COVID-19: Outbreak Management Protocol for Acute Care Settings

August 22, 2022

Contents

A. Purpose/Scope

This document provides guidance to help prepare for, detect and respond to outbreaks of COVID-19 in acute care and other inpatient health authority settings. This guidance is based on the latest available best practice and scientific evidence. Best practices, requirements and guidance may change as new information becomes available.

B. Declaring a COVID-19 Outbreak

Health-care associated COVID-19[1] case: A person diagnosed with COVID-19 based on the criteria below and best clinical judgement:

- The person developed COVID-19 associated signs and symptoms more than 10 days after admission to a facility; **AND**
- The person had no known exposure to COVID-19 outside the facility within 10 days prior to symptom onset; **AND**
- An epidemiological investigation is more suggestive of an infection having been acquired in the facility than from outside the facility.

Factors to consider in the investigation include:

- An epidemiological link to the facility;
- An exposure source outside the facility; and
- The interval between exposure(s) and symptom onset.

Outbreak:

- The occurrence or suspicion of epidemiologically linked cases of confirmed health-care-associated COVID-19 within a 10-day period; **AND**
- An investigation indicates that transmission most likely occurred within the same unit/facility rather than prior to admission or from community exposure; **AND**
- The number of cases or the severity of illness is beyond what is normal/expected based on circulating virus.

Consideration will also be given to clinical vulnerability of patients of the affected unit(s). Additional measures (beyond case and contact management) are required to manage the situation. Contact local infection prevention and control (IPC) team to assist with identification and confirmation of health-care-associated COVID-19 cases.

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[1] **Notes**:

- The purpose of this definition is to identify when a COVID-19 case is associated with a facility, including persons who were admitted to or discharged from an acute care facility.
- The application of this definition should be done on a case-by-case basis, following a case investigation.
- For the definition of a probable or laboratory-confirmed COVID-19 case, as well as associated signs and symptoms of COVID-19, please see BC Centre for Disease Control's case report form for COVID-19.**Error! Hyperlink reference not valid.**

The definitions for health-care associated COVID-19 case and outbreak may be updated during the investigation and management phase based on updated information about the variant currently circulating.

Final determination and declaration of an outbreak is made by the medical health officer (MHO) or their official designate, the medical microbiology (MM) and/or IPC team, as appropriate.

C. Management of Suspect or Confirmed COVID-19 Patients

For best practice recommendations for clinical management of patients with suspected or confirmed COVID-19, please see the BC Centre for Disease Control's (BCCDC) clinical care webpage.

For provincial guidance on setting-specific COVID-19 IPC best practices, please see the BCCDC's infection control webpage. In addition to this provincial COVID-19 outbreak management protocol, adhere to routine institutional IPC and workplace health and safety (WHS) guidelines and practices.

- In all health-care facilities, patients, health-care workers and visitors must continue to follow local processes for COVID-19 screening and managing COVID-19-like symptoms.
- All health-care workers and staff must follow orders from the provincial health officer and their local MHO.
- Offer COVID-19 vaccination to patients who are not yet vaccinated (or who are partially vaccinated) and are eligible for COVID-19 vaccination.

D. Enhanced Monitoring and Infection Prevention and Control Measures

There are circumstances where a case(s) of COVID-19 at a health-care facility does not meet the threshold for an outbreak, but enhanced monitoring and implementation of additional measures to prevent further transmission are deemed appropriate by the MHO or their official designate. This may also be referred to as a cluster, an alert or enhanced IPC measures. For example:

- Severity of illness amongst vaccinated patients suggests circulation of a variant that causes more severe illness;
- A unit/facility with low COVID-19 vaccination coverage among patients; or
- Increased prevalence of COVID-19 cases on the unit either as community-associated cases or as incidental findings upon admission.

If the MHO or their official designate, IPC or medical microbiology (MM) determines it is below the threshold to declare an outbreak, the situation may still warrant action to inform the need for additional public health or IPC actions. This action might include, but is not limited to:

- Increased active symptom screening;
- Enhanced cleaning and disinfection;
- Initiation of droplet and contact precautions for patients;
- Health-care worker (HCW) education and training;
- Assessment of IPC practices; and

- Not allowing patients in hallway beds.

IPC measures should be applied and adjusted as necessary based on assessed risks and in discussion between the MHO, IPC and the facility. Additionally, these measures might be necessary to prevent transmission from a high prevalence of localized unit/area specific community-associated cases or potential health-care associated cases where epidemiological links cannot be definitively determined.

E. Declared COVID-19 Outbreak – Control Measures

Outbreak Notifications and Site Communications

Provide site communication through facility leadership in collaboration with IPC, MM and/or the MHO, as applicable:

- Post outbreak notification signage at main facility entrances and at all entrances to affected floors/units/wards advising about the outbreak and that additional measures are in place.
- Within 24 hours of an outbreak being declared and at least every seven days thereafter (at a minimum), provide communications and key messages to all facility staff (including clinical and non-clinical staff, students, contracted staff and volunteers), all non-facility staff, professionals and services providers, as well as patients and visitors:
    - Advise them that an outbreak has been declared.
    - Provide key messages about the outbreak and how it is being managed.
    - Advise all parties of any additional measures or requirements that are in place during the outbreak.
    - Advise families and visitors of the presence of COVID-19 in the facility to inform their personal decision-making regarding proceeding with or deferring visitation.
- Advise non-facility staff, professionals and service providers about any outbreak control measures that may affect their provision of services. Provide a daily outbreak management (situation report) update to the regional health authority program lead.
- Notify all non-facility staff, professionals and service providers about the control measures that may affect their provision of services. Assess whether these individuals need to enter the facility or unit during the outbreak.
- Follow the health authority's processes for reporting to BCCDC the declaration of an outbreak and summary information, periodic updates, and notification of when the outbreak is declared over.

Case Reporting and Discontinuation of Additional Precautions

- Patients and staff with signs and symptoms of COVID-19 should be included on the outbreak line list.
- Follow established regional health authority processes for communicating cases to MHO or official designate.
- Notify patients if they need to continue to self-isolate upon discharge.
- For more information on discontinuation of additional precautions for patients with COVID-19, please see provincial guidance for discontinuing additional precautions related to COVID-19 for admitted patients in acute care.

Close Contacts

- Patients who are deemed to be close contacts of a confirmed case should be placed on droplet and contact precautions for 10 days[2] from last exposure.

Patient Movement and Discharges during an Outbreak

- Admissions, re-admissions and transfers to or from an affected unit within a facility during an outbreak may be considered, based on the direction of local IPC and/or the MHO or their official designate.
- Where transfers are medically necessary, the receiving facility/unit and transporting personnel must be notified of the outbreak status and if the patient is on any additional precautions to ensure that care can be provided safely.
- Consult with local IPC and/or MHO or designate at the facility regarding considerations for the safe movement and transfer of roommates of patients with suspected or confirmed COVID-19, where necessary.
- Close-contact patients who are transferred or discharged from an outbreak unit/facility and subsequently re-admitted or transferred to another unit/facility must be placed on droplet and contact precautions for the remainder of the 10 days from their last exposure.[3]
    - The re-admitted patient may be transferred back to the outbreak unit/facility with approval of the MHO, in consultation with IPC physician/medical microbiologist, as applicable.
    - Immediately notify the transferring facility and the local MHO if a client develops COVID-19 signs and symptoms within 10 days of being transferred from another facility.

Other Outbreak Control Measures

Depending on the layout of the facility, the location of cases and the degree of unavoidable movement of health-care workers between units, outbreak measures may be applied to specific units or to the entire facility at the discretion of the local MHO or designate.

- Where applicable, suspend all group activities, including group meals, during the outbreak and limit access to common areas on the outbreak unit(s) to HCWs and staff only.
- Non-urgent appointments may be cancelled or postponed for patients until the outbreak is declared over unless they are medically necessary.

Visitors

In the event of an outbreak, the unit/facility may implement restrictions on visits/visitation under guidance and direction from the local IPC and/or MHO or designate.

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[2] Some health authorities, in consultation with public health, local MM and IPC, may use a different duration based on local epidemiology, case-by-case clinical context and other considerations.
[3] Ibid.

Declaring the Outbreak Over

An outbreak will be declared over by the IPC and/or MM team in consultation with the local MHO, as appropriate.

An outbreak is generally declared over one full incubation period after the last date of exposure or test date (for asymptomatic cases) without any new cases or at the discretion of the local IPC and/or MM, in consultation with the local MHO or designate, as appropriate. Multiple factors will be considered in determining when an outbreak is declared over such as point-prevalence testing and the time-period adjusted accordingly. As a general guide:

- For COVID-19, one incubation period equates to 10 days after the last date of exposure to an infectious case at the facility.[4]
- The length of time to conclude an outbreak may be reduced or extended at the direction of the MHO or their official designate.

Appendix A: Outbreak Preparedness and Management

To prepare for and respond to a potential outbreak of COVID-19, all acute care and other inpatient health authority settings should:

- Ensure facilities/units have a comprehensive outbreak management plan for COVID-19.
- Ensure all HCWs and staff, including students, contracted staff and volunteers, are familiar with their roles and responsibilities regarding COVID-19 outbreak prevention, detection and management in the facility.
    - Ensure roles and responsibilities of the outbreak management team (OMT) membership are clearly defined and understood by all.
    - Conduct a tabletop exercise to discuss outbreak roles and responsibilities and prepare units/facilities for their first COVID-19 case.
- Clarify the respective roles of IPC, supervisors/management, public health and, where applicable, WHS teams and the Provincial Workplace Health Call Centre to HCWs and staff, including all data elements that need to be collected, prior to the onset of an outbreak.
- Ensure outbreak tools and resources are accessible to staff. This includes outbreak kits and/or appropriate specimen containers and labels, signage, alcohol-based hand rub (ABHR), cleaning/disinfecting wipes and personal protective equipment (PPE) at point of care.
- Maintain an up-to-date membership list of the facility OMT that includes contact information for unit/facility leadership, local IPC and the most responsible MHO or their designate at your local health authority.
- Designate a facility outbreak lead (e.g., site director, facility manager or coordinator) who will provide daily information updates to the OMT and oversee the implementation of control measures.
- Heating, ventilation and air conditioning (HVAC) systems should be properly installed and regularly inspected and maintained according to HVAC standards by the Canadian Standards Association and

[4] Or 10 days from the date of symptom onset of the last confirmed case if the last date of exposure cannot be determined.

other building code requirements. Where feasible, optimize HVAC systems in patient care areas and rooms, especially where patients suspected or confirmed to have COVID-19 are accommodated and cared for. Information on optimizing HVAC systems in the context of COVID-19 can be found on the BCCDC Ventilation Resources webpage. When adjustments are needed, it is recommended that HVAC specialists are consulted.

Suspected COVID-19 Outbreak

When transmission of COVID-19 is suspected at a unit/facility, early detection of COVID-19 signs and symptoms as well as laboratory testing of admitted patients with signs and symptoms of COVID-19 facilitates the rapid implementation of effective IPC measures to limit the size and length of an outbreak. During an outbreak, multiple IPC measures may be implemented and supersede recommendations during non-outbreak situations.

1. Use **COVID-19 outbreak surveillance forms** for ongoing monitoring of COVID-19 data, including test results for all staff and admitted patients who have undergone testing.
   - See appendix B (patient line list) and appendix C (staff line list) of this document for templates that can be used for this purpose.
   - See the BCCDC's COVID-19 symptoms webpage for an up-to-date list of COVID-19 symptoms.

2. **In the event of a suspected outbreak**:
   - Immediately notify the site director, IPC and the MHO or their designate as per arrangements for your regional health authority.
   - Initiate droplet and contact precautions for admitted patients with suspected or confirmed COVID-19. Post signage outside the patient's room.
     - As per standard practice with all patients, conduct a point-of-care risk assessment to determine if any additional PPE is required.
     - Based on consideration of multiple factors during an outbreak, a whole unit/wing/facility may be placed on droplet and contact precautions under the direction of local IPC, the facility and public health.
   - Ensure PPE is readily available on the outbreak unit, with PPE carts and garbage disposal set up outside rooms of patients on droplet and contact precautions and ensure adequate soiled linen hampers and garbage disposal within patient rooms.
   - Where possible, consider placing patients with suspected or confirmed COVID-19 in a single room.
     - Where this is not possible, consider cohorting patients with confirmed COVID-19.
     - Decisions regarding cohorting should be made in consultation with the facility director/administrator, IPC, MHO or designate, and the client care leader.
     - If patients are cohorted, maintain a physical separation of two metres between the beds of patients with confirmed COVID-19 and all roommates. Close the privacy curtains.
   - If performing aerosol generating medical procedures (AGMPs), consider placement in an airborne infection isolation room or a private room, if available.
   - Follow the latest BCCDC public health laboratory COVID-19 guidance for specimen collection, including guidance for the number of samples that must be collected from patients with signs and symptoms of COVID-19, to confirm an outbreak.
     - Collect specimens for lab testing as soon as possible.

- Arrange appropriate antiviral therapy for patients who are vulnerable to severe illness. See the BCCDC Treatments webpage for more information.

Declared COVID-19 Outbreak – Control Measures

Outbreak Management Team

Mobilize an on-site multidisciplinary OMT to coordinate the facility's response once an outbreak has been declared. Ensure roles and responsibilities are clearly outlined. The control measures implemented during an outbreak will be at the discretion of the OMT.

Outbreak Management Team Responsibilities:

The duties of the OMT include:

- Daily (or as needed) outbreak management meetings to discuss operations and issues arising at the facility.
- Daily review of line lists for patients and staff with COVID-19 signs and symptoms, as well as testing results to determine the status of existing cases and any new cases associated with the outbreak.
- Identification of the first case and source of any ongoing transmission, if possible.
- Review of implemented outbreak control measures against the level of transmission to determine required mitigation actions.
- Review of audit results available for the unit, including hand hygiene assessments, environmental cleaning and disinfection assessments, PPE assessments and other COVID-19 specific assessments.
- Daily review of communication requirements related to the outbreak, including messaging for patients, families, staff and the general public.
- Verifying after-hours and weekend requirements (e.g., staff coverage).

Outbreak Management Team Membership

OMT membership should include, but is not limited to:

- Director of clinical operations. This person can be designated as the outbreak lead and will work closely with the MHO and the IPC physician lead, IPC regional director and IPC manager.
- MHO or public health designate.
- IPC practitioner(s).
- IPC physicians/medical microbiologists.
- Public health/IPC surveillance.
- Unit/facility medical lead (e.g., long-term care physician director or division head/lead for the unit in acute care sites).
- Patient care coordinator/manager, as appropriate.
- Housekeeping/environmental services manager.
- Laundry and food services manager.
- Administrative support for keeping track of action items.
- Supply chain representative, as appropriate.
- Staffing representative.
- WHS representative, as appropriate.
- Facilities maintenance and operations, as appropriate.
- Communications, as appropriate.
- Risk management/client relations, as appropriate.

Screening of Patients

Screen patients in outbreak facilities and/or floors/units/wards for signs and symptoms of COVID-19 at least twice daily. Refer to the BCCDC's website for a sample COVID-19 patient screening tool for direct care interactions.

- Refer to the BCCDC's viral testing webpage for COVID-19 testing guidelines.
- Have a low index of suspicion for COVID-19 testing and use a low threshold for symptoms for collecting COVID-19 specimens.

Health-Care Workers and Staff

- Establish staff and HCW screening for COVID-19 signs and symptoms prior to every shift:
  - Set up screening stations at the entrance of the facility and/or floor/unit/ward, if not already in place.
    - Ensure one way movement and flow at staff and HCW screening stations, as much as possible.
  - Communicate expectations for staff and HCW screening, including details of operational processes.
  - Staff and HCWs who exhibit signs and symptoms of COVID-19 during screening should not be allowed entry. They should seek medical attention and get tested for COVID-19 in accordance with provincial testing guidelines.
  - Maintain confidentiality of staff and HCW screening results and COVID-19 status:
    - Staff and HCWs may choose to divulge their COVID-19 test results to their employer.
    - While maintaining staff and HCW confidentiality, in conjunction with WHS, report positive staff/HCW COVID-19 cases to the OMT.
- Consideration should be given to appropriate staffing levels needed to support the outbreak response and the continuation of services during an outbreak. This includes clinical staff, HCWs, clinical leaders and housekeeping/environmental services staff.
- In the event of an outbreak, restrict all non-essential workers, such as volunteers, from the outbreak unit/facility. Students may be restricted to reduce crowding and the risk of transmission.
- Record all symptomatic HCWs and staff on a line list (see appendix C for a line list document template).
- Staff cohorting to specific units should be used where practical.
  - Where possible, consider cohorting HCWs and staff, with dedicated HCWs and staff for patients with suspected or confirmed COVID-19 and for those who are well, respectively.
  - If dedicated staff for patients with suspected or confirmed COVID-19 are not available, HCWs and staff should first work with well patients and then move on to care for patients with suspected or confirmed COVID-19, avoiding movement between floors/units, wherever possible.
  - Where possible, dedicate HCWs and staff to work exclusively on the outbreak unit as much as possible. If cohorting is not possible, those working on multiple units should first work on unaffected unit(s) and finish on the outbreak unit(s).
- For provincially standardized exposure criteria to assess risk for HCWs exposed to COVID-19 patients while at work, see BCCDC's exposure and return to work for HCW webpage.
- No staff/health-care worker food sharing is permitted in units/facilities during an outbreak.

Microbiology/COVID-19 Testing

- Refer to the BCCDC's viral testing webpage for information on COVID-19 testing eligibility and specimen collection.

- Ensure the outbreak unit/facility has direct communications with the COVID-19 testing laboratory and is reporting to the OMT.
- Ensure COVID-19 specimen information and COVID-19 testing results are communicated to the OMT every day for tracking.
- Train unit/facility staff on COVID-19 specimen collection, packaging and transport (e.g., transport of dangerous goods) of clinical specimens.
- Consult with local medical microbiology, IPC and public health if alternative testing strategies are requested.
    - Indicate testing for other respiratory infection (RI) pathogens if not already part of outbreak RI pathogen testing panel (e.g., respiratory syncytial virus (RSV), influenza).
- Testing of asymptomatic individuals is generally not indicated. However, it may be conducted as part of public health investigations at the discretion of the MHO or designate in consultation with local IPC and/or medical microbiology, as appropriate.
    - The choice of test, frequency of testing and who gets tested will be determined by the MHO or their official designate.
- Repeat testing of laboratory-confirmed cases upon recovery is generally not necessary but may be requested in certain circumstances (e.g., patients who had severe illness requiring hospitalization or who are immune suppressed) by the MHO or designate, in consultation with local IPC and/or MM.

Education and Training

- Prior to an outbreak, ensure all HCWs and staff have had appropriate training on the signs and symptoms of COVID-19, proper hand hygiene, cleaning and disinfection, the correct donning and doffing of PPE and when to initiate additional precautions.
- During an outbreak, ensure all HCWs and staff on the outbreak unit/facility have **ongoing, repeated** training to reinforce the importance of monitoring for signs and symptoms of COVID-19, appropriate hand hygiene, cleaning and disinfection and the correct donning and doffing of PPE.

Personal Protective Equipment and Supplies

- Ensure inventories of high-use PPE items (e.g., medical masks, eye protection, gloves, gowns), ABHRs and high-use cleaning and disinfection products (e.g., wipes) are available and replenished.
- Ensure units/facilities are provided clear guidance on how and where to order PPE and other supplies.
- Ensure the facility has multiple days of PPE on hand and that it is readily available at the point of care.
- Ensure PPE supplies are re-stocked regularly. Increase the frequency of re-stocking during an outbreak.
- Ensure there is a clear plan and communication strategy for PPE supply and steps for remediation in the event of a critical shortage.
- For units and facilities on outbreak, ensure all staff and HCWs wear clean work clothing (e.g., uniforms) and not street clothes within the unit/facility.
    - Work clothing/uniforms should be changed before leaving the facility.
    - Launder uniforms before reuse.
- Request and ensure staff have training and fit testing for N95 respirators, or equivalent, if they are providing care for patients with suspected or confirmed COVID-19 that require AGMPs or as determined by a point-of-care risk assessment.

Environmental Cleaning and Laundry

- Notify environmental services of the outbreak status and the need for enhanced outbreak environmental cleaning and disinfection measures.
- Ensure enhanced environmental cleaning and disinfection takes place during an outbreak using dedicated environmental services staff for the outbreak unit. This may require more staff or extra shifts to ensure housekeeping staff are on site to respond when required.
- Ensure frequent cleaning and disinfection of high-touch surfaces and items (e.g., handrails, elevator buttons, phones, door handles, light switches, remotes, etc.), server and dining room areas and the safe handling of waste (e.g., tissues) throughout the facility during the outbreak.
- Ensure ABHR with a minimum of 70% alcohol content is readily available outside each patient/client room, at the point of care, outside clean/sterile supply and equipment rooms, inside soiled utility rooms, at the entrance and exit doors to the unit/facility and in all common areas.
    - In units/areas (e.g., mental health and substance use) where there is a patient safety risk of wall mounted accessible ABHR, ensure there are alternate methods for hand hygiene, such as personal size ABHR and hand washing sinks.
- Ensure cleaning and disinfectant supplies are readily available on the unit close to the point of use.
- Handle soiled laundry from patients with COVID-19 using routine laundering practices.
- De-clutter the outbreak unit/facility to ensure all surfaces (e.g., floors, bathrooms) can be appropriately cleaned and disinfected.
- For more information, see the provincial guidance for environmental service providers in health-care settings.

Food Services

- Notify food services of the outbreak status so that outbreak protocols are initiated.
    - Food services staff should not enter dedicated COVID-19 cohort units or rooms where patients with suspected or confirmed COVID-19 have been admitted.
- Standard food service procedures are effective for preventing COVID-19 transmission to staff and other patients.

Infection Prevention and Control Practice Assessments

- The outbreak unit/facility must ensure that hand hygiene assessments, environmental cleaning assessments, assessments of appropriate PPE use and other COVID-19 specific assessments are conducted frequently and reported to the OMT.

Once the Outbreak is Declared Over:

- Provide notification of the end of the outbreak to all parties who were notified of the outbreak (and others as appropriate).
- Remove any signage related specifically to the outbreak.
- Re-stock any supplies depleted during the outbreak (e.g., replacement viral specimen kits).
- Perform a terminal/isolation cleaning and disinfection for the affected rooms after discontinuation of additional precautions.
- Debrief with unit/facility leadership and staff to evaluate the management of the outbreak and implement all corrective actions, as required.

- Remain alert for possible new cases in HCWs, staff and patients.
- Restore patient flow patterns for discharge and transfer.
- Restore visitation and group activities on the unit.

Appendix B – COVID-19 Outbreak Line List – Patients

Location: _____ Date outbreak declared: _____

Patient demographics					**Clinical presentation**				**Specimen(s) sent**	
Name	Date of birth (y/m/d)	Unit	Room #*	Room type**	Date of symptom onset	Date additional precautions initiated	Signs and symptoms***	Date symptoms resolved	Collection date/date submitted	Result

***Room #:** If the patient has moved or been transferred within the past 10 days, note the rooms on different lines.
****Room type**: **P**=Private, **S**=Semi-private, **M**=Multi-bed.

*****Symptoms**: **C**= Cough, **SB**= Shortness of breath, **F/C**= Fever/chills, **LSST**= Loss of sense of smell or taste, **O**= Other**, N/V**= Nausea or vomiting, **ST**= Sore throat, **D**= Diarrhea, **LA**= Loss of appetite, **EF**= Extreme fatigue or tiredness, **H**= Headache, **BA**= Body aches.
See BCCDC's COVID-19 symptoms webpage for an up-to-date list of COVID-19 symptoms.

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Appendix C – COVID-19 Outbreak Line List – HCWs and Staff

Location: _____ Date outbreak declared: _____

HCW and staff information						**Clinical presentation**		**Specimen(s) sent**	
Name	Date of birth (y/m/d)	Occupation/work assignment	Unit(s) worked	Date(s) worked in last 10 days	Date of symptom onset	Signs and symptoms*	Date symptoms resolved	Collection date/date submitted	Result

***Symptoms**: **C**= Cough, **SB**= Shortness of breath, **F/C**= Fever/chills, **LSST**= Loss of sense of smell or taste, **O**= Other**, N/V**= Nausea or vomiting, **ST**= Sore throat, **D**= Diarrhea, **LA**= Loss of appetite, **EF**= Extreme fatigue or tiredness, **H**= Headache, **BA**= Body aches.
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