

Best Practices for Prevention, Surveillance and Infection Control Management of Novel Respiratory Infections in All Health Care Settings

1st revision: February 2020

Public Health Ontario

Public Health Ontario is a Crown corporation dedicated to protecting and promoting the health of all Ontarians and reducing inequities in health. Public Health Ontario links public health practitioners, frontline health workers and researchers to the best scientific intelligence and knowledge from around the world. Public Health Ontario provides expert scientific and technical support to government, local public health units and health care providers relating to the following:

- communicable and infectious diseases
- infection prevention and control
- environmental and occupational health
- emergency preparedness
- health promotion, chronic disease and injury prevention
- public health laboratory services

Public Health Ontario's work also includes surveillance, epidemiology, research, professional development and knowledge services. For more information, visit www.publichealthontario.ca

How to cite this document:

Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for prevention, surveillance and infection control management of novel respiratory infections in all health care settings. 1st revision. Toronto, ON: Queen's Printer for Ontario; 2020.

Public Health Ontario acknowledges the financial support of the Ontario Government.

©Queen's Printer for Ontario, 2020

Publication history:

1st edition: September 2015

1st revision: February 2020

Cover photo:

DNA molecules which are used to identify novel infectious agents
@istock.com/takahashi_kei

Best practices for prevention, surveillance and infection control management of novel respiratory infections in all health care settings.

1st revision

This document is current to January 2020 with the following listed revisions. Recommendations in this 2020 edition remain the same as those in the 2015 edition. However, resources and references used in the 2015 edition are updated in the 2020 document.

Summary of Major Revisions:

Page	Revision
10	<u>Updated reference to Ministry of Health and Long-Term Care's Control of Respiratory Infection Outbreaks in Long-Term Care Homes, 2018</u>
26	<u>Updated reference to Ministry of Health and Long-Term Care's Control of Respiratory Infection Outbreaks in Long-Term Care Homes, 2018</u>
28	<u>Updated reference to Ministry of the Solicitor General's Emergency Management Ontario web page</u>

Disclaimer

Disclaimer for Best Practice Documents:

This document was developed by the Provincial Infectious Diseases Advisory Committee on Infection Prevention and Control (PIDAC-IPC). PIDAC-IPC is a multidisciplinary scientific advisory body that provides evidence-based advice to Public Health Ontario (PHO) regarding multiple aspects of infectious disease identification, prevention and control. PIDAC-IPC's work is guided by the best available evidence and updated as required. Best practice documents and tools produced by PIDAC-IPC reflect consensus on what the committee deems prudent practice and are made available as a resource to public health and health care providers. PHO assumes no responsibility for the results of the use of this document by anyone.

This document may be reproduced without permission for non-commercial purposes only and provided that appropriate credit is given to Public Health Ontario. No changes and/or modifications can be made to this document without explicit written permission from Public Health Ontario.

NOTES: This document is intended to provide best practices only. Health care settings are encouraged to work towards these best practices in an effort to improve quality of care.

Provincial Infectious Diseases Advisory Committee (PIDAC)

Tel: 647-260-7100 Email: pidac@oahpp.ca

Contributors

Public Health Ontario would like to acknowledge the contribution and expertise of the following individuals that participated in the development of 2015 edition of this document:

PIDAC-IPC MEMBERS:

Dr. Matthew Muller, chair

Medical Director, IPC
St. Michael's Hospital, Toronto

Dr. Irene Armstrong

Associate Medical Officer of Health
Toronto Public Health, Toronto

Anne Bialachowski

Manager, Infection Prevention and Control
St. Joseph's Healthcare, Hamilton

Sandra Callery

Director, Infection Prevention and Control
Sunnybrook Health Sciences Centre, Toronto

Dr. William Ciccotelli

Infectious Disease and Medical Microbiology
Grand River Hospital, Kitchener

Judy Dennis

Manager, Infection Prevention and Control
Children's Hospital of Eastern Ontario, Ottawa

Dr. Susy Hota

Infection Prevention and Control Medical
Specialist, University Health Network, Toronto

Dr. Allison McGeer

Director, Infection Control
Mount Sinai Hospital, Toronto

Vydia Nankoosingh

Manager, IPAC
The Scarborough Hospital, Toronto

Catherine Richard

Manager, Occupational Health & Safety
Program, Champlain Community
Care Access Centre

EX-OFFICIO MEMBERS:

Dr. Erika Bontovics

Manager, Infectious Diseases Policy and Programs
Ministry of Health and Long-Term Care, Toronto

Dr. Gary Garber

Scientific Lead/Chief, Infection Prevention and
Control, Public Health Ontario, Toronto

Dr. Leon Genesove

Chief Physician, Health Care Unit
Occupational Health and Safety Branch
Ministry of Labour, Toronto

PUBLIC HEALTH ONTARIO STAFF:

Dr. Maureen Cividino

IPAC Physician
Infection Prevention and Control

Dr. Kevin Katz

IPAC Physician
Infection Prevention and Control

Mabel Lim

IPAC Specialist
Infection Prevention and Control

Dr. Samir Patel

Clinical Microbiologist
Public Health Ontario Laboratory

Dr. Mary Vearncombe, former PIDAC-IPC chair

IPAC Physician, Infection Prevention and Control

Acknowledgements

Public Health Ontario would like to acknowledge the contribution and expertise of the following individuals who developed the founding document which was made available for scientific comment in October 2014:

Dr. Mary Vearncombe, former PIDAC-IPC chair

IPAC Physician

Infection Prevention and Control

Public Health Ontario

Shirley McDonald

IPAC Resource Expert /Technical Writer

Public Health Ontario (former staff member)

Table of Contents

Abbreviations	1
Glossary of Terms	2
Assumptions for Best Practices in Infection Prevention and Control	6
Preamble	9
How and When to Use This Document	9
Prevention, Surveillance and Infection Control Management of Novel Respiratory Infections	11
1. Surveillance	11
1.1 At the Provincial Level.....	11
1.2 At the Health Care Setting Level	11
2. Initial Response to Identified Cases	13
2.1 For Managing Cases	13
2.2 For Health Care Facilities Where Potential Exposure Has Occurred:	13
2.3 For Health Care Facilities Where There Is a Case Nosocomial to the Facility:.....	15
3. Infection Prevention and Control Practices	17
3.1 General Procedures	17
3.2 Personal Protection Equipment and Practices.....	18
3.3 Cleaning of High Risk and General Public Areas	19
3.4 Inpatient Accommodation	19
3.5 Precautions for Aerosol-Generating Medical Procedures (AGMP)	19
3.6 Movement of Patients/Residents	20
3.7 Restricting Visitors to and Within a Health Care Setting	21
4. Health and Safety in the Workplace	23
4.1 General.....	23
4.2 Education, Training and Supervision.....	23
4.3 Staff Screening	24
4.4 Staff Deployment	24
4.5 Staff Infection Prevention Practices.....	25
5. Reporting	26
5.1 Reporting to Infection Prevention and Control	26
5.2 Reporting to Occupational Health Services	26
5.3 Reporting to Public Health Units.....	26
5.4 Reporting to the Ministry of Labour	27
5.5 Reporting to the Workplace Safety and Insurance Board	27
Appendix A: Infection Prevention and Control Resources	28
Appendix B: Preparedness Checklist for Novel Respiratory Infection	30
Appendix C: Screening and Patient Management Algorithm for Novel Respiratory Infection	32
Appendix D: Algorithm for Response to Symptomatic Patients Admitted to a Health Care Setting without the Use of Appropriate Precautions	33
References	34

Abbreviations

ABHR	alcohol-based hand rub
AGMP	aerosol-generating medical procedure
AIIR	airborne infection isolation room
ARI	acute respiratory infection
BAL	bronchoalveolar lavage
CMOH	Chief Medical Officer of Health
DIN	Drug Identification Number
ED	emergency department
HAI	health care-associated infection
HCW	health care worker
HEPA	high efficiency particulate air
ICP	infection prevention and control professional
IPAC	infection prevention and control
JHSC	joint health and safety committee
MEOC	Ministry Emergency Operations Centre
MOH	Medical Officer of Health
NPS	nasopharyngeal swab
OHS	occupational health and safety
OHSA	Occupational Health and Safety Act
PHAC	Public Health Agency of Canada
PHO	Public Health Ontario
PHU	public health unit
PIDAC	Provincial Infectious Diseases Advisory Committee
PIDAC-IPC	Provincial Infectious Diseases Advisory Committee on Infection Prevention and Control
PPE	personal protective equipment
SARS	severe acute respiratory syndrome

Glossary of Terms

Acute respiratory infection (ARI): Any new onset acute respiratory infection that could potentially be spread by the droplet route (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, or FRI). It should be noted that elderly people and people who are immunocompromised may not have a febrile response to a respiratory infection.

Additional Precautions: Precautions (i.e., Contact Precautions, Droplet Precautions and Airborne Precautions) that are necessary in addition to Routine Practices for certain pathogens or clinical presentations. These precautions are based on the method of transmission (e.g., contact, droplet, airborne).

Aerosol-generating medical procedure (AGMP): A medical procedure that generates droplets/aerosols which may expose staff to respiratory pathogens and are considered to be a potential risk for staff and others in the area.

Airborne infection isolation room (AIIR): A room that is designed, constructed and ventilated to limit the spread of airborne microorganisms from an infected occupant to the surrounding areas of the health care setting. This is also known as a negative pressure room. NOTE: The Canadian Standards Association uses the term *Airborne Isolation Room*, abbreviated *AIR*.

Airborne Precautions: Used in addition to Routine Practices for clients/patients/residents known or suspected of having an illness transmitted by the airborne route (i.e., by small droplet nuclei that remain suspended in the air and may be inhaled by others).

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. ABHRs contain emollients to reduce skin irritation and are less time-consuming to use than washing with soap and water.

Case: In epidemiology, an individual who is infected or colonized with a particular microorganism.

Client/Patient/Resident: Any person receiving care within a health care setting.

Contact Precautions: Used in addition to Routine Practices to reduce the risk of transmitting infectious agents via contact with an infectious person.

Direct care: Provision of hands-on care (e.g., bathing, washing, turning client/patient/resident, changing clothes, continence care, dressing changes, care of open wounds/lesions, toileting).

Disinfectant: A product that is used on surfaces or medical equipment/devices which results in disinfection of the equipment/device. Disinfectants are applied only to inanimate objects. Some products combine a cleaner with a disinfectant. See also, [Disinfection](#).

Disinfection: The inactivation of disease-producing microorganisms. Disinfection does not destroy bacterial spores. Medical equipment/devices must be cleaned thoroughly before effective disinfection can take place. See also, [Disinfectant](#).

Droplet Precautions: Used in addition to Routine Practices for clients/patients/residents known or suspected of having an infection that can be transmitted by large infectious droplets.

Drug identification number (DIN): In Canada, disinfectants are regulated as drugs under the *Food and Drugs Act* and Regulations. Disinfectant manufacturers must obtain a drug identification number (DIN) from Health Canada prior to marketing, which ensures that labelling and supporting data have been provided and that it has undergone and passed a review of its formulation, labelling and instructions for use.

Exposure: An exposed person is someone who has been in such proximity to a case of novel respiratory infection that transmission is possible. There are various degrees of risk based on the type of exposure or the parameters of exposure.

Facial protection: Personal protective equipment that protect the mucous membranes of the eyes, nose and mouth from splashes or sprays of blood, body fluids, secretions or excretions. Facial protection may include a mask or respirator in conjunction with eye protection, or a face shield that covers eyes, nose and mouth.

Fit check: See [Seal-Check](#).

Fit-test: A qualitative or quantitative method to evaluate the fit of a specific make, model and size of respirator on an individual. Fit-testing must be done periodically, at least every two years and whenever there is a change in respirator face piece or the user's physical condition which could affect the respirator fit.

Hand hygiene: A general term referring to any action of hand cleaning. Hand hygiene relates to the removal of visible soil and removal or killing of transient microorganisms from the hands. Hand hygiene may be accomplished using soap and running water or an alcohol-based hand rub. Hand hygiene includes surgical hand antisepsis.

Hand washing: The physical removal of microorganisms from the hands using soap (plain or antimicrobial) and running water.

Health care-associated infection (HAI): A term relating to an infection that is acquired during the delivery of health care that was not present or incubating at the time of admission. HAI includes infections acquired in a hospital but appearing after discharge. It also includes such infections among staff. Also known as nosocomial *infection*.

Health care facility: A set of physical infrastructure elements supporting the delivery of health-related services. A health care facility does not include a client/patient/resident's home or physician/dentist/other health offices where health care may be provided.

Health care provider: Any person delivering care to a client/patient/resident. This includes, but is not limited to, the following: emergency service workers, physicians, dentists, nurses, midwives, respiratory therapists and other health professionals, personal support workers, clinical instructors, students and home health care workers. In some non-acute settings, volunteers might provide care and would be included as health care providers. See also, [Staff](#).

Health care setting: Any location where health care is provided, including settings where emergency care is provided, hospitals, complex continuing care, rehabilitation hospitals, long-term care homes, mental health facilities, outpatient clinics, community health centres and clinics, physician offices, dental offices, independent health facilities, out-of-hospital premises, offices of other health professionals, public health clinics and home health care.

HEPA filter: High efficiency particulate air filter with an efficiency of 99.97 per cent in the removal of airborne particles 0.3 microns or larger in diameter.

Infection prevention and control (IPAC): Evidence-based practices and procedures that, when applied consistently in health care settings, can prevent or reduce the risk of transmission of microorganisms to health care providers, other clients/patients/residents and visitors and development of health care-associated infections in clients/patients/residents from their own microorganisms.

Infection prevention and control professional(s) (ICPs): Trained individual(s) responsible for a health care setting's infection prevention and control activities. In Ontario an ICP must receive a minimum of 80 hours of instruction in an IPAC Canada endorsed infection control program within six months of entering the role and must acquire and maintain Certification in Infection Control (CIC®), when eligible.

Joint health and safety committee (JSHC): An advisory group of worker and management representatives. The workplace partnership to improve health and safety depends on the joint committee. It meets regularly to discuss health and safety concerns, review progress and make recommendations.

N95 respirator: A respirator is a personal protective device that is worn on the face and covers the nose and mouth to reduce the wearer's risk of inhaling airborne particles. The most common respirator used in health care is a N95 half-face piece filtering respirator. A NIOSH-certified N95 respirator has a filter efficiency of 95% or more for particles that are 0.3 microns or larger in size and provides a tight facial seal with less than 10% leak.

Nosocomial: Arising while a patient is in a hospital or as a result of being in a hospital. Denoting a new disorder (unrelated to the patient's primary condition) associated with being in a hospital.

Novel respiratory infection: An illness that causes respiratory symptoms (e.g., fever, cough) where the etiologic agent and/or epidemiology of the disease have not previously been known or described.

Occupational health and safety (OHS): Preventive and therapeutic health services in the workplace provided by trained occupational health professionals, e.g., nurses, hygienists, physicians.

Outbreak, health care facility: An outbreak is an increase in the number of cases above the number normally occurring in a particular health care setting over a defined period of time. For the purposes of this document, a single nosocomial case of a novel respiratory infection is considered an outbreak.

Personal protective equipment (PPE): Clothing or equipment worn for protection against hazards.

Provincial Infectious Diseases Advisory Committee (PIDAC): A multidisciplinary scientific advisory body of Public Health Ontario that provides evidence-based advice regarding multiple aspects of infectious disease identification, prevention and control.

Public Health Agency of Canada (PHAC): A national agency that promotes improvement in the health status of Canadians through public health action and the development of national guidelines.

Public Health Ontario (PHO): Public Health Ontario is the operating name for the Ontario Agency for Health Protection and Promotion (OAHPP).

Regional IPAC Support Team: The Regional IPAC Support Team of Public Health Ontario provides support and consultation to respond to client requests and inquiries; introduce and disseminate PHO guidance, resources and tools; support the implementation of IPAC initiatives to achieve best practice; facilitate client networks and collaboration and inform IPAC-related research.

Respiratory etiquette: Personal practices that help prevent the spread of bacteria and viruses that cause acute respiratory infections (e.g., covering the mouth when coughing, care when disposing of tissues).

Seal-check: A procedure that the health care provider must perform each time a respirator is worn to ensure it fits the wearer's face correctly to provide adequate respiratory protection. The health care provider must receive training on how to perform a seal-check correctly.

Sentinel event: A colonization/infection in which the occurrence of perhaps even a single case may signal the need to re-examine preventive practices.

Staff: Anyone conducting activities in settings where health care is provided, including but not limited to, health care providers. See also, [Health Care Provider](#).

Assumptions for Best Practices in Infection Prevention and Control

The best practices in this document are based on the assumption that health care settings in Ontario already have basic infection prevention and control (IPAC) systems and programs in place. Health care settings that do not have infection control professionals (ICPs) should work with organizations that have IPAC expertise, such as academic health science centres, regional IPAC support team, public health units (PHU) that have professional staff certified in IPAC and local IPAC associations (e.g., Infection Prevention and Control Canada chapters), to develop evidence-based programs.

In addition to the above general assumption about basic IPAC, these best practices are based on the following additional assumptions and principles:

1. Adequate resources are devoted to IPAC in all health care settings. See the Provincial Infectious Diseases Advisory Committee (PIDAC)'s [*Best Practices for Infection Prevention and Control Programs in Ontario*](#).¹
2. Best practices to prevent and control the spread of infectious diseases are routinely implemented in all health care settings, in accordance with:
 - a) PIDAC's [*Routine Practices and Additional Precautions in All Health Care Settings*](#).²
 - b) PIDAC's [*Annex A: Screening, Testing and Surveillance for Antibiotic-Resistant Organisms \(AROs\)*](#).³
 - c) PIDAC's [*Annex B: Best Practices for Prevention of Acute Respiratory Infection in All Health Care Settings*](#).⁴
 - d) PIDAC's [*Annex C: Testing, Surveillance and Management of Clostridium difficile in All Health Care Settings*](#).⁵
 - e) PIDAC's [*Infection Prevention and Control for Clinical Office Practice*](#).⁶
3. Programs are in place in all health care settings that promote good hand hygiene practices and ensure adherence to standards for hand hygiene. See:
 - a) PIDAC's [*Best Practices for Hand Hygiene in All Health Care Settings*](#).⁷
 - b) Ontario's hand hygiene improvement program, [*Just Clean Your Hands*](#).⁸
 - c) Programs are in place in all health care settings that ensure effective disinfection and sterilization of used medical equipment according to PIDAC's [*Best Practices for Cleaning, Disinfection and Sterilization in All Health Care Settings*](#).⁹
4. Adequate resources are devoted to environmental services/housekeeping in all health care settings that include written procedures for cleaning and disinfection of client/patient/resident rooms and equipment; education of new cleaning staff and continuing education of all cleaning staff; and ongoing review of procedures. See PIDAC's [*Best Practices for Environmental Cleaning in All Health Care Settings*](#).¹⁰
5. Regular education (including orientation and continuing education) and support is provided in all health care settings to help staff consistently implement appropriate IPAC practices. Effective education programs emphasize:

- The risks associated with infectious diseases, including acute respiratory illness (ARI) and gastroenteritis.
- Hand hygiene, including the use of alcohol-based hand rub (ABHR) and hand washing.
- Principles and components of Routine Practices as well as additional transmission-based precautions (Additional Precautions).
- Assessment of the risk of infection transmission and the appropriate use of personal protective equipment (PPE), including correct selection, safe application, removal and disposal.
- Appropriate cleaning and/or disinfection of health care equipment, supplies and surfaces or items in the health care environment.
- individual staff responsibility for keeping clients/patients/residents, themselves and co-workers safe, in addition to employer and supervisor responsibilities for worker safety.
- collaboration between professionals involved in occupational health and IPAC.

NOTE: Education programs should be flexible enough to meet the diverse needs of the range of health care providers and other staff who work in the health care setting. PHUs and Regional IPAC Support Teams may be a resource and can provide assistance in developing and providing education programs for community settings.

6. Collaboration between professionals involved in Occupational Health and Safety (OHS) and IPAC is promoted in all health care settings to implement and maintain appropriate IPAC standards that protect workers, as well as patients and visitors.
7. There are effective working relationships between the health care setting and PHU. Clear lines of communication are maintained and PHU is contacted for information and advice as required and the obligations (under the [Health Protection and Promotion Act, RSO 1990, c H.7](#))¹¹ to report reportable and communicable diseases is fulfilled. (See Section 5 on reporting for details on what to report and the authority for the reporting.)
8. Access to ongoing IPAC and occupational health advice and guidance to support staff and resolve differences are available to the health care setting.
9. There are established procedures for receiving and responding appropriately to all international, national, regional and local health advisories in all health care settings. Health advisories are communicated promptly to all affected staff and regular updates are provided. Health advisories may be available from the websites of a variety of sources, e.g., the Ministry of Health, Health Canada, Public Health Agency of Canada (PHAC), PHUs, and Regional IPAC Support Teams.
10. Where applicable, there is a process for evaluating PPE in the health care setting, to ensure it meets quality standards.
11. There is regular assessment of the effectiveness of the IPAC program and its impact on practices in the health care setting. The information is used to further refine the program.¹

Occupational Health and Safety requirements shall be met:

1. Health care facilities are required to comply with applicable provisions of the [Occupational Health and Safety Act \(OHSA\), RSO 1990, c O.1](#) and its [regulations](#).¹² Employers, supervisors and workers have rights, duties and obligations under the OHSA.
2. The OHSA places duties on many different categories of individuals associated with workplaces, such as employers, constructors, supervisors, owners, suppliers, licensees, officers of a corporation and workers. A [guide](#) to the requirements of the Occupational Health and Safety Act is available for reference.
3. The OHSA section 25(2)(h), the “general duty clause”, requires an employer to take every precaution reasonable in the circumstances for the protection of a worker.
4. Specific requirements for certain health care and residential facilities may be found in the regulation [Health Care and Residential Facilities](#). Under that regulation there are a number of requirements, including:
 - a) Requirements for an employer to establish written measures and procedures for the health and safety of workers, in consultation with the joint health and safety committee (JHSC) or health and safety representative, if any. Such measures and procedures may include, but are not limited to, the following:
 - safe work practices
 - safe working conditions
 - proper hygiene practices and the use of hygiene facilities
 - the control of infections
 - immunization and inoculation against infectious diseases
 - b) The requirement that at least once a year the measures and procedures for the health and safety of workers shall be reviewed and revised in the light of current knowledge and practice.
 - c) A requirement that the employer, in consultation with the JHSC or health and safety representative, if any, shall develop, establish and provide training and educational programs in health and safety measures and procedures for workers that are relevant to the workers’ work.
 - d) A worker who is required by his or her employer or by the regulation for [Health Care and Residential Facilities](#) to wear or use any protective clothing, equipment or device shall be instructed and trained in its care, use and limitations before wearing or using it for the first time and at regular intervals thereafter and the worker shall participate in such instruction and training.
 - e) The employer is reminded of the need to be able to demonstrate training, and is therefore encouraged to document the workers trained, the dates training was conducted, and the information and materials covered during training.
5. Under the OHSA, a worker must work in compliance with the Act and its regulations, and use or wear any equipment, protective devices or clothing required by the employer.
6. The [Needle Safety Regulation \(O Reg 474/07\)](#)¹³ has requirements related to the use of hollow-bore needles that are safety-engineered needles.

Additional information is available at the [Ministry of Labour, Health and Community Care Page](#).

Preamble

A novel respiratory infection is an illness that causes respiratory symptoms (e.g., fever, cough) where the etiologic agent and/or epidemiology of the disease is/are not yet known, and the morbidity and mortality is presumed to be severe. In these cases the epidemiology, severity and clinical presentation are different from what might be expected from usual seasonal outbreaks and may involve a travel history or epidemiological link. For example, in 2003 Severe Acute Respiratory Syndrome (SARS) was a novel respiratory infection caused by a previously unknown virus that originated in China and rapidly spread to other countries.

How and When to Use This Document

This document sets out interim best practices using a precautionary approach for the prevention, surveillance and management of an outbreak of a **novel respiratory infection** in health care settings across the continuum of care including, but not limited to, pre-hospital care, acute care, complex continuing care, rehabilitation facilities, long-term care, chronic care, ambulatory care, home health care, community health centres and clinics, physician offices, dental offices, offices of other regulated health professionals, independent health facilities (IHF) and out-of-hospital premises (OHP). Health care settings across Ontario should already have in place best practices in surveillance and infection prevention and control (IPAC) for ARI, based on PIDAC's [Annex B](#).

Note that the Ministry of Health may activate the Ministry Emergency Operations Centre (MEOC) to coordinate and direct the health system's response in the event of a confirmed case of novel respiratory infection in Ontario. As part of this coordination, the MEOC will support health system partners to implement a coordinated response strategy (IPAC guidance, surveillance, communications, reporting, etc.).

This document was drafted on the assumption that the novel respiratory infection in question has been added to the reportable disease list, if it was not already on that list to begin with. However, if the novel respiratory pathogen is not reportable in Ontario, further guidance will be provided.

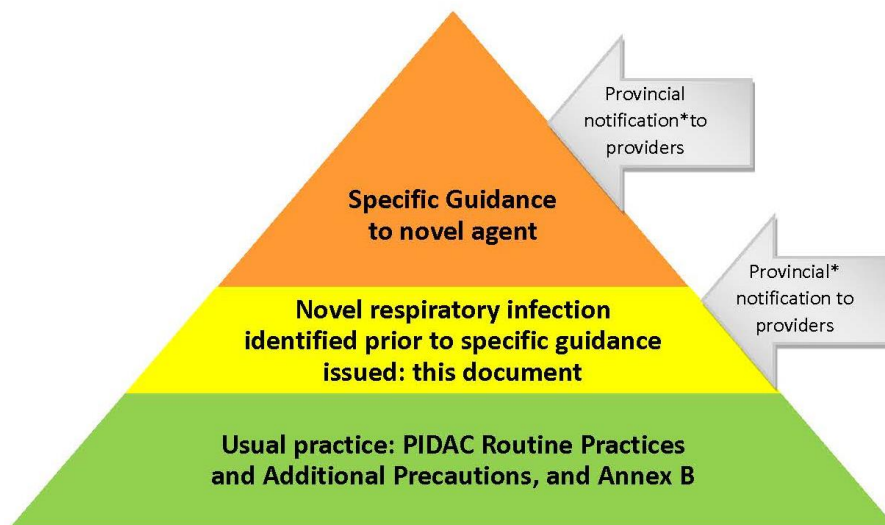
It is crucial that health care settings react swiftly to a novel respiratory infection; hence the use of this document is essential prior to the issuance of specific guidance. Such guidance will evolve as knowledge of the agent evolves, and will supersede recommendations in this document. Please see Figure 1 for detail on when to use this document.

NOTE: These best practices are not intended for use during an influenza epidemic or pandemic, or for agents for which Ministry of Health guidance is currently available. In the case of influenza, the epidemiology of the disease is known and the best practices for responding to an influenza pandemic are set out in the [Ontario Health Plan for an Influenza Pandemic](#).

These best practices are not to be used for management of seasonal respiratory viruses or other seasonal respiratory outbreaks where the etiology has not yet been determined. For more information, refer to:

- Provincial Infectious Diseases Advisory Committee's (PIDAC's) [*Annex B: Best Practices for Prevention of Acute Respiratory Infection in All Health Care Settings*](#)
- Ministry of Health and Long-Term Care's [*Control of Respiratory Infection Outbreaks in Long-Term Care Homes, 2018*](#)

Figure 1. When to use this document



*Provincial notification can refer to CMOH, PHO, other branches of the Ministry of Health, depending on the circumstances.

Following the Routine Practices and Additional Precautions described in Annex B will protect clients/patients/residents and staff from exposure to ARI in health care settings.

Effective routine ARI surveillance programs will also ensure that all health care settings are able to:

- detect any novel respiratory infection quickly
- take steps to prevent and control the spread of the agent of a novel respiratory infection.

Prevention, Surveillance and Infection Control Management of Novel Respiratory Infections

1. Surveillance

1.1 AT THE PROVINCIAL LEVEL

The Ministry of Health, CMOH and Public Health Ontario (PHO) monitor the emergence of respiratory infections around the world on an ongoing basis, which may include the following:

- Assess the level of risk to Ontarians.
- Determine the characteristics of the illness (e.g., symptoms, incubation period, mode of transmission).
- Develop a case definition for the illness.
- Develop surveillance screening and assessment tools (e.g., key screening questions based on characteristics of the disease).
- Develop laboratory handling protocols and specimen testing algorithms.
- Work with local MOH to assess the level of risk at the local level.

1.2 AT THE HEALTH CARE SETTING LEVEL

On the advice of the CMOH or the local MOH, all Ontario health care settings must augment their **active ARI surveillance program** to include the following:

- All clients/patients/residents entering the health care setting are screened for infection using PIDAC's ARI case finding/surveillance protocol until screening tools specific to the novel infection have been developed by the CMOH and Ministry of Health, in consultation with PHO. See Appendix B in PIDAC's [Best Practices for Prevention of Transmission of Acute Respiratory Infection](#) for the ARI case finding form. See [Appendix C](#) for an emergency department screening and patient management algorithm for novel respiratory infection.
- Health care providers should maintain a high index of suspicion when screening anyone with new onset of ARI symptoms or other symptoms characteristic of the novel infection.
- Anyone accompanying a client/patient/resident who is entering a health care setting and screens positive should also be screened.
- Visitors should be screened when directed to do so by the local MOH and/or CMOH.
- Patients/residents and staff already in the health care setting must be monitored for signs of acquired infection using the ARI case finding/surveillance protocol until screening tools specific to the novel respiratory infection have been developed by the CMOH and Ministry of Health in consultation with PHO. For more information on screening staff, see [Section 4](#).

Passive surveillance may detect cases of ARI as individuals enter the health care setting. Sample signage for passive surveillance can be found in PIDAC's [Best Practices for Prevention of Transmission of Acute Respiratory Infection](#), Appendix C and Appendix D.

Anyone who screens positive on the ARI case finding/surveillance protocol will be instructed to implement appropriate precautions (e.g., hand hygiene, mask, and wait in a designated separate area) and be referred for medical assessment. Assessment can occur in any area designated for that purpose by the health care setting in consultation with infection control professionals (ICPs) (e.g., emergency department, screening clinic). Areas designated to do medical assessments should have someone available to triage people and identify/direct those who need immediate care, and there should be PPE available. A disease-specific provincial standardized tool and risk management algorithm may be developed to facilitate assessment of individual patients. Assessment results would be recorded on the person's health chart/record, and communicated to the receiving facility or unit.

People admitted to a health care facility or to home care should already have been screened and assessed, and the results communicated to the receiving unit/floor/agency. Ongoing monitoring will apply as indicated above.

All health care settings must have a system in place to communicate cases of novel infection both internally within departments and externally to receiving facilities and PHU. See [Section 5](#) for more information on reporting.

All health care settings and providers must report suspect or confirmed cases of infection with a novel respiratory agent to their local PHU following the PIDAC ARI case finding/reporting protocol.

- Refer to the Provincial Infectious Diseases Advisory Committee's (PIDAC's) [Annex B: Best Practices for Prevention of Transmission of Acute Respiratory Infection in All Health Care Settings](#).

2. Initial Response to Identified Cases

2.1 FOR MANAGING CASES

Based on the initial and ongoing assessments of the disease, the Ministry of Health and CMOH in consultation with PHO will identify the appropriate actions and precautions for health care settings and providers, and provide specific outbreak guidance. While waiting for further agent-specific guidance from the Ministry of Health and CMOH, this document may be used to conduct the initial response.

Anyone diagnosed with suspect or confirmed respiratory infection with the novel agent should be managed using appropriate IPAC precautions (see Section 3) and reassessed daily. After 72 hours, health care providers will conduct a thorough review in consultation with the facility's IPAC team to determine if the person requires a change in precautions. If, after this review, the novel infection is still considered a diagnostic possibility, then precautions and daily clinical assessment will continue.

Precautions will be maintained until the period of communicability of the disease, if known, is over. In the early stages of investigation of the novel agent, the period of communicability may not be known. Expert advice may be needed to determine the duration of precautions based on factors such as persistence and duration of symptoms, patient risk factors, etc. Laboratory tests for viral shedding may be of assistance in these cases.

Laboratory testing should be performed as clinically indicated to determine the specific pathogen and to rule out more common etiologies for respiratory symptoms (e.g., influenza), where possible. Submit specimens for testing appropriate to the presenting symptoms, according to the protocol of the laboratory serving the health care setting. Consult with the hospital laboratory's medical microbiologist and/or Public Health Ontario Laboratory regarding the submission of specimens specific to the novel agent.

2.2 FOR HEALTH CARE FACILITIES WHERE POTENTIAL EXPOSURE HAS OCCURRED:

The IPAC team in collaboration with OHS and PHUs will work together to determine what constitutes an exposure and who will be followed up. For health care facilities where there has been exposure to the novel respiratory agent, with or without transmission, the following containment strategies must be implemented:

2.2.1 If the patient was seen in the Emergency Department (ED) or other ambulatory setting without the use of precautions considered adequate to prevent transmission of the agent:

- Implement daily surveillance of all exposed staff (See below). This should continue for the incubation period of the novel agent, if known.
- Any exposed person who develops symptoms consistent with the novel respiratory infection during the incubation period must be assessed:
 - admitted patients would be assessed by their health care providers
 - staff would be assessed by Occupational Health and Safety
 - patients who have been sent home, or visitors, would be assessed by PHU.

- Staff members who were directly exposed, i.e., provided direct patient care or were within two metres of a symptomatic patient without the use of N95 respirator and Droplet/Contact Precautions, should be sent home for the incubation period of the novel agent (if known) and the PHU notified. See section 4 for more information.
- Cohort staff members who worked on the patient’s unit, but were not directly exposed, to that unit. These cohorted staff members should be actively assessed daily for signs and symptoms of infection. They must not work on other units or in other health care settings.
- Notify the PHU to follow exposed patients who have been discharged home.
- Notify receiving health care settings if exposed patients were transferred to their facility.

For the purposes of this document, there are two levels of exposure risk:

- 1) Directly exposed persons are those who were within two metres of a symptomatic patient without the use of N95 respirator and Droplet/Contact Precautions.**
- 2) Not directly exposed persons are those who were on the same unit as a symptomatic patient before Airborne Precautions and Droplet/Contact Precautions were implemented.**

2.2.2 If the patient was admitted to an in-patient unit without the use of appropriate precautions (Appendix D):

- Close the unit to admissions, discharges and transfers unless the transfer is medically necessary, e.g., transfer to critical care unit. If transfer is medically necessary, notify the receiving unit or health care setting about required Airborne Precautions and Droplet/Contact Precautions.
- Immediately assess all patients on the unit for symptoms consistent with the novel respiratory infection.
- Implement Airborne Precautions and Droplet/Contact Precautions for patients who have symptoms consistent with the novel respiratory infection. These patients should remain accommodated on the affected unit. If sufficient AIIRs are not available, see page 19, “Inpatient Accommodation”, for alternate accommodation strategies.
- Consider all patients on the unit while the patient was symptomatic and not on precautions to be potentially exposed. Use an N95 respirator plus Droplet/Contact precautions for all patients on the unit.
- Staff members who were directly exposed, i.e., provided direct patient care or were within two metres of a symptomatic patient without the use of N95 respirator and Droplet/Contact Precautions, should be sent home for the incubation period of the novel agent (if known) and the PHU should be notified. See section 4 for more information.
- Within the closed unit, cohort exposed patients and ill patients in geographically separated areas, if possible, together with their respective care givers.
- Cohort staff members who worked on the patient’s unit, but were not directly exposed to the patient, to that unit. These cohorted staff members should be actively assessed daily for signs and symptoms of infection. They must not work on other units or in other health care settings.

- Determine if there were exposed patients who have been transferred to another unit or health care setting. Notify the receiving unit or health care setting about the patient’s exposure to the novel respiratory agent. Implement surveillance and Airborne Precautions and Droplet/Contact Precautions for exposed patients. Notify local PHU to follow any exposed patients on the unit who were discharged home.
- Notify PHU for follow-up if there were any visitors to the patient.
- Implement daily surveillance on the unit. For screening tool, refer to Appendix E in PIDAC’s [Best Practices for Prevention of Acute Respiratory Infection in All Health Care Settings](#). Surveillance is to continue for the duration of the incubation period, if known.
- Implement Airborne Precautions and Droplet/Contact Precautions immediately for patients who have symptoms consistent with the novel respiratory infection.
- Notify other area health care settings about the novel agent so that they will be prepared if cases present to their facility.
- If there are no new cases after the incubation period, if known, in consultation with IPAC and PHU, re-open the unit. Continue ARI surveillance.

2.3 FOR HEALTH CARE FACILITIES WHERE THERE IS A CASE NOSOCOMIAL TO THE FACILITY:

A case is nosocomial to a facility if it meets the case definition of novel respiratory infection, was asymptomatic on presentation to the healthcare facility and developed symptoms in the facility after the incubation period, if known. For these cases:

- Notify PHU.
- Maintain containment steps as per #2 above.
- Declare a facility outbreak.
- Review all patient and staff contacts, including all contacts on other units to whom the patient may have been exposed or who may have been exposed to the patient. Try to determine the source of the nosocomial case. If a clear epidemiological link is established, maintain containment as per #2 above. If no clear epidemiological link is established, seek guidance from the PHU and PHO.

Table 1: Summary of surveillance results and associated action to be taken

Results of Surveillance	Action
No novel agent identified globally	Routine ARI surveillance
Novel agent in well-defined geographic area	Routine ARI surveillance including travel history
Cases in region but not one’s own facility	ARI surveillance including travel history to originating area or affected area in region + transfers to/from affected facilities
Case(s) in one’s own facility with no	Maintain Airborne Precautions and Droplet/Contact Precautions for suspected/confirmed case(s)

Results of Surveillance	Action
unprotected exposure	Daily surveillance for patients and staff on the unit accommodating the patient(s)
Exposure in one's own facility (with or without transmission)	<p>Implement Airborne Precautions and Droplet/Contact Precautions for patients who have symptoms</p> <p>Close unit to admissions, discharges and transfers unless medically necessary</p> <p>Daily surveillance of all exposed patients and staff for symptoms</p> <p>Cohort exposed or ill patients</p> <p>Directly exposed staff to be sent home for the incubation period of the novel agent (if known) and PHU notified</p> <p>Cohort staff members, who were not directly exposed to the patient, to the unit</p> <p>Notify receiving facilities for patients who were exposed and transferred</p> <p>Notify the PHU for patients who were exposed and discharged</p>
Nosocomial case(s) in one's own facility	<p>Declare a facility outbreak and close unit</p> <p>Notify the PHU</p> <p>Implement all previous steps under "Exposure in one's own facility" (as above)</p>

3. Infection Prevention and Control Practices

3.1 GENERAL PROCEDURES

In preparing for, or responding to, novel respiratory agents, there is an expectation that all health care settings will have a functioning IPAC program that includes:

- A functioning program to monitor and screen for acute respiratory infection.
 - Refer to the Provincial Infectious Diseases Advisory Committee's (PIDAC's) [*Annex B: Best Practices for Prevention of Transmission of Acute Respiratory Infection in All Health Care Settings*](#).
- Established lines of communication with PHU.
 - To locate your local public health, visit: Ontario's [Public Health Unit Locator](#).
- Access to informed IPAC advice and consultation, such as the health setting's ICP, Regional IPAC Support Teams and/or the PHU.
 - [Regional IPAC Support Team](#)
- Accessible hand hygiene stations, including point-of-care alcohol-based hand rub (ABHR) for all health care providers.
 - For more information about hand hygiene, refer to PIDAC's [*Best Practices for Hand Hygiene in All Health Care Settings*](#).
- Readily accessible and appropriate personal protective equipment (PPE) for all health care providers.
 - For more information about PPE, refer to PIDAC's [*Routine Practices and Additional Precautions in All Health Care Settings*](#).
- Clear processes for obtaining appropriate laboratory testing.
 - [Public Health Ontario laboratory contact](#).

All health care settings must have signage posted at all entrances instructing all clients/patients/residents, visitors and volunteers about:

- any identified risks in the setting
- any screening procedures in effect
- any restrictions in place (e.g., any limitations on who can enter the health care setting)
- any IPAC practices required, such as when to perform hand hygiene

3.2 PERSONAL PROTECTION EQUIPMENT AND PRACTICES

Health care providers at risk of direct exposure to clients/patients/residents with suspect or confirmed infection with the novel respiratory agent must consistently use Routine Practices plus Airborne Precautions and Droplet/Contact Precautions.

Most respiratory infections are droplet/contact spread. The only diseases known to be transmitted person-to-person by the airborne route are tuberculosis, measles and chickenpox. However, using a precautionary approach that combines Airborne Precautions and Droplet/Contact Precautions should be observed until the epidemiology of the novel agent is established.

Routine Practices include:

- Hand hygiene (i.e., using ABHR or washing hands):
 - before entering the client/patient/resident's room
 - after exiting the client/patient/resident's room
 - after taking off and disposing of personal protective equipment.
- Examination procedures that minimize contact with droplets/aerosols (e.g., sitting next to rather than in front of a coughing client/patient/resident when taking a history or conducting an examination.)
- Communal or shared equipment cleaned and disinfected after use.
- Client/patient/resident advised to practice respiratory etiquette when coughing or sneezing:
 - turn the head away from others
 - cover the nose and mouth with tissue; if you don't have a tissue, cough or sneeze into your upper sleeve or elbow, not your hands
 - discard tissues immediately after use into waste
 - perform hand hygiene immediately after disposal of tissues.

Airborne Precautions and Droplet/Contact Precautions include:

- A fit-tested, seal-checked N95 respirator covering the nose and mouth:
 - when entering the client/patient/resident's room
 - when within two metres of the client/patient/resident.
- Eye protection when within two metres of the client/patient/resident.
- Gloves and gown to enter the client/patient/resident's room.
- A mask worn by the client/patient/resident when outside his or her room or the care area and hand hygiene performed on exiting the room.

After the health care provider has completed care and is greater than two metres distance from the client/patient/resident, or on exiting an AIIR if in an AIIR, they must remove PPE in a manner that does not

contaminate themselves or the environment. Refer to Appendix L in PIDAC's [Routine Practices and Additional Precautions in All Health Care Settings](#) for the correct procedure for removing PPE in a safe manner.

If a health care provider believes that his/her hands have become contaminated during any stage of PPE removal, hand hygiene must be performed before proceeding further. Sinks that patients/residents use may be heavily contaminated and should not be used by health care providers for hand hygiene.

- For more information about the use of PPE, refer to PIDAC'S [Routine Practices and Additional Precautions in All Health Care Settings](#).

3.3 CLEANING OF HIGH RISK AND GENERAL PUBLIC AREAS

Health care settings must thoroughly clean surfaces in care areas, and in public areas identified by ICP(s) as high risk, such as emergency departments, triage areas and waiting areas. Particular attention should be paid to frequently touched surfaces. Cleaning should be done using a facility-approved, hospital grade disinfectant cleaner that has virucidal and bactericidal properties and a drug identification number (DIN).

- For more information about environmental cleaning in health care settings, see PIDAC's [Best Practices for Environmental Cleaning in All Health Care Settings](#).

3.4 INPATIENT ACCOMMODATION

Clients/patients/residents with suspect or confirmed infection with the novel respiratory agent should be placed in (in order of preference):

1. Airborne infection isolation room (AIIR).
2. Single room with a portable high efficiency particulate air (HEPA) filtration unit.
3. Single room without portable HEPA filtration unit.
4. If sufficient single rooms are not available, cohorting of individuals with laboratory-confirmed novel respiratory agent may be considered in consultation with the IPAC team and PHU.

During an outbreak of a novel respiratory infection, some health care settings (e.g., hospitals) may be asked by the CMOH and Ministry of Health to establish units for those with suspect or confirmed infection. The purpose of setting up dedicated units would be to confine and contain patients who are infected and to make it easier to provide consistent care.

3.5 PRECAUTIONS FOR AEROSOL-GENERATING MEDICAL PROCEDURES (AGMP)

Procedures carried out on clients/patients/residents with suspect or confirmed infection with the novel respiratory disease that generate droplets and/or aerosols can expose staff to respiratory pathogens and are considered a potential risk for staff and others in the surrounding area. All elective aerosol-generating medical procedures (AGMPs), such as dental care, should be postponed until the illness is

resolved. Assess the client/patient/resident's condition regularly in order to anticipate his or her care needs, so if an urgent or non-elective AGMP is required, it can be carried out under optimal conditions.

Non-elective AGMPs should be performed using processes and practices designed to avoid generating aerosols, including:

- Perform the procedure in an AIIR with the door closed, whenever possible.
- Keep the number of people in the room during the procedure to a minimum. Have only highly experienced staff perform the procedure.
- Ensure everyone wears appropriate PPE and is instructed in its use. PPE includes a fit-tested, seal-checked N95 respirator, face/eye protection, gloves, gown, and hand hygiene. The use of PPE extends to family members who are there on compassionate grounds.
- Use equipment and techniques that minimize exposure to respiratory pathogens. Refer to PIDAC's [*Annex B: Best Practices for Prevention of Transmission of Acute Respiratory Infection in All Health Care Settings*](#).
 - For a list of AGMPs where transmission has been documented as well as other procedures for which there is no published literature documenting transmission, see PIDAC'S [*Routine Practices and Additional Precautions in All Health Care Settings*](#).

3.6 MOVEMENT OF PATIENTS/RESIDENTS

3.6.1 Within a Health Care Setting: The movement of patients/residents with suspect or confirmed infection with the novel respiratory agent within a health care setting should be restricted to essential tests and procedures and time spent outside of the room should be minimized.

When movement is required:

- The patient/resident must wear a surgical mask when outside his or her room or the care area and perform hand hygiene on exiting the room.
- Staff must maintain appropriate precautions and use the appropriate PPE at all times.

All patients/residents coming from a unit where exposure or transmission of the novel agent has occurred must be managed using appropriate precautions until the diagnosis is excluded and the incubation period has passed.

3.6.2 Between Health Care Settings: The transfer of patients/residents with suspect or confirmed infection with the novel agent from one facility to another should be avoided until more is known about the agent. If transport is medically necessary, the receiving setting must be notified of the patient/resident's health status and the transporting setting's outbreak status, and be able to appropriately accommodate the patient/resident before the transfer is initiated.

All patients/residents coming from a unit in another health care facility where exposure or transmission of the novel agent has occurred must be managed using appropriate precautions until the diagnosis is excluded and the incubation period has passed.

3.6.3 Discharges to Home/Community: Patients with the novel respiratory infection who are to be discharged from a hospital should be assessed for the stage of their exposure or disease:

- Plans for discharge home should be made in consultation with the PHU for those that require Additional Precautions or monitoring. The need for isolation, quarantine and follow-up of people who have been exposed or infected will be determined at the provincial* level based on the characteristics of the novel infection. (* we define provincial as activities that intersect the Ministry of Health, CMOH and PHO)
- Additional measures may be put into place, such as self-monitoring.
- If the patient has been ill but is well enough to go home and is still within the period of communicability, he or she will be instructed in appropriate precautions to avoid transmitting the novel agent to others. Persons who provide care in the home or in the community should be advised of the appropriate precautions to take and instructed in the use of any PPE. Precautions will be maintained during discharge and at home until the period of communicability, if known, has passed or until symptoms are resolved.

All patients/residents coming from a unit where exposure or transmission of the novel agent has occurred must be managed using appropriate precautions until the diagnosis is excluded and the incubation period has passed.

3.7 RESTRICTING VISITORS TO AND WITHIN A HEALTH CARE SETTING

- Health care settings where exposure, with or without transmission, has occurred will restrict the number of available entrances into the setting.
- It may be necessary for health care settings to discontinue or restrict visitors to patients/residents who require precautions for the novel agent. If this measure is necessary, a process for exceptions made on compassionate grounds will need to be developed, in consultation with IPAC and the medical and nursing staff caring for the patient/resident. The health care setting will develop criteria for who should be admitted on compassionate grounds. Visitors must practice hand hygiene, be instructed in and adhere to appropriate precautions when visiting, and not visit if they are ill.
- All health care settings will use communications, public relations, signage and staff (who have been appropriately briefed and trained) to explain any restrictions to visitors, and screen visitors. Whenever possible, health care settings should have written materials for visitors that explain any restrictions or requirements (e.g., hand hygiene, personal protective equipment), and give them a number to call for more information.
- Health care settings should have information available for visitors that will offer guidance if they show symptoms of the novel agent.
- All health care settings will instruct visitors to sign in so they have a record that can be used for contact tracing, if required.
- Visitors who do not comply with IPAC requirements will be assumed to have been exposed to the novel agent, and health care settings will report them to the PHU as new contacts.
- Visitors should wear PPE including gown, gloves, eye protection, and a well-fitting mask.

- Visitors should be advised on the symptoms to watch for. If visitors to a patient/resident who requires precautions for the novel agent develop symptoms, they must report to their local PHU and inform the health care setting's ICP. The health care setting's ICP would report these visitors to PHU as potential contacts.
- The health care setting's ICP will keep a log of the visitors; this log will be available to PHU if required.
- PHUs will be responsible for determining precautions and contact tracing. Medical assessment should be coordinated through the PHU.

4. Health and Safety in the Workplace

4.1 GENERAL

Under the OHSA, organizations that employ health care workers (HCWs) have a legal obligation to take all reasonable precautions to protect workers. Under the regulation [Health Care and Residential Facilities](#), employers in health care facilities have a duty to establish measures and procedures to protect workers, including the prevention and control of infections.

Health care employers are expected to maintain healthy work environments. Employers, in consultation with the Joint Health and Safety Committee (JHSC) in the workplace, are required to develop appropriate measures and procedures and provide workers with relevant training.

In environments where people with infectious diseases are treated, risks for patients, visitors or staff may be reduced or controlled but not eliminated. However there are steps that health care settings should take to protect workers and significantly reduce the transmission risks associated with providing care.

All health care settings should actively promote collaboration between OHS and IPAC in implementing and maintaining appropriate IPAC standards that protect workers. All IPAC policy and protective practices shall comply with the [OHSA, RSO 1990, c O.1](#), and regulations, and other legislated requirements.

Under the OHSA, HCWs have a duty to use or wear the equipment, protective devices or clothing that the employer requires to be used or worn.

The health care setting shall ensure that appropriate PPE is available, easily accessible and that staff members are trained in its use.

4.2 EDUCATION, TRAINING AND SUPERVISION

Health care settings have a legal duty to develop, establish and provide training and educational programs in health and safety measures and procedures for workers that are relevant to their responsibilities, and should provide regular, ongoing education and training in evidence-based IPAC practices. There is evidence from the experiences with SARS that training and education was important in reducing transmission.^{15, 16}

Health care organizations should have plans in place for delivering just-in-time education for the novel respiratory agent, should it appear.

In the case of an outbreak of a novel respiratory infection, health care settings should provide educational programs that include:

- The characteristics of the disease, including symptoms.
- The level of risk in the community and in the health care setting.
- The health care setting's plan to respond to the novel infection.

- Information about appropriate protective practices, including strict adherence to hand hygiene, to minimize risk of transmission, and the importance of routine IPAC practices and Additional Precautions to prevent the transmission of infection during the delivery of health care in all health care settings.
- Appropriate use of PPE.
- The scientific basis for the recommendations about protective practices.
- Any changes in protective practices that may occur as more becomes known about the novel infection.

All health care settings will provide appropriate support and supervision for staff during an outbreak of a novel respiratory infection.

4.3 STAFF SCREENING

Health care settings must instruct all staff to self-screen at home. Staff members with symptoms of an acute respiratory infection must not come to work and must report their symptoms to OHS.

Health care settings where exposure to, or transmission of, the novel agent has occurred must implement active staff screening.

4.4 STAFF DEPLOYMENT

Staff deployment will be determined by the behaviour and transmissibility of the novel agent. Staff working in settings where no exposure to the novel agent has occurred may work in other settings where no exposure has occurred and in unaffected areas of settings where exposure has occurred.

Staff members who have worked on an affected patient's unit but were not directly exposed, must be cohorted on the unit and active daily assessment of staff for signs and symptoms of infection.

To determine the degree of exposure of staff to a patient infected with the novel respiratory agent, a risk assessment will be conducted by an appropriate infection prevention and control, occupational health or public health professional to determine the need for, and degree of, follow-up and surveillance of a worker.

Only essential staff may work in areas affected by exposure(s). These staff members must work in the affected area only and cannot work in other health care settings.

Staff members who have a direct exposure to the novel respiratory agent, or are a household contact of a case will be sent home and reported to the PHU. Staff members will be given direction on precautionary measures, such as the use of PPE. At a minimum, they must self-monitor for symptoms, remain at home for the incubation period (if known) and notify OHS and the PHU if symptoms develop. Staff must consult with OHS before returning to work. Precautions will be maintained at home until the period of communicability, if known, has passed or until symptoms are resolved.

In the setting of a highly communicable respiratory infection, a decision may be made that non-essential staff (e.g., volunteers, research staff, consultants, contractors, delivery personnel, couriers, gift shop staff) will not enter areas where there are cases of the novel respiratory infection.

The distance and duration components of what constitutes an exposure may change based on evolving knowledge of the epidemiology of the novel disease.

4.5 STAFF INFECTION PREVENTION PRACTICES

All health care settings will actively promote and all staff will maintain appropriate IPAC practices (see [Section 3](#)).

Staff members who are feeling unwell and may infect others must report to their supervisor or appropriate managing body and exclude themselves from work. OHS must be notified and will follow up and document the illness. OHS will investigate any possible occupational exposure and arrange for medical assessment, if indicated.

Workers who become ill while at work must notify their supervisor, and leave work. They are to be assessed or followed by OHS. Managers or supervisors who observe staff who are at work with a suspected ARI must refer them to OHS and/or send them home.

If symptoms start while at work, staff must go home.

5. Reporting

Reporting procedures should be designed to ensure that health care settings and public health authorities have the information they need to prevent and control the spread of the novel agent:

- A single confirmed case of a novel respiratory infection is a sentinel event and must be reported to the local PHU immediately.
- An institutional outbreak of an infectious respiratory disease is reportable in Ontario. For more information for the long-term care setting, see Ministry of Health and Long-Term Care's [Control of Respiratory Infection Outbreaks in Long-Term Care Homes, 2018](#)
- A single case of a novel respiratory infection where transmission within the health care setting is known or suspected must be considered an outbreak.

In the event of an outbreak of a novel respiratory agent, there may be reporting requirements to the Ministry of Health related to delivery of care (e.g., related to capacity) that will differ from reporting to PHU, which will contain specific patient information. This communication should go through the facility's incident management system.

5.1 REPORTING TO INFECTION PREVENTION AND CONTROL

IPAC must be promptly notified of any case or cluster of respiratory infection in clients/patients/residents or staff by clinical staff when they are aware of these or when daily ARI surveillance indicates these types of cases.

OHS will notify IPAC of any case or cluster of respiratory infections in staff.

5.2 REPORTING TO OCCUPATIONAL HEALTH SERVICES

Staff members who develop symptoms of respiratory infection must report their condition to OHS or delegate. Health care settings are required to report any occupationally acquired infection to the JHSC or delegate, and to the union, if any.

IPAC will notify OHS about any case or cluster of respiratory infections in clients/patients/residents or staff.

5.3 REPORTING TO PUBLIC HEALTH UNITS

All health care settings must immediately report to PHUs:

- Any suspect or confirmed case of infection with the novel agent in a client/patient/resident.
- Any suspect or confirmed case of infection with the novel agent in staff.
- Any possible exposure to a suspect or confirmed case of the novel infection in the health care setting of staff or visitors.

Reporting to PHUs will be done using a standard format provided by PHUs.

5.4 REPORTING TO THE MINISTRY OF LABOUR

Health care settings shall report in writing any case of occupationally-acquired infection to the Ministry of Labour within four days of notification in accordance with the OHSA.

5.5 REPORTING TO THE WORKPLACE SAFETY AND INSURANCE BOARD

Health care settings shall report staff with occupationally-acquired infection to the Workplace Safety and Insurance Board within 72 hours.

Appendix A: Infection Prevention and Control Resources

1. Public Health Ontario

1.1 PROVINCIAL INFECTIOUS DISEASES ADVISORY COMMITTEE (PIDAC)

- [Index of Best Practice documents](#)
- [Routine Practices and Additional Precautions in all Health Care Settings](#)
- [Annex B: Prevention of Transmission of Acute Respiratory Infection in all Health Care Settings](#)
- [Best Practices for Hand Hygiene in all Health Care Settings](#)
- [Best Practices for Environmental Cleaning for Prevention and Control of Infections](#)

1.2 PUBLIC HEALTH ONTARIO LABORATORIES

- [Laboratory Locations](#)
- [Laboratory Test Information](#)

1.3 REGIONAL IPAC SUPPORT TEAM

- [Regional IPAC Support Team Locator](#)

2. Ministry of Health

- [Website](#) where any agent-specific recommendations will be posted
- [Public Health Unit Locator](#)
- [Control of Respiratory Infection Outbreaks in Long-Term Care Homes, 2018](#)

3. Ministry of Labour

- Ministry of Labour main [website](#)

4. Ministry of the Solicitor General

- [Emergency Management Ontario](#)

5. Public Health Agency of Canada

- [Travel Health Notices](#)

6. World Health Organization

- [Disease Outbreak News](#)
- [Global Alert & Response](#)
- [Global Infection Prevention and Control Network \(GIPC Network\)](#)

Appendix B: Preparedness Checklist for Novel Respiratory Infection

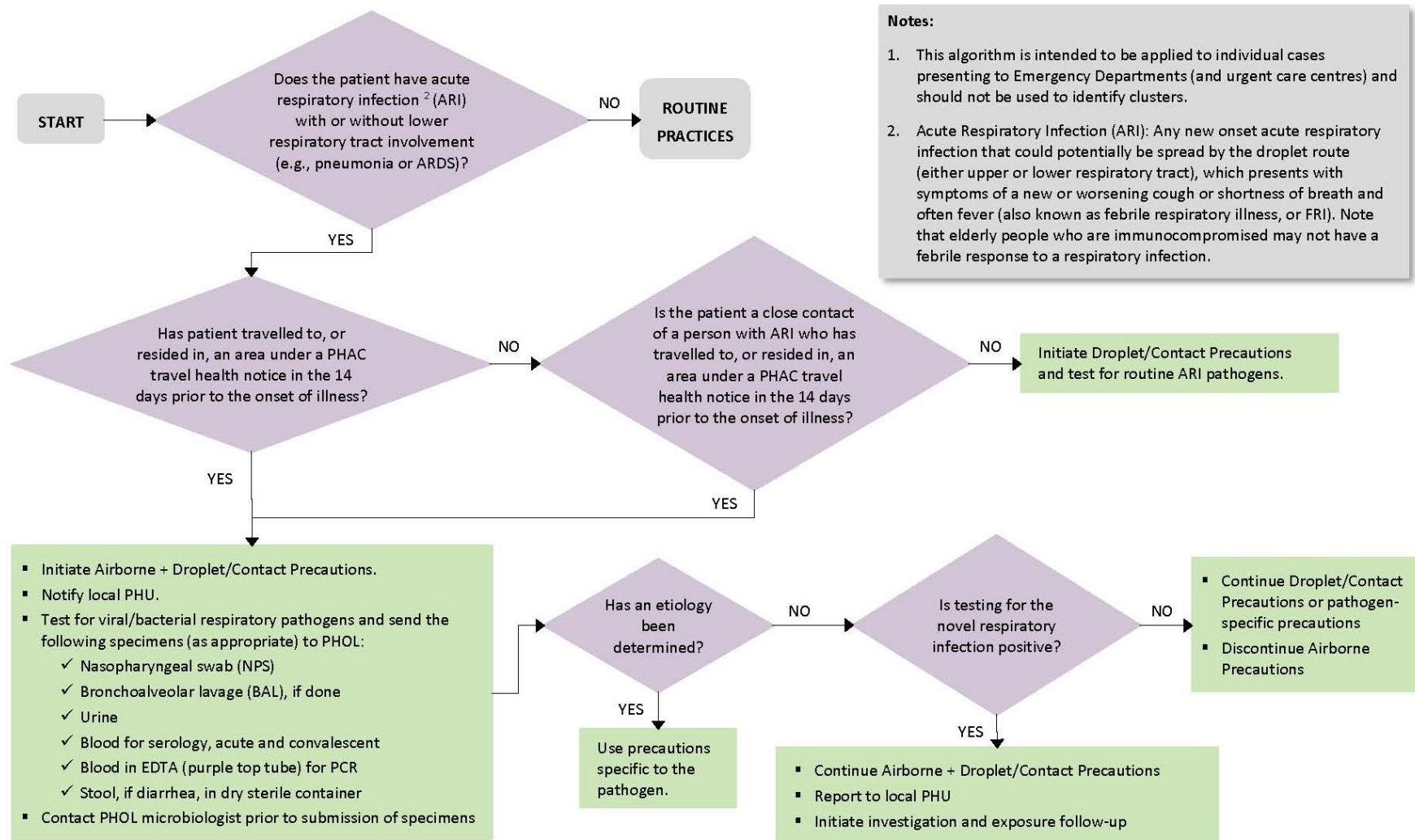
Table 2: Checklist Before the First Novel Respiratory Infection Patient Arrives

Domain	Element
Surveillance	<ul style="list-style-type: none"> <input type="checkbox"/> Establish institutional responsibility for tracking information about emerging respiratory and other pathogens.
Education	<ul style="list-style-type: none"> <input type="checkbox"/> Ensure that Emergency Department (ED) staff members are aware of clinical and exposure screening criteria and are updated as needed regarding case definition and screening for travel history. <input type="checkbox"/> Consider audits of ED triage screening. <input type="checkbox"/> Provide information to health care providers (particularly nurses, physicians, respiratory therapists; focus on ED and intensive care unit (ICU)) on precautions to be taken for patients with suspected/confirmed novel respiratory infection.
Laboratory Readiness	<p>Establish:</p> <ul style="list-style-type: none"> <input type="checkbox"/> a notification system for laboratory regarding suspect patients; <input type="checkbox"/> a mechanism for notification and prompt delivery of specimens from suspected patients to PHOL; <input type="checkbox"/> a system for communicating results to relevant staff and departments; a novel respiratory infection result should be treated as a critical result; <input type="checkbox"/> safety protocols for laboratory staff who will be handling specimens.
Communication	<ul style="list-style-type: none"> <input type="checkbox"/> Draft an outline of a communication plan associated with admission of a suspected/confirmed case.
Planning	<ul style="list-style-type: none"> <input type="checkbox"/> Develop a patient management plan (see below). <input type="checkbox"/> Review/update plan at least semi-annually if the JHSC or health and safety representative determines that such a review is necessary, or if circumstances or knowledge pertaining to the agent change that may affect the health and safety of a worker.
Treatment	<ul style="list-style-type: none"> <input type="checkbox"/> Consider participation in investigations to describe clinical features and epidemiology and investigate new therapy (e.g., isaric.tghn.org).

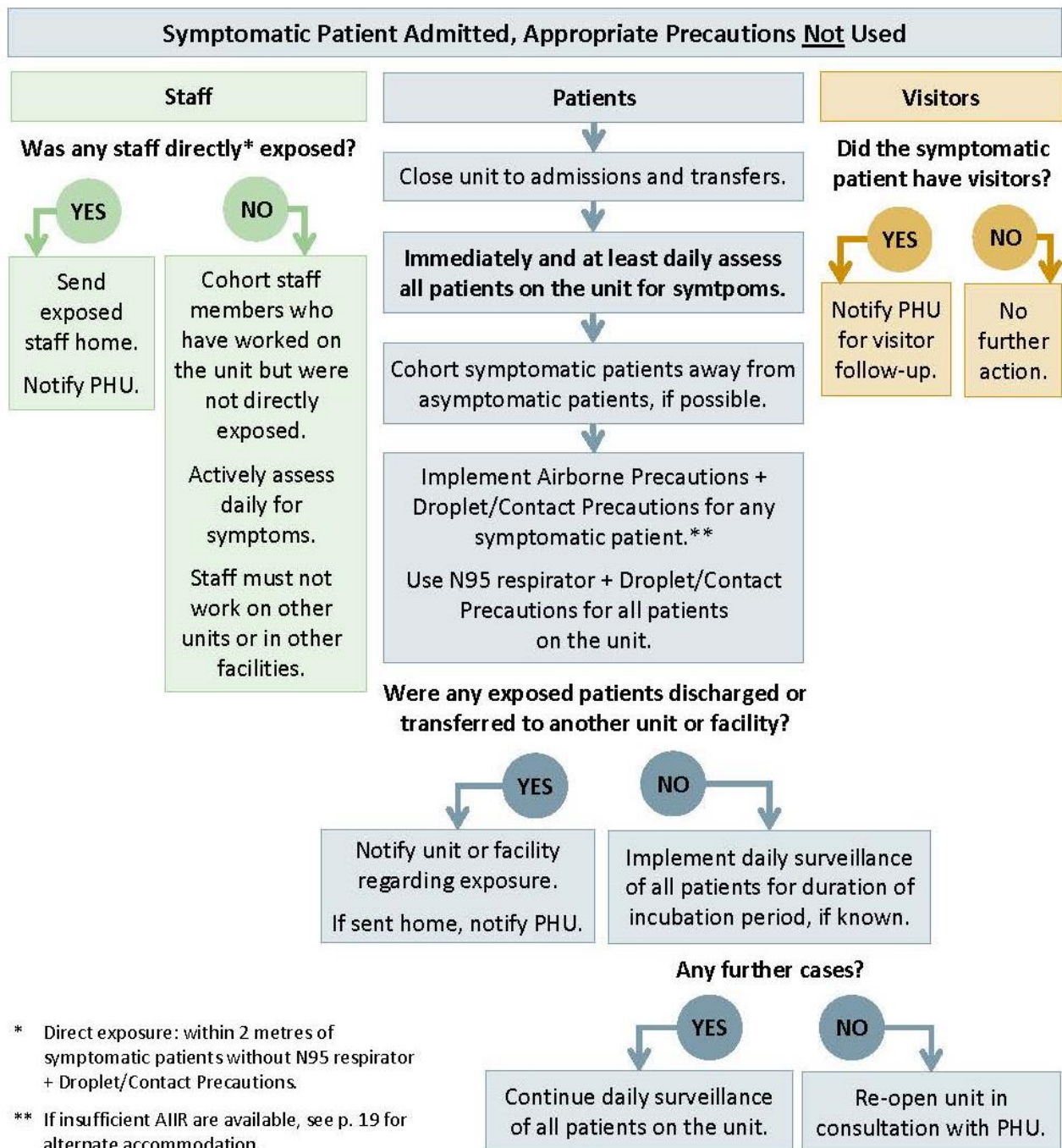
Table 3: Checklist for Management Plan for a Patient With Novel Respiratory Infection

Domain	Element
Accommodation	<ul style="list-style-type: none"> <input type="checkbox"/> Identify appropriate room in ED for patients being investigated for disease. <input type="checkbox"/> Establish timeline for movement of patient out of ED if admission is required.
Additional Precautions	<ul style="list-style-type: none"> <input type="checkbox"/> Patients should be accommodated in an airborne infection isolation room (AIIR) when possible. <input type="checkbox"/> Ensure that measures and procedures are in place to maintain proper functioning of AIIRs. <input type="checkbox"/> HCW should use both Droplet/Contact Precautions and Airborne Precautions (i.e., use of gown, gloves, eye protection, N95 respirator). <input type="checkbox"/> Patients should wear a surgical mask during transportation, if tolerated. <input type="checkbox"/> Ensure that precautions are initiated whenever a case is suspected; precautions to be discontinued by IPAC staff or their designate when case is cleared.
Diagnosis	<ul style="list-style-type: none"> <input type="checkbox"/> Document the process for confirming that patient meets the case definition and requires testing. <input type="checkbox"/> Consider availability of materials to remind staff how to obtain specimens using appropriate precautions. <input type="checkbox"/> Document the process and communications required for rapid transport and testing of relevant specimens.
Communication	<ul style="list-style-type: none"> <input type="checkbox"/> Document the process to notify local PHU and PHOL. <input type="checkbox"/> Document the process to notify pre-designated internal stakeholders as per plan (e.g., senior management team, OHS, IPAC, Communications, microbiology laboratory).
Education / Training	<ul style="list-style-type: none"> <input type="checkbox"/> Establish mechanism for updating institution's knowledge regarding status of novel respiratory infection (e.g., Ministry of Health guidance). <input type="checkbox"/> Define what materials will be needed (e.g., Q&A for ED/ICU staff; email to senior management; reassurance to laboratory staff who will be handling specimens) and who will be responsible for drafting and review. <input type="checkbox"/> Define which hospital departments may be providing care and/or provide diagnostic services for the patient and require information (e.g., nursing areas, respiratory therapy, physiotherapy, occupational therapy, nutrition, diagnostic imaging, pastoral care, laboratories, pharmacy, volunteers, and security); limit performance of AGMP to essential staff. <input type="checkbox"/> Define contractors and external agencies whose employees may be exposed (e.g., Emergency Medical Services, other first responders, home care services). <input type="checkbox"/> Draft messages/information needed for family and visitors, in collaboration with local PHU.
Follow-up for Identification of Transmission	<ul style="list-style-type: none"> <input type="checkbox"/> Consult with PHU regarding risk assessment, and develop a plan for follow-up of exposed staff and visitors. <input type="checkbox"/> Document process to report to PHU to identify and manage relevant out of hospital exposures. <input type="checkbox"/> Confirm guidelines for follow-up for staff and patients (e.g., Ministry of Health, PHAC, World Health Organization).

Appendix C: Screening and Patient Management Algorithm for Novel Respiratory Infection ¹



Appendix D: Algorithm for Response to Symptomatic Patients Admitted to a Health Care Setting without the Use of Appropriate Precautions



References

1. Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for infection prevention and control programs in Ontario in all health care settings. 3rd ed. Toronto, ON: Queen's Printer for Ontario; 2012. Available from: <https://www.publichealthontario.ca/-/media/documents/bp-ipac-hc-settings.pdf?la=en>
2. Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Routine practices and additional precautions in all health care settings. Toronto, ON: Queen's Printer for Ontario; 2012. Available from: <https://www.publichealthontario.ca/-/media/documents/bp-rpap-healthcare-settings.pdf?la=en>
3. Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Annex A – screening, testing and surveillance for antibiotic-resistant organisms (AROs). 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/aros-screening-testing-surveillance.pdf?la=en>
4. 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/bp-prevention-transmission-ari.pdf?la=en>
5. Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Annex C – testing, surveillance and management of *Clostridium difficile*. 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/cdiff-testing-surveillance-management.pdf?la=en>
6. Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Infection prevention and control for clinical office practice. 1st revision. Toronto, ON: Queen's Printer for Ontario; 2015. Available from: <https://www.publichealthontario.ca/-/media/documents/bp-clinical-office-practice.pdf?la=en>
7. Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for hand hygiene in all health care settings. 4th ed. Toronto, ON: Queen's Printer for Ontario; 2014. Available from: <https://www.publichealthontario.ca/-/media/documents/bp-hand-hygiene.pdf?la=en>
8. Public Health Ontario[Internet]. Just Clean Your Hands. Ontario's evidence-based hand hygiene program. Released 2008. [cited 2020 Feb 3]. Available from: <https://www.publichealthontario.ca/en/health-topics/infection-prevention-control/hand-hygiene>
9. Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for cleaning, disinfection and sterilization in all health care

settings. 3rd ed. Toronto, ON: Queen's Printer for Ontario; 2013. Available from: <https://www.publichealthontario.ca/-/media/documents/bp-cleaning-disinfection-sterilization-hcs.pdf?la=en>

10. Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for environmental cleaning for prevention and control of infections in all health care settings. 3rd ed. Toronto, ON: Queen's Printer for Ontario; 2018. Available from: <https://www.publichealthontario.ca/-/media/documents/bp-environmental-cleaning.pdf?la=en>
11. *Health Protection and Promotion Act*, RSO 1990, c H.7. Available from: <https://www.ontario.ca/laws/statute/90h07>
12. *Occupational Health and Safety Act*, RSO 1990, c O.1. Available from: <https://www.ontario.ca/laws/statute/90o01>
13. *Needle Safety*, O Reg 474/07. Available from: <https://www.ontario.ca/laws/regulation/070474>
14. 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: http://health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/reference/RESP_Infection_ctrl_guide_LTC_2018_en.pdf
15. Moore D, Gamage B, Bryce E, Copes R, Yassi A. Protecting health care workers from SARS and other respiratory pathogens: organizational and individual factors that affect adherence to infection control guidelines. *Am J Infect Control*. 2005;33(2):88-96.
16. Ofner-Agostini M, Gravel D, McDonald LC, Lem M, Sarwal S, McGeer A, et al. Cluster of cases of severe acute respiratory syndrome among Toronto healthcare workers after implementation of infection control precautions: a case series. *Infect Control Hosp Epidemiol*. 2006;27(5):473-8.

Public Health Ontario

480 University Avenue, Suite 300

Toronto, Ontario

M5G 1V2

647.260.7100

ipac@oahpp.ca

www.publichealthontario.ca

