Ministry of Health

Ontario Public Health Standards:
Requirements for Programs, Services and Accountability

Infectious Disease Protocol

Appendix 1: Case Definitions and Disease-Specific Information

Disease: Respiratory Infection Outbreaks in Institutions and Public Hospitals

Effective: May 2022

Ontario

Respiratory Infection Outbreaks in Institutions and Public Hospitals

☒ Communicable

☐ Virulent

Health Protection and Promotion Act (HPPA)
Ontario Regulation (O. Reg.) 135/18 (Designation of Diseases)

Provincial Reporting Requirements

☒ Confirmed case

☐ Probable case

As per Requirement #3 of the "Reporting of Infectious Diseases" section of the *Infectious Diseases Protocol, 2018* (or as current), the minimum data elements to be reported for each case are specified in the following:

- O. Reg. 569 (Reports) under the HPPA;[2]
- The iPHIS User Guides published by Public Health Ontario (PHO); and
- Bulletins and directives issued by PHO.

Type of Surveillance

Outbreak summary data

Case Definition

Confirmed Respiratory Infection Outbreak Definition[*]

- Two cases of acute respiratory infections (ARI) within 48 hours with any common epidemiological link (e.g., unit, floor), at least one of which must be laboratory-confirmed;

OR

- Three cases of ARI (laboratory confirmation not necessary) occurring within 48 hours with any common epidemiological link (e.g., unit, floor).

Suspect Respiratory Infection Outbreak Definition

- Two cases of ARI occurring within 48 hours with any common epidemiological link (e.g., unit, floor);

OR

- One laboratory-confirmed case of influenza.

Outbreak Case Definition

The outbreak case definition varies with the outbreak under investigation. Please refer to the *Infectious Diseases Protocol, 2018* (or as current) for guidance in developing an outbreak case definition as needed. For COVID-19 outbreak definitions for high-risk settings, please refer to the novel coronavirus appendix.

The outbreak case definitions are established to reflect the disease and circumstances of the outbreak under investigation. The outbreak case definitions should be developed for each individual outbreak based on its characteristics,

[*] **Definition caveats for public hospitals**:

- Cases refer to health care-associated cases
- If rapid testing is conducted on all cases, the confirmed outbreak definition would apply if two cases have the same respiratory pathogen

reviewed during the course of the outbreak, and modified if necessary, to ensure that the majority of cases are captured by the definition. The case definitions should be created in consideration of the outbreak definitions.

Outbreak cases may be classified by levels of probability (*i.e.,* confirmed and/or probable).

For further information on outbreak case definitions for respiratory infection outbreaks in institutions, please refer to*:* Control of Respiratory Infection Outbreaks in Long-Term Care Homes, 2018 (or as current).[1]

Clinical Information

Clinical Evidence

Clinically compatible signs and symptoms in individuals who are part of an outbreak include, but are not limited to, the following:

- Upper respiratory tract illness (e.g., common cold, pharyngitis);
- Runny nose or sneezing;
- Stuffy nose (i.e., congestion);
- Sore throat or hoarseness or difficulty swallowing;
- Dry cough;
- Swollen or tender glands in the neck (i.e., cervical lymphadenopathy);
- Fever/abnormal temperature for the resident/patient may be present, but is not required;
- Tiredness (i.e., malaise);
- Muscle aches (i.e., myalgia);
- Loss of appetite;
- Headache; and
- Chills.

Clinical Presentation

See Clinical Evidence above and refer to: Control of Respiratory Infection Outbreaks in Long-Term Care Homes, 2018 (or as current).[1]

Laboratory Evidence

Laboratory Confirmation

Laboratory confirmation is not required to be classified as a confirmed institutional or public hospital respiratory infection outbreak.

Approved/Validated Tests

- Standard or rapid (shell vial) culture for respiratory viruses;
- Direct fluorescent antibody (DFA) antigen testing for respiratory viruses;
- Nucleic acid amplification test (NAAT) for respiratory viruses; and
- Rapid enzyme immunoassay (EIA) or immunochromatographic test (ICT) kits for respiratory viruses, such as influenza virus and respiratory syncytial virus (RSV).

Indications and Limitations

- Public Health Ontario (PHO) will send one isolate from each influenza outbreak to the National Microbiology Laboratory to be typed for strain identification.
- If further laboratory support is required please contact Public Health Ontario Laboratories.

For further information about human diagnostic testing, contact the Public Health Ontario Laboratories.

Case Management

In addition to the requirements set out in the Requirement #2 of the "Management of Infectious Diseases – Sporadic Cases" and "Investigation and Management of Infectious Diseases Outbreaks" sections of the *Infectious Diseases Protocol, 2018* (or as current), the board of health shall investigate cases to determine the source of infection. Refer to Provincial Reporting Requirements above for relevant data to be collected during case investigation.

The board of health should also refer to recommendations included in the Control of Respiratory Infection Outbreaks in Long-Term Care Homes, 2018 (or as current).[1]

If the outbreak is caused by a specific disease of public health significance, refer also to the appendix for that disease.

Contact Management

Contacts are managed as part of the outbreak as per *the Infectious Disease Protocol, 2018* (or as current) and recommendations included in Control of Respiratory Infection Outbreaks in Long-Term Care Homes, 2018 (or as current).[1]

Outbreak Management

Please see the *Infectious Diseases Protocol, 2018* (or as current) for the public health management of outbreaks or clusters in order to identify the source of illness, manage the outbreak and limit secondary spread.

Further recommendations for outbreak management is outlined in Control of Respiratory Infection Outbreaks in Long-Term Care Homes 2018 (or as current) as well as the *Institutional/Facility Outbreak Management Protocol, 2018* (or as current).[1,3]

Prevention and Control Measures

Personal Prevention Measures

For this section refer also to the *Institutional/Facility Outbreak Management Protocol, 2018* (or as current) and to Control of Respiratory Infection Outbreaks in Long-Term Care Homes, 2018 (or as current).[1,3]

Infection Prevention and Control Strategies

Refer to PHO's website to search for the most up-to-date information on Infection Prevention and Control (IPAC).

Disease Characteristics

Aetiologic Agent - Respiratory infection outbreaks in institutions and public hospitals are caused by a variety of respiratory viruses such as influenza A and B, respiratory syncytial virus (RSV), parainfluenza, rhinovirus, human metapneumovirus, coronaviruses and adenovirus. Bacteria that occasionally cause respiratory outbreaks in institutions are *Chlamydophila pneumoniae, Legionella spp.* and *Mycoplasma pneumoniae* (Atypical Pneumonia).

Modes of Transmission - Person to person; droplet transmission as well as contact with fomites may also occur depending on causative agent.

Incubation Period – Varies, depending on the causative agent.

Period of Communicability - Varies, depending on the causative agent.

Reservoir - Humans.

Host Susceptibility and Resistance - All persons are susceptible; however susceptibility is greater in the very young and the institutionalized elderly.

Please refer to PHO's Ontario Respiratory Pathogen Bulletin and Laboratory Based Respiratory Pathogen Surveillance Report and other infectious diseases reports for more information on disease trends in Ontario

For additional national and international epidemiological information, please refer to the Public Health Agency of Canada and the World Health Organization.

Comments

- Different respiratory viruses often cause similar acute respiratory symptoms. Each respiratory infection outbreak requires its own case definition. The case definition should be developed for each individual outbreak based on its characteristics, reviewed during the course of the outbreak, and modified if necessary, to ensure that the majority of cases are captured by the definition. For more information, please consult Investigation and Management of Infectious Diseases Outbreaks in the *Infectious Diseases Protocol, 2020* (or as current) and the *Institution/Facility Outbreak Management Protocol, 2018* (or as current).
- An epidemiological link can refer to, but is not limited to, common unit/floor, common staff, shared activities or dining area, common visitors etc.
- An Acute Respiratory Infection (ARI) is any new onset ARI (either upper or lower respiratory tract), which presents with symptoms of a new or worsening cough or shortness of breath and often fever (also known as febrile respiratory illness [FRI]). It should be noted that elderly people and people who are immunocompromised may not have a febrile response to a respiratory infection.
- Health care-associated refers to an infection that is acquired during the delivery of health care that was not present or incubating at the time of admission. It also includes such infections among staff. (Also known as nosocomial infection).
- Declaration of an outbreak can be made by either the institution/health facility or the medical officer of health (MOH).
- In the event of a disagreement between the institution and the MOH, the MOH has the authority to determine if an outbreak of a communicable disease exists, for purposes of exercising statutory powers under the HPPA. Once an outbreak is declared, it is reported to the Ministry of Health (ministry) through the integrated Public Health Information System (iPHIS).

- The board of health shall declare whether an outbreak is over, in consultation with the institution/facility. Rationale for declaring or not declaring an outbreak and declaring an outbreak over should be documented.
- Issuing a media release to the public is the responsibility of the institution or health facility. Should there be a public health risk to the general population, a joint media alert may be issued, or the board of health may issue an alert on behalf of the institution or health facility with their knowledge.

References

1. Ontario, Ministry of Health and Long-Term Care. Control of Respiratory Infection Outbreaks in Long-Term Care Homes, 2018. Toronto, ON: Queen's Printer for Ontario; 2018. Available from: https://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/reference/resp_infectn_ctrl_guide_ltc_2018_en.pdf
2. Health Protection and Promotion Act, R.S.O. 1990, Reg. 569, Reports, (2018). Available from: https://www.ontario.ca/laws/regulation/900569
3. Ontario, Ministry of Health and Long-Term Care. Institutional/Facility Outbreak Management Protocol, 2018. Toronto, ON: Queen's Printer for Ontario; 2018. Available from: https://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/protocols_guidelines/Inst_Fac_Outbreak_Protocol_2018_en.pdf

Case Definition Sources

Ontario, Ministry of Health and Long-Term Care. A Guide to the Control of Respiratory Infection Outbreaks in Long-Term Care Homes. Toronto, ON: Queen's Printer for Ontario; 2016. Available from: http://www.health.gov.on.ca/en/pro/programs/publichealth/flu/guide.aspx

Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Annex B: Best Practices for Prevention of Transmission of Acute Respiratory Infection. Annexed to: Routine Practices and Additional Precautions in All Health Care Settings. Toronto, ON: Queen's Printer for Ontario; 2013. Available from: https://www.publichealthontario.ca/-/media/documents/B/2012/bp-prevention-transmission-ari.pdf

Ontario Agency for Health Protection and Promotion (Public Health Ontario). iPHIS User Guide: Respiratory Infection Outbreaks in Institutions. User Guide v. 1.0. Toronto, ON: Queen's Printer for Ontario; 2014. Available from: https://www.publichealthontario.ca/en/diseases-and-conditions/infectious-diseases/ccm/iphis

Document History

Revision Date	Document Section	Description of Revisions
April 2022	Entire Document	New template. Appendix A and B merged. No material content changes.
April 2022	Epidemiology: Occurrence section	Removed.
April 2022	ICD Codes	Removed.