating HVAC, etc.). • If needed, follow overdose (OD) response protocols (see BCCDC OD Response Toolkit for more information)

Follow the cleaning protocols listed in Appendix V

Personal Protective Equipment

Information on respiratory protection is available in Appendix IV.

Table 1: Personal Protective Equipment Summary		
Risk factors	**Description**	**PPE**
Could my hands come into contact with unregulated substances?	Hands could come into contact with loose powder or liquid when cleaning up discarded supplies.	Wear Nitrile Gloves
Could my eyes/face be splashed, sprayed, or come into contact with unregulated substances?	Unlikely during inhalation, injection, or snorting of unregulated substances	Eye/face protection is not generally required for the exposure risks related to unregulated substances in hospital settings. For more information on cleaning spills, see cleaning guidelines in Appendix V
Could my clothing or skin come in contact with unregulated substances?	Unlikely during inhalation, injection, or snorting of unregulated substances.	Gowns are not required for the exposure risks related to unregulated substances in hospital settings
Is there a risk of inhaling unregulated substances?	Inhalation risk is present when someone has been smoking substances, whether or not there is a smell or visible smoke present. Injection and snorting of unregulated substances present a very low inhalation exposure risk.	Wear respiratory protection when room entry is required and an inhalation hazard is present

Additional Guidance and Information

For health and safety assistance

- □ Contact your manager/supervisor
- □ If applicable, contact the Occupational Health and Safety Department at your Health Authority

  - Vancouver Coastal Health: PeopleSafety@vch.ca
  - Vancouver Island Health Authority: ohsprevention@islandhealth.ca
  - Interior Health Authority: workplaceinjury.prevention@interiorhealth.ca
  - Fraser Health Authority: safety@fraserhealth.ca
  - Northern Health : workplacehealthandsafety@northernhealth.ca
  - Providence Health Care: OHS@providencehealth.bc.ca
- ☐ Provincial Health Services Authority: WorkplaceHealth@phsa.ca
- ☐ Provincial Workplace Health Contact Centre to report an exposure:
  - 1-866-922-9464
- ☐ Your workplace's JOHS committee or other internal reporting structure

For more information on workplace health and safety

- ☐ WorkSafeBC Prevention Information Line for health and safety assistance:
  - Phone: 1-888-621-7233
  - Hours of Operation: Monday to Friday, 8:05 a.m. to 4:30 p.m.
- ☐ To report a WorkSafeBC incident after hours or on weekends:
  - Call 1-866-922-4357 (WCB HELP) toll-free in British Columbia, or
  - 604-273-7711 in the Lower Mainland, or;
  - https://prevruw.online.worksafebc.com/

For questions regarding this document

- ☐ Contact the harm.reduction@bccdc.ca for more information

Appendix I: Exposure limits for fentanyl

Exposure limits are amounts of a substance that the typical worker can experience without negative health effects. Exposure limits are adopted and enforced by WorkSafe BC and exist for many chemicals that can be found in workplaces. Exposure limits can be set for 8-hour workdays (called 8-hour time weighted averages): these exposure limits can be mathematically modified to fit longer or shorter work shifts. Exposure limits can also be for shorter time periods, like 30 minutes.

There are no specific exposure limits established for unregulated drugs, as they may be a mixture of various substances. However, WorkSafeBC has recently adopted exposure limits for fentanyl, which is a common ingredient in the unregulated drug supply. These exposure limits are:

1) an 8-hour time-weighted average (TWA) exposure limit of 0.1 µg/m3 and,

2) an excursion limit for fentanyl and fentanyl citrate which correspond to 0.3 µg/m3 no more than 30 minutes during the work period, and

3) no more than 0.5 µg/m3 at any time.

Employers must take steps to prevent exposure under section 5.48 of the Occupational Health and Safety Regulation. Air monitoring may be required to verify workers are not overexposed to fentanyl where exposures can be reasonably anticipated to support an employer's risk assessment, and to confirm controls are effective. Mitigation measures should also consider predictibility and frequency of exposures across different settings.

More information on the exposure limits for fentanyl and fentanyl citrate is available through WorkSafeBC.

Appendix II: Working with WorkSafeBC

Authority of WorkSafeBC Prevention officers

WorkSafeBC Prevention officers (prevention officers) and other WorkSafeBC personnel are granted authority under the Workers Compensation Act (WCA) and Occupational Health and Safety Regulation (OHSR).

While prevention officers understand the challenges that employers face in trying to manage health and safety risks to workers, they are mandated under the Worker's Compensation Act to protect workers and other persons present at workplaces from these work-related risks.

In addition to the health and safety pre-requisites required as part of the job, prevention officers also undergo months of training in regulation and health and safety best practices prior to becoming field active. As new hazards emerge, and best practice guidance becomes available, WorkSafeBC provides ongoing instruction and training to prevention officers on recognizing, assessing and controlling these risks.

OHS inspections: When and why

A WorkSafeBC prevention officer may visit your worksite to ensure compliance with occupational health and safety requirements.

A WorkSafeBC inspection may occur for a number of reasons – the main ones being:

- Investigating a complaint related to health and safety in your workplace (action request).
- A routine, periodic inspection, to make sure that your workplace is compliant with Health and Safety Regulation.
- Follow up after a workplace incident has occurred, to determine the cause and details.
- As part of an inspectional Initiative, which focuses on particular industry risks or hazards.

Prevention officers may conduct inspections at any reasonable hour of the day or night, including weekends. They do not typically provide advance warning of an inspection and will generally not advise an employer if the inspection is a result of an action request. If a prevention officer attends your workplace at a difficult time, explain this to the prevention officer. They will often attempt to work with you to figure out a solution.

Workers who wish to request a WorkSafeBC inspection or discuss health and safety concerns with a WorkSafeBC prevention officer should contact the WorkSafeBC Prevention Information Line Monday to Friday between 8:05 a.m. to 4:30 p.m. at 1-888-621-7233.

Arriving on site

When initiating an inspection of the workplace, prevention officers will usually request a meeting with site management to explain the purpose and scope of the inspection. During this time, explain any hazards or risk present at your workplace and any safe work procedures that the prevention officer needs to know prior to inspecting the workplace. Keep in mind that prevention officers are interested in how you are keeping workers (including them) safe at your workplace. If specialized PPE is required, let the prevention officer know. If the prevention officer does not have the required PPE with them, you should be prepared to provide it to them, although most prevention officers will not enter areas that require specialized PPE. If there are alternative means of observing or inspecting work practices that do not require PPE, explain these to the prevention officer.

Prevention officers will typically request that both an employer representative and a worker representative accompany the prevention officer on the inspection. Both parties have a right to participate in inspections under the WCA. Employers may designate an employer representative for the inspection; however, worker representatives should be selected from the joint health and safety committee, worker representative, or union representative. If there is no committee or worker representative available, the prevention officer can select another reasonably available worker. If the preferred worker representative is unavailable for operational reasons, explain this to the prevention officer. They may agree to an alternative worker representative for the inspection, if they can connect with the preferred representative after the inspection.

Site walk-through

During an inspection, WorkSafeBC prevention officers have the authority to:

- Enter workplaces unannounced
- Tour, observe and inspect the workplace
- Take photos
- Interview workers
- Inspect records (including first aid records, incident investigation reports, inspection records, and joint committee minutes)
- Remove items from the workplace for further investigation
- Stop unsafe work (Stop work orders may be limited only to the unsafe work itself and would rarely require a complete workplace shutdown)

Prevention officers will likely ask to see client, person-in-care (PIC) or resident information pertinent to worker safety considerations. This may include reviewing point of care risk assessments, logs or reports that identify risks to workers or risk communication, and any instructions or documents that advise workers how to manage these risks. While this information must be provided to prevention officers,

care should be taken to only provide the relevant information requested. In most cases prevention officers may not need personal identifiers to be included. Clarify specific information requirements with the prevention officer before providing copies of information that may be considered personal or confidential.

What to do during the inspection

Here are some tips at making the most of an inspection by a prevention officer

1) Understand the scope of the prevention officer's inspection. Sometimes prevention officers will conduct general inspections, but in other cases they may want to limit their inquiries to specific areas or issues.
2) Use an inspection as an opportunity for improvement: Prevention officers may not always understand the details of your business, but they are trained to identify risk. Use an inspection by a prevention officer as an opportunity to have a fresh set of eyes take a look at your operation. They may see risks that you have overlooked.
3) During the inspection, prevention officers will likely ask a lot of questions, some of which may be uncomfortable or difficult to answer. If you are unclear as to what the prevention officer is asking, request clarification and answer the prevention officer's questions to the best of your ability. If you do not know the answer to a question, or if additional information is available elsewhere, advise the prevention officer of this.
4) Allow the person to whom the question is addressed the opportunity to provide an answer. If you disagree with the answer or have additional information or evidence to provide the prevention officer relating to the question asked, provide this to the prevention officer after they have finished speaking with the other person.
5) Keep an open mind to prevention officers' suggestions and do your best to communicate any challenges or constraints that may impact your ability to adopt the prevention officer's recommendations (for example, requirements of other authorities, or conflicts with clinical practice guidelines). In many cases, the regulation requires employers to eliminate risk where-ever possible and where elimination is not possible, reduce risk "as far as practicable" using a hierarchy of controls. If a prevention officer doesn't understand why a particular control measure is not practicable, or why a control further up the hierarchy was not selected, they may assume that this threshold has not been met. Be prepared to provide the prevention officer with copies of relevant regulations, practice guidelines, or orders that support your statements.
6) Take notes during the inspection: Prevention officers may request additional information during the inspection or point out areas that may require follow-up actions. Having a notepad handy during the inspection will help you remember items discussed.
7) Make sure you understand the prevention officer's expectation for compliance. If in doubt, ask.

After the inspection

Following an inspection, WorkSafeBC prevention officers will generally summarize any compliance concerns with worksite representatives prior to leaving the site. Feel free to ask about next steps that the prevention officer may be considering, and if the prevention officer is considering issuing orders. Within a few days of the inspection, the officer will issue an inspection report documenting the inspection. Inspection reports include information about the prevention officers' interactions, observations and findings, and may be delivered in person or by e-mail.

Reports may also include requests to provide additional information or records in the employer's possession. If non-compliance with the Regulation or Act is identified during the inspection, compliance orders may be issued. Ensure you read the inspection report in its entirety as soon as possible after it is provided by the prevention officer. If there is anything in the report that is factually incorrect, let the prevention officer know as soon as possible. A second (official) copy of the inspection report will also be mailed to the employer's head office on record with WorkSafeBC.

Inspection reports must be posted at the workplace inspected and a copy provided to the Joint Health and Safety Committee. Workers who have questions or concerns about the information contained in the inspection report, or the inspection process itself, should contact the prevention officer who conducted the inspection. Contact information for prevention officers are normally included as part of the inspection report or can be obtained by contacting the WorkSafeBC Prevention Information Line.

Other things to do

1. Provide any information requested at the time of the inspection or in the inspection report in a timely fashion. If you cannot provide the information requested in a timely fashion, explain this to the prevention officer and provide a time frame for providing it – ideally before the inspection report is issued to you.
2. Confirm any corrective actions taken as a result of the inspection. Provide notice of compliance as required by the inspection report and by the due dates provided. If compliance cannot be achieved by the due date, provide these reasons to the prevention officer.
3. If you disagree with any of the orders issued, speak to the officer first to explain why. If the prevention officer communicates that the orders will stand, you have the right to request a review of any decision made by a WorkSafeBC prevention officer.
4. If you are having trouble communicating with a particular officer, or have concerns about their approach, request to speak to the prevention officer's supervisor or manager.
5. For employers with multiple locations, make sure you have an effective way of communicating inspectional learnings between locations across the province. Repeat orders at either the same

or different locations may be grounds for escalating enforcement activities such as a warning letter or an administrative penalty.

Penalties and warning letters

Prevention officers are bound by policy to consider additional administrative sanctions in various situations. Circumstances where a penalty consideration must be made by the prevention officer, include the following:

1. Where a violation of a regulatory requirement resulted in a high risk of serious injury, serious illness or death to a worker.
2. Where an employer has previously violated the same, or substantially similar sections of the Act or OHSR (repeat non-compliance). Employers who have multiple locations need to pay particular attention when the same violation is issued at multiple locations, as WorkSafe may consider violations across all of the employers' locations when determining if a violation is repeat non-compliance.
3. Where an employer fails to comply with an order within a reasonable time.

Where these conditions are identified by a prevention officer, an employer may receive a "due diligence request" with the official copy of the inspection report sent to the employer's head office. This is a formal indication that WorkSafeBC has identified grounds for administrative sanction and is providing the employer with an opportunity to provide evidence that they took all reasonable actions to prevent the occurrence of the violation. If the consideration is a result of repeat non-compliance, employers may also provide evidence supporting why the order should not be considered a repeat, if such evidence exists. If you have any questions about what kind of evidence should be provided as part of a due diligence request, speak to the prevention officer.

Unregulated Substance-Specific Information

When speaking to prevention officers about unintentional exposures to unregulated substances, it may be helpful to understand their role and share relevant documentation, procedures and guidance:

- WorkSafe may be responding to worker concerns relating to exposures to unregulated substances, however prevention officers are not generally permitted to identify the specific reason for the inspection.
- WorkSafeBC inspections will not be focused on the safety of clients/PIC/residents except where the safety of other parties may impact the safety of workers.
- Prevention officers have an evolving understanding of harm reduction terminology. Assist prevention officers by explaining preferred terminology used at the workplace.

- While prevention officers have been provided instruction on unregulated substances and related public health and ministerial orders, it may be helpful to clarify for prevention officers how these orders relate to the workplace being inspected. Provide the prevention officer with links or copies of orders or requirements issued by other governing bodies, if these are applicable to the work practices being discussed or have bearing on the practicability of hazard control options. It is noted that regardless of any practice standards that may apply, workers always retain the right to refuse unsafe work, and workers are not expected to put themselves at undue risk during the provision of care.
- Advise prevention officers of the existence of procedures or other documentation that relate to worker safety. Provide copies of this documentation on request. This may include:
    - Applicable BCCDC guidance documents
    - Exposure complaint/ IAQ investigation records
    - Emergency response procedures
    - Standard operating procedures/ Safe work procedures
    - Intake assessment documents
    - Spill/clean-up procedures
    - Safety data sheets or other hazard information
    - Respirator fit test records
    - Worker safety training records
    - Manuals or specification of ventilation systems or other controls used to minimize air-borne contaminants
- Advise prevention officers of any exposure risk assessments that have been developed or any worker exposure monitoring or air monitoring data that may be available. Provide copies of these documents and any resource documents that may have been used to support the development of these documents, if requested.

Using BCCDC exposure guidance documents to support compliance with WorkSafeBC requirements

- WorkSafeBC accepted an exposure limit for fentanyl in January 2025 (New exposure limit for fentanyl and fentanyl citrate | WorkSafeBC). Exposure limits enforced by WorkSafeBC can be found on the WorkSafeBC website.
- In addition to the requirement to ensure worker exposure to fentanyl remains below the exposure limit, there are other regulatory requirements prevention officers may consider in order to address health and safety concerns arising from unintentional exposures. Some common regulatory requirements that WorkSafeBC prevention officers may consider include:

Regulatory section	Summary of requirement

WCA 21 – General duties of employer	Every employer must ensure the health and safety of all workers working for that employer, and any other workers present at a workplace at which that employer's work is being carried out, and Employers must remedy any workplace conditions that are hazardous to the health or safety of the employer's workers and must provide workers with sufficient instruction, training, and supervision to ensure exposure control measures are used appropriately and other safe work procedures are followed.
OHSR 3.10 – Investigation unsafe conditions	Persons receiving the report must investigate unsafe conditions or acts and must take corrective action without delay.
OHSR 3.12 – Refusal of unsafe work	Workers must refuse unsafe work, and report such work to the employer. If a report is received, the matter must be immediately investigated to ensure any unsafe conditions found are remedied without delay.
OHSR 4.1 – Safe workplaces	A workplace must be planned, constructed, used and maintained to protect from danger any person working at the workplace.
OHSR 4.79 – Indoor air quality complaints	Employers must investigate air quality concerns when complaints are reported. Investigations must include sampling for airborne contaminants suspected
OHSR 5.2 – Hazardous substances	If workers are exposed to hazardous substances, risks must be communicated to

	workers and written procedures to eliminate or minimize the risk of exposure prepared and implemented. Workers and supervisors must be trained on these procedures.
OHS 5.48 – Exposure limits	Employer must ensure that no worker is exposed to a substance that exceeds the ceiling limit, short-term exposure limit, or 8-hour TWA limit prescribed by ACGIH.
OHS 5.50 – Extended work periods	The 8-hour TWA exposure limit must be reduced if the work period is more than 8 hours in a 24-hour day. (see Regulation for reduction factors)
OHSR 5.52 – Limiting skin exposure	Effective measures must be taken to limit the skin absorption of substances which are identified with a "Skin" notation by the ACGIH.
OHSR 5.53 – Workplace monitoring	Employers must assess potential for overexposure to all hazardous substances, which may require that air sampling is conducted.
OHSR 5.54 – Exposure Control Plan	If workers may be exposed to a substance in excess of 50% of its exposure limit, and exposure control plan must be implemented.
OHSR 5.55 – Types of controls	If there is a risk to a worker from exposure to a hazardous substance by any route of exposure, the employer must eliminate the exposure, or otherwise control it below harmful levels by substitution, engineering control, administrative controls. The use of personal protective equipment is only

	permitted when other methods of control are not practicable, insufficient to reduce exposure sufficiently, or the exposure results from temporary or emergency conditions. Recommended exposure limits published by other bodies (such as ACGIH) may be used as an indication of "harmful levels" even when the exposure limit has not been accepted by WorkSafeBC
OHSR 5.59 – Investigating symptoms	If a worker exhibits signs or reports symptoms of overexposure to a hazardous substance, employers must investigate in consultation with JHSC to address and resolve. Records of the investigation must be maintained for at least 10 years and made available to workers.
OHSR 5.61 – Engineering principles	A ventilation system for controlling airborne contaminants in the workplace must be designed, installed and maintained using established engineering principles.

- While safe work procedures that align with BCCDC guidance should generally be found acceptable to prevention officers, it may take prevention officers some time to gain familiarity with this guidance and how procedures should be implemented in various workplaces.
- Despite alignment with provincial guidance documents, site specific risk factors, observations, or reports from workers may lead a prevention officer to require additional evidence (including exposure monitoring) to support that workers are not being exposed to harmful levels. If an order is issued by a prevention officer, ensure you understand the specific compliance test you must meet to achieve compliance.
- While the BCCDC guidance documents outline procedures that are expected to be practicable in most settings to which the guidance applies, prevention officers may determine that for a specific situation, additional measures to control exposure risk to workers may be practicable. Employers may be required to provide evidence to support that either:
    - The implementation of additional control measures is not reasonably capable of being done

    - Residual exposure risk remaining after controls have been implemented does not pose a health or safety risk to workers
- Including worker participation and input into risk assessments, exposure assessments, safe work procedures, training, inspections and investigations will help prevention officers to determine that measures taken are reasonable and sufficient.

Appendix III: Information about hospital ventilation

The air changes per hour (ACH) is a common unit of measurement used in ventilation and describes the number of times per hour the entire volume of air in a space is replaced with "fresh" air. When planning for emergency response, it is helpful to know the air exchange rates in various high-risk areas of a hospital as it can help identify how long it will take for a space to be "free" from contaminants, and therefore safe to enter without additional precautions (aside from those needed for surface cleaning: see Appendix V). The table below from the United States Center for Disease Control has some examples:

Table 2: Air changes/hour (ACH) and time required for airborne-contaminant removal by efficiency (from the U. S. CDC)

ACH	Time (mins.) required for removal, 99% efficiency
2	138
4	69
6+	46
8+	35
10+	28
12+	23
15+	18
20	14
50	6
+ Denotes frequently cited ACH for patient-care areas.	

Values were derived from a formula, which can be found on the webpage for the table (along with additional information on ventilation in health care facilities) (US CDC Guidelines for Environmental Infection Control in Health-Care Facilities)

Note that the table above only applies to rooms where no airborne contaminants are being generated, are based on theoretical calculations, and should best be used as estimates only. Your HVAC engineer, facilities maintenance team, and/or safety and hygiene team may have tools available to measure the actual removal efficiency of a given space.

Table 3 below gives best practice guidance for recommended minimum air changes per hour identified in CSA Z317 2-10 (the CSA standard for HVAC systems in Health Care Facilities). If your facility was built or renovated in accordance with this standard, these air changes are more likely to be found in your building. Older buildings may have been built by different standards. In addition, there may be local requirements that affect what specifications are used in buildings. Use this table to estimate the ACH

for a room, understanding that there is complexity and rooms will have different ACH depending on a number of factors. Measurement is the best practice, but this table can be used as a quick reference.

Table 3: Air Exchange Rates recommended in Hospital Settings for new builds and renovations by CSA Z317 2-10 – Special Requirements for HVAC Systems in Health Care Facilities, Table 1	
Air Changes / Hour (ACH)*	**Examples of areas where level of ventilation may be observed**
15 ACH	Examination and treatment rooms for patients on airborne precautions, areas for minor surgical procedures
12 ACH	Triage, ER waiting rooms
10 ACH	Janitor's closets, Dietary area
9 ACH	Ambulatory care clinic areas; patient washrooms, toilet rooms; critical care areas
6 ACH	Examination/treatment and consulting rooms, patient care rooms in acute care settings, admitting areas, change rooms for patients
4 ACH	Long-term care facilities
2 ACH	Residential HVAC systems
*The age of the building will determine which version of the CSA standard (if any) you are required to follow in accordance with the building code. If you are uncertain about the air changes in a room, contact your facilities team.	

Appendix IV: Respiratory protection selection guide

Introduction

The OHS Regulation requires the employer to select an appropriate respirator in accordance with CSA Standard *CAN/CSA-Z94.4-93 or Z94.4-18, Selection, Use, and Care of respirators* for selecting the level of respiratory protection required on a worksite. The selection must be made in consultation with the worker and the occupational health and safety committee or the worker health and safety representative. There are many steps for selecting respiratory protection: this appendix discusses what process was followed to determine the respiratory protection supported by current evidence and outlines some considerations that are important in selecting a specific respirator. An internal decision rationale document is available – contact your OH&S department for more information.

Maximum Use Concentration

Respirator selection is primarily driven by the maximum use concentration, or the MUC, which is the highest concentration of contaminant that a respirator is effective against. The MUC is determined using the assigned protection factor, or the APF, which is a rating system of respiratory protection used by manufacturers and regulators. Respirators are available with protection factors of 10; 25; 50; 100; 1,000; or 10,000. A higher APF provides a higher level of protection than a lower one. To find the MUC, multiply the 8-hour Time Weighted Average (TWA) limit by the assigned protection factor for the respirator being considered. Your MUC should be less than or equal to the anticipated air contaminant concentration at your worksite.

Workplace exposure monitoring is determined by taking samples on site to measure the airborne concentration of the contaminant of concern (in this case, unregulated substances in the air). However, estimating the exposure level for people providing emergency care after someone has ceased smoking is not well characterized for the following reasons:

- it is difficult, if not impossible, to perform sampling in emergency scenarios in real-time, as putting on and activating the sampling equipment would delay care, and;
- it is hard to predict when emergencies or unintentional exposures will happen.

Simulated data is also challenging to apply to real-world scenarios:

- area sampling taking place over 15 minutes may not be representative of personal sampling, where a person is likely to be smoking for much less time; the room sizes and ventilation capabilities of rooms can vary dramatically;
- what is present in the unregulated substances and how they are smoked can affect how much smoke is released; and,

- A first responder may be responding minutes after a person has ceased smoking, allowing smoke to be diluted or removed from the air via ventilation systems.

At the time of publication, the technical working group reviewed available data applicable to the research question. Available data at the time of publication was extremely limited and is not directly related to unintentional exposures in acute care settings. The available area sampling data showed extremely high variability in amounts of unregulated substances present in the air when someone is smoking. In addition, the samples could not be analyzed by traditional industrial hygiene practices, due to the way they were sampled and the variability in the data.

Given the high variability in the data, the limited data available, and current/historical respirator practices in hospitals, the use of APF1000 PAPR respirators is supported. As more data becomes available, this may change, and risk assessments and data collected at the health authority level may lead to different PPE. Additional considerations for respiratory protection, and justifications for the APF1000 PAPR decision, will be discussed later in the document.

Respirator selection

There are many considerations beyond APF to be made when selecting a respirator (note that this list is not exhaustive):

- The APF
- Cost
- Whether or not it requires fit testing
- Whether or not you can see the mouth when in use
- How much training use of the device requires
- Cost and availability of replacement parts, such as batteries and hoses
- Amount of time needed to put on/remove
- Comfort
- Individual user considerations, such as use of glasses
- Implications for emergency response
    - Bag Valve Masks (BVMs), where used, should be co-located with respiratory protection
    - Follow health authority level code blue procedures

Hospital-specific considerations

Many hospitals already use APF 1,000 PAPRs. There are many reasons for this:

- There is precedent for doing so:
    - Within BC, PAPRs have been used as early as 2009-2014 to treat patients who were chemically contaminated.

    - In 2016, PAPRs were used for suspected and confirmed Ebola cases during high-risk procedures.
    - During the COVID-19 pandemic, PAPRs were used in some departments.
- PAPRs allow the healthcare provider's mouth to be seen, which is important for patients who read lips;
- PAPRs do not require fit testing;
- A higher APF PAPR is helpful in some scenarios outside of unregulated substance smoke exposures;
- PAPRs are often used with the control banding approach for bioaerosols as per CSA Standard Z94.4.

When considering unregulated substances specifically:

- The data collected for determining the APF only accounted for one person smoking; if there are multiple people smoking in one room, exposures may be higher;
- Other considerations for APF and related PPE include, but are not limited to: size of room, existing ventilation, substances smoked, number of persons consuming, etc.

Cartridges and Filters

If a risk assessment supports the use of an alternative particular respirator, a filter change out schedule should be establish and followed. Health authorities may opt for a precautionary approach and issue combined organic vapour (OV) or carbon pre-filter cartridges with the HEPA filters. These can reduce/eliminate exposure to odours as well as any vapours that may be present. Based on the chemistry of the unregulated substances, and the fact that they are being heated to high temperatures, it is possible that there would be small amounts of vapour phase illicit substances in the air. The limited evidence available at the time of publication showed that some samples had very small amounts of vapour phase unregulated substances when compared to the particulate phase (less than 1% of the overall mass of the samples were vapour phase). OV or carbon cartridges are more expensive and require more frequent change-outs than particulate filters. It is important to consider any potential issues that could arise with supply chain disruptions.

Ultimately, the decision on whether to use OV cartridges, carbon pre-filters, or similar cartridges, and the maintenance/change-out schedules for all parts of the selected respirator, should be determined in consultation with staff who are responding to these events and the health and safety team.

Additional resources

WorkSafeBC Guide on Selecting Respiratory Protection: Breathe Safer: How to Use Respirators Safely and Start a Respirator Program

WorkSafeBC Section 8.3 for PPE Regulations: https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-regulation/part-08-personal-protective-clothing-and-equipment#SectionNumber:8.32

Appendix V: Cleaning Guidelines

As substances are smoked, cooked, or placed on surfaces, unregulated substance particles settle on surfaces (e.g. walls, tables, ceiling, and furniture) and need to be safely cleaned to reduce the risk of exposure. Fentanyl is not easily absorbed by intact skin; however, there are other potential routes of exposure (via inhalation, mucosal contact (via contact to nose or eyes), unintentional ingestion) if surfaces are contaminated. Other drugs (methamphetamine, heroin, etc.) and by-products from the burning of unregulated substances may also be present on surfaces. Specific safe work procedures for surface cleaning must be developed for the site. As new research becomes available, the guidance on how to clean surfaces may change; therefore, this should be considered a "living document", and sites should regularly review and update their safe work procedures as necessary.

These cleaning procedures are intended for use following suspected or confirmed unregulated substance use in an area, when sufficient time has passed that the area is likely clear from airborne unregulated substance contamination. It can also be used for disposal of harm reduction supplies (spoons, pipes, needles, etc.) that have "stuck on" residue that cannot be easily spilled or easily become airborne (i.e. visible dark residue on a spoon that is not in liquid form, some substance found inside of a fully used needle). It is not for use when cleaning up loose or bulk unregulated substances (powders or liquids): for this type of cleaning, follow your hospital's internal procedures (which may be for general chemical spills).

There is a recommended surface limit for fentanyl of 1ug/100cm^2 (through the American Conference of Governmental Industrial Hygienists); this is not a WorkSafeBC limit, but it may be used to verify the cleanliness of surfaces and/or the efficacy of the cleaning procedures.

General cleaning considerations

- □ Always wear nitrile gloves when interacting with surfaces that may have been exposed to particulates or unregulated substance contamination.
- □ This procedure can be used for disposing of harm reduction supplies that have "stuck on" residue that cannot be easily spilled or easily become airborne (i.e. visible dark residue on a spoon that is not in liquid form, some substance found inside of a fully used needle). Ensure all supplies are disposed of in accordance with your hospital's hazardous waste and/or bloodborne pathogen policies.
- □ Follow health authority guidelines and relevant tools, such as a PCRA.
- □ How big of an area to clean will depend on characteristics of the room and what was used. For cooking, injection, snorting, and ingestion, the impacted area is expected to be limited to spaces and contents immediately adjacent to where the substance use occurred. For smoked

substances, consider the airflow and design of the room to determine how far smoke may have traveled. When in doubt, clean a larger area rather than a smaller one.

- Depending on the site and the frequency of incidents, a workplace may want to consider periodic cleaning of an area, regardless of whether incidents have recently occurred. Cleaning frequency (for both regular and deep cleaning) should be determined by the employer. Ventilation systems should be cleaned semi-regularly to prevent surface buildup; the exact schedule can be determined in consultation with the HVAC team.
- If you are using chemical cleaners (such as concentrated peroxide cleaners, bleach, specialty decontamination products, etc.), make sure to check the safety data sheet (SDS) for safety information (such as additional PPE needs or eye wash stations). Soap and water and low concentration hydrogen peroxide wipes (e.g. oxivir) are not considered concentrated cleaning products and would not need additional PPE.
- Workers must be trained on cleaning procedures before doing any cleaning. If materials from the site are being sent away for cleaning, or if third party contractors are being used for cleaning activities, the employer has a responsibility to inform third parties of potential hazards to their workers.
- If a site would like to evaluate the efficacy of their cleaning procedures, one way to do so is to do surface sampling for unregulated substances on site. Information on surface sampling is on the password protected section of the Towards the Heart website.

Regular cleaning procedure guidelines

- Wear nitrile gloves for all cleaning activities; additional PPE may be required depending on the layout and procedures on site. Gloves protect the hands from contamination but can introduce a hazard if contaminated gloved hands are used to eat or wipe the face/eyes: change gloves and wash hands with soap and water frequently. Unless required by your hospital's policies, respiratory protection is not required.
- Avoid dry sweeping/dusting in the space, as this can cause unregulated substances that have deposited on surfaces to get into the air and be breathed in. If relevant, follow your employer's spill clean-up procedures
- Surfaces should be wiped down twice ("two-step decontamination"); a new wipe should be used for each wipe down, but it can be the same type of wipe. Follow the instructions on the packaging, paying special attention to the required contact time (or, how long the surface should be "wet" with the product to be effective)
- Currently available literature identifies hydrogen peroxide as an effective active ingredient for decontamination of drug-contaminated surfaces: 0.5% - 4.5% hydrogen peroxide is sufficient. Examples of hydrogen peroxide wipes are Accel Sporicidal wipes and Oxivir TB wipes.

- Other cleaning products may be used if they are shown to be effective: some examples of other cleaning products identified in the literature, including some strengths and limitations, are shown in Table 4
- Porous materials (sheets, curtains, etc.) can be washed using the normal hospital washing procedures.

Table 4: Information on potential cleaning chemicals from a rapid literature review that focused specifically on surface cleaning of unregulated substances*

Chemical	Considerations for use	Citations
Hydrogen Peroxide	Most studied surface cleaner so far. Many studies looked at store-bought cleaners that contained hydrogen peroxide rather than the pure substance. A BCCDC study found that 5-10% hydrogen peroxide solution is a good concentration, but results from different studies on hydrogen peroxide cleaners conflict with each other, which may be a product of different cleaning methods rather than the cleaners themselves. One study looked at alkalized hydrogen peroxide: making modified hydrogen peroxide cleaners should not be attempted without risk assessment.	Froelich et al 2018, Oudejans et al 2021, Leung 2018, Owens 2017, Sisco et al 2019
Water, soap and water, or physical removal	Contaminated water left to dry on surfaces will re-deposit residues. Physical removal (via wipes, sweeping, etc.) will require throwing away wipes/residues as hazardous waste. Soap and water mostly studied on methamphetamine; other substances data is limited.	Oudejans et al 2021, Ciesielski 2020, Sisco et al 2019
Bleach	Studies looked at different “types” of bleach (different pH, with different additives) making exact efficiency of bleach overall difficult to know – one study found lower pH is more effective but requires chemical mixing to achieve. Additional PPE (eye protection) will be required for making bleach dilutions. Making lower pH bleach should not be attempted without risk assessment.	Radi et all 2023, Oudejans et al 2021, Serrano et al 2012
Specialty decontamination cleaners	Commercial-grade cleaners designed specifically for decontamination of drug residues on many different building materials. May not be accessible in Canada, will be more expensive than other solutions, and are likely to introduce hazards due to chemical strength. Found to be most	Oudejans et al 2021, Serrano et al 2012, Sisco et al 2019

	effective in available studies. Read safety data sheet and perform risk assessment before use.	
Other: isopropanol, misc. Residential-grade cleaners, methanol	Only one study for each of these cleaners, so very limited results. Effectiveness is mixed. Alcohol-based cleaners (like isopropanol) can increase dermal absorption of unregulated substance residues. Before using any cleaners, read safety data sheets (if available).	Leung 2018, Serrano et al 2012, Sisco et al 2019

*rapid review is not a full literature review. The search focused on studies that cleaned surfaces in some way, and did not consider studies that were evaluating drug decontamination in solutions (i.e., putting a liquid unregulated substance inside of a liquid cleaner to see if it is decayed/transformed in some way).