

## **Annex B: Best Practices for Prevention of Transmission of Acute Respiratory Infection In All Health Care Settings**

This document is current to May 2010, and is not updated. It was prepared at a time when PIDAC reported directly to the Minister of Health and Long-Term Care and Chief Medical Officer of Health. Note that effective April 1, 2011, the responsibility for and functions of the Provincial Infectious Diseases Advisory Committee ("PIDAC") were transferred to the Ontario Agency for Health Protection and Promotion ("Agency"), and that PIDAC now reports to that Agency. You may wish to consult [www.pidac.ca](http://www.pidac.ca) or the Agency's website at [www.oahpp.ca](http://www.oahpp.ca) for more information.

Provincial Infectious  
Diseases Advisory  
Committee  
(PIDAC)

**ANNEX to  
Routine Practices and Additional  
Precautions**

---

**Annex B:**

**Best Practices for Prevention of  
Transmission of  
Acute Respiratory Infection  
In All Health Care Settings**

**NOTE: This document REPLACES:**  
*Preventing Febrile Respiratory Illnesses  
Protecting Patients and Staff*  
Best Practices in Surveillance and Infection  
Prevention and Control for Febrile Respiratory  
Illness (FRI), excluding Tuberculosis, for All  
Ontario Health Care Settings, September 2005

**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**

**Ministry of Health and Long-Term Care**  
**First published September, 2005**  
**Revised August, 2006**  
**Revised March 2008**  
**Reviewed and revised May, 2010**

## TABLE OF CONTENTS

<b>TABLE OF CONTENTS</b> .....	<b>2</b>
Additional Abbreviations for this Annex .....	3
Glossary of Additional Terms for this Annex .....	3
<b>I. Preamble</b> .....	<b>4</b>
About This Annex .....	4
<b>II. The Risks and Impact of Acute Respiratory Infections in Health Care Settings</b> .....	<b>4</b>
<b>III. Influenza Immunization</b> .....	<b>5</b>
<b>IV. Surveillance and Reporting of Acute Respiratory Infections</b> .....	<b>7</b>
1. Case Finding/Surveillance for Acute Respiratory Infection .....	7
2. Documenting and Communicating Case Finding/Surveillance Activities .....	10
<b>V. Interventions for the Prevention and Control of Acute Respiratory Infection</b> .....	<b>10</b>
1. Additional Precautions for Acute Respiratory Infection .....	10
2. Reporting .....	13
<b>Summary of Recommendations for Prevention and Transmission of Acute Respiratory Infection (ARI) In All Health Care Settings</b> .....	<b>15</b>
<b>Appendices</b> .....	<b>20</b>
Appendix A: Case Finding/Surveillance Algorithm for Acute Respiratory Infection .....	20
Appendix B: Sample Case Finding/Surveillance Form for Acute Respiratory Infection .....	21
Appendix C: Sample Signage for Passive Case Finding of Acute Respiratory Infection ...	22
Appendix D: Sample Daily Acute Respiratory Infection Surveillance/Reporting Tool .....	23
<b>References</b> .....	<b>24</b>

## **Additional Abbreviations for this Annex**

Refer to abbreviations in '*Routine Practices and Additional Precautions in All Health Care Settings*' for additional abbreviations not found in this annex.

ARI	Acute Respiratory Infection
CAP	Community-Acquired Pneumonia
PHAC	Public Health Agency of Canada
PCR	Polymerase Chain Reaction

## **Glossary of Additional Terms for this Annex**

Refer to glossary in '*Routine Practices and Additional Precautions in All Health Care Settings*' for additional terms not found in this annex.

**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 fever greater than 38°C and a new or worsening cough or shortness of breath (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.

**Case Finding:** A standard procedure in control of certain contagious diseases whereby diligent efforts are made to identify people who are or may be infected.

**Cluster:** A grouping of cases of a disease within a specific time frame and geographic location suggesting a possible association between the cases with respect to transmission.

**Outbreak:** For the purposes of this document, 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.

## I. PREAMBLE

### **About This Annex**

This annex is added as an extension to the Ministry of Health and Long-Term Care's '*Routine Practices and Additional Precautions in All Health Care Settings*' and deals specifically with the surveillance, reporting and specific interventions for prevention and control of droplet-spread acute respiratory infections in health care settings across the continuum of care including, but not limited to, acute care, long-term care, chronic (including mental health) care and home health care.

The infection prevention and control management of acute respiratory infection is detailed in Section II.2.F of '*Routine Practices and Additional Precautions in All Health Care Settings*'.<sup>1</sup>

## II. THE RISKS AND IMPACT OF ACUTE RESPIRATORY INFECTIONS IN HEALTH CARE SETTINGS

Infectious respiratory diseases, such as colds, influenza and pneumonia, are a major cause of illness, absenteeism, lost productivity and death. Pertussis outbreaks have occurred in health care facilities, with adults being the primary source for infants and children who are in hospital. Nosocomial acquisition of pertussis by health care providers has occurred during several outbreaks.<sup>2</sup>

In Canada, influenza and community-acquired pneumonia (CAP) account for 60,000 hospitalizations and 8,000 deaths annually, and are the leading cause of death from infectious disease.<sup>3</sup> New diagnostic methods, such as polymerase chain reaction (PCR), have shown that the viral aetiology of CAP may be underestimated and that respiratory viruses are often found in combination with bacterial agents such as *Streptococcus pneumoniae*.<sup>4</sup>

In all health care settings, there is significant risk of transmission of acute respiratory infection (ARI) to patients and staff. This is due to:

- a) the large number of people (i.e., patients, family members, volunteers, visitors, workers) who come and go in these settings;
- b) the ease with which droplet-spread respiratory illnesses can pass from one person to another<sup>5</sup>;
- c) the fact that many clients/patients/residents have other illnesses that make them more likely to experience complications from respiratory infections; and
- d) the large number of people who seek care for or develop ARI in these settings.

The risk to clients/patients/residents is higher in institutional settings, particularly in:

- a) long-term care homes, which are closed communities where many older, frail residents with chronic illnesses live for prolonged periods of time; and
- b) acute care hospital units where there are many high risk patients.

The risk to staff is highest in settings where:

- a) people first present with respiratory symptoms (e.g., physicians' offices, community health centres/clinics, emergency departments); and
- b) staff are performing procedures that create sprays, splashes and/or aerosols (e.g., nebulized therapies, open suctioning).

### III. INFLUENZA IMMUNIZATION

Immunization against vaccine-preventable diseases is an integral part of a health care occupational health and safety program. Immunization helps protect the health of staff, and also protects clients/patients/residents. Influenza immunization of health care workers has been shown to reduce the mortality and morbidity of patients under their care and to reduce staff absenteeism during the influenza season.<sup>6-8</sup>

Immunization is the first line of defence against influenza. Influenza vaccine is available free of charge to all who live, work or go to school in Ontario and, when used by a significant proportion of the population, can significantly reduce influenza incidence and prevalence.<sup>9</sup> Influenza immunization has been shown to:

- a) prevent laboratory-confirmed influenza illness in approximately 70% or more of healthy individuals;
- b) be at least 70% effective in preventing hospitalization for pneumonia and influenza among elderly persons living in the community; and
- c) be 50 to 60% effective in preventing hospitalization and 85% effective in preventing death in elderly persons living in long-term care homes.<sup>6-8, 10</sup>

Immunization of health care providers has been shown to reduce total patient mortality, influenza-like illness and serologically confirmed influenza.<sup>6</sup> According to four randomized control trials, large-scale immunization of health care providers reduces nosocomial infections, including a decrease in mortality rates in residents of long-term care homes.<sup>7, 8, 10, 11</sup>

During seasonal influenza activity in the community, clinical infection rates range from 10% to 30% in the general population. In closed populations, such as patients/residents in hospitals and long-term care homes, attack rates in patients/residents may exceed 50%. To protect vulnerable patients/residents during an outbreak, staff who have confirmed or presumed influenza, or who have not been immunized and are not taking antiviral prophylaxis, should be excluded from work.<sup>6</sup> Antiviral prophylaxis should not replace annual influenza immunization. Immunization is the primary tool in preventing the spread of influenza.

In 2003/04, staff immunization rates in Ontario health care settings varied considerably: an average of 88% of staff in long-term care homes<sup>12</sup>; 46% of emergency service workers<sup>13</sup>; and 36% of staff in acute care hospitals were immunized against influenza. Health care settings, Occupational Health Services and the professions should work together to improve staff immunization rates.

Influenza immunization for staff involved in direct client/patient/resident care (including physicians, nurses, emergency response workers, employees of long-term care homes who have contact with residents, providers of home care, visiting nurses and volunteers) is a standard of

care. In the absence of contraindications to the vaccine, refusal to be immunized against influenza is a failure in staff's duty of care to patients. Contraindications to influenza vaccine include:

- a) an anaphylactic reaction to a previous dose or any component of the vaccine; or
- b) known anaphylactic hypersensitivity to eggs, which is manifested by hives, swelling of the mouth and throat, difficulty breathing, hypotension and shock.

**Influenza vaccine is recommended during pregnancy and breast feeding, as pregnant women and newborns are at high risk for complications of influenza.**

**Pregnancy and breast feeding are not considered contraindications to influenza vaccine. Indeed, influenza vaccine is recommended during pregnancy and breast feeding, as pregnant women and newborns are at high risk for complications of influenza.**<sup>6, 14-16</sup>

Many people at high risk of influenza-related complications (e.g., adults and children with chronic conditions, people over age 65, residents of long-term care homes, pregnant women) receive care in Ontario health care settings, which means that health care providers are capable of transmitting influenza to them. For this reason, it is particularly important for health care providers to be immunized. The National Advisory Committee on Immunization (NACI) recommends that high risk individuals receive annual influenza immunization and all facilities with long-stay patients/residents should have a program to immunize staff.<sup>6</sup> To make it as easy as possible for staff to comply with influenza immunization policies, health care settings should provide workplace immunization clinics.<sup>17</sup>

All health care settings should have staff immunization policies in place consistent with the Ontario Hospital Association (OHA)/Ontario Medical Association (OMA) joint Influenza Surveillance Protocol for Ontario Hospitals. These policies should establish annual influenza immunization as a standard of care and set out the steps to protect patients and staff (e.g., reminding staff about the importance of annual immunization, documenting each person's immunization status, excluding non-immunized staff from work during outbreaks).

- The OHA/OMA Communicable Diseases Surveillance Protocols are available at:  
<http://www.oha.com/Services/HealthSafety/Pages/CommunicableDiseasesSurveillanceProtocols.aspx>.

### **Recommendations**

- 1. Annual influenza immunization is strongly recommended for all staff, particularly those who have contact with individuals in high-risk groups. Such staff include: physicians, nurses, students, trainees and others in both hospital and outpatient settings; emergency response workers; employees of chronic care facilities who have contact with residents; and providers of home care, visiting nurses or volunteers. [All]**
- 2. Influenza immunization should be provided free of charge, be easily accessible and be promoted in the workplace. [All]**
- 3. All health care settings shall have staff immunization policies in place consistent with the Ontario Hospital Association/Ontario Medical Association Joint Influenza Surveillance Protocol for Ontario Hospitals.**

## IV. SURVEILLANCE AND REPORTING OF ACUTE RESPIRATORY INFECTIONS

All health care settings should adopt and maintain appropriate surveillance and infection prevention and control practices to protect against respiratory infections. These measures should be practiced as routinely as other health and safety measures in the workplace.

Surveillance and reporting of acute respiratory infections (ARI) will:

- a) prevent transmission of droplet-spread respiratory infection to other clients/patients/residents and to staff;
- b) help the health care setting quickly detect and contain clusters and outbreaks of common respiratory infections; and
- c) help the health care setting detect and contain any new or virulent microorganism causing respiratory infections.

In 2005 the MOHLTC updated Regulation 569<sup>18</sup> of the *Health Protection and Promotion Act*,<sup>19</sup> which sets out clearly the type of information that hospitals and other health care institutions are required to report in relation to respiratory infection outbreaks.

- Refer to the *Health Protection and Promotion Act*, R.R.O. 1990, Regulation 569, available at:  
<http://www.search.e-laws.gov.on.ca/en/isysquery/c5473138-a93a-4813-867b-9bcf4f15ec6d/1/frame/?search=browseStatutes&context=>.

In the event of an outbreak of acute respiratory infection, health care settings should initiate appropriate control measures and shall contact their local public health unit (see Section 4: Reporting), and follow appropriate outbreak management procedures.

- Refer to the Ministry of Health and Long-Term Care's '*A Guide to the Control of Respiratory Infection Outbreaks in Long-Term Care Homes*'<sup>20</sup> for guidance in the prevention, detection and management of outbreaks of respiratory infections. Available at:  
[http://www.health.gov.on.ca/english/providers/pub/pubhealth/ltc\\_respoutbreak/ltc\\_respoutbreak.html](http://www.health.gov.on.ca/english/providers/pub/pubhealth/ltc_respoutbreak/ltc_respoutbreak.html).

### 1. Case Finding/Surveillance for Acute Respiratory Infection

Case finding/surveillance helps health care settings identify individuals with ARI who may pose a risk to clients/patients/residents and/or staff. The steps required for case finding/surveillance may be incorporated into an algorithm to assist staff in directing the client/patient/resident's movements and to ensure that preventive measures are taken to protect staff and others.

- Refer to Appendix A, '*Case Finding/Surveillance Algorithm for Acute Respiratory Infection*', for case finding/surveillance algorithm.

There are two types of case finding/surveillance – active and passive:

- a) In **active case finding/surveillance**, clients/patients/residents are asked about possible respiratory symptoms on arrival at the health care setting. During active case finding/surveillance, the individual asking the initial questions should maintain at least two metres distance from the client/patient/resident or be protected by a glass or other solid, transparent barrier. Health care settings are encouraged to use an active case finding/surveillance approach.
  - Refer to [Appendix B](#), '*Sample Case Finding/Surveillance Form for Acute Respiratory Infection*', for a sample case finding/surveillance form that may be adapted to the health care setting.
- b) In **passive case finding/surveillance**, signage directs the client/patient/resident to self-assess and self-identify themselves if they have respiratory symptoms.
  - Refer to [Appendix C](#), '*Sample Signage for Passive Case Finding of Acute Respiratory Infection*', for sample signage that may be adapted to the health care setting.

Some health care settings use both active and passive approaches: signage that directs clients/patients/residents who have symptoms to take certain precautions, together with follow-up questions by the first staff contact in the health care setting that confirm that the client/patient/resident has read and understood the sign. This is particularly important where age, language or disability may be a barrier to a client/patient/resident reading a sign and following instructions.

A health care setting's decision to conduct active or passive case finding/surveillance will depend on the physical set up of the office/clinic or department, the type of care provided and the risk of transmission (e.g., a setting where staff have little direct face-to-face contact with clients/patients/residents may choose to use passive case finding/surveillance). Some health care settings may choose to use a passive approach when there are no travel health notices or community influenza activity, and shift to a more active approach during times when there is more ARI activity.

### **Case Finding/Surveillance for New Encounters with the Health Care Setting**

It is necessary to assess each client/patient/resident on initial encounter with the health care setting for symptoms of an ARI and to document that the assessment has been completed. It is not necessary to maintain a separate paper document. Some health care settings prefer to use a written tool (refer to [Appendix B](#), '*Sample Case Finding/Surveillance Form for Acute Respiratory Infection*') to document their case finding/surveillance activities. Such a tool may become a part of the client/patient/resident health record. Others establish a practice of making a note on the client/patient/resident's chart when an ARI has been identified and precautions have been initiated.

### **Ongoing Daily Surveillance Within the Health Care Facility**

Health care facilities must develop a process for ongoing assessment of admitted patients/residents according to the Routine Practices risk assessment, to identify new onset of ARI. An infection surveillance/reporting tool will simplify the identification and follow-up of inpatients/residents with ARI.

- Refer to [Appendix D](#), '*Sample Daily Acute Respiratory Infection Surveillance/Reporting Tool*', for a sample chart which may be used to track ARI within the health care facility.

Each new acquisition of ARI within the health care facility should prompt an investigation. When a new case of ARI is first identified in a patient/resident, a determination should be made as to whether the infection was acquired in the facility and appropriate steps should be taken to contain the infection and to look for additional cases.

### **Case Finding/Surveillance in Home Care**

Case finding/surveillance for clients receiving home care should be ongoing. This case finding/surveillance can be done using a number of approaches. For example:

- a) When patients requiring Additional Precautions are discharged from hospital, the hospital should ensure that the information is communicated to the agency providing home care and ask the patient or a family member to inform the home care provider;
- b) The agency responsible for managing the care should contact a new client within 24 hours of the first scheduled visit, inquire about the presence of ARI and ask the client to inform home care staff if he/she develops respiratory symptoms; if, for some reason, the agency is unable to reach the client by phone, the health care provider should ask the questions before providing services;
- c) For subsequent visits, the client (or a family member) can be asked to self-assess for symptoms of ARI and notify home care staff when they arrive at the home, or staff can start each encounter by asking about any symptoms of ARI.

The type of approach an agency uses will depend on whether the client is a new or long-term client, and on the client's (family's) capacity to self-assess. When home care clients have symptoms of an ARI, staff should be equipped with and use suitable preventive practices, including Droplet and Contact Precautions (see Table 1).

- See Section II.2.F in '*Routine Practices and Additional Precautions in All Health Care Settings*' for details regarding Droplet and Contact Precautions.

### ***Recommendations:***

- 4. Case finding/surveillance for clients/patients/residents can be done using an active, passive or combined approach. [CIII]***
- 5. All health care settings should ensure they have the ability to identify cases of acute respiratory infection and to detect clusters or outbreaks of acute respiratory infection. [CIII]***
- 6. All clients/patients/residents who present at a health care setting should be assessed for symptoms of acute respiratory infection using the 'Case Finding/Surveillance Algorithm for Acute Respiratory Infection'. [CIII]***
- 7. Clients receiving care in their homes should be assessed for symptoms of acute respiratory infection using the 'Case Finding/Surveillance Algorithm for Acute Respiratory Infection'. [CIII]***
- 8. Health care facilities should perform ongoing daily assessment of inpatients/residents for acute respiratory infection. [BII]***

## **2. Documenting and Communicating Case Finding/Surveillance Activities**

Regardless of the case finding/surveillance process used, the health care setting must ensure that staff have the information they need to protect themselves and other clients/patients/residents. The need to initiate and maintain Droplet and Contact Precautions at onset of symptoms must be captured and communicated clearly to all staff who have direct client/patient/resident contact. There must also be a consistent process to inform staff when, based on a subsequent reassessment, Droplet and Contact Precautions are no longer necessary.

Health care facilities experiencing a respiratory outbreak must communicate this information whenever a patient/resident is transferred to another health care setting.

### **Recommendations:**

- 9. The health care setting will ensure that all staff who have contact with a client/patient/resident with symptoms of an acute respiratory infection are aware of the need to initiate and maintain Droplet and Contact Precautions. [BII]**
- 10. Once the need for Droplet and Contact Precautions has been established, any receiving unit/facility or diagnostic service must be informed. [CIII]**

## **V. INTERVENTIONS FOR THE PREVENTION AND CONTROL OF ACUTE RESPIRATORY INFECTION**

### **1. Additional Precautions for Acute Respiratory Infection**

To protect health care workers, clients/patients/residents and others in the health care setting, individuals who arrive in a health care setting with symptoms of an ARI (i.e., fever, cough) should be handled using Routine Practices, Droplet and Contact Precautions:

- a) The health care setting is supplied with alcohol-based hand rub, masks and tissues at the point(s) of reception;
- b) The client/patient/resident is asked to perform hand hygiene (i.e., apply an alcohol-based hand rub to his/her hands);
- c) The client/patient/resident is advised to practice respiratory etiquette when coughing or sneezing:
  - i) Turn the head away from others;
  - ii) Cover the nose and mouth with tissue;
  - iii) Discard tissues immediately after use into waste; and
  - iv) Perform hand hygiene immediately after disposal of tissues;
- d) A mask is worn by the client/patient/resident, if tolerated, to protect other clients/patients/residents/staff in common waiting areas:
  - i) Not all clients/patients/residents will be able to tolerate masks (e.g., children, people with chronic breathing problems, people with cognitive impairment);

- ii) If masks are not available or not tolerated, clients/patients/residents should be encouraged to use another method to cover their mouth and nose when coughing or sneezing (e.g., tissue);
- e) A spatial separation of at least two metres is maintained:
  - i) Place client/patient/resident in a separate area away from crowded waiting areas;
  - ii) A distance of at least two metres is maintained from other clients/patients/residents;
- f) Single room accommodation is preferred in acute care; if not available, see Section II.1.F.1. and Appendix C in '*Routine Practices and Additional Precautions in All Health Care Settings*' for decision-making related to alternative accommodation; each health care setting's capacity to separate clients/patients/residents with symptoms of ARI will depend on space.

Table 1 summarizes the additional infection prevention and control precautions required to manage clients/patients/residents with ARI in the health care setting. Detailed information may be found in '*Routine Practices and Additional Precautions for All Health Care Settings*'.

- See Appendix N in '*Routine Practices and Additional Precautions for All Health Care Settings*' for a list of specific infections requiring Droplet and Contact Precautions.

#### **Recommendations:**

- 11. Clients/patients/residents presenting for care in a health care setting who have symptoms of acute respiratory infection should be asked to perform hand hygiene and wear a mask, practice respiratory etiquette and either wait in a separate area or keep at least two metres away from other patients and staff. [All]**
- 12. Whenever possible, patients who have symptoms of an acute respiratory infection who are admitted to a hospital should be accommodated in a single room under Droplet and Contact Precautions. [All]**
- 13. Residents of long-term care homes with an acute respiratory infection who are not in single room accommodation should be managed in their bed space using Droplet and Contact Precautions with privacy curtains drawn. [All]**

**Table 1: Elements That Comprise Droplet and Contact Precautions for Acute Respiratory Infection (in addition to Routine Practices)**

Element	Acute Care	Complex Continuing Care	Long-term Care	Ambulatory/ Clinic Setting	Home Health Care
Accommodation	Door may be open				Discuss feasibility of spatial separation with client (e.g., when sleeping)
	Single room with dedicated toilet and patient sink preferred	Patient/resident to remain in room or bed space if feasible, or wear a mask (if tolerated) if coughing or sneezing within two metres of other patients, until no longer infectious		Triage client/patient away from waiting area to a single room as soon as possible, or maintain a two-metre spatial separation	
	Cohorting of those who are confirmed to have the same infectious agent may be acceptable	Draw privacy curtain		Patient to wear a mask and perform hand hygiene	
	Remain in room unless required for diagnostic, therapeutic or ambulation purposes				
<b>Signage</b>	Yes				Not applicable
<b>Facial Protection</b>	For all activities in the room/bed space			Within two metres of client/patient/resident	
<b>Gloves</b>	For all activities in the room/bed space			For direct care (hands-on care, e.g., bathing, washing, changing clothes, continence care, dressing changes, care of open wounds/lesions, toileting)	
<b>Gown</b>	For all activities where skin or clothing will come in contact with the patient or the patient's environment		For direct care (hands-on care, e.g., bathing, washing, changing clothes, continence care, dressing changes, care of open wounds/lesions, toileting)		
<b>Equipment and items in the environment</b>	Dedicate if possible Clean and disinfect shared items; cover chairs/couches with a sheet before use				As per Routine Practices
	Chart (paper or mobile electronic) should not be taken into the room	Examples of shared items: chairs, assigned dining area items, common room items		Examples of shared items: chair, examination table	
<b>Environmental Cleaning</b>	Routine cleaning; clean frequently touched surfaces in bed space and bathroom before discontinuing precautions of a client/patient/resident with a confirmed viral respiratory infection				
<b>Transport</b>	Patient/resident to wear a mask during transport			Client/patient to wear a mask for duration of visit and during transport	Not applicable
	Limit transport unless required for diagnostic or therapeutic procedures				
	Staff wear appropriate PPE for direct contact with the client/patient/resident during transport				
	Clean and disinfect equipment used for transport after use				
<b>Communication</b>	Effective communication regarding precautions must be given to patient families, other departments, other facilities and transport services prior to transfer				

## 2. Reporting

Reporting is necessary to ensure that health care settings and staff and public health authorities have the information they need to prevent and control the spread of ARIs. Each health care setting should set up a reporting framework to ensure that the reporting requirements outlined in Table 2 are met.

**Table 2: Requirements for Reporting Acute Respiratory Infections**

	INTERNAL REPORTING		EXTERNAL REPORTING		
<b>What is reported?</b>	New cases of acute respiratory infection in inpatients/residents*	Staff with symptoms of acute respiratory infection	Any person who has or may have a reportable disease  Outbreaks of respiratory infection	Occupationally-acquired infections	Occupationally-acquired infections
<b>Reported by whom?</b>	Acute care: nursing units  Long-term care: resident care units  Emergency Department: admitted patients	Staff with respiratory illness  Managers with clusters of staff respiratory illness	Physicians and other practitioners**  Hospital administrators and superintendents of institutions***  Laboratory operators	Occupational Health and Safety or designate	Occupational Health and Safety or designate
<b>Report to whom?</b>	To Infection Prevention and Control	To Occupational Health and Safety	To Public Health	To Ministry of Labour	To Workplace Safety and Insurance Board (WSIB)
<b>Why is it reported?</b>	To ensure that appropriate precautions are taken to protect patients/residents and staff  To identify, monitor/manage outbreaks	To identify possible clusters of infection among staff  To ensure that appropriate precautions are being taken to protect patients/residents and other staff	To identify an outbreak early, so public health measures can be implemented to prevent and manage transmission	To provide the information required to begin an investigation of the incident, which may lead to changes designed to safeguard workers' health	To ensure that the insurance board has the information required to process any claims

\* See Appendix D for a sample form to keep infection control informed about current inpatient status

\*\* Other practitioners include: nurses, dentists, chiropractors, naturopaths, pharmacists and optometrists

\*\*\* Institutions include: long-term care facilities, supportive housing, childrens' residences, day nurseries, correction and detention facilities, hospitals, mental health facilities and any other places of a similar nature

Occupational Health and Safety should report staff clusters non-nominally to Infection Prevention and Control to protect employees' right to confidentiality.

It is good practice for health care settings to notify Public Health early and seek advice when they have any unusual clusters of ARI; single cases of ARI with travel to a country with a Public Health Agency of Canada (PHAC) travel health notice for ARI; or single cases of ARI who have had contact with a person who has traveled to a country with a PHAC travel health notice for ARI. Effective communication with Public Health can assist in early identification of any outbreak.

- For more information about the requirements for reporting to Public Health, see the *Health Protection and Promotion Act*, Regulation 569, available at: [http://www.search.e-laws.gov.on.ca/en/isysquery/c5473138-a93a-48For 13-867b-9bcf4f15ec6d/1/frame/?search=browseStatutes&context=.](http://www.search.e-laws.gov.on.ca/en/isysquery/c5473138-a93a-48For 13-867b-9bcf4f15ec6d/1/frame/?search=browseStatutes&context=)
- For more information about travel health notices from the Public Health Agency of Canada see: [http://www.phac-aspc.gc.ca/tmp-pmv/2009/h1n1\\_global-090914-eng.php](http://www.phac-aspc.gc.ca/tmp-pmv/2009/h1n1_global-090914-eng.php).

**Recommendations:**

**14. Health care facilities should have established procedures for notifying Infection Prevention and Control regarding:**

- a) any patients/residents either admitted with, or who develop, acute respiratory infection so they can monitor the situation; and
- b) any clusters of acute respiratory infection in either staff or patients/residents. [BII]

**15. Health care providers who develop symptoms of an acute respiratory infection must report their condition to Occupational Health and Safety or delegate. [BII]**

**16. Infection Prevention and Control should Occupational Health Services (OHS) about any clusters of acute respiratory infection in patients/residents so OHS can monitor staff. OHS should alert (non-nominally) Infection Prevention and Control of any clusters of acute respiratory infection among staff. [BII]**

**17. Employers shall report any occupationally-acquired infection to the Joint Occupational Health and Safety Committee or delegate.**

**18. Health care setting administrators, laboratories and community/attending physicians shall report to the local Medical Officer of Health when a client/patient/resident has:**

- a) a new acute respiratory infection AND a travel history to a country with a Public Health Agency of Canada travel health notice for respiratory infection; OR
- b) contact with someone with a travel history to a country with a travel health notice for respiratory infection.

**NOTE: It is not necessary to have laboratory confirmation before reporting.**

**19. Health care setting administrators, laboratories and community/attending physicians shall report to the local medical officer of health when:**

- a) the aetiology of an acute respiratory infection is a reportable disease; and
- b) there is an outbreak or cluster of acute respiratory infection in any health care facility.

**20. If a health care provider develops an occupationally-acquired infection, his or her employer shall report the illness to the Ministry of Labour in accordance with occupational health and safety legislation.**

**21. If a health care provider develops an occupationally-acquired infection, his or her employer shall report the illness to the Workplace Safety and Insurance Board (WSIB) within three working days.**

**22. All external reporting procedures shall comply with the relevant legislation, including the Health Protection and Promotion Act, the Personal Health Information Protection Act, 2004, the Occupational Health and Safety Act,, and the Workplace Safety and Insurance Act, 1997.**

## SUMMARY OF RECOMMENDATIONS FOR PREVENTION AND TRANSMISSION OF ACUTE RESPIRATORY INFECTION (ARI) IN ALL HEALTH CARE SETTINGS

This summary table is intended to assist with self-assessment internal to the health care setting for quality improvement purposes. See complete text for rationale.

	Recommendation	Compliance			Action Plan	Accountability
		Compliant	Partial Compliance	Non-compliant		
<b>Influenza Immunization</b>						
1.	<i>Annual influenza immunization is strongly recommended for all staff, particularly those who have contact with individuals in high-risk groups. Such staff include: physicians, nurses, students, trainees and others in both hospital and outpatient settings; emergency response workers; employees of chronic care facilities who have contact with residents; and providers of home care, visiting nurses or volunteers.</i>					
2.	<i>Influenza immunization should be provided free of charge, be easily accessible and be promoted in the workplace.</i>					
3.	<i>All health care settings shall have staff immunization policies in place consistent with the Ontario Hospital Association/Ontario Medical Association joint Influenza Surveillance Protocol for Ontario Hospitals.</i>					

	Recommendation	Compliant	Partial Compliance	Non-compliant	Action Plan	Accountability
<b>Surveillance and Reporting of Acute Respiratory Infections</b>						
4.	<i>Case finding/surveillance for clients/patients/residents can be done using an active, passive or combined approach.</i>					
5.	<i>All health care settings should ensure they have the ability to identify cases of acute respiratory infection and to detect clusters or outbreaks of acute respiratory infection.</i>					
6.	<i>All clients/patients/residents who present at a health care setting should be assessed for symptoms of acute respiratory infection using the 'Case Finding/Surveillance Algorithm for Acute Respiratory Infection'.</i>					
7.	<i>Clients receiving care in their homes should be assessed for symptoms of acute respiratory infection using the 'Case Finding/Surveillance Algorithm for Acute Respiratory Infection'.</i>					
8.	<i>Health care facilities should perform ongoing daily assessment of inpatients/residents for acute respiratory infection.</i>					
9.	<i>The health care setting will ensure that all staff who have contact with a client/patient/resident with symptoms of an acute respiratory infection are aware of the need to initiate and maintain Droplet and Contact Precautions.</i>					
10.	<i>Once the need for Droplet and Contact Precautions has been established, any receiving unit/facility or diagnostic service must be informed.</i>					

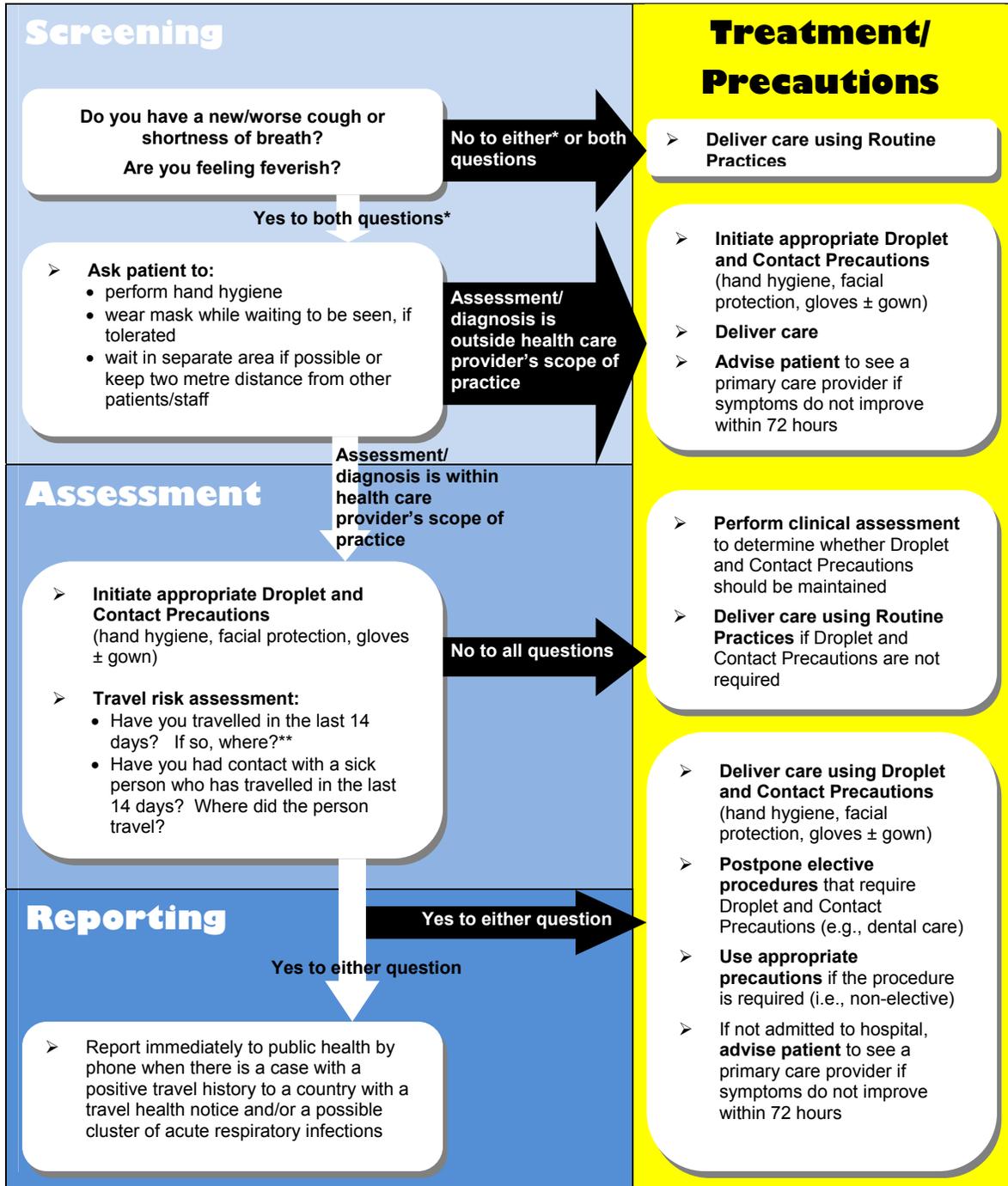
	Recommendation	Compliant	Partial Compliance	Non-compliant	Action Plan	Accountability
<b>Interventions for the Prevention and Control of Acute Respiratory Infection</b>						
11.	<i>Clients/patients/residents presenting for care in a health care setting who have symptoms of acute respiratory infection should be asked to perform hand hygiene and wear a mask, practice respiratory etiquette and either wait in a separate area or keep at least two metres away from other patients and staff.</i>					
12.	<i>Whenever possible, patients who have symptoms of an acute respiratory infection who are admitted to a hospital should be accommodated in a single room under Droplet and Contact Precautions.</i>					
13.	<i>Residents of long-term care homes with an acute respiratory infection who are not in single room accommodation should be managed in their bed space using Droplet and Contact Precautions with privacy curtains drawn.</i>					
14.	<i>Health care facilities should have established procedures for notifying Infection Prevention and Control regarding:</i> <ul style="list-style-type: none"> <li><i>a) any patients/residents either admitted with, or who develop, acute respiratory infection so they can monitor the situation; and</i></li> <li><i>b) any clusters of acute respiratory infection in either staff or patients/residents</i></li> </ul>					

	Recommendation	Compliant	Partial Compliance	Non-compliant	Action Plan	Accountability
15.	<i>Health care providers who develop symptoms of an acute respiratory infection must report their condition to Occupational Health and Safety or delegate.</i>					
16.	<i>Infection Prevention and Control should alert Occupational Health Services (OHS) about any clusters of acute respiratory infection in patients/residents so OHS can monitor staff. OHS should alert (non-nominally) Infection Prevention and Control of any clusters of acute respiratory infection among staff.</i>					
17.	<i>Employers shall report any occupationally-acquired infection to the Joint Occupational Health and Safety Committee or delegate.</i>					
18.	<p><i>Health care setting administrators, laboratories and community/attending physicians shall report to the local medical officer of health when a client/patient/resident has:</i></p> <ul style="list-style-type: none"> <li><i>a) a new acute respiratory infection AND a travel history to a country with a Public Health Agency of Canada travel health notice for respiratory infection;</i></li> <li><i>OR</i></li> <li><i>b) contact with someone with a travel history to a country with a travel health notice for respiratory infection.</i></li> </ul> <p><b>NOTE:</b> <i>It is not necessary to have a laboratory confirmation before reporting.</i></p>					

	Recommendation	Compliant	Partial Compliance	Non-compliant	Action Plan	Accountability
19.	<p><b>Health care setting administrators, laboratories and community/attending physicians shall report to the local Medical Officer of Health when:</b></p> <p><b>a) the aetiology of an acute respiratory infection is a reportable disease; and</b></p> <p><b>b) there is an outbreak or cluster of acute respiratory infection in any health care facility.</b></p>					
20.	<p><b>If a health care provider develops an occupationally-acquired infection, his or her employer shall report the illness to the Ministry of Labour in accordance with occupational health and safety legislation.</b></p>					
21.	<p><b>If a health care provider develops an occupationally-acquired infection, his or her employer shall report the illness to the Workplace Safety and Insurance Board (WSIB) within three working days.</b></p>					
22.	<p><b>All external reporting procedures shall comply with the relevant legislation, including the Health Protection and Promotion Act, the Personal Health Information Protection Act, 2004, the Occupational Health and Safety Act., and the Workplace Safety and Insurance Act, 1997.</b></p>					

## APPENDICES

### Appendix A: Case Finding/Surveillance Algorithm for Acute Respiratory Infection



\* Elderly people and people who are immunocompromised may not have a febrile response to a respiratory infection, so the presence of new onset cough/shortness of breath may be enough to trigger further precautions.

\*\* For a current list of travel health notices, see: <http://www.phac-aspc.gc.ca/tmp-pmv/pub-eng.php>.

## Appendix B: Sample Case Finding/Surveillance Form for Acute Respiratory Infection

### Case Finding/Surveillance Questionnaire for Acute Respiratory Infection

- (i) **Do you have new/ worse cough or shortness of breath?**
- if 'no', stop here (no further questions)
  - if 'yes', continue with next question
- (ii) **Are you feeling feverish\*, or have you had shakes or chills in the last 24 hours?**
- if 'no', take temperature; if  $>38^{\circ}\text{C}$ , continue with next questions, otherwise stop (no further questions)
  - if 'yes', take temperature and continue with next questions.

\*NOTE: Some people, such as the elderly and people, who are immunocompromised, may not develop a fever.



**If the answer to both questions (i) and (ii) is 'yes', or if the answer to question (i) is 'yes' and the recorded temperature is  $>38^{\circ}\text{C}$ , initiate Droplet and Contact Precautions and notify Infection Prevention and Control**



- (iii) **Is either of the following true?**
- Have you traveled within the last 14 days? Where\*\*? or
  - Have you had contact in the last 14 days with a sick person who has traveled? Where\*\*?

**\*\*For a current list of Public Health Agency of Canada travel health notices, see:**

<http://www.phac-aspc.gc.ca/tmp-pmv/pub-eng.php>

**For additional information please consult with your local public health unit**

**Infection Prevention and Control should notify Public Health by phone when case has a positive travel history and/or there is a possible cluster/outbreak**

### **Appendix C: Sample Signage for Passive Case Finding of Acute Respiratory Infection**

---

NOTE: All signs posted in a health care setting should be translated into all languages that are predominant/common within the community.



**Read Carefully**

- 1. Do you have a NEW or WORSE cough or shortness of breath?**
- 2. Are you feeling feverish?**

If the answer to BOTH of these questions is YES:

**Wash your hands**

**AND**

**Put on a mask or use a tissue to cover your mouth**

**AND**

**Tell the receptionist or nurse right away**



## REFERENCES

1. Ontario. Ministry of Health and Long-Term Care. Provincial Infectious Diseases Advisory Committee. Routine Practices and Additional Precautions in All Health Care Settings. 2009 [cited August 31, 2009]; Available from: [http://www.health.gov.on.ca/english/providers/program/infectious/diseases/ic\\_routine.html](http://www.health.gov.on.ca/english/providers/program/infectious/diseases/ic_routine.html)
2. Ontario Hospital Association & Ontario Medical Association Joint Committee on Communicable Diseases Surveillance Protocols. Pertussis Surveillance Protocol for Ontario Hospitals. 2009 [cited August 5, 2009]; 1-12]. Available from: <http://www.oha.com/Services/HealthSafety/Documents/Protocols/Pertussis%20Protocol%20Revised%20January%202009.pdf>
3. Editorial Board Respiratory Disease in Canada. *Respiratory disease in Canada*. Ottawa, Ont.: Health Canada; 2001.
4. Johansson N, Kalin M, Tiveljung-Lindell A, Giske CG, Hedlund J. Etiology of community-acquired pneumonia: increased microbiological yield with new diagnostic methods. *Clin Infect Dis*;50(2):202-9.
5. Musher DM. How contagious are common respiratory tract infections? *N Engl J Med* 2003;348(13):1256-66.
6. National Advisory Committee on Immunization (NACI). Statement on Seasonal Trivalent Inactivated Influenza Vaccine (TIV) for 2009-2010. *Can Commun Dis Rep* 2009;35(ACS-6):1-41.
7. Potter J, Stott DJ, Roberts MA, Elder AG, O'Donnell B, Knight PV, et al. Influenza vaccination of health care workers in long-term-care hospitals reduces the mortality of elderly patients. *J Infect Dis* 1997;175(1):1-6.
8. Carman WF, Elder AG, Wallace LA, McAulay K, Walker A, Murray GD, et al. Effects of influenza vaccination of health-care workers on mortality of elderly people in long-term care: a randomised controlled trial. *Lancet* 2000;355(9198):93-7.
9. Langley JM, Faughnan ME. Prevention of influenza in the general population. *CMAJ* 2004;171(10):1213-22.
10. Hayward AC, Harling R, Wetten S, Johnson AM, Munro S, Smedley J, et al. Effectiveness of an influenza vaccine programme for care home staff to prevent death, morbidity, and health service use among residents: cluster randomised controlled trial. *Bmj* 2006;333(7581):1241.
11. Lemaitre M, Meret T, Rothan-Tondeur M, Belmin J, Lejonc JL, Luquel L, et al. Effect of influenza vaccination of nursing home staff on mortality of residents: a cluster-randomized trial. *J Am Geriatr Soc* 2009;57(9):1580-6.
12. Ontario. Ministry of Health and Long-Term Care. Public Health Division. Influenza Workshop. May 2004. Summary notes from a presentation by Dr. Sheela Basrur, Chief Medical Officer of Health, Ontario.
13. Ontario. Ministry of Health and Long-Term Care. Public Health Division. Influenza Workshop. May 2004. Summary notes from a presentation by Dennis Brown, Manager, Land Ambulance Program, Emergency Health Services Branch, Ministry of Health and Long-Term Care.
14. Dodds L, McNeil SA, Deshayne BF, Allen VM, Coombs A, Scott J, et al. Impact of influenza exposure on rates of hospital admissions and physician visits because of respiratory illness among pregnant women. *CMAJ* 2007;176(4):463-8.
15. Zaman K, Roy E, Arifeen SE, Rahman M, Raqib R, Wilson E, et al. Effectiveness of maternal influenza immunization in mothers and infants. *N Engl J Med* 2008;359(15):1555-64.
16. National Advisory Committee on Immunization. Canadian immunization guide. 7th ed. [Ottawa]: Canadian Medical Association; 2006.
17. Ontario Hospital Association & Ontario Medical Association Joint Committee on Communicable Diseases Surveillance Protocols. Influenza Surveillance Protocol for Ontario

Hospitals. 2008 [cited August 5, 2009]; 1-9]. Available from:

<http://www.oha.com/Services/HealthSafety/Documents/Protocols/Influenza%20Protocol.pdf>

18. Ontario. Ministry of Health and Long-Term Care. Ontario Regulation under the *Health Protection and Promotion Act* : Regulation 569 of R.R.O. 1990, Reports. 2005 [cited January 20, 2010]; Available from: <http://www.search.e-laws.gov.on.ca/en/isysquery/c5473138-a93a-4813-867b-9bcf4f15ec6d/1/frame/?search=browseStatutes&context=>

19. Ontario. Ministry of Health and Long-Term Care. *Health Protection and Promotion Act*: Revised Statutes of Ontario, 1990, chapter H.7. 2008 [cited November 27, 2008]; Available from: [http://www.e-laws.gov.on.ca/html/statutes/english/elaws\\_statutes\\_90h07\\_e.htm](http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90h07_e.htm)

20. Ontario. Ministry of Health and Long-Term Care. A Guide to the Control of Respiratory Infection Outbreaks in Long-Term Care Homes. 2004 [cited May 26, 2008]; Available from: [http://www.health.gov.on.ca/english/providers/pub/pubhealth/ltc\\_respoutbreak/ltc\\_respoutbreak.html](http://www.health.gov.on.ca/english/providers/pub/pubhealth/ltc_respoutbreak/ltc_respoutbreak.html)