INFECTION PREVENTION AND CONTROL

PROVINCIAL GUIDELINES

Provincial Outbreak Guidance for Viral Respiratory Illness in Long-Term Care Settings in British Columbia

January 14, 2025

BRITISH COLUMBIA | Ministry of Health

PICNet
PROVINCIAL INFECTION CONTROL NETWORK OF BRITISH COLUMBIA
A program of the Provincial Health Services Authority

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Guideline Review

This guideline replaces and has been revised from the following guidelines:

- Provincial Infection Control Network Respiratory Infection Outbreak Guidelines for Health Care Facilities (April 2018).
- COVID-19 Outbreak Management Protocol for Long-Term Care and Connected Seniors' Assisted Living Settings (August 2022).

Summary of Changes

Version	Summary of Major Updates
November 2018	• Respiratory Infection Outbreak Guidelines for Health Care Facilities was first published.
January 14, 2025	• Title changed to reflect a broader scope of viral respiratory pathogens in BC health care facilities. • Rather than one omnibus viral respiratory illness (VRI) outbreak document for all settings, the document was split into two and separated for acute care and long-term care. • Outbreak definitions separated out by pathogen (i.e., COVID-19, influenza, RSV, and other VRI pathogens). • Sections within the document moved to improve flow. Some information has been moved to the appendix. • Scope of health care facility inclusion clarified. • Removed duplicated information and referral to the Provincial Infection Prevention and Control Guidance for Viral Respiratory Illness in Long-Term Care and Seniors' Assisted Living settings. • Updated roles and responsibilities of the Outbreak Management Team. • Updated VRI definitions and outbreak considerations. • Added recommendation for wearing medical masks in outbreak resident care areas. • Updated recommendations for influenza antiviral prophylaxis for high-risk health care workers. • Updated VRI symptomatic health care worker exclusion information. • Updated outbreak preparedness checklist. • Added food handling practices. • Added VRI tools and resources.

Acknowledgement

The guidelines were updated in collaboration with the members of the Viral Respiratory Illness (VRI) Outbreak Working Group, as acknowledged in Appendix A. The following committees, organizations and working groups provided either review and/or approval of the Provincial Outbreak Guidance for Viral Respiratory Illness in Long-Term Care Settings in BC (2024):

Reviewed and approved by:	Date
BC Ministry of Health	January 14, 2025
Reviewed and endorsed by:	**Date**

Viral Respiratory Illness Outbreak Working Group	January 17, 2024
BC Communicable Disease Policy Committee	February 13, 2024
Reviewed by:	
Occupational Health and Safety Council	
Provincial Infection Prevention and Control/Workplace Health & Safety COVID-19 Task Group	

Further Information/Resources: Refer to Appendix A: Guideline Approvals and Update Strategy.

Abbreviations

ABHR	Alcohol-Based Hand Rub
AGMP	Aerosol Generating Medical Procedure
CAI	Community-Associated Infection
COVID-19	Coronavirus Disease 2019
GPS	Good Practice Statement
HCW	Health care worker
IPC	Infection prevention and control
LTC	Long-term Care
MHO	Medical Health Officer
OMT	Outbreak Management Team
PHAC	Public Health Agency of Canada
PHO	Provincial Health Officer
PICNet	Provincial Infection Control Network of British Columbia
PPE	Personal Protective Equipment
SARS-CoV-2	Severe Acute Respiratory Syndrome – Coronavirus-2
VRI	Viral Respiratory Illness
WHS	Workplace Health and Safety/Occupational Health and Safety

Key Terms

Acute care facility: A hospital where lengths of stay average < 30 days, and where a variety of services are provided, including surgery and intensive care.

Additional precautions: Interventions implemented for certain pathogens or clinical presentations in addition to routine infection prevention and control practices, to reduce the risk of transmission of microorganisms from resident to resident, resident to health care worker (HCW), and HCW to resident.

Aerosol generating medical procedure (AGMP): Medical procedure(s) that can generate a large volume of very small droplets (aerosols) as a result of artificial manipulation of a person's airway.

Airborne precautions: Interventions to reduce the risk of transmission of microorganisms through airborne droplet nuclei (small particle residue of evaporated droplets containing microorganisms that remain suspended in the air for long periods of time) or dust particles containing the infectious agent. This intervention is one of a number of additional precautions.

Alcohol-based hand rub (ABHR): A liquid, gel, or foam formulation of alcohol (e.g., ethanol, isopropanol) which is used to reduce the number of microorganisms on hands in clinical situations when the hands are not visibly soiled. Optimal strength of ABHRs used in health care settings should be 70% to 90% alcohol.

Case: An epidemiological term for a person in the population or study group identified as having a particular disease, health disorder, or condition under investigation. The epidemiologic definition of a case is not necessarily the same as the ordinary clinical definition.

Case definition: A set of diagnostic criteria that must be fulfilled to identify a person as a case for a particular disease. Case definition can be based on clinical and/or laboratory criteria.

Cleaning: The physical removal of foreign material, e.g., dust, soil, organic material such as blood, secretions, excretions, or microorganisms, using mechanical and/or chemical means. Cleaning physically removes rather than kills microorganisms.

Cohort: Two or more residents colonized or infected with or exposed to the same organism that are separated physically, in a room or unit, away from other residents.

Cohorting health care workers: The practice of assigning specified personnel to only care for residents known to be colonized/infected with or exposed to the same organism. Such individuals would not participate in the care of other residents.

Contact precautions: Interventions to reduce the risk of transmission of microorganisms through direct or indirect contact. This intervention is one of a number of additional precautions.

Community-associated infection: An infection likely acquired before a health care encounter or accessing health care services, not a health care associated infection.

Diarrhea: The passage of three or more loose or liquid stools per day (or more frequent passage than is normal for the individual).

Drug Identification Number (DIN): In Canada, disinfectants are regulated under the Food and Drugs Act and Regulations. Disinfectants must have a drug identification number (DIN) from Health Canada prior to marketing. This ensures that labeling and supportive data have been provided and that it has been established by the Therapeutic Products Directorate (TPD) that the product is effective and safe for its intended use.

Disinfection: The inactivation of disease-producing microorganisms. Disinfection does not destroy bacterial spores. Disinfection usually involves chemicals, heat, or ultraviolet light.

Droplet and contact precautions: Interventions used, in addition to routine practices, to reduce the risk of transmission of microorganisms via respiratory droplets. Droplet and contact precautions include the use of personal protective equipment (PPE) such as a medical mask, eye protection, gown, and exam gloves whenever an individual is within two meters of the resident. Signage to communicate the level of precautions, cleaning and disinfection, and appropriate room placement are also used. This intervention is one of a number of additional precautions.

Epidemiology: A method used to find the causes of health outcomes and diseases in populations by studying the distribution and determinants of health-related states and events in specified populations and the application of this study to the control of health problems.

Epidemiologically-linked: Reasonable evidence of transmission from one or more persons who have/had the infection to others within the unit or facility. Determining epidemiological linkages requires judgement and accounting for likely sources of exposure outside the unit or facility.

Hand hygiene: A process for the removal of soil and transient microorganisms from the hands. Hand hygiene may be accomplished using soap and running water or the use of ABHRs. Hand washing with soap is required whenever hands are visibly soiled.

Health care-associated infection: An infection acquired during the delivery of health care that was not present or incubating at the time of admission. This includes infections in residents, as well as health care workers. Also known as a nosocomial infection.

Health care worker (HCW): Individuals providing or supporting health care services. This includes, but is not limited to, emergency service providers, physicians, dentists, chiropractors, nurses, podiatrists, respiratory therapists and other allied health professionals, students, support services (e.g., housekeeping, dietary, maintenance, hairdressers), and volunteers.

Hospital-grade disinfectant: A disinfectant that has a drug identification number/natural product number (DIN/NPN) from Health Canada indicating its approval for use in Canadian hospitals.

Infection prevention and control (IPC): Measures practiced by health care workers and others in health care facilities to decrease transmission and acquisition of infectious agents (e.g., hand hygiene, use of personal protective equipment, and cleaning and disinfection). IPC measures include routine practices, and contact, droplet, and airborne precautions.

Infection Prevention and Control Professional (IPCP): A trained and knowledgeable individual who has the primary responsibility for development, implementation, evaluation, and education related to policies, procedures, and practices that impact the prevention of infections in health care settings.

Isolation: The physical separation of infected individuals from those uninfected for the period of communicability of a particular disease.

Line list: A list established to assist and guide an outbreak investigation by documenting and organizing demographic data, clinical risk factors, and host or other contributing factors.

Long-term care (LTC): Long-term care settings provide 24-hour professional supervision and care in a protective, supportive environment for people who have complex care needs and can no longer be cared for in their own homes or in an assisted living residence.

Medical Health Officer (MHO): A medical practitioner with training, knowledge, skills, and experience in public health and preventative medicine who is designated to this position, for a geographical area, by the Lieutenant Governor of BC under the Public Health Act. The MHO has responsibilities under the Public Health Act to monitor the health of the population, provide advice and direction on public health issues including health promotion and health protection and their related practices, bylaws, and policies. The MHO also has responsibilities for directing the response to health hazards that threaten public health.

Medical mask: A medical grade face mask that meets ASTM International (or equivalent) performance requirements for bacterial filtration efficiency, particulate filtration efficiency, fluid resistance (synthetic blood), pressure differential, and flame spread. Respirators have differing characteristics from medical masks and are defined below. Medical masks include surgical and procedure masks.

MHO official designate: A person who has specific designated authority and duties of a Medical Health Officer. Designates can be public health professionals or are typically IPC physicians and IPC professionals in health authority operated sites. Official designates advise and direct outbreaks adhering to jointly developed protocols with Public Health.

Outbreak: An increase in the occurrence of cases of infection or disease over what is expected in a defined setting or group in a specified time period; synonym of epidemic but used more often when limited to or within a geographic area.

Organizational risk assessments (ORA): An assessment done by organizations/institutions to identify and evaluate the risk of exposure to infectious agents in the health care environment and to implement appropriate control measures (e.g., communicable disease safety plan) according to the hierarchy of controls to minimize the risks.

Patient: Any person receiving health care within a health care setting or service. The term is inclusive of patients, clients, and residents.

Personal protective equipment (PPE): Clothing or equipment worn by individuals for protection against hazards such as chemicals, blood, body fluids, and infectious secretions.

Public Health Nurse: Public health nurses care for the physical and mental health needs of the community as a whole. They may work with families in the home, with community groups, in schools, in government agencies, and at workplaces.

Resident (patient) care area: Any room or area within a LTC and seniors' assisted living facility (including a contracted facility), where residents are actively receiving care. This includes any location where emergency health services are being provided. It does not include locations such as administrative areas or private offices, which are not generally accessed by residents, or areas where care is not being provided, such as foyers, hallways, cafeterias, chapels, and family rooms.

Respirator: PPE that provides respiratory protection for the wearer to reduce the risk of inhaling airborne particles, including infectious agents by forming a tight seal, protecting the mouth and nose, and filtering out air particles. The device is tested and certified in accordance to established standards by the Canadian Standards Association, Health Canada, National Institute for Occupational Health and Safety or equivalent and approved for use by the health authority or organization. Examples include disposable filtering facepiece respirators such as N95 respirators, as well as elastomeric respirators, and powered air-purifying respirators (PAPRs).

Respiratory droplets: Range of small (aerosols) and large fluid particles that are generated when a person coughs or sneezes or where an AGMP is done.

Routine practices: The term used to describe the practices recommended in Canada to be used with all residents to prevent and control transmission of infectious microorganisms in health care settings. These include: point-of-care risk assessment, hand hygiene, respiratory hygiene, resident placement and accommodation, use of PPE, aseptic technique, safe linen and waste handling practices, and equipment cleaning and disinfection.[1]

Surveillance: Systematic, ongoing collection, collation, and analysis of health-related information that is communicated in a timely manner to all who need to know.

Viral respiratory illness (VRI): Any new-onset of acute infectious respiratory illness suspected or confirmed to be caused by a viral agent with either upper- or lower-respiratory tract involvement, presenting with symptoms of a new or worsening cough and often fever.

Refer to Section 2 of this document for Probable VRI and Confirmed VRI case definitions.

Workplace Health and Safety (WHS): Trained individuals responsible for the anticipation, recognition, evaluation, and control of hazards arising in or from the workplace that could impair worker health and well-being. This includes prevention of communicable disease transmission to workers.

1 Introduction

Viral respiratory illnesses (VRIs), such as that caused by influenza, coronavirus, respiratory syncytial virus (RSV), and 'common cold' viruses are widespread around the globe. VRIs are most often transmitted across a spectrum of small (aerosols) and large sized respiratory droplets expelled when an infected person coughs or sneezes, and when aerosol generating medical procedures (AGMP) are done.[2,3] Research on the modes of transmission is ongoing.[3,4] Multiple factors may influence transmission and infection with VRI (e.g., transmissibility of the virus, enclosed spaces, relative humidity, ventilation, etc.). Viruses in respiratory droplets can land on the recipient's eyes, nose, or mouth, or are inhaled when close to an infected person. Because microorganisms in droplets can often survive on surfaces, infections can also be spread indirectly when people touch contaminated hands, surfaces, and objects and then touch their mouth, nose, or eyes.[5,6]

Infections in healthy individuals are generally mild and self-limiting, but they can lead to severe illness and death, especially in people who are more clinically vulnerable. Several microorganisms cause infectious outbreaks in LTC and inpatient units/facilities (e.g., acute care, mental health inpatient settings). COVID-19 and influenza viruses continue to be an important cause of morbidity and mortality in patients and residents in health care facilities, including immune compromised, frail, and elderly individuals.[8]

Outbreaks of VRI in BC long-term care (LTC) and acute care settings cause significant disruption and harm to patients, residents, and health care workers (HCWs) every year, and carry a high cost, both financial and emotional.[7] Preventing VRIs and outbreaks is a high priority in all settings. VRIs (influenza, coronavirus, RSV, and "common cold" viruses) have similar routes of transmission, which means that measures to prevent and control transmission in LTC can be highly effective against all of them. Best practices for effective outbreak prevention and management are provided within these guidelines.

1.1 Purpose and Scope

This document provides the infection prevention and control (IPC) guidance for outbreaks of VRIs that are primarily spread through close-range droplets in LTC settings. Although senior's assisted living (AL) units/facilities are not within the scope of these guidelines, the recommended IPC measures may be partially or fully extended to AL units/facilities that are located within or functionally connected to a LTC facility, at the discretion of the Medical Health Officer (MHO) or their official designate.

The guidance in these documents is intended to serve as the provincial guidance document for use by health authority owned, operated and/or funded LTC facilities and other health care organizations for their internal policy/protocol development, as relevant. This guideline should be used in conjunction with the *Provincial Infection Prevention and Control Guidance for Viral Respiratory Illness in Long-Term Care and Seniors' Assisted Living Settings in British Columbia*. Implementing these guidelines will aid LTC settings in detecting and containing clusters and outbreaks of common VRI, and in preventing associated morbidity and mortality.

In the event of emergent threats (e.g., fire, floods), mitigation to address immediate threats to residents, visitors, and HCWs should be prioritized. IPC measures should be re-evaluated and implemented once immediate safety concerns are mitigated.

Although not within the scope of these guidelines, it is important to note that some infections, such as tuberculosis (TB) and emerging pathogens with unknown characteristics, require special consideration and additional control measures. For airborne-spread infections (e.g., measles, tuberculosis), or for

emerging pathogens with uncertain modes of transmission, organism-specific guidelines should be followed as laid out by your regional health authority, the BC Centre for Disease Control,[9] and the Public Health Agency of Canada.[10]

Notes:

- Where the term *resident* is used in this document, it also refers to patient or client.
- Where graded recommendations are included in the guideline, the strength and quality of evidence rating scale found in Appendix B was used.
- Some recommendations fall within well-known practices that are widely accepted and have been categorized as "Good Practice Statements" *(GPS).*

Further Information/Resources:

- Refer to the Provincial Infection Prevention and Control Guidance for Viral Respiratory Illness in Long-Term Care and Seniors' Assisted Living Settings in British Columbia.
- Refer to Appendix D: Provincial Outbreak Preparedness Checklist for VRI to assist with implementing this guidance.
- Refer to Appendix E: Common VRI Outbreak Pathogens for organism-specific information, including incubation and communicability periods.
- Refer to the BCCDC webpage for VRI data on morbidity and mortality in BC.

2 Viral Respiratory Illness Definitions

Early detection of VRI symptoms, as well as laboratory testing of residents, will facilitate the rapid implementation of effective control measures to limit the spread and duration of an outbreak.

2.1 Probable Viral Respiratory Illness Case Definition

A resident is suspected to have VRI when they have acute onset of signs and symptoms of VRI based on clinical judgement* **AND** test results maybe pending.

VRI signs and symptoms includes new or worsening cough and/or fever** and any one or more of the following (not listed in any particular order of significance):

- Shortness of breath
- Runny or stuffy nose (i.e., congestion) or sneezing
- Sore throat or hoarseness or difficulty swallowing
- Other non-specific symptoms may include tiredness, malaise, muscle aches (i.e., myalgia), headache, and nausea, vomiting, or diarrhea (maybe present in some residents, particularly children).

Factors to consider in case investigation include:

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

***Note**: Clinical judgement is required to assess probable VRI. Other etiologies including non-infectious causes must be considered and ruled out (e.g., side effect of medication or chronic health conditions).

**** Fever may or may not be present, particularly in young children, the elderly, the immuno-compromised, or those taking medications such as steroids, Non-Steroidal Anti-Inflammatory Drugs

(NSAIDs), or Acetylsalicylic Acid (ASA). A temperature <35.6ºC or > 37.4ºC in the elderly may be an indication of infection.

2.2 Confirmed Viral Respiratory Illness Case Definition

A confirmed case od VRI is a resident with:

- Signs and symptoms of acute respiratory infection;
  AND
- Confirmation of infection with the pathogen causing VRI, (i.e., influenza, SARS-CoV-2, parainfluenza, RSV, adenovirus, rhinovirus, metapneumovirus)* by validated laboratory testing.

Note: Once initial testing has identified the causative agent within a select group of symptomatic residents, further testing of symptomatic residents may be suspended at the discretion of the Medical Health officer (MHO)/official designate.

***Further Information/Resources:** Refer to Appendix E: Common VRI Outbreak Pathogens for organism-specific information, including incubation and communicability periods.

2.3 Health Care-Associated Viral Respiratory Illness Case Definition

A resident who:

- Has developed VRI signs and symptoms (as listed above) after the typical incubation period for that illness (e.g., COVID-19 onset >10 days after admission)*;
  AND
- Had **no** known exposure to the VRI outside the facility within the incubation period;
  AND
- An epidemiological investigation suggests an infection was more likely to have been acquired in the facility/unit than from outside it. (e.g., placed in the same room as another resident while the other resident was infectious, direct physical contact with a case or exposure to infectious body fluids).

Note: *Contact local Public Health or IPC team to assist with identification and confirmation of health care-associated VRI cases.*

***Further Information/Resources:** Refer to Appendix E: Common VRI Outbreak Pathogens for organism-specific information, including incubation and communicability periods.

2.4 Viral Respiratory Illness Cases/Clusters

Whenever a cluster of VRI cases occurs, it warrants an investigation to determine possibility of epidemiological links, risk for further transmission, and consideration for additional measures. A cluster may involve a high prevalence of community-associated cases in a unit or localized area, or possible health care-associated cases where epidemiological links cannot be conclusively determined. In LTC settings, VRI clusters often reflect community levels of VRI and can be managed with clinical care and IPC measures.

2.4.1 Reporting/Notification

- Each health authority sets thresholds for reporting concerns at the facility and/or unit level (e.g., two or more epidemiologically connected cases within 7 days) to their local IPC and MHO/official designate. Criteria for these thresholds can vary based on the setting, resident population, and local epidemiology.

2.4.1.1 Notification of VRI cases to Health Officials & Families

- All LTC facilities **must** notify the MHO about new VRI cases among residents of the facility.
- When notified, the Health Authority Public Health and IPC professionals will provide the facility with appropriate control measures that need to be implemented for each new case to limit spread within the facility.
- The presence of VRI cases is also communicated to the residents' families by the LTC facility.

2.4.2 Investigation

- Once notified, IPC and/or public health professionals **must** undertake an investigation and risk assessment.
- The assessment considers multiple risk factors, including clinical vulnerability of residents on affected units, number of cases or the rate of increase in cases, severity of illness, IPC measures that are already in place, vaccination coverage, and availability of effective interventions (e.g., antiviral prophylaxis medication).

2.4.3 Supplementary Infection Prevention and Control Measures

- When a cluster of VRI at a unit or health care facility is identified but does **not** meet criteria for an outbreak, organizations can use a phased approach, implementing supplementary IPC measures under the direction of the IPC professional and/or MHO/official designate to prevent further transmission or escalation to an outbreak. Some of these measures may include those listed in Section 6 of this guidance.
- IPC measures **should** be applied and adjusted as necessary based on assessed risks and in discussion between the MHO/official designate, IPC and the facility.

3 Declaring a Viral Respiratory Illness Outbreak

- The MHO or their official designate is responsible for the following:
  - declaring an outbreak of VRI within a LTC facility;
  - determining the duration of outbreak control measures; and
  - declaring the outbreak over.
- VRI outbreak surveillance forms **should** be used for ongoing monitoring of VRI data, including test results for all HCWs and residents.

3.1 COVID-19 Outbreak Definition in Long-Term Care

A COVID-19 outbreak in a LTC facility is declared by the MHO/official designate when the following are met:

- An unexpected or an unusual increase of confirmed COVID-19 cases or case severity among facility residents in a 7-day period;
  AND

- Evidence of continued transmission in the unit or facility despite additional measures taken;
  AND
- The MHO or their official designate determines that there is a need for extraordinary measures (i.e., limiting visitations and/or restricting admissions/transfers);
  AND
- Application of additional measures are considered to have a higher overall benefit than harm to the facility residents.

3.2 Influenza Outbreak Definition in Long-term Care

An influenza outbreak in a LTC facility is declared by the MHO/official designate when the following is met:

- Two or more epidemiologically linked health care-associated cases of confirmed influenza occurring within 7 days in a geographic area (e.g., unit or floor – may vary depending on facility layout and movement of HCWs and residents).

3.3 Respiratory Syncytial Virus/Other VRI Pathogens in Long-Term Care

- Where an organism is unknown or testing indicates other VRI etiologies, an outbreak may be declared at the discretion of the MHO or their official designate.
- Consideration should be given to overall harms and benefits of a formal outbreak declaration as well as illness severity, resident population, facility or unit layout, attack rates, etc.

Further Information/Resources:

- Refer to Appendix E: Common VRI Outbreak Pathogens for common viral pathogens of concern.
- Please refer to following sample forms: Appendix I illustrates a sample resident case surveillance form, and Appendix J illustrates a sample HCW surveillance form.

4 Specimen Collection and Transport

As part of an investigation into cases or outbreaks, specimens are collected and submitted for testing. The choice of test, frequency of testing and who gets tested will be determined by the IPC Medical Director and /or the MHO/official designate.

- The unit or facility **should**:
  - Refer to the BCCDC's Viral testing and Laboratory Services web pages for information on testing and specimen collection. Alternatively, health care facilities should follow their local health authority or institutional process and procedures for specimen collection, transport, and testing.
  - Ensure the outbreak unit/facility has direct communications with the testing laboratory, as well as reporting to the Outbreak Management Team (OMT). Refer to Section 5 for information on the OMT.
  - Ensure specimen information and testing results are communicated to the OMT every day for tracking.
  - Train unit or facility HCWs on specimen collection, packaging, and transport (e.g., transport of dangerous goods) of clinical specimens.
  - Consult with medical microbiology, IPC, and public health if alternative testing strategies are requested.

        - Indicate testing for other pathogens if **not** already part of outbreak VRI pathogen testing panel (e.g., respiratory syncytial virus [RSV], influenza).
- Once initial testing has identified the causative agent within a select group of symptomatic patients, further testing of symptomatic patients may be suspended at the discretion of the MHO or their official designate.
- 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 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 official designate, in consultation with IPC and/or medical microbiologist.

5 Viral Respiratory Illness Outbreak Management

- A written process for VRI outbreak management **should** be available to all HCWs.
    - The process **should** include membership of the Outbreak management team (OMT) with current names and contact information and be reviewed and updated annually.
- Once an outbreak is declared, the OMT **should** be mobilized to coordinate the facility's response. Institutions should ensure roles and responsibilities are clearly outlined.

5.1 Roles and Responsibilities during a Viral Respiratory Illness Outbreak

The BC Public Health Act and Community Care and Assisted Living Act define the roles and responsibilities of the MHO and Public Health in outbreak control.

The remaining roles and responsibilities have been recommended by consensus of the VRI Outbreak Guidelines Working Group with the understanding that in some health authorities or facilities responsibilities may be delegated or shared differently depending upon the facility's location, size, physical setting, contractual status, type of care provided, or availability of resources. Therefore, there may be overlap in the description of roles and responsibilities.[11]

5.2 Outbreak Management Team (OMT)

Having a multi-disciplinary outbreak management team (OMT) facilitates outbreak prevention and prompt responses to minimize the impact of outbreaks.

- **OMT duties at the facility level include:**[11]
    - Supporting outbreak prevention and preparation.
    - Guiding facility level outbreak response by:
        - Reviewing cases in order to determine source of VRI and factors affecting transmission within the facility;
        - Implementing control measures in proportion to the level of transmission;
        - Supporting quality improvement activities such as hand hygiene and PPE assessments;
        - Ensuring staffing requirements for response during the day and after hours are adequate/appropriate; and
        - Informing outbreak related communication.
    - Conducting a debrief exercise after an outbreak is declared over, to identify and communicate lessons learned, and implement any actions.

5.2.1 Outbreak Management Team Membership

Core membership of the OMT can include, but is **not** limited to, the following:

- Director of care or clinical operations (usually the OMT Lead)
- MHO or their official designate
- IPC professional and/or person responsible for infection prevention and control at the site
- IPC physician (e.g., medical microbiologist or infectious diseases specialist)
- Public health/IPC surveillance representative
- Unit/facility medical lead (e.g., physician director or division head/lead)
- Public health professional (public health nurse, environmental health officer, communicable disease representative, or licensing officer)
- Environmental service (housekeeping) manager
- Laundry and food services manager
- Administrative support personnel
- Staffing representative
- Workplace health and safety (WHS) representative
- Resident care coordinator/manager
- Others as needed or as appropriate:
    - Supply chain representative
    - Pharmacist
    - Facilities maintenance and operations representative
    - Communications representative
    - Risk management/client relations representative

Further Information/Resources: Refer to Appendix C for sample descriptions of OMT member roles and responsibilities.

5.2.2 Outbreak Management Team Responsibilities

- The facility OMT lead, and the MHO/official designate **should** meet as soon as possible after an outbreak is suspected or confirmed to take the following actions:
    - Review the line listing information to ensure that all team members have a common understanding of the situation.
    - Develop a working case definition for this particular outbreak. The signs and symptoms noted in a particular outbreak may be somewhat different from the generic case definition for VRI. Furthermore, the case definition for residents may be different from that developed for HCWs. Residents who meet the working case definition will be considered as 'cases' regardless of the results of laboratory testing unless another diagnosis is confirmed.
    - **Plan for the implementation of control measures during an outbreak to:**
        - Ensure that posters, educational materials, and control measures are available and discussed with HCWs.
        - Discuss the use of additional control measures, such as antiviral prophylaxis (if appropriate), and plan for their implementation (i.e., pre-written orders for antiviral medication).
        - Ensure appropriate and sufficient quantities of PPE and supplies are accessible (e.g., specimen collection kits, ABHR, cleaner/disinfectants, medical masks, gowns, etc.).
        - Determine if additional immunizations are required for non-immunized or under-immunized residents or HCWs, and if so, plan how they will be implemented.
        - Discuss and plan for the need for antivirals.
        - Confirm the plan for the collection and submission of specimens for laboratory testing.

- **Plan a communication strategy to leverage during an outbreak to:**
  - Identify any additional persons/institutions that require notification of the outbreak, and person responsible for doing so. This may include the facility director of care or operations, any OMT members who are not present at the meeting, the Licensing Program (for settings licensed under the Community Care and Assisted Living Act), facility laboratory services, BC Ambulance, HandyDART, Medigas, etc.
  - Identify facilities or institutions that have, during an outbreak, admitted a resident from the facility up to two days before symptoms started in the first case of the outbreak.
  - Determine if additional communication or education is required for the resident, family, and HCWs.
  - Identify the individual(s) who will be responsible for the ongoing monitoring of the outbreak in both residents and HCWs, and the most efficient and effective method for doing this.
  - Identify the individual(s) who will be receiving the laboratory results and how this information will be communicated within the facility.
  - Identify the individual(s) who will be communicating with the MHO/official designate on a daily basis and ensure that contact numbers are readily available.
  - Identify who will be the media spokesperson (this may be a designated person from the health authority), if needed.
  - Decide how frequently the OMT will meet and set the next meeting dates and times.

5.2.3 Outbreak Management Team Meetings

- OMT meetings **should** occur daily (or as needed) to discuss operations and issues arising at the facility, including:[11]
  - Daily review of line lists for residents and HCWs with VRI 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, environmental cleaning and disinfection, PPE, and other assessments.
  - Daily review of communication requirements related to the outbreak, including messaging for residents, families, HCWs and the general public.
  - Verifying after-hours and weekend requirements (e.g., staff coverage).

5.3 Viral Respiratory Illness Outbreak Preparedness

- To prepare for and respond to a potential VRI outbreak, all facilities **should**:
  - Ensure a comprehensive VRI outbreak prevention and management plan is in place.
  - Ensure all HCWs, including students, contracted HCW, and volunteers, are familiar with their responsibilities regarding VRI outbreak prevention, detection, and management in the facility.
  - Ensure outbreak tools and resources are accessible to HCWs. This includes outbreak kits and/or appropriate specimen containers and labels, signage, and PPE.
  - Maintain an updated membership list of the facility OMT that includes contact information for unit/facility leadership, local IPC, and the most responsible MHO or their designate (e.g., public health professional) at your local health authority.
  - Ensure roles and responsibilities of the OMT membership are clearly defined and understood by all.

- Educate and/or conduct a tabletop exercise to discuss outbreak roles and responsibilities and prepare units/facilities for their first VRI case.
- Designate a facility outbreak lead (e.g., facility manager or coordinator) who will provide daily information updates to the OMT and oversee the implementation of control measures.
- Ensure heating, ventilation, and air conditioning (HVAC) systems are properly installed and regularly inspected and maintained according to HVAC standards by the Canadian Standards Association and other building code requirements. Information on optimizing ventilation resources can be found on the PICNet webpage. When adjustments are needed, it is recommended that HVAC specialists are consulted.

Further Information/Resources: Refer to the Provincial Outbreak Preparedness Checklist for VRI.

5.4 Viral Respiratory Illness Outbreak Management Communication

- To ensure appropriate and timely communication during a potential VRI outbreak, all facilities **should**:
  - Follow organizational/institutional processes for reporting the declaration of an outbreak and summary information, periodic updates, and notification of when the outbreak is declared over.[11]
    - The British Columbia Public Health Act requires that infectious VRI outbreaks in health care facilities be reported to the MHO and/or designated public health contact (i.e., public health professional, Communicable Disease team).[12]
  - Post outbreak notification signage at the entrances of all outbreak-affected units, floor, areas, and facility entrances (as needed) advising of the current outbreak and that additional measures are in place.
  - Provide site communication and key messages to all HCWs, residents and families that are communicated by facility leadership, in collaboration with IPC, and/or the MHO/official designate, as applicable. For example, establish a physical or virtual staff communication board with key messages and regular updates.
  - Provide daily outbreak email communication to a site-specific distribution list with relevant details on the status of the outbreak.
  - Provide daily outbreak management (situation report) to the health authority program lead.
  - Notify all non-facility and ancillary HCWs, 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.
  - Notifications may include, but are **not** limited to:
    - Nearest acute care hospital
    - BC Emergency Health Service
    - HandyDART
    - Health and wellness service providers such as Lab, Medigas, pharmacy, physiotherapy, podiatry, spiritual care, hairdressing, music therapists, volunteers, and paid companions
    - Support service providers such as environmental cleaning, linen, and meals.

6 General Principles of Infection Prevention and Control

6.1 Immunization

Effective vaccines are widely used and publicly funded in Canada for influenza, COVID-19, and *Streptococcus pneumoniae* (the cause of pneumococcal pneumonia). These are strongly recommended for the reduction of infections, serious respiratory illness, and outbreaks.

- All HCWs, visitors, volunteers, and students are recommended to keep their vaccinations up to date.
- HCWs and staff in health care settings **must** meet immunization requirements in accordance with Ministry of Health and employer policies, and when directed by a medical health officer.

6.1.1 Influenza Immunization

- Health care settings are encouraged to have pre-printed orders for the administration of influenza vaccine for all residents on admission and on an annual basis.
- Screen residents for contraindications to the vaccine prior to receiving it.[36,40] *(GPS)* Unless they have a valid medical contraindication, settings **should** offer influenza vaccine as soon as it is available.
- Any new admissions during the influenza season (timing may vary and will be determined by the local MHO) **should** have their immunization status assessed for influenza, and immunization should be provided as required.
- A record of immunization status **should** be maintained so that it is readily available in the event of a respiratory outbreak. *(GPS)*

6.1.2 COVID-19 Immunization

- Settings **should** confirm resident's immunization status on admission, interfacility transfer to an LTC or seniors' AL residence and on an annual basis.
- Settings **should** offer resident's COVID-19 vaccination as required at the earliest opportunity.
- A record of immunization status **should** be maintained so that it is readily available in the event of a respiratory outbreak. *(GPS)*

6.1.3 Pneumococcal Immunization

Streptococcus pneumoniae is the causative bacterium of pneumococcal infections and is an important contributor to morbidity and mortality associated with influenza complications. Unlike influenza vaccine, pneumococcal vaccines do **not** have to be repeated annually. Therefore, ensuring that eligible high-risk people receive their free pneumococcal vaccine that will protect them for several years.[13,14]

- The 23-valent polysaccharide pneumococcal vaccine is recommended for and provided free to people who are at high risk of getting serious infections including elderly or immune compromised residents.
- Health care settings are encouraged to develop processes for obtaining pre-printed orders for pneumococcal immunization for residents on admission to complex care settings.[15]
- A one-time booster is recommended at five years for a subset of individuals.
- A 13-valent conjugate pneumococcal vaccine is also recommended by National Advisory Committee on Immunization (NACI) for seniors but is not publicly funded.
- Assessment of eligibility for pneumococcal immunization should be part of yearly immunization clinics for all health care settings.

Further Information/Resources:

- Information about vaccines for influenza, and COVID-19 can be found in Appendix M.
- Refer to Part 4 of the BC Immunization Manual and the BCCDC website for additional information on pneumococcal vaccines.[16]

6.2 Routine Practices

Routine Practices are fundamental to preventing transmission of microorganisms among residents and HCWs in all health care settings.

Further Information/Resources: For more information on Routine Practices that are especially important for control of respiratory infections including point of care risk assessment (PCRA), appropriate use of personal protective equipment (PPE), hand hygiene, respiratory hygiene, cleaning and disinfection, refer to the Provincial Infection Prevention and Control Guidance for Viral Respiratory Illness in Long-Term Care and Seniors' Assisted Living Settings in British Columbia.

6.3 Risk Reduction Strategies

Risk reduction strategies include: resident screening, use of personal protective equipment (PPE), environmental cleaning, proper disinfection and sterilization of reusable equipment or use of "single use" only equipment, appropriate waste management and safe sharps handling, appropriate resident placement, preventative workplace practices such as HCWs immunization policies and engineering measure such as airborne infection isolation rooms (i.e., negative pressure rooms), and HCW screening or self-monitoring.[17] Additional measures may be recommended by the MHO or their official designate.

Further Information/Resources:

- Refer to Appendix F, which provides links to a variety of provincial tools and resources for VRI and general IPC practices to facilitate risk reduction strategies. These tools and resources may be used or adapted based on current context or specific settings where they are being applied.
- Refer to Appendix M for additional pathogen specific information including epidemiology, immunization, and treatment.

6.3.1 Escalation of Prevention and Control Measures for COVID-19 in Long-Term Care

Note: Sections 7.3.1 to 7.3.3 apply only to COVID-19 in LTC settings.

- There are a range of prevention and control measures that can be applied to limit COVID-19 transmission.
- Routine infection prevention practices are the baseline measures that are always in place to reduce the risk of COVID-19 transmission. Routine practices that are regularly in place to prevent COVID-19 transmission include:
  - Monitoring of residents for signs and symptoms consistent with COVID-19 infection and testing for COVID-19 when indicated,
  - COVID-19 vaccination for health care workers and residents in LTC,
  - Staff self-assessment for signs and symptoms consistent with COVID-19 infection prior to work and staying home if ill,
  - Hand hygiene and respiratory etiquette practices,
  - Regular cleaning and disinfection, and
  - Education of staff, residents, family, and visitors.
- When new cases of COVID-19 are identified, individual-level measures are implemented to reduce the risk of spread within the facility (see section 7.3.2 below).

- **If there are 10 or more cases identified** within the unit or facility[1], public health will assess if additional measures are warranted (see section 7.3.3 below). The assessment considers multiple factors, including clinical vulnerability of residents on the affected units, unit layout, staffing levels, number of cases, the rate of increase in cases, severity of illness, and vaccination coverage.
- COVID-19 outbreaks in a LTC facility are declared as an escalation measure when it is deemed that extraordinary measures (i.e., limiting visitations, and restricting admissions/transfers) are needed.

6.3.2 Individual-Level IPC Measures (1 to 9 COVID-19 Cases within 7 days)

- Individual-level measures are implemented when there are **1 to 9 confirmed COVID-19 cases** within 7 days among LTC residents in a unit or facility.
- Individual-level measures can include:
  - Droplet and contact precautions and appropriate isolation measures (e.g., not participating in group activities, meals served in the resident's room, masking by staff within the resident's room),
  - Enhanced cleaning and disinfection of the affected unit,
  - Staff notification and education, and
  - Notification of family/visitors of cases.

6.3.3 Additional IPC Measures (≥ 10 COVID-19 Cases within 7 days)

- When there are **10 or more new cases of COVID-19** infection within a 7-day period among LTC residents in a unit or facility, the MHO or designate will consult with the LTC facility leadership to assess the situation and determine if additional measures are warranted.
- Additional measures can include:
  - Restricting meals to resident rooms for an entire unit or facility,
  - Cancelling group activities, and
  - Cohorting of staff.

6.3.4 Education for Health Care Workers, Residents, Families, Visitors, and Volunteers

- All HCWs and volunteers require IPC education on health authority or organizational policies, which includes information regarding the principles of infection prevention and control such as routine practices and additional precautions. Yearly review of all infection control principles enhances good practices.[17] *(GPS)*
- Additionally, HCWs **should**:
  - Educate residents about hand and respiratory hygiene. If the resident has an infection, include practices necessary to reduce the risk of spread. *(GPS)*
  - Educate families, visitors and volunteers on respiratory and hand hygiene and any other situationally appropriate practices. *(GPS)*
  - Provide demonstrations or illustrated visuals, especially where language barriers exist.

6.3.5 Food Handling Practices

- Food service providers and delivery staff **must** follow food safety requirements, including hand hygiene, when preparing, delivering, and picking up meal trays.
- Additionally, food delivery staff **should not** enter resident rooms in VRI cohort or outbreak units.

[1] The term "unit or facility" is used in this document to recognize that there is variability in LTC facilities in BC, such as size of the facility, facility layout, and number of residents in the facility.

- Food delivery staff **should** notify the care team when leaving meal trays outside of affected rooms or outbreak unit. Disposable dishes are not required.
- To minimize the transmission risk of microorganisms, open or shared food items (e.g., candy, cookies, chocolates, nuts, fruit) **should not** be kept in resident care areas, staff lounges, or staffing workspaces including the care team/nursing station.
- HCWs **must** follow organizational workplace policies for food consumption in clinical and resident care areas.

6.4 Additional Precautions

Additional precautions are used in addition to routine practices when an infection with a specific mode of transmission is suspected or confirmed.[17] These are specific and extra measures required in conjunction with routine practices to prevent transmission. Generally, the most common VRIs require droplet and contact precautions.

- Droplet and contact precautions **should** be implemented for cases of probable and confirmed VRI.
- Additional precautions signage **should** be placed at the outside entrance of the resident room and at the bedside in multi-bedrooms. Use precaution signs from your organization or precaution signs available on the PICNet website.
- HCWs **should** follow their institutional IPC processes for implementing additional precautions.
- HCWs **should** engage and communicate with residents, families, and care providers to help them understand the nature of the infection and the precautions being used, as well as the prevention of transmission of disease to others during their stay in the facility and upon their return to the community.
- Ensure that HCWs have quick and easy access to PPE and cleaning/disinfecting products required when providing care. *(GPS)*

Note: In outbreak situations, additional precautions may differ based on causative organism and severity of illness. They may need to be modified in consultation with the IPC Medical Director/MHO or their official designate on an ongoing basis as the outbreak progresses.

Further Information/Resources:
- Refer to Appendix H for the Droplet and Contact Precautions Quick Reference Guide.
- Please see the PICNet website for up-to-date posters and signage.

6.4.1 Personal Protective Equipment for Droplet and Contact Precautions

- HCWs **must** follow their institutional/health authority guidelines for PPE and use PPE that is approved and endorsed by their organization.
- In addition to the recommended PPE, HCW **must** do a PCRA to determine additional PPE or IPC measures.

Further Information/Resources:
- Refer to PPE recommendations in the Provincial Infection Prevention and Control Guidance for Viral Respiratory Illness in Long-Term Care and Seniors' Assisted Living Settings in British Columbia.
- Refer to Appendix F for additional provincial PPE resources.
- Refer to the AGMP guidance on the PICNet website for information and examples of AGMPs and/or your local health authority guidance.

6.4.2 Single Room, Spatial, and Barrier Separation

Single rooms can facilitate IPC activities and increase privacy. However, the number of single rooms in some health care settings is limited and some resident rooms and bathrooms are shared.

- Where possible and when advised by IPC/MHO or their official designate, place any resident with suspected or confirmed VRI in a single room with a private toilet and sink for hand washing.
- Encourage residents who meet the case definition for a VRI to remain in their room until they are **no** longer considered to be infectious, or in the case of an outbreak, the date determined by the IPC Medical Director/MHO or their official designate.
- Arrange meal tray service for residents placed on additional precautions.
- When a resident with a VRI **must** remain in a common area or **must** share a room with others, ensure that there is a distance of at least two metres from other residents, physical barriers (e.g., privacy curtain, screens) are maintained, and roommate(s) and essential visitors are aware of precautions to follow.
- If a resident meeting the definition for a VRI needs to remain in a common area of the facility, they **should** be encouraged, instructed and assisted to don a medical mask to reduce the likelihood of transmission of the infection to others.[18–20] (*Category BII)*
    - If unable to tolerate a medical mask (e.g., children, people who have difficulties breathing under the mask, people with dementia or other mental health conditions), ill individuals **should** be asked to remain in a separate area or at least two meters away from others.[17,21]
- It **should** be noted that the isolation of residents, even for a few days, could have adverse effects on the individual's physical and emotional well-being, especially those with mental illness or dementia.[22–25] HCWs need to make efforts **not to** socially isolate these individuals. Implement strategies designed to diminish the negative impact and protect the resident such as:
    - One to one supervision of meals for those who have difficulty swallowing.
    - Monitoring of residents to ensure adequate nutritional and fluid intake.
    - Increasing frequency of rounds to provide oral fluids for residents.
    - Planned one to one (or room to room) interactions, with priority given to those who have cognitive issues.
    - Physiotherapy or other rehabilitative therapy **should** continue if the individual is well enough.
    - Supported mobilization in partnership with local IPC team and in compliance with IPC measures that may be advised for some individuals based on their risks.
    - Maintain physical distancing from others.
- Where possible, consideration **should** be given to ensuring that roommate(s) are **not** at high risk of serious disease if transmission occurs and are able to comply with precautions. This, generally, may **not** be possible in LTC care facilities where residents' rooms are their homes.

6.4.3 Cohorting of Residents and Health Care Workers

"Cohorting" refers to the grouping together of individuals suspected or confirmed to have an infection with the same pathogen within a specific area to limit the direct or indirect contact between infected individuals and non-infected individuals, to decrease opportunities for transmission of infectious agents.

- Decisions regarding resident cohorting **should** be made in consultation with the facility director/administrator, the MHO or their official designate, and the resident care leader.
- Residents known to be infected with the same organism (identified by diagnostic testing) may be grouped together, if possible.
- When residents are cohorted, maintain a physical separation of two metres between the beds of residents and all roommates. Keep the privacy curtain or screen drawn between residents.

- Where possible, assign dedicated HCWs to work in either affected or unaffected areas of a facility but not both, or either with ill or with well residents but not both.
- If this is **not** possible, HCWs **should** begin working in unaffected areas or with well residents first, and hand hygiene performed between residents.
- Minimize movement of HCWs, students, or volunteers between floors, especially if some areas are unaffected. *(GPS)*

6.5 Medical Masks for Source Control

Respiratory source control is practiced by containing a person's respiratory droplets through respiratory hygiene or the use of a medical mask.

- During a VRI outbreak, medical masks are recommended to be worn at all times by HCWs, visitors, and families when present in the resident care area or common areas of the unit.
- Additional considerations for continuous use of medical masks may also be recommended at the discretion of MHO/official designate.
- HCWs **must** adhere to additional provincial and health authority policies and/or applicable public health orders/guidance for indications when medical masks are required or recommended.

Further information/resources refer to the following:

- BC Influenza Prevention Policy[26]
- BC Ministry of Health policy communiqué: Infection Prevention and Control Measures for Viral Respiratory Illness Season

6.6 Group Activity Restrictions

- The OMT **should** find a balance between restricting activities to control the spread of infection, and providing therapeutic opportunities for ambulation, physical, and social activities.
- In addition to restricting ill/symptomatic residents to their room, as much as possible, if cases are restricted to one unit, all residents from that unit **should** avoid contact with those from the remainder of the facility.
- Previously scheduled events (e.g., holiday communal events), may need to be rescheduled.
- Social activities may require restriction within each respective affected unit.
  - This may include suspending group activities within the affected unit or facility, including group meals, and potentially limiting access to common areas on the outbreak unit(s) to HCWs only.
- Hand hygiene **should** be performed by all residents before and after any social activity and respiratory hygiene should be reinforced. *(Category C11)*
- The OMT **should** discuss restriction of activities with the MHO or their official designate, and this issue should be re-examined as the outbreak progresses. *(Category C11)*

6.7 Visitor Considerations

- Follow local and provincial visitor guidance and additional measures.
- In the event of an outbreak, the unit/facility may implement partial or full restrictions on visits/visitation under guidance and direction from the MHO or their official designate to manage traffic into and out of the unit/facility.
- In general, a complete closure of the facility to all visitors/volunteers **should only** be done in consultation with the MHO or official designate and with careful consideration of the risks/benefits to all residents. *(Category C11)*

- When or if visitor restrictions are put in place:
  - Provide timely, engaged communications to families, caregivers, and visitors, as the outbreak progresses, taking into account language barriers that may exist.
  - Provide a rationale for the visitor restrictions currently in place and advise on the potential risk of acquiring infections within the facility, and of re-introducing infections into the facility.
  - Provide timely and regular updates to improve the resident and visitor experience and prevent misunderstandings during an outbreak.
  - A thoughtful assessment to continue and include the provision of essential visitor services (e.g., family members and caregivers who provide direct care and/or impact resident quality of life) **should** be considered.
- All visitors, family members, community and professional groups who carry on activities within the health care setting **should** self-screen based on the signage posted and postpone or reschedule visits if symptomatic. *(GPS)*
- It may be helpful in LTC settings to keep a contact list of frequent visitors, who may be contacted and advised of an outbreak.
- Symptomatic/Ill visitors **should not** visit. Symptomatic designated visitors, who are essential for the resident's wellbeing or are part of the care team (e.g., parent/guardian of small children), may visit after consultation with the care team. Additionally, consideration may be given to visits for compassionate reasons. The OMT **should** ensure a process is in place to support these visits.
- In addition, during an influenza outbreak, visitors who have not been immunized against influenza **should** be encouraged to postpone visits.
- Visitors who choose to visit during an outbreak **should** be required to:
  - Perform hand hygiene on arrival and immediately prior to leaving the resident room.
  - Visit only one resident and exit the facility immediately after the visit.
  - Follow IPC measures as directed by HCW staff.
  - Follow respiratory hygiene.
- Hand-washing facilities and/or hand hygiene products **should** be made available throughout the health care setting for use by all persons entering and exiting. *(GPS)*

Note: Generally, symptom or test-based screening of asymptomatic visitors for VRIs is **not** an essential component of prevention or outbreak control. There may be exceptions based on MHO/official designate direction and/or provincial policy.

Further Information/Resources: Refer to Appendix F for facility entrance posters with IPC and passive screening recommendations for families and visitors.

6.8 Close Contact Management

- Residents deemed to be close contacts of a confirmed case **should** be monitored for symptom development and may be placed on droplet and contact precautions if advised by IPC, MHO or their official designate.
- Consult with MHO or their official designate for determining who the close contacts are and duration of additional precautions (if applicable) based on the suspected or confirmed causative agent.

6.9 Admissions and Transfers

Restricting admissions to a LTC facility experiencing an outbreak may unnecessarily have the potential of creating a backlog in acute care, emergency departments or other community settings; on the other hand, admitting persons who are susceptible into an outbreak situation poses a risk to their health and has the potential to prolong the outbreak. Restrictions may also be harmful to residents accessing care or prolonging their stay. Therefore, it is always valuable to carefully evaluate the breadth and length of any admission restrictions.

Depending upon the infecting microorganism, the severity of illness, the extent of the outbreak, and the physical layout of the building, the admission restriction might **not** be applied or may be applied to one floor, one wing, or the entire facility. These decisions need to be made by the OMT in consultation with the MHO or their official designate.

6.9.1 Admission and/or Transfers between Acute and Long-Term Care during an Outbreak

New admissions from the community, and transfers from acute care facilities to a LTC facility with a VRI outbreak can pose a risk to the individual resident as well as pose a risk of prolonging the outbreak in LTC.

- New admissions or transfers may be considered on a case-by-case basis in consultation with the IPC Medical Director/MHO or their official designate during an outbreak. Considerations include:
  - The current status of the outbreak and its management (e.g. attack rate, severity of illness, length of time since the last case).
  - Whether the resident would return to an area of the facility that is currently experiencing an outbreak.
  - The degree of protection for the patient/resident offered by immunization and/or prophylactic antivirals for influenza.
  - Whether the patient/resident/substitute decision maker and referring/receiving physicians are aware of the outbreak and are agreeable to the move.
  - The overall benefit vs. risk to the health of the transferring patient/resident considering an immediate vs. delayed placement in the LTC facility.
- Re-admission of a resident who had been assessed as a clinical case of the outbreak illness prior to their transfer/discharge may be considered and discussed with the IPC Medical Director/MHO or their official designate, as long as appropriate accommodations and care can be provided (it is assumed that the person is now immune to the pathogen causing the outbreak).
- Transfers for non-urgent medical appointments from an LTC unit experiencing an outbreak **should** be re-scheduled.
- Medically necessary transfers (e.g., resident requiring a higher level of care, emergency or for medically necessary appointments or treatments) **should not** be delayed and **should** be undertaken with appropriate precautions.
  - When transfers are medically necessary, the sending facility **should** notify the receiving unit/facility and transporting personnel of the outbreak status and if the patient/resident is on additional precautions to ensure that care can be provided safely.

6.9.2 Transport to Another Facility/Department

- Where transfers are medically necessary, the receiving facility/unit, diagnostic service or transport personnel **must** be notified of the outbreak status and if the resident is on any additional precautions to ensure precautions are taken for care to be provided safely.
- For residents with suspected or confirmed VRI, a medical mask **should** be worn during transport, as tolerated.
- Precautions **should** be maintained during transport to minimize the risk of transmission to others and contamination of environmental surfaces or objects.
- Those responsible for transporting the resident **should** take additional precautions as required.

6.10 Health Care Worker Exposure and Illness

- Ensure that all HCWs have sound knowledge of the precautions and PPE required and know how to put on and take off PPE correctly to avoid exposure. *(GPS)*
- Until the outbreak is declared over, HCWs working in the outbreak area, **should** generally **not** work in non-outbreak areas or facilities, adhere to IPC and WHS safety measures in place, and follow direction and advice from MHO or official designate.[27] Where this may jeopardize staffing levels, consult with the MHO/official designate. *(Category C11)*

Further Information/Resources: Refer to the Provincial Guidance on Return to Work and Exposure Management for Health Care Workers with Viral Respiratory Illness for information on management of HCWs with suspected or confirmed VRI and following close contact exposures.

6.11 Ongoing Surveillance of Residents and Health Care Workers

- An updated report with new cases of both residents and HCWs **should** be created by the facility/unit manager or IPC professional and sent to the OMT on a regular basis.

Further information, please refer to the following:

- Appendix I provides an example form for resident surveillance.
- Appendix J provides an example form for HCW surveillance.
- Appendix K provides an example of a daily update outbreak report for OMT.

7 Enhanced Environmental Cleaning and Disinfection

- To ensure effective environmental cleaning and disinfection of the unit/facility during an outbreak, facilities **should**:
  - Notify Environmental Services (i.e., housekeeping) 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 housekeeping cart/supplies for the outbreak unit. This may require more staff or extra shifts to ensure environmental service workers 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;

Increased frequency of cleaning and disinfection of high touch surfaces is an important contribution to controlling the spread of microorganisms during a VRI outbreak. Surfaces that are considered to be "high touch" include:
    - Bed rails
    - Call bell cords
    - TV remotes and overhead ceiling handles
    - Institutional telephones
    - Bathroom surfaces (taps, toilet handle)
    - Doorknobs, light switches
    - Handrails in rooms and hallways
    - Elevator buttons
    - Tables, counter tops
    - Nourishment areas (fridges, ice machines, cupboard handles)
    - Nurse's station
  - Ensure cleaning and disinfectant supplies are readily available on the unit close to the point of use;
  - De-clutter the outbreak unit/facility to ensure all surfaces (e.g., floors, bathrooms) can be appropriately cleaned and disinfected; and
  - Notify Environmental Services to do additional precautions discharge clean and disinfection for resident rooms when additional precautions are being discontinued.

Further Information: Refer to Appendix F for provincial environmental service provider resources.

8 Problem Solving for Prolonged Outbreaks

The incubation period for VRIs varies, as does the timeline for assessing when outbreak measures are successful or not. For example, the incubation period for influenza is one to four days. Therefore, in an influenza outbreak, it is expected that after a few days (four to five days) of outbreak control measures, the number of new cases should diminish.

- If new cases continue to appear after implementation of outbreak control measures and beyond expected timelines (i.e., incubation period of the causative agents), the OMT in consultation with MHO and IPC team **should** evaluate the existing control measures and other causes for new VRI cases.
- Assessment examples may include, but are **not** limited, to the following:
  - Has anyone with a cough been moving around the facility without a medical mask, and/or without performing appropriate hand hygiene?
  - Is any equipment being used for sick and well residents without being cleaned and disinfected between uses?
  - Is PPE being changed between providing care to sick residents and those that are well?
  - Are there any lapses in hand hygiene?
  - Are all hand hygiene stations well stocked with soap or ABHR, and are new refills of products easy to locate by all HCW, volunteers and visitors?
  - Is the appropriate PPE available and is being properly worn by HCWs?
  - Is there adequate ventilation?
  - Is cohorting of HCWs and/or residents in place?

- Has there been additional testing to see if there is another respiratory virus contributing to the outbreak? Have more recent outbreak specimens been screened for the possible emergence of new strains associated with immune escape?
- If influenza is involved in the outbreak and the above do **not** explain ongoing illness:
  - Are all residents immunized against influenza and taking antiviral medication, if appropriate?
  - Are all HCW, including physicians and volunteers, either immunized against influenza or have they taken an antiviral medication?
  - Have residents/HCW taking antiviral medication been appropriately screened for symptoms to ensure the proper treatment versus prophylactic dose of antiviral is being used (under-dosing may lead to the emergence of antiviral resistant strains)?
  - Have more recent outbreak specimens been screened for the possible emergence of antiviral resistance mutations in the virus?

9 Declaring the Outbreak Over

The MHO or their official designate is responsible for declaring an outbreak of VRI over within a health care facility.[12]

- Generally, the MHO or official designate will suspend outbreak control measures when **two incubation periods** (based on the suspected/confirmed causative agent) have passed without transmission, from the last case identified.
- The lifting of outbreak control measures sooner or later than the two incubation periods is at the discretion of the MHO or their official designate.
- The length of time from the onset of symptoms of the last case until outbreak control measures can be lifted may vary and is dependent on a number of factors including:
  - The incubation period of the causative agent,
  - Whether the last case was a resident or HCW,
  - The adequacy of ongoing surveillance for new cases at the outbreak unit/facility, and
  - The epidemic curve of the outbreak.

9.1 Once the Outbreak has been 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).
- Remain alert for possible new cases in HCWs and residents.
- Restore resident flow patterns for discharge and transfer.
- Resume routine visitation and group activity practices on the unit.
- Compile a summary of the outbreak and send it to the OMT. An example of an outbreak summary form is provided in Appendix L.
- Conduct a debrief with the OMT to discuss and document lessons learned.

9.2 Debrief of Lessons Learned

- It is strongly recommended that the OMT schedule a debriefing session as soon as feasible following the conclusion of an outbreak. *(GPS)*

- The purpose of the debriefing session is to evaluate how the outbreak management process unfolded and identify interventions that worked well and opportunities for improvement, and take corrective actions as needed. Examples of opportunities for improvement are:
    - Communication within OMT, visitors, families, HCWs, service providers, and others;
    - Timeliness in recognizing and reporting outbreak;
    - Timeliness in implementing control measures; and
    - Effectiveness of control measures in limiting the outbreak.

Appendix A: Guideline Approvals and Update Strategy

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Viral Respiratory Illness Outbreak Guidelines Revisions Working Group *(Listed by alphabetical order)*
Chairs:

- Dr. Meena Dawar & Dr. John Harding, Medical Health Officers, Vancouver Coastal Health
- Dr. Titus Wong, Co-Medical Director PICNet, Regional Medical Director Infection Prevention and Control, and Medical Microbiologist, Vancouver Coastal Health

Writers:

- Stephanie Burniston, Noorsallah Esmail, & Ben Shaw, Education and Practice Coordinators, PICNet

Project Managers:

- Jennifer Diep & Georgia Neindorf, PICNet

Working Group Members:

- Dr. Maulik Baxi, Medical Health Officer, Fraser Health
- Dr. Jing Hu, Medical Health Officer, Fraser Health
- Shannon Callaghan, Leader, Provincial Workplace Health Services
- Daniel Chan, Nurse Manager, Infection Prevention and Control, First Nations Health Authority
- Rita Ciconte, Leader, Specialized Health and Safety, Fraser Health Authority
- Hang Chou, Communicable Disease Nurse Educator, Vancouver Coastal Health
- Myles Hart, Senior Policy Analyst, Ministry of Health
- Deanna Hembroff, Manager, Infection Prevention and Control, Northern Health
- Jennifer Hols, Occupational Health and Safety Nurse, Northern Health
- Fuad Ibrahimov, Managing Consultant, Infection Prevention and Control, Fraser Health
- Bonnie Lantz, Director, Infection Prevention and Control, Interior Health
- Dr. Lynne Li, Medical Microbiologist, Provincial Health Services Authority
- Dr. Rakel Kling, Medical Health Officer, Northern Health
- Dr. Jonathan Malo, Medical Health Officer, Interior Health
- Sierra Poole, Employee Health Nurse, Workplace Health and Safety, Island Health
- Kelsi Rivers, Director, Infection Prevention and Control, Vancouver Coastal Health
- Carole Rodger, Leader, Infection Prevention and Control, Provincial Health Services Authority
- Joanne Standish, Occupational Health and Safety Nurse and Safety Advisor, Interior Health
- Azra Sharma, Manager, Infection Prevention and Control, Providence Health/Vancouver Coastal Health
- David Vigor, Director, Workplace Health and Safety Director, Vancouver Coastal Health
- Cameron Wong, Manager - Safety & Prevention, Occupational Health & Safety, Providence Health/Vancouver Coastal Health
- Lisa Young, Director, Infection Prevention and Control, Island Health

Ourania Chrisgian, Family Caregivers of BC Volunteer, who reviewed and provided input from a resident, family, and visitor perspective.

Guideline Update Strategy

In June 2022, PICNet and Public Health organized a working group of IPC, Workplace Health and Safety (WHS), and Public Health professionals with the goal of producing of an updated VRI outbreak guideline that unified guidance from the 2018 Respiratory Illness Outbreak version of this document and provincial guidelines developed for COVID-19.

In 2022, PICNet team members reviewed current guidance for COVID-19, which has been reviewed and updated through the pandemic frequently into 2022 to address new research, vaccines, variants of concern, and therapeutics. An environmental scan of the influenza and COVID-19 guidance in other jurisdictions was performed and reviewed by the Working Group. Updates considered by the Working Group included:

1. Appropriate definitions for VRI cases, clusters, and outbreaks.
2. Review and incorporation of current tools, resource materials, and organism-specific guidance.
3. New provincial practice resources such as AGMP, personal protective equipment (PPE) recommendations, and the use of respirators (e.g., N95 or equivalent).
4. Collective learnings and practice recommendations from the COVID-19 pandemic regarding outbreak prevention and management.

In October 2023, a focus group of provincial and regional MHOs, provided recommendations for COVID-19 outbreak definitions and escalation measures.

Where graded recommendations are included in the guideline, the strength and quality of evidence rating scale in Appendix B was used.

Some recommendations fall within well-known practices that are widely accepted and have been categorized as “Good Practice Statements” *(GPS).*

Appendix B: Rating Scale for Strength and Quality of Evidence

Where graded recommendations are included in the guideline; the following evidence rating scale was used.

Grade of Evidence		
Strength of Evidence	**Grades**	
Strong	**A1**	Direct evidence from meta-analysis or multiple strong design studies of high quality, with consistency of results
	A11	Direct evidence from multiple strong design studies of medium quality with consistency of results OR At least one strong design study with support from multiple moderate design studies of high quality, with consistency of results OR At least one strong design study of medium quality with support from extrapolation from multiple strong-design studies of high quality, with consistency of results
Moderate	**B1**	Direct evidence from multiple moderate design studies of high quality with consistency of results OR Extrapolation from multiple strong design studies of high quality, with consistency of results
	B11	Direct evidence from any combination of strong or moderate design studies of high/medium quality, with a clear trend but some inconsistency of results OR Extrapolation from multiple strong design studies of medium quality or moderate design studies of high/medium quality, with consistency of results OR One strong design study with support from multiple weak design studies of high/medium quality with consistency of results
Weak	**C1**	Direct evidence from multiple weak design studies of high/medium quality, with consistency of results OR Extrapolation from any combination of strong/moderate design studies of high/medium quality, with inconsistency of results
	C11	Studies of low quality regardless of study design OR Contradictory results regardless of study design OR Case series/case reports OR Expert opinion

Source: Public Health Agency of Canada: Critical Appraisal Toolkit

Appendix C: Outbreak Management Team Roles and Responsibilities

General descriptions of the typical roles for the members of the OMT are included here. Follow organizational guidance as roles may vary for organizations of different sizes and in different settings.

Director of Care or Clinical Operations
The Director of Clinical Operations/Care works collaboratively with MHO or their official designate, as well as IPC and WHS, to ensure that all preparations for an outbreak are complete and that HCW are familiar with outbreak prevention and control processes.

When an outbreak is declared, the Director creates and coordinates the OMT, organizes meetings and manages meeting information, ensures that the processes are maintained until the outbreak is declared over, and communicates with HCWs, senior management, residents, families, and others as needed.

Medical Health Officer (MHO)
The MHO has legislative authority and responsibility, according to the Public Health Act, to control the outbreak.[12] The MHO may delegate full or parts of outbreak management responsibility to other health care professionals (e.g., IPC physicians, IPC Professionals, Public Health Professionals) with jointly developed protocols. Even when such protocols are in place, the authority of the MHO remains in place. The MHO or their official designate provides direction and consultation to the OMT concerning outbreak declaration, control measures, and declaring the outbreak over.

Infection prevention and control (IPC) Professional
The IPC professional supports facilities with preventive measures and pre-outbreak preparation, including ensuring that HCWs have access to training and are familiar with routine practices, point-of-care risk assessments, additional precautions, and current outbreak management protocols. IPC professionals provide education, support, and consultation prior to and during an outbreak to ensure control strategies are initiated promptly and properly, starting before the causative agent is confirmed, and recommend additional outbreak measures to the OMT as needed. Additionally, IPC professionals facilitate and/or support the assessment of HCW PPE and hand hygiene compliance as appropriate.

Infection prevention and control physician (IPC physician)
IPC physicians (e.g., medical microbiologists or infectious disease specialists) provide advice on IPC measures and appropriate laboratory specimens to facilitate diagnostics (in conjunction with BCCDC Public Health Laboratory or local lab services). IPC Physicians consult and provide direction to HCW and leaders in outbreak pre-planning, management of clusters and exposures, and the decision to declare an outbreak. In some health authorities, the IPC physician may serve the functions of the MHO as an official designate in declaring outbreaks, advising, and directing outbreak response measures, and declaring outbreaks over for acute care and health authority operated facilities.

Epidemiologist (Public health/IPC Surveillance representative)
Epidemiologists track data, including master line lists of HCWs and resident cases with lab tests and illness resolution, and analyze and report outbreak data to the OMT to support evidence-based decision-making.

Unit/facility medical lead (e.g., physician director or division head/lead for the unit in acute care sites)
The medical lead for a unit or facility in outbreak communicates with receiving facility HCWs, regarding resident transfers. The medical lead ensures medical interventions are implemented to prevent and control outbreaks (e.g., vaccination and standing orders for anti-viral medications, diagnostic testing), and communicates with residents and families.

Public health professional
The public health professional (e.g., public health nurses, environmental health officers, licensing officers) consults with the MHO, workplace health, medical director, administrators, IPC, and Nursing HCWs concerning outbreak declaration, control measures and declaring the end of an outbreak.

Workplace health and safety (WHS) representative
- WHS promotes and provides instruction on how to obtain influenza, COVID-19 and other VRI immunizations for HCWs as applicable.
- Develops, reviews, and updates internal protocols for management of HCWs during an outbreak as necessary.
- Maintains documentation on HCW health and vaccine status and identifies HCW who may be at higher risk (e.g., unimmunized).
- Maintains close communication with Frontline Unit/Site Manager with respect to HCW work restrictions/return to work assessments as applicable.
- Provides consultation on PPE breaches as appropriate.
- Provides support for WHS concerns.

Provincial Workplace Health Contact Centre
- Maintains documentation on HCW vaccine status for health authority employees.
- May provide health authority employee general guidance on work restrictions depending on the disease pathogen and refers to local Health Authority VRI protocols.
- For diseases considered compensable by WSBC, takes employee incident reports and files employer reports to initiate WSBC claims process for employees who have acquired disease in the workplace.

Administrative Support personnel
The administration is responsible for meeting minutes and keeping track of action items for the OMT.

Environmental (housekeeping) services manager
The environmental services manager assists in outbreak management by ensuring additional resources such as personnel, supplies, enhanced cleaning, etc. are available.

Supply Chain Representative
Supply chain ensures uninterrupted supply of essential materials during outbreak (e.g., PPE, environmental cleaning supplies)

Staffing Representative
Staffing provides support for staffing needs in the outbreak facility.

Communications Representative
Communications develops and distributes appropriate public announcements with guidance from the MHO/Medical Microbiologist and OMT.

Pharmacist
A pharmacy representative may be involved in outbreak response, depending on the nature of the outbreak and the need for anti-viral treatment.

Facility Maintenance and Operations (FMO) Representative
FMO supports outbreak measures through engineering control interventions such as optimizing HVAC systems and ventilation interventions, installation of physical barriers, and mounting hand hygiene products.

Laboratory Services Representative
Laboratory personnel support additional laboratory testing such as resident or HCW point prevalence as needed.

Appendix D: Provincial Outbreak Preparedness Checklist for Viral Respiratory Illness (VRI)

The checklist below includes some strategies for the prevention of VRI transmission in health care facilities. Not all strategies are applicable to all types of facilities or settings.

Provincial Outbreak Management Preparedness Checklist for VRI

Administrative Measures

Institutions and organizations are responsible to:

- ☐ Develop a contingency plan for HCW illness and shortages;
- ☐ Educate all HCW about self-screening and monitoring for identifying VRI signs and symptoms, and staying away from work when sick;
- ☐ Have processes in place to monitor residents for VRI signs and symptoms and place on additional precautions as needed;
- ☐ Provide HCW IPC education (e.g., hand hygiene, PCRA, PPE donning and doffing, additional precautions);
- ☐ Ensure PPE, cleaning and disinfection supplies, and hand hygiene products are readily available.
- ☐ Ensure PPE donning and doffing instructions are readily available for HCWs.
- ☐ Where respirators (e.g., N95 respirator or equivalent) are worn or anticipated being used, provide fit-testing to ensure appropriate size and style of respirator is selected and worn. Provide education on respirator donning and doffing procedures;
- ☐ Assess HCW hand hygiene and PPE (e.g., PPE audit tool) adherence; and
- ☐ Environmental and equipment cleaning and disinfection:
    - ☐ Ensure there is assigned responsibility and availability of procedures for cleaning and disinfection.
    - ☐ Provide education and monitoring for environmental cleaning and disinfection as needed.
    - ☐ Ensure there are processes and procedures for separating used/dirty equipment from clean equipment.
    - ☐ Dedicate reusable equipment to residents on additional precautions, as much as possible. If reusable equipment is shared, it must be cleaned and disinfected with a hospital-grade disinfectant after each use.

Personal Measures

Health care workers are responsible to:

- ☐ Follow institutional IPC policies and procedures including conducting a PCRA prior to any interaction with a resident or visitor.
- ☐ Ensure immunizations are up-to-date and adhere to applicable public health orders, regulations, and provincial immunization policies.
- ☐ Self-screen and monitor for VRI signs and symptoms. If clinical illness and symptoms develop;
    - ☐ Stay away from work; and
    - ☐ Inform their supervisor.

Provincial Outbreak Management Preparedness Checklist for VRI
☐ Inform their supervisor when exposure incidents have occurred (e.g., PPE breaches). Health authority employees should report exposure incidents to Provincial Workplace Health Contact Centre if applicable.
Environmental Measures
Institutions and organizations are responsible to: ☐ Place resident, staff and visitor entrance, respect personal space, and hand hygiene posters and signage at appropriate locations and common areas of the unit/facility (e.g., entrance, lounges); ☐ Provide hand hygiene stations for HCWs, residents, and visitors; ☐ Ensure alcohol-based hand rub (ABHR) with at least 70% alcohol is available at multiple locations (e.g., point of care, entrances/exits, reception counters, and common areas). ☐ Where ABHR cannot be mounted or easily accessible due to resident safety concerns, provide HCW with personal size containers of ABHR with at least 70% alcohol. ☐ Provide plain soap and singly dispensed paper towels in washrooms and at dedicated hand hygiene sinks. ☐ Provide disposable tissues and no-touch waste bins to facilitate respiratory hygiene in appropriate areas. ☐ Have cleaning and hospital-grade disinfectant supplies (e.g., disinfectant wipes) readily available in appropriate locations to facilitate environmental and equipment cleaning and disinfection. ☐ Replace fabric-covered furnishings with ones that are washable, intact smooth, and tolerant of hospital-grade disinfection, where possible. ☐ Ensure clean equipment and supplies are protected from moisture, contamination, and damage by storing in a clean room/drawer/cupboard, and physically separated from used/dirty equipment; and ☐ Heating, ventilation, and air conditioning (HVAC) systems should be properly installed and regularly inspected and maintained according to HVAC standards and other building code requirements. Refer to Indoor Ventilation Resources available on the PICNet website.

Appendix E: Common Viral Respiratory Illness Outbreak Pathogens

Viral Organism	Epidemiology	Incubation period	Symptoms and symptom duration	Period of communicability*
Adenovirus[17]	Usually fall and winter Causes infection in all ages	Range 1-10 days	Conjunctivitis, sore throat, croup, fever, and other respiratory symptoms.	Shortly before symptom onset and until symptoms cease. Symptoms may be prolonged in immune-compromised people.
COVID-19[28–30]	Epidemiology is evolving at the time of writing.	The incubation period for SARS-CoV-2 may differ depending on the variant. Pre-Omicron, the incubation period ranged from 2-14 days, with a median of 5 to 7 days. The incubation period for Omicron has a shorter median of 3 days (range 0-8 days). Refer to BCCDC COVID-19 guidelines for more information.	New or worsening cough and fever, refer to BCCDC for a list of additional symptoms.	Generally, 48hrs before symptom onset to 5-10 days after. Communicable period may be longer than 10 days in immune compromised individuals.
Influenza A[8,31–33]	Typically, November to April Causes mild to severe symptoms. Causes infection in all age groups with highest incidence in children; highest mortality in elderly and those with comorbidity. Can infect animals and humans. Causes most outbreaks.	1-4 days	Fever*, cough (often severe and may last longer than other symptoms), headache, muscle/joint pain, sore throat, prostration, and exhaustion. Gastro-intestinal symptoms may occur in children. Duration: 2-7 days	1 day **before** symptoms onset and up to 5-7 days **after** clinical onset in adults. Young children and people with immune compromise may be >7days. People with asymptomatic infections may also be infectious.
Influenza B[31]	Historically November-April Causes milder infection. Mostly affects children. Can cause outbreaks.	1-4 days	Similar to influenza A.	1 day **before** symptoms onset and up to 5-7 days **after** clinical onset in adults. People with asymptomatic infections may also be contagious.
Parainfluenza virus[34]	Entire year (little seasonal pattern) Predominantly causes infection & outbreaks in young children and the elderly.	2-6 days	Fever, cough, bronchiolitis, bronchitis, pneumonia Croup. Duration:1-3 weeks.	Duration of active symptoms.
Respiratory Syncytial virus (RSV)[17]	Usually seasonal: winter and early spring.	2-8 days	Fever, cough, wheezing. Bronchiolitis in children. Pneumonia in adults.	Shortly before clinical onset and duration of active disease. Viral shedding may persist for several weeks or longer after

Viral Organism	Epidemiology	Incubation period	Symptoms and symptom duration	Period of communicability*
	Predominantly causes infection & outbreaks in young children and the elderly.			symptoms have subsided, especially in children.
Common respiratory viruses such as:[17] **-Rhinovirus -Coronavirus (other than COVID-19) Metapneumo-virus -Echovirus -Coxsackie-virus -other entero-viruses.**	Throughout the year with peaks in the spring and fall.	Usually 2-3 days, but may be longer	'Common cold' type illness: Sneezing, runny nose, cough, sore throat, sinus congestion malaise, headache, myalgia and/or low-grade fever.	Viral shedding usually most abundant during the first 2-3 days of clinical illness. Shedding usually ceases by 7-10 days but may continue for up to 3 weeks in young children.

** In general, communicability is greatest in pre-symptomatic and early symptomatic stage of illness.*

Appendix F: Additional Tools and Resources

These tools and resources may be used based on current context or specific settings where they are being applied.

Provincial guidance and information specific to VRIs can be found at:

- Provincial Infection Prevention and Control Guidance for Viral Respiratory Illness in Long-Term Care and Seniors' Assisted Living Settings in British Columbia
- Provincial Infection Prevention and Control Guidance for Viral Respiratory Illness in Acute Care and Ambulatory Health Care Settings in British Columbia
- BCCDC Respiratory Diseases
- Office of the Provincial Health Officer – Orders, Notices and Guidance
- Government of British Columbia – COVID-19 Provincial Support and Information
- BCCDC getting a vaccine
- Health care Worker Exposure and Illness Resources
  - Provincial Guidance on Return to Work and Exposure Management for HCWs with VRI
  - VRI HCW Self-Check and Safety Checklist
- BCCDC COVID-19 Variants
- COVID-19 Treatment:
  - British Columbia COVID-19 Therapeutics Committee Guidance: COVID-19 Treatments web page
  - Health Canada: COVID-19 Treatments

Facility/Unit IPC Entrance Posters

- Staff and Visitors Screening *(outside VRI season)*
- All Patients/Residents Screening poster *(outside VRI season)*
- VRI Entrance Screening Tool for Health Care Facilities *(during VRI season)*
- Medical Mask is Required *(during VRI season)*
- How to Wear a Medical Mask
- Respect Personal Space

Hand Hygiene resources:

- How to Clean your Hands poster
- Hand hygiene videos
- BC Guidelines and Resources
- BC Ministry of Health Best Practices for Hand Hygiene

Point-of-Care Risk Assessment Tool (PCRA)

Personal Protective Equipment (PPE) Use resources:

- PPE Audit Tool
- PPE Donning and Doffing posters
- PPE Donning and Doffing videos
- Appropriate Use of PPE in Health Care Settings
- Cleaning and Disinfection Instructions for Reusable Eye and Facial Protection
- Eye and Facial Protection Selection Fit Tool
- Prescription Eye Protection Selection Requirements
- Skin Protection for PPE Use for Health Care Workers

- Respirator donning and doffing instructions.
- Donning instructions for elastomeric half facepiece respirator (EHFR) without an exhalation valve filter
- Position Statement to Address Double Masking and Mask Modifications for Medical Masks in Health Care Settings

VRI Transmission and Chain of Infection posters:

- VRI transmission poster
- VRI chain of infection

Environmental Cleaning and Disinfection resources:

- Quick Reference Guide on Environmental Cleaning and Disinfection in Clinic settings
- PICNet's British Columbia Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health care Settings and Programs

Ventilation resources:

- Indoor Ventilation resources
- Provincial IPC Guidance on Portable Fans in Health Care Settings in BC

Other IPC Resources:

- Public Health Agency of Canada's Routine practices and additional precautions for preventing the transmission of infection in health care settings
- Hierarchy for Infection Prevention and Exposure Control Measures for Communicable Diseases

Appendix G: Example Initial Outbreak Management Team Outbreak Report Form

Brief Description of Outbreak **Date: _____**

Name of Facility: _____ Address: _____ Regional Health Authority: _____

Location: _____ Date of index case: _____

Predominant symptoms: _____

Progression to others: _____

Number of immunized residents: _____ of total number: _____

Number of immunized HCWs: _____ of total number: _____

Actions Taken

Date and time reported to MHO: _____

Activation of Outbreak Management Team: _____

Notification of external service providers (e.g., BC Ambulance, Medigas):

_____

"Just in time" in-services to HCWs: _____

_____

Cohorting of residents and/or HCWs: _____

Enhanced cleaning: _____

Restriction (visitors, HCW, unit closure): _____

Extra hand hygiene stations/signage: _____

Specimens sent: _____

Current Status:

Number of symptomatic residents: _____ Number of symptomatic HCW: _____

Name of Reporting Person: _____

Contact Information for the Person Report: phone_____ email_____

Appendix H: Viral Respiratory Illness Droplet and Control Precautions Quick Reference Guide

Element	Long-term Care
Accommodation	If feasible, resident to remain in room or wear a medical mask (if tolerated) when within 2 meters of other residents. Draw privacy curtain if in shared room.
Signage	Yes
PPE • Medical mask • Eye Protection • Gloves • Gown	*Additional PPE may be needed, based on PCRA* When within 2 meters of resident. When within 2 meters of resident. When providing care or in contact with surfaces in bed space. When providing care or in contact with surfaces in bed space.
Equipment and Items in the Bed Space	Clean and disinfect shared resident care equipment before and after each resident use.
Environmental Cleaning and Disinfection	Clean and disinfect frequently touched surfaces in bed space and bathroom daily. Do a terminal/discharge cleaning and disinfection when discontinuing additional precautions and/or resident discharge. Remove and launder privacy and shower curtain on discharge/transfer or when visibly soiled.
Resident Transport	Resident to wear a medical mask during transport, if tolerated. Transport HCW to wear PPE according to local IPC guidance and PCRA. Clean and disinfect equipment used after transport.

Appendix I: Example Viral Respiratory Illness Outbreak Surveillance Form - Residents

Resident Information							Clinical Presentation			Specimen(s) sent	
Name	**DOB y/m/d**	**Unit**	**Room #**	**Room type**	**Date of last vaccine**	**Name and date of prophylaxis**	**Date of symptom onset**	**Symptoms**	**Date symptoms resolved**	**Collection date/date submitted**	**Result**

SYMPTOMS: **C**=cough **F**=Fever **H**=Headache **ST=**sore throat **M**=Myalgia, **NC**= nasal congestion (runny nose)
ROOM TYPE: **P**=Private **S**=Semi-private **M**=Multi-bed

Appendix J: Example Viral Respiratory Illness Outbreak Surveillance Form - Health Care Workers

Health Care Worker Information					**Clinical Presentation**			**Specimen**	
Name	DOB y/m/d	Occupation	Unit(s) worked	Date of last vaccine	Date of symptom onset	Symptoms (see below)	Date symptoms resolved	Collection date/date submitted	Result

SYMPTOMS: **C**=cough, **F**=Fever, **H**=Headache, **ST=**sore throat, **M**=Myalgia, **NC**= nasal congestion (runny nose)

Appendix K: Example Daily Update Outbreak Report for Outbreak Management Team

Location: _____

Date: _____ Day _____ of Outbreak

Number of new cases today - Residents: _____

Number of new cases today – HCWs: _____

Date of symptom onset of last case: _____

Number of residents currently symptomatic (include new cases): _____

Number of residents recovered: _____

New developments/concerns:

Further actions required:

Name: _____Signature: _____

Contact Information (email/phone): _____

Appendix L: Example Outbreak Summary Report for Outbreak Management Team

Location: _____

Date of onset of outbreak: _____ **Date outbreak declared over:** _____

Microorganism identified: _____**Laboratory Confirmed? Yes**___ **No**___

Number of specimens identified in: _____ **Suspected source:** _____

Number of residents exposed: _____

Total number of cases (residents): _____

Attack rate for residents: _____

(# of exposed residents divided by # of resident cases, multiply by 100)

Number of HCWs exposed: _____ **Total number of cases (HCWs):** _____

Attack rate for HCWs: _____

(# of exposed divided by # of cases, multiply by 100)

Number of cases requiring higher level of care: _____

(E.g., transfer to hospital, transfer to ICU)

Number of deaths: _____

Unusual situations:

Signature: _____**Name:** _____

Contact Information (email/phone): _____

Appendix M: Pathogen-Specific Information

Influenza Specific Information

In Canada, the period of peak winter influenza activity may vary from one year to the next but usually occurs between November and April, with most cases having an onset between late December and early March. Seasonal influenza can cause severe infection and death in any age group, but most people fully recover with the majority of deaths due to seasonal influenza occurring among the elderly. The highest attack rates occur in children, the highest death rates occur in people over the age of 65 years and those with chronic cardiac, pulmonary, renal or metabolic disease, anemia or immuno-suppression.[35] Current and specific BC influenza surveillance data is available on the BCCDC website.

Types of Influenza Viruses:

- ***Influenza Type A*** causes mild to severe infections in all age groups. It includes numerous subtypes characterized by different combinations of surface antigens called hemagglutinin (H) and neuraminidase (N). Influenza A is capable of infecting both animals and humans, and it has been the main causative agent in influenza outbreaks and past pandemics.
- ***Influenza Type B*** usually causes a moderate infection and with complications primarily among children but also adults. This influenza strain can only infect humans and causes outbreaks in the community and within care facility settings.
- ***Influenza Type C*** is rarely diagnosed in humans and is not known to be associated with outbreaks. [35,36]

Potential Complications of Influenza A and B Infections

- **Pulmonary**: sinusitis, otitis, laryngitis, croup, laryngeal obstruction, and pneumonia which can be fatal. Pneumonia typically results from secondary bacterial infection; primary viral pneumonia due to influenza is rare except in association with pandemics or novel strains (such as avian influenza infections in humans).
- **Cardiovascular:** myocarditis occurring either early or late in the disease process which can be fatal; pericarditis
- **Neurologic:** encephalitis; aseptic meningitis; Guillain-Barre syndrome; severe myalgia; Reyes syndrome.
- **Hematologic:** rare cases of viremia occurring during incubation or the first 48 hours of illness; disseminated intravascular coagulation (DIC).
- **Renal:** renal failure associated with rhabdomyolysis or DIC
- **If primary viral pneumonia is identified in otherwise healthy individuals (particularly returning travelers) or as a cluster in a discrete geographic area then clinicians should be aware of the possibility of a novel virus and should consult with their local MHO and Medical Microbiologist to ensure proper management and submission of specimens to BCCDCPHL .**[35,36]

Health Care Worker Yearly Immunization

All HCWs, visitors, volunteers, and students are recommended to keep their vaccinations up to date. HCWs and staff in health care settings must meet immunization requirements in accordance with Ministry of Health and employer policies, and when directed by a medical health officer. HCWs are also required to self-report their choice of vaccination or medical mask use to their health authority; using the online Influenza Self-reporting System to do so.

Influenza immunization of HCWs can begin as soon as vaccine becomes available each fall. Health Authorities and facilities can obtain vaccine through BCCDC distribution processes. Processes for ordering of influenza vaccine will vary with each facility and should be initiated each year. Vaccine should be offered to HCWs at a variety of locations and at a variety of times throughout the influenza season, but HCWs also have the option of being immunized through participating community pharmacists, public health clinics, occupational health clinics, peer nurse immunizers or by their family physician.

Adopting an institutional culture of safety can promote HCW receptiveness of annual influenza immunizations.[37,38] Multiple strategies should be used to increase HCW influenza immunization, including the use of promotional and educational materials, mobile immunization carts, competitions, incentives, or by senior HCWs modeling acceptance of immunization. *(Category C11)*

Although self-isolation is important to prevent transmission when an individual is symptomatic, it should not be relied upon as an alternative to immunization for protecting residents, other HCWs, visitors and families, due to the risk of pre-symptomatic transmission.[39]

Influenza Immunization for Long-term Care Residents

Settings are encouraged to have consent/pre-printed orders for the administration of influenza vaccine for all residents on admission and on an annual basis. Also encouraged is consent/pre-printed order for pneumococcal vaccine on admission and an annual review process to determine requirement for a booster dose. Screen residents for contraindications to the vaccine prior to receiving it.[36,40] *(GPS)*

Unless they have a valid medical contraindication, offer residents of LTC settings influenza vaccine as soon as it is available. Any new admissions during the influenza season (timing may vary and will be determined by the local MHO) should also have their immunization status assessed for influenza and pneumococcal polysaccharide vaccine, and immunization should be provided as required. A record of immunization status should be maintained so that it is readily available in the event of a respiratory outbreak. *(GPS)*

Settings should consult with local Public Health offices to determine the need to maintain a supply of pneumococcal and influenza vaccine on hand for new admissions. Address issues such as cold chain and expiry of vaccine.

The National Advisory Committee on Immunization (NACI) publishes an Advisory Statement on Influenza vaccine each June.[32]

Antivirals for Influenza

Immunization of residents and HCWs is the primary measure to prevent and control seasonal influenza in health care settings. Antiviral agents can be an important adjunct in helping to quickly control outbreaks of influenza. The administration of antiviral agents to all or most residents, as early as possible when influenza respiratory infection is identified in a facility can limit the spread of influenza in the health care setting.[36,41] Additionally, antiviral prophylaxis is recommended for unimmunized staff who may be at high risk of influenza complications due to their underlying chronic health conditions (e.g., underlying cardiac, respiratory, other chronic health conditions).[42] Antivirals may also be recommended for HCW treatment of seasonal influenza. Unless otherwise directed by the MHO/official designate, unvaccinated HCWs who decline prophylaxis need not be excluded from work during the outbreak. *(Category C11)*

For more information, refer to the AMMI Canada Guideline for The Use of Antiviral Drugs for Influenza: A Foundation Document for Practitioners[33]

In the event of a pandemic influenza, specific guidelines for antiviral use would supersede the recommendations for seasonal influenza.

Planning for Influenza Antiviral Use
In long-term care, pre-printed antiviral orders for both prophylaxis and treatment should be signed by a physician and available on each resident chart at least one month prior to the start of the influenza season (early October). Recent serum creatinine levels on residents with known renal disease or likely deteriorating renal function should be documented. The facility should be ready to give antiviral medication on a few hours' notice to all residents to control an outbreak. In order to do that, each facility should establish a plan of action with the pharmacy that provides services for them, so that antivirals are obtained in a timely fashion. *(GPS)*

SARS-CoV-2 and COVID-19 Specific Information

SARS-CoV-2, the causative viral agent associated with COVID-19 respiratory illness, emerged in late 2019 as a novel circulating virus and caused a global pandemic within a few months.[43] COVID-19 caused significant morbidity, mortality, and health care facility outbreaks with substantial impact on long-term care facilities, residents, and HCWs. [43]

The SARS-CoV-2 virus has evolved to include many variants and sub lineages from the original 2019 strain. These changes are monitored very closely by public health programs around the world. Some variants spread more easily, cause more serious illness, or reduce the effectiveness of treatments and vaccines.[43]

Refer to Appendix F for up-to-date resources for SAR-CoV-2 variants and COVID-19 IPC guidance for specific health care settings.

COVID-19 Immunization for HCWs and Residents

COVID-19 vaccination is an effective strategy in reducing the risk of illness, including hospitalizations, severe illness, and deaths.[44]

HCWs are advised to adhere to applicable public health orders, provincial and organizational policies, or regulatory requirements for COVID-19 immunizations [44,45]

For updated guidance on COVID-19 vaccination, refer to Appendix F.

COVID-19 Treatments

Several treatment medications for COVID-19 have been developed and authorized in Canada. Refer to Appendix F for guidance resources on COVID-19 treatment, including antivirals.

Long-term care facilities should be aware of residents who may be eligible for treatment so that timely testing can be offered to these residents in the event of a symptomatic VRI and treatment options assessed based on severity of illness. Advanced care planning for treatment, such as nirmatrelvir/ritonavir (Paxlovid), should be considered for clinically vulnerable residents, based on clinical assessment by MRP. For more information, refer to the BC COVID-19 Therapeutics Committee guidance for COVID-19 treatments, and the Advanced COVID-19 Treatment Planning Tool.

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