

Ontario Health Plan for an Influenza Pandemic

**Chapter 5: Occupational Health & Safety and Infection Prevention
& Control**

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Ontario Health Plan for an Influenza Pandemic

Chapter 5: Occupational Health & Safety and Infection Prevention & Control

Audience

- health sector employers, supervisors, health workers, students, volunteers, occupational health & safety (OHS) and infection prevention & control (IPAC) professionals, joint health and safety committees (JHSCs) and health and safety representatives (HSRs) in settings where health care services are provided

Chapter objectives^{1,2}

- to define roles and responsibilities for those who develop and implement OHS & IPAC strategies during an influenza pandemic

¹ While the information in this chapter and any recommendations issued by the Ministry of Health and Long-Term Care (MOHLTC) at the time of a pandemic are available to inspectors responsible for enforcing provincial legislation, they apply and enforce legislation and regulations based on the facts as they find them. This chapter and any recommendations issued by the MOHLTC do not affect their enforcement decisions in any way.

² This information in this chapter does not constitute legal advice. To determine their rights and obligations under the [Occupational Health and Safety Act \(OHSA\)](#) and its regulations, health sector employers and health workers should contact legal counsel or refer to the legislation.

- to provide information for workplace parties to assist them in meeting their responsibilities³ to protect health workers, students, volunteers, visitors and clients/ patients/ residents (C/P/Rs)⁴ during an influenza pandemic

³ Note that these responsibilities include duties under provincial legislation and regulations as well as other recommended practices.

⁴ Note that the OHSA and its regulations do not cover students (unless paid), volunteers, visitors and C/P/Rs. However, given that this chapter also addresses IPAC, measures for these parties are addressed in this chapter.

Occupational health & safety and infection prevention & control response summary

Response objective: to maintain healthy health care environments for the safety of health workers and those for whom they care

OHS & IPAC ACTIVITIES BEFORE SEVERITY IS KNOWN

Public Health Ontario (PHO) and the Ministry of Labour (MOL) provide ongoing advice to the MOHLTC on OHS & IPAC recommendations

The MOHLTC recommends Pandemic Precautions (OHS & IPAC precautions specific to an influenza pandemic) based on evidence, legislative requirements, the precautionary principle, Ontario Public Service (OPS) values and health equity (such as the use of fit-tested N95 respirators for workers at risk of exposure to a C/P/R with influenza-like illness (ILI) or that C/P/R's environment)

If required, the MOHLTC may issue directives related to Pandemic Precautions as per the HPPA

The MOHLTC communicates OHS & IPAC recommendations to health workers and health sector employers through a variety of methods, including [Important Health Notices \(IHNs\)](#), the Health Stakeholder Teleconference, the MOHLTC website and knowledge translation tools

Health sector employers consult with JHSCs or HSRs on precautions as required, apply Pandemic Precautions and use the RACE approach (recognize the hazard, assess the risk associated with the hazard, control the risk associated with the hazard, evaluate the controls) to manage risks

All workplace parties use the hierarchy of controls to control risks at the source, the path and the health worker

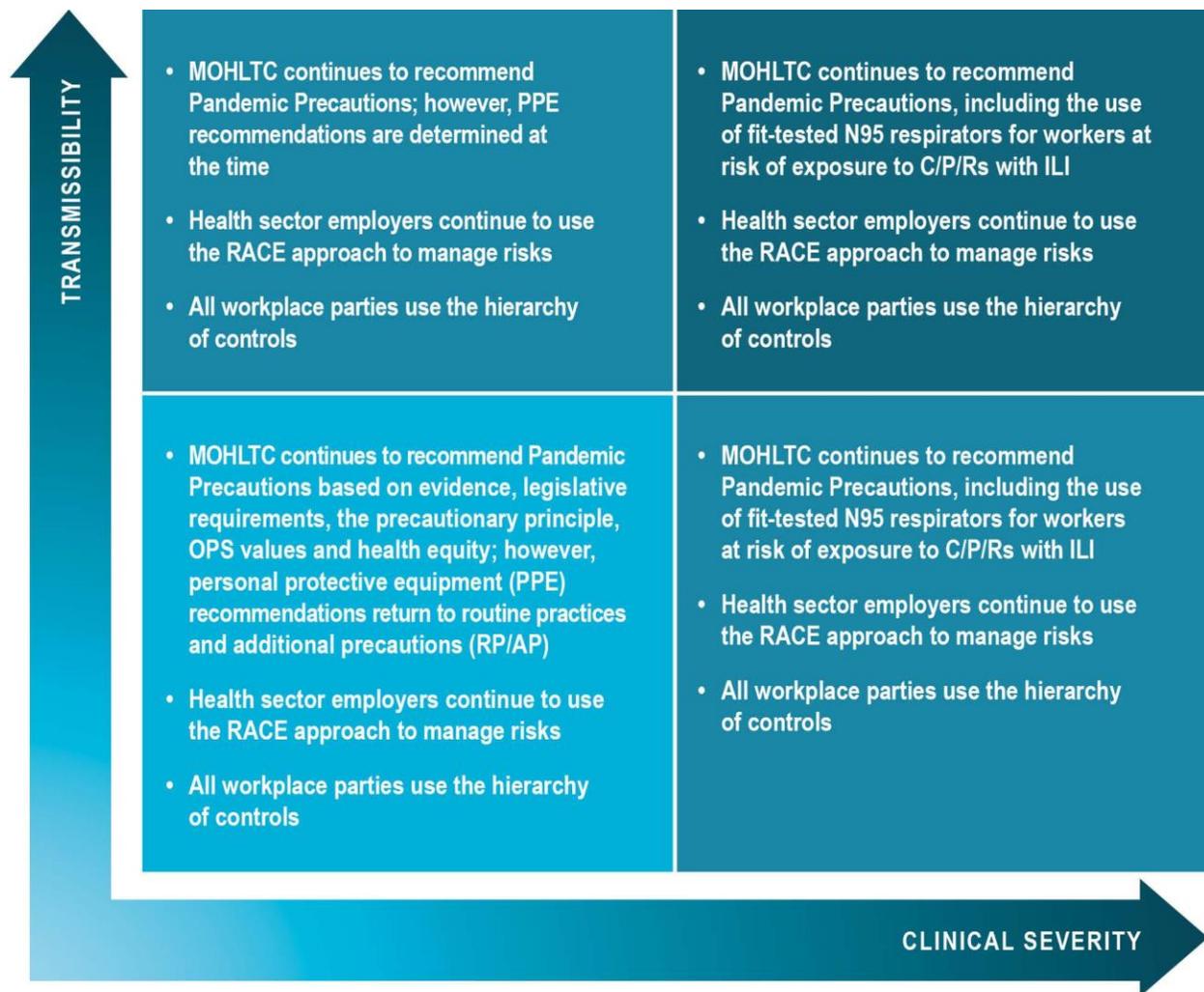


FIGURE 1. OHS & IPAC ACTIVITIES STRATIFIED BY SEVERITY

Introduction

Healthy health care environments are essential for the safety of both health workers and those for whom they care. As [Health Quality Ontario](#) (formerly the Ontario Health Quality Council) noted, “healthy and safe work environments for workers are associated with patient safety and service quality”⁵. Having effective OHS & IPAC procedures in place contributes significantly to the protection of C/P/Rs, health sector employers, supervisors, health workers and visitors.

Preparedness tip

A healthy organization is defined as “...one whose culture, climate and practices create an environment that promotes employee health and safety as well as organizational effectiveness.”⁶ In order to foster a healthy organization, health sector employers and supervisors should ensure that health workers have a solid understanding of OHS & IPAC practices (see [Appendix A](#) for links to OHS & IPAC resources). Health sector employers should encourage collaboration between IPAC designates and OHS leadership. Additionally, OHS policies, measures, procedures and training should be developed in consultation with JHSCs and HSRs (if any). The [Provincial Infectious Disease Advisory Committee \(PIDAC\)](#) best practice manual entitled [Routine Practices and Additional Precautions in All Health Care Settings](#) provides IPAC practices that should be followed at all times, when providing care to all C/P/Rs.

Additional efforts must be made to maintain such healthy environments during an influenza pandemic. Protective measures may be implemented by health sector employers, supervisors and health workers in addition to RP/AP. These Pandemic Precautions may include enhancements or modifications to personal protective equipment (PPE) recommendations, exclusion and fitness for work strategies, visitor policies and health worker accommodation strategies. Pandemic Precautions should be seen as an escalation of existing and effective OHS & IPAC practices, not as new processes.

⁵ Ontario Health Quality Council (2010) [A framework for public reporting on healthy work environments in Ontario healthcare settings](#) p.14

⁶ Lim, S.-Y. & Murphy, L.R. (1999). The relationship of organizational factors to employee health and overall effectiveness. *American Journal of Industrial Medicine, Supplement*, May, pgs. 64-65

The protective measures for health workers described in this chapter also apply to students and volunteers.

Preparedness tip

As per the [Health Care and Residential Facilities Regulation \(HCRF\)](#), health sector employers in settings where the HCRF applies must review and revise OHS and IPAC measures and procedures at least annually in light of current knowledge and practice. The review and revision shall be more frequent if the employer, on the advice of the JHSC or HSR (if any), determines that such review or revision is necessary. Although this is not mandatory in health settings not covered by the HCRF, it is encouraged as a best practice.

[Appendix B](#) includes a sample OHS & IPAC audit to assist health sector employers to prepare for the OHS & IPAC strategies included in this chapter.

Occupational health & safety and infection prevention & control roles and responsibilities

Health sector employers are ultimately responsible for OHS in the health setting. However, all workplace parties have a role to play in the creation of safe and healthy workplaces that is appropriate to their role and function within the organization. This is referred to as the Internal Responsibility System (IRS).⁷ The concept of the IRS is based on the principle that workplace parties themselves are in the best position to identify OHS problems and to develop and implement solutions. Ideally, the IRS involves everyone, from the executive officers to the health worker, in a complete, unbroken chain of responsibility and accountability for OHS.

[Table 1](#) outlines OHS & IPAC roles and responsibilities during an influenza pandemic. For a broad overview of roles and responsibilities during an influenza pandemic, see Chapter 1: Introduction.

⁷ View Chapter 2 of the MOL's [A Guide to the Occupational Health and Safety Act](#) for more information on the IRS.

TABLE 1. OHS & IPAC ROLES AND RESPONSIBILITIES DURING AN INFLUENZA PANDEMIC⁸

Party	Roles and responsibilities
MOHLTC⁹ (through the Ministry Emergency Operations Centre (MEOC))	Develop and communicate OHS & IPAC recommendations ^{10, 11} to health workers and health sector employers Develop and issue directives ¹² , orders and requests as per the Health Protection and Promotion Act (HPPA) , Long-Term Care Homes Act (LTCHA) and other relevant provincial legislation ¹³
PHO	Provide scientific and technical expertise to the MOHLTC (through the MEOC) Generate knowledge translation tools to supplement MOHLTC OHS & IPAC recommendations Promote MOHLTC recommendations locally via training and other knowledge translation activities and provide expert advice to IPAC professionals on the implementation of MOHLTC recommendations (through RICNs)
MOL	Provide OHS expertise to the MOHLTC (through the MEOC) Enforce the OHSA and its regulations

⁸ The information in this table is intended to provide general information about roles and responsibilities of different parties during an influenza pandemic with respect to OHS & IPAC. It is not a comprehensive listing of roles or obligations of a party. Roles, responsibilities and obligations of a party vary in specific circumstances.

⁹ Throughout the OHP/IP, the MOHLTC is used to refer to the [Minister](#), the [Chief Medical Officer of Health \(CMOH\)](#) and the rest of the MOHLTC. For information on how emergency decisions are made in the MOHLTC, please see the [Ministry Emergency Response Plan](#).

¹⁰ This term refers to recommended best practices. Recommendations related to OHS may be considered by health sector employers to be reasonable precautions in the application of the [OHSA](#).

¹¹ The development and communication of recommendations by the MOHLTC does not relieve health sector employers from their legislated obligations.

¹² The development and issuing of directives by the MOHLTC does not relieve health sector employers from their legislated obligations.

¹³ Note that the OHSA prevails where there is a conflict between it and any other special or general act. It also prevails when there is a conflict between it and any directive, order or request under the HPPA, LTCHA and other relevant provincial legislation.

Party	Roles and responsibilities
Public health units (PHUs) ¹⁴	<p>Undertake various roles as described in the Ontario Public Health Standard on Infectious Disease Prevention and Control</p> <p>Promote and reinforce MOHLTC recommendations locally</p>
Health sector employers ¹⁵	<p>Recognize hazards, assess risks associated with hazards, control risks and evaluate controls</p> <p>Develop measures, procedures and training to protect the health and safety of health workers in consultation with the JHSC or HSR (if any) (note that consultation is mandatory in settings where the HCRF applies and encouraged as a best practice in other settings)</p> <p>Review and revise measures and procedures in light of current knowledge and practice in consultation with the JHSC or HSR (if any)</p> <p>Report injuries and workplace-acquired infections to the MOL, JHSC or HSR (if any), and union (if any) in accordance with the OHS Act and its regulations</p> <p>Take every precaution reasonable in the circumstances for the protection of health workers</p> <p>Participate in the IRS</p>
Supervisors	<p>Ensure workers comply with OHS Act and its regulations</p> <p>Ensure the required PPE is properly used</p> <p>Advise workers of any actual or potential danger to health and safety</p> <p>Take every precaution reasonable in the circumstances for the protection of workers</p> <p>Participate in the IRS</p>

¹⁴ Throughout the OHPIP, PHU includes boards of health, medical officers of health, and other PHU health workers (e.g., public health inspectors, epidemiologists, public health nurses, etc.). See the HPPA and [Ontario Public Health Standards](#) for more information on the roles and responsibilities of various PHU parties.

¹⁵ The MOL has an [online video](#) that describes health sector employer responsibilities for IPAC.

Party	Roles and responsibilities
Health workers	<p>Follow workplace precautions and participate in training</p> <p>Use precautions as required by their employer</p> <p>Report hazards to their supervisor</p> <p>Participate in the IRS</p>
<p>IPAC professional, committee or designate</p> <p>and</p> <p>OHS professional or designate</p>	<p>Provide expert advice to health sector employers, supervisors and others about implementation of MOHLTC recommendations and other IPAC & OHS measures and procedures</p> <p>Assist in the development and/ or provision of training and education relevant for health workers and others in the workplace</p> <p>Work collaboratively with each other and with JHSCs and HSRs (if any)</p>
JHSCs and HSRs	<p>Participate in the recognition of hazards and assessment of associated risks and provide advice to the health sector employer on the development of controls, such as measures, procedures and training</p> <p>Participate in the evaluation of controls</p> <p>Exercise their function and powers under the OHSA¹⁶</p>
<p>Health and safety service organizations (such as the Public Services Health and Safety Association or the Workers Health & Safety Centre)¹⁷</p>	<p>Offer resources, training including respirator fit-testing and OHS advice to workplace parties, including health sector employers, health workers, JHSCs and HSRs (if any)</p>

¹⁶ The MOL has developed a [Guide for Joint Health and Safety Committees and Representatives in the Workplace](#).

¹⁷ Descriptions and contact information for all of Ontario's OHS system partners is available on the [MOL's Health and Safety Partners webpage](#).

Party	Roles and responsibilities
Health liaison organizations (regulatory colleges, unions, professional associations) and Local Health Integration Networks (LHINs)	Liaise between the MOHLTC and members/ transfer payment (TP) agencies (see Chapter 2: Health System Communications)

Through the federal response structure, the [Public Health Agency of Canada \(PHAC\)](#) may develop and issue OHS & IPAC recommendations to support the health system respond to the pandemic.

While every effort is made to align MOHLTC-issued recommendations with federal recommendations, it is possible and understood that differences between Ontario’s and PHAC’s recommendations may occur. Where there is conflict, the MOHLTC strongly encourages health sector employers and health workers to follow Ontario-specific guidelines when delivering services within the province. Ontario recommendations are developed with input from the MOL and other Ontario partners, informed by the epidemiology of the virus in Ontario and Ontario-specific legislated roles and responsibilities.

During an influenza pandemic, the MOHLTC attempts to highlight and explain the differences between PHAC’s and the MOHLTC’s recommendations in its communications with the health system.

Risk management for health sector employers

During an influenza pandemic, a rigorous approach to risk management¹⁸ is required to ensure that health sector employers and supervisors meet their responsibilities.

¹⁸ Risk management is defined as the interactive process used by an organization to recognize hazards, assess the risk associated with them, control the risk to reduce the incidence of injury or illness, and evaluate the effectiveness of these controls. The process of risk management in the workplace is a tool available to all people which, when applied correctly, leads to a safer work environment (Adapted from Taylor, G., Easter, K. & Heg, R. (2004) [Enhancing Occupational Health and Safety](#)).

Health sector employers therefore benefit from the use of the RACE approach to risk management:

- R – recognize the hazard
- A – assess the risk associated with the hazard
- C – control the risk associated with the hazard
- E – evaluate the controls

R – Recognize the hazard

During an influenza pandemic, health sector employers and other workplace parties may obtain information about the hazard posed by a novel virus in a variety of ways, such as through IHNs issued by the MOHLTC and local surveillance data from PHUs. As part of the organization's ongoing surveillance, ILI outbreaks among C/P/Rs and health workers should be monitored and reported to the PHU as per the HPPA. Long-term care homes must also report ILI outbreaks to the Director of the MOHLTC's Performance Improvement and Compliance Branch as per the LTCHA. Occupationally acquired illness must be reported to MOL, the JHSC or HSR (if any), and union (if any) as per the OHS Act.

A – Assess the risk

During an influenza pandemic, health sector employers should regularly assess the risk of exposure to the virus, considering both the likelihood and consequence of transmission on all individuals in the setting (health sector employers, supervisors, health workers, visitors and C/P/Rs). See [Appendix C](#) for a risk assessment matrix. Health sector employers need to take into account the organization's capacity to control the risk associated with the hazard. This could include assessing existing control measures. Health sector employers should assess risk in consultation with their JHSC or HSR (if any) on a regular basis during an influenza pandemic as information becomes available or changes.

Health sector employers should consider a variety of factors when assessing risk, including but not limited to:

- existing control measures
- pandemic severity information provided by the MOHLTC
- local surveillance information shared by the PHU

Other specific questions to consider when assessing risk may include the following:

- Based on available evidence identifying any groups at heightened risk for infection or complications from infection, what are the implications to C/P/Rs, health workers and the organization?
- Is there an effective vaccine available?
- Are antivirals effective against the virus?

C – Control the risk

Throughout an influenza pandemic, health sector employers should work with JHSCs or HSRs (if any) and others knowledgeable in OHS & IPAC to determine appropriate controls based on:

- ongoing recognition and assessment of risk
- RP/AP
- recommendations from the MOHLTC (this may include Pandemic Precautions beyond RP/AP; as outlined in Chapter 1: Introduction, the MOHLTC bases its decisions on the following guiding principles: evidence,¹⁹ legislative requirements, the precautionary principle,²⁰ OPS values, equity and its communication principles)
- the precautionary principle²¹
- the OHSA, its regulations and other legislated requirements

Although the MOHLTC may recommend Pandemic Precautions, health sector employers should not wait for recommendations from the MOHLTC to implement appropriate precautions in the presence of risk. A health sector employer may need to implement Pandemic Precautions prior to the release of recommendations from the MOHLTC due to local conditions or circumstances within the health setting. As well, health sector employers may need to implement a higher level of precaution than that being recommended by the MOHLTC based on their recognition of hazards and assessment of risk.

Health sector employers should determine what controls are needed to prevent or eliminate the risk of transmission and the steps to be taken to ensure that supervisors, health workers, visitors and C/P/Rs have the ability to implement these control measures. Health sector employers, supervisors and health workers should consider the hierarchy of controls (see [Figure 2](#)) when selecting controls. The hierarchy of controls consists of

¹⁹ See Appendix D for information on the transmission of influenza. The MOHLTC and MOL will consider evolving science on the transmission on influenza when making recommendations during an influenza pandemic.

²⁰ [Justice Archie Campbell](#) defined the precautionary principle following the SARS outbreak in 2003 by saying “reasonable steps to reduce risk should not await scientific certainty.” The MOHLTC uses the precautionary principle to help guide its decision making during an influenza pandemic. This is particularly important in the initial stages of a pandemic, when scientific evidence about the influenza pandemic virus may be emerging and its severity may be unknown.

²¹ For more information on the application of the precautionary principle in the workplace, see the [Guidance Note for Workplace Parties](#) developed by the Ontario Health Care Health and Safety Committee, an advisory committee appointed under Section 21 of the OHSA.

controls that should be selected in order, beginning with controls directed at the source, along the path and at the health worker. Types of controls include elimination or substitution, engineering controls, administrative controls and PPE.

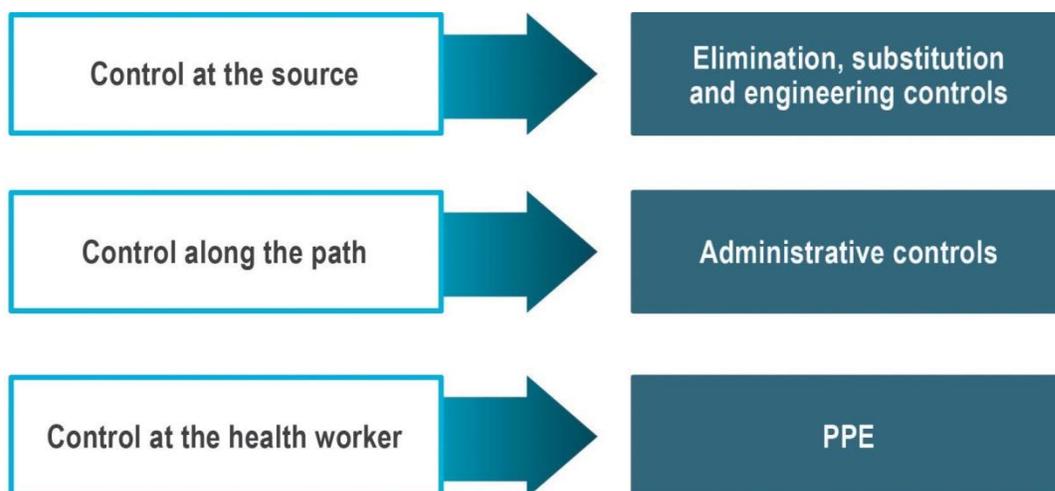


FIGURE 2. HIERARCHY OF CONTROLS

Engineering controls

Engineering controls either remove a hazard or provide a barrier between the health worker and the hazard. Engineering controls are less dependent on individual health workers' knowledge and practices. It is the responsibility of the health sector employer to ensure that effective engineering controls are in place and that all reasonable precautions are taken in the circumstances to protect the worker. Engineering controls for pandemic influenza may include (but are not limited to) facility and room design, ventilation systems, room air flow (e.g., negative pressure rooms for aerosol generating medical procedures), human traffic patterns, positioning of alcohol-based hand sanitizer dispensers and dedicated hand washing sinks, and physical barriers to separate patients in multi-bed wards or waiting areas. Physical barriers may also be considered to protect health workers in areas such as triage, emergency department and admitting areas.

In some settings, engineering controls may not be available and health sector employers need to focus more on administrative controls and PPE.

Administrative controls

Administrative controls are those measures that change the way in which work is done or that introduce new work processes to prevent exposure to and transmission of an infectious agent such as a pandemic influenza virus. They may take the form of policies, procedures or C/P/R care practices.

Administrative controls related to work processes should include the following components:

- Source control – There should be appropriate screening measures and procedures (e.g., active vs. passive screening) for C/P/Rs, visitors and health workers. If possible, measures should be put in place to contain the influenza virus, such as restricting individuals with ILI symptoms to a well-defined area of the facility; suspending non-critical programs and activities; and separating sources of infection from susceptible hosts (e.g., spatial distancing; C/P/R cohorting; fitness for work policies that support absences due to illness).
- Health worker accommodation – Policies should be established to address health worker accommodation issues, which could include protection for health workers who cannot fit-test to an available respirator, measures for those who are unable to be immunized and protection for specific high-risk groups (e.g., pregnant health workers). Alternative tasks may need to be considered for these individuals. Information about recommended high-risk group accommodations may be communicated by the MOHLTC through an IHN at the time of a pandemic.
- Immunization promotion – Influenza immunization should be strongly encouraged and supported by workplace tracking measures and evidence-based measures and procedures to promote uptake.
- Hand hygiene promotion – It is extremely important that there be thorough measures and procedures to ensure that all people (including C/P/Rs, health workers and visitors) perform correct hand hygiene when entering/ exiting the health care facility, and before and after contact with a C/P/R or their environment. Tools such as PHO's [Just Clean Your Hands](#) program and PIDAC's [Best Practices for Hand Hygiene](#) can be used to support this strategy.
- Environmental cleaning – Health sector employers must have measures and procedures related to environmental cleaning, including equipment used in the care of C/P/Rs. These should be based on evidenced-based guidance such as PIDAC's [Best Practices for Environmental Cleaning for Prevention and Control of Infections](#).
- Outbreak management – Outbreak management procedures, including the use of antiviral chemoprophylaxis, in institutional settings should be used as described in the MOHLTC's [Guide to the Control of Respiratory Infection Outbreaks in Long-Term Care Homes](#) and the Joint Ontario Hospital Association/ Ontario Medical Association Communicable Diseases Surveillance Protocols Committee's [Influenza Surveillance Protocol for Ontario Hospitals](#).
- Visitor policies – Where possible, visits should be conducted in an area away from C/P/Rs with ILI. Visitors should be given instruction on keeping a safe distance when they are visiting C/P/Rs with ILI. Health sector employers may want to implement measures and procedures for visitor restriction during more severe influenza pandemics based on the results of their risk assessment.
- Training and education – Initial and ongoing training and education for health workers based on identified needs and including:
- OHS & IPAC principles and procedures

- guidance on conducting a point of care risk assessment (see [Appendix E](#) for a description of a point of care risk assessment based on Pandemic Precautions)
- application of the hierarchy of controls to reduce influenza spread
- the correct care, use and disposal of PPE including its limitations

Personal protective equipment

The effectiveness of PPE as a control measure depends on the health worker's access to the equipment and their knowledge, skills and experience. It is important that health sector employers provide training in the use, care and limitations of PPE and ensure easy access to PPE that is supplied in appropriate sizes and good working order.

[Table 2](#) provides a summary of the PPE that the MOHLTC may recommend for health workers during an influenza pandemic. These recommendations or any adaptations will be communicated through IHNs issued by the MOHLTC at the time of a pandemic.

The MOHLTC may recommend the use of fit-tested N95 respirators for health workers at risk of exposure to a C/P/R with ILI or that C/P/R's environment, such as when health workers are in the same room as a C/P/R with ILI, when they are transporting a C/P/R with ILI, or in other situations when they are within two metres of a C/P/R with ILI. The use of N95 (or higher) respirators should be in accordance with a respiratory protection program that includes training of health workers on the use of the respirator and fit testing and any other measures and procedures developed pursuant to the OHS Act.

Preparedness tip

Workplace parties may refer to the Canadian Standards Association [CSA Standard Z94.4 -11 Selection, Use and Care of Respirators](#)²². For more information on N95 respirators, see [Fast Facts: Respirator Protection](#) from the [Public Services Health & Safety Association](#).

At a minimum, health organizations should follow droplet and contact precautions for visitors as described in PIDAC's [Routine Practices and Additional Precautions in All Health Care Settings document](#). The MOHLTC is undertaking further investigation to determine the risks and benefits of visitors using N95 respirators during an influenza pandemic (see [Next Steps](#) for more information).

²² To access a free version of this standard, register to log-in to the website and scroll down the list of standards to find Z94.4 – 11.

TABLE 2. ANTICIPATED PPE RECOMMENDATIONS FOR HEALTH WORKERS²³

Exposure scenario		PPE				
		Gloves	Gown	Eye protection	Surgical mask	Fit-tested N95 respirator
Exposure to a C/P/R who <i>does not</i> have ILI or that C/P/R's environment (all severity scenarios)		As per RP/AP	As per RP/AP	As per RP/AP	As per RP/AP	As per RP/AP
Exposure ²⁴ to a C/P/R with ILI or that C/P/R's environment	Unknown severity	Yes	Yes	Yes	No	Yes
	Low transmissibility & low clinical severity (droplet + contact precautions apply)	Yes	Yes	Yes	Yes	As per RP/AP
	High transmissibility & low clinical severity	Yes	Yes	Yes	Recommendation by the MOHLTC determined at the time of a pandemic based on evidence, legislative requirements, precautionary principle, OPS values and health equity	

²³ When applying the guidance in this table, also consider the possibility of the presence of additional infectious agents and the use of RP/AP.

²⁴ Exposure to a C/P/R with an ILI includes situations where the health worker is in the same room as a C/P/R with ILI, when they are transporting a C/P/R with ILI, or when they are within two metres of a C/P/R with ILI.

Exposure scenario	PPE				
	Gloves	Gown	Eye protection	Surgical mask	Fit-tested N95 respirator
Low transmissibility & high clinical severity OR High transmissibility & high clinical severity	Yes	Yes	Yes	No	Yes
Aerosol generating medical procedure²⁵ (all severity scenarios)	Yes	Yes	Yes	No	Yes

Preparedness tip

The MOHLTC recommends that health organizations develop a four-week stockpile of PPE based on the high transmissibility & low clinical severity scenario outlined in [Table 2](#). This stockpile should account for the protection of health workers, visitors and C/P/Rs, including children who may require smaller sizes of equipment. Health sector employers that implement the careful and rigorous use of PPE for seasonal influenza are able to estimate the volumes of equipment needed based on those used during a seasonal influenza response. As a general guide, outpatient and home care settings should plan for volumes that are two times what they would normally use in four weeks of an influenza season, while inpatient settings should plan for volumes that are eight times as high²⁶. Health sector employers should have supplies

²⁵ Examples of aerosol-generating medical procedures include sputum induction, bronchoscopy, autopsy examination, suctioning, intubation and positive pressure ventilation.

²⁶ These approximations are based on attack rates in the range of ~11-15% for seasonal influenza and ~21-25% for pandemic influenza, and case hospitalization rates of ~0.5% for seasonal and 2% for pandemic influenza. These numbers are only intended as

of both N95 respirators and surgical masks for health workers so they are prepared to implement RP/AP and/ or Pandemic Precautions.

Information on how health organizations can access the MOHLTC's stockpile of PPE, if required, will be provided in an IHN during an influenza pandemic.

Transition from Pandemic Precautions to routine practices and additional precautions controls

As more evidence becomes available on the severity of the pandemic virus, the MOHLTC may recommend that health workers return to following RP/AP if the virus has similar characteristics to seasonal influenza. The MOHLTC will also recommend that health workers return to following RP/AP once the pandemic is over. Health workers must follow the level of precaution defined by their employers. Health sector employers may choose to maintain a higher level of precaution than that recommended by the MOHLTC based on their assessment of risk. For example, if an organization serves clients who cannot cover their coughs or wear surgical masks when symptomatic the employer may elect to continue to use fit-tested N95 (or higher) respirators after the MOHLTC has recommended a transition from Pandemic Precautions to RP/AP. In these situations, the MOHLTC will assess the need for continued access to the provincial stockpile.

E – Evaluate the controls

During and after an influenza pandemic, it is the responsibility of health sector employers to work with JHSCs or HSRs (if any) to evaluate the controls that have been implemented. Health sector employers should assess compliance with RP/AP and Pandemic Precautions, including assessing the effectiveness of health worker education and training, ensuring N95 (or higher) respirator fit-testing and hand hygiene audits are performed and ensuring that immunization uptake is as high as possible. Following the conclusion of the pandemic, health sector employers should lead a debrief process with all workplace parties.

Next steps

In the development of the Ontario Influenza Response Plan, the MOHLTC will work with its partners to:

- develop recommendations on whether health organizations should stockpile antivirals in support of OHS

guidelines for stockpiling. More sophisticated modelling can be done using [FluAid software](#), available from the Centers for Disease Control and Prevention.

- develop guidance to assist health sector employers support health workers' psychosocial needs during an influenza pandemic
- continue to monitor advances in knowledge regarding disease spread and appropriate OHS & IPAC practices
- further consider the risks and benefits of visitors using N95 respirators during an influenza pandemic, including implications on the MOHLTC's and health organizations' stockpiles of PPE

Appendix A – Occupational health & safety and infection prevention & control resources

There are a number of OHS & IPAC resources that can support an organization's routine operations, as well as its preparedness for an influenza pandemic.

IPAC Resources

The College of Physicians and Surgeons of Ontario

- [Infection Control in the Physician's Office](#)

Community and Hospital Infection Control Association – Canada

- [Main page](#)

PHO

- [Provincial Infectious Diseases Advisory Committee \(PIDAC\) Best Practice Manuals](#)
- [Regional Infection Control Networks \(RICNs\)](#)
- [Infection Prevention and Control Reference Tool for Health Care Providers in the Community](#)
- [Just Clean Your Hands](#)

OHS Resources

MOL

- [Main page](#)
- [Flu and Your Workplace](#)
- [Health and Community Care webpage](#)

Other organizations

- [Canadian Centre for Occupational Health and Safety](#)
- [Occupational Health Clinics for Ontario Workers](#)
- [Ontario's Health and Safety Associations \(HSAs\)](#)
- [Public Services Health & Safety Association](#)
- [Workers Health & Safety Centre](#)
- [Workplace Safety & Insurance Board](#)

Appendix B – Occupational health & safety and infection prevention & control audit

The following is a sample OHS & IPAC audit that health sector employers can complete with JHSCs or HSRs (if any) before an influenza pandemic to ensure that measures and procedures outlined in this chapter can be implemented. This audit tool includes a mixture of both legislated requirements and other recommended practices. There are other audit tools that health sector employers may also wish to reference, such as the Public Health and Safety Association’s [Protecting HealthCare Workers from Infectious Diseases: A Self-Assessment Tool](#) and the Community and Hospital Infection Control Association (CHIA) - Canada [Infection Control Audit Toolkit](#)²⁷.

TABLE 3. OHS & IPAC AUDIT

Element	Yes	No	N/A	Follow-up action
General				
Is someone in the organization assigned responsibility for subscribing to the MOHLTC’s IHNS and circulating them with workplace parties when they are released?				
Has the health sector employer implemented the recommendations in PIDAC’s best practice document entitled Infection Prevention and Control Programs in Ontario ? Has the employer developed a corrective action plan to follow-up on any identified gaps?				
Does the health sector employer have an OHS program in compliance with the OHSA and the applicable regulations?				

²⁷ This toolkit is available for free for CHICA members and at a cost for non-members.

Element	Yes	No	N/A	Follow-up action
Does the health sector employer have a process in place for reviewing the results of this audit periodically and as needed?				
Engineering Controls				
Are physical barriers available or in place to separate C/P/Rs with ILI in multi bed rooms and waiting areas, and to protect health workers in triage, emergency and admitting areas?				
Are heating, ventilation and air conditioning systems properly maintained and inspected?				
Are there accessible hand hygiene stations in appropriate locations with signage and instructions for health workers, C/P/Rs, visitors and volunteers on when and how to practice hand hygiene?				
Administrative Controls				
Does the employer have written OHS and IPAC policies, procedures and measures to protect workers and C/P/Rs from communicable illnesses including pandemic influenza? Were these policies, procedures and measures developed in consultation with the JHSC and HSR (if any)? Is compliance evaluated?				
Does the health sector employer have a written influenza immunization policy that includes health worker education and other strategies to increase uptake? Is compliance with this policy evaluated?				
Does the health sector employer have a written hand hygiene program ? Is compliance with this policy evaluated?				

Element	Yes	No	N/A	Follow-up action
<p>Does the health sector employer have signage or other screening procedures to identify C/P/Rs with ILI in order to have them perform hand hygiene, don a surgical mask, use respiratory etiquette and separate from unprotected people as possible? Is compliance with this policy evaluated? Is there a plan for very high volumes of C/P/Rs with ILI?</p>				
<p>Does the health sector employer have written policies on reporting influenza of C/P/Rs consistent with the HPPA and, if applicable, the Long-Term Care Homes Act? Is compliance with these policies evaluated?</p>				
<p>Does the health sector employer have written policies on reporting influenza in health workers consistent with:</p> <ul style="list-style-type: none"> • the OHS Act? • the Workplace Safety and Insurance Board (if applicable)? <p>Is compliance with these policies evaluated?</p>				
<p>Does the health sector employer have written fitness for work and return to work policies, including identification of health workers with ILI? Is compliance with these policies evaluated?</p>				
<p>Does the health sector employer have written policies on training and IPAC requirements for aerosol generating medical procedures?</p>				
<p>Does the health sector employer promote minimizing direct contact by encouraging health workers (and others) to sit beside rather than in front of C/P/Rs with ILI?</p>				
<p>Does the health sector employer have written policies, measures and procedures on environmental cleaning that includes equipment used in the care of C/P/Rs? Is compliance with these policies evaluated?</p>				

Element	Yes	No	N/A	Follow-up action
Does the health sector employer have written policies on sharing information on ILI when transferring a C/P/R? Is compliance with this policy monitored?				
Does the health sector employer offer regular training on the contents of the written policies and programs? Was the training developed in consultation with the JHSC or HSR (if any) and the IPAC designate?				
Does the health sector employer have written procedures to ensure the safety of visitors based on the hierarchy of controls?				
PPE				
Does the health sector employer maintain a stockpile of PPE including gowns, gloves, surgical masks, eye protection and N95 (or higher) respirators?				
Does the health sector employer have written guidelines on the use of PPE?				
Do health workers have access to required PPE as needed?				
Does the health sector employer have a written respiratory protection policy and program that outlines health screening, fit-testing/ re-testing and training for health workers that may need to wear an N95 (or higher) respirator?				
Are all health workers who may use N95 (or higher) respirators in an influenza pandemic fit-tested within the last two years and in accordance with accepted standards, and trained in the use of the respirators including how to conduct seal checks?				
Have health workers been trained and tested on how to don, doff and dispose of PPE properly?				
Have procedures been put in place to support visitors to don, doff and dispose of PPE properly?				

Appendix C – Risk assessment matrix

TABLE 4: RISK ASSESSMENT MATRIX

Consequence of exposure	Likelihood of exposure		
	Very likely	Moderately likely	Unlikely
High	A	A	B
Medium	A	B	B
Low	B	B	C

Using this matrix, hazards with the greatest likelihood of exposure (very likely) and the greatest potential consequence (high) are considered the highest risk and should be the first priority (A) for stringent control measures (e.g., identify health workers present at risk of exposure during aerosol generating medical procedures). Hazards with moderate likelihood of exposure and medium consequence are a lower priority (B) and may require fewer/less stringent control measures. Hazards with the least likelihood of exposure (unlikely) and the lowest consequence (low) of exposure (C) are not considered a priority and require the fewest/ least rigorous control measures.

Risk can be reduced by decreasing the likelihood of exposure and/ or reducing the consequence of exposure. The risk assessment matrix can be used to assess individual job tasks or all the job tasks within a job classification.

Appendix D – Transmission of influenza

Health workers providing care and/ or services to individuals with influenza are at risk of exposure to the virus in both the health setting and in the community.

Influenza is primarily droplet spread: it can be directly transmitted from person-to-person when people infected with influenza cough or sneeze and droplets of their respiratory secretions come into contact with the mucous membranes of the mouth, nose and possibly eyes of another person. Particles expelled by a coughing or sneezing person can travel some distance and may be inhaled by someone who is within two metres of a coughing or sneezing person (short-range transmission).

Because the virus in droplets can survive for extended periods of time on surfaces or hands, the virus can also be contact spread: people can acquire influenza indirectly by touching contaminated hands, surfaces and objects, and then touching their mouth, nose or eyes.

The risk to health workers in the workplace may be higher when they are performing aerosol generating medical procedures on C/P/Rs with ILI or performing laboratory procedures that generate aerosols because droplets containing influenza virus may become aerosolized and can be spread through the air. The issue of whether influenza can also be spread by airborne transmission in other situations (i.e., other than during procedures that generate aerosols) is controversial. Scientific literature (e.g., [Brankston, Gitterman, Hirji, Lemieux & Gardham \(2007\)](#); [Council of Canadian Academies \(2007\)](#); [Loeb, Dafoe, Mahony, John, Sarabia, Glavin, Webby, Smieja, Earn, Chong, Webb & Walter \(2009\)](#); [MacIntyre, Wang, Cauchemez, Seale, Dwyer, Yang, Shi, Gao, Pang, Zhang, Wang, Duan, Rahman & Ferguson \(2011\)](#)) and experience with other influenza viruses do not conclusively confirm or rule out airborne transmission. In Ontario, health sector employers and supervisors take all reasonable steps in the circumstances to protect health workers from exposure to influenza in their workplace.

OHS & IPAC measures are particularly important in the early phase of a pandemic, when there are only a small number of cases and there may be an opportunity to contain the virus and slow community spread. Once the influenza pandemic strain is widespread in the community, health workers and all others will be at risk outside their workplace, and strict workplace controls will not prevent community-based transmission. However, the risk of community-based transmission does not relieve health sector employers of their obligation to take every reasonable precaution to protect health workers in the workplace.

Acquisition of infection is the result of a set of complex interrelationships among the infectious agent/infected source, the susceptible host and the environment. The epidemiological triangle can be used to describe and understand the relationships among these three key elements. The [Canadian Pandemic Influenza Plan for the Health Sector \(CPIP\)](#) provides an overview of the epidemiological triangle.

Appendix E – Point of care risk assessment

A point of care risk assessment is conducted by health workers before each interaction with a C/P/R and/ or their environment to evaluate the likelihood of exposure to an infectious agent/ infected source and to choose the appropriate safe work practices to minimize everyone’s (health worker, visitor and C/P/R) risk of exposure to an infectious agent/ infected source.

As described in PIDAC's document entitled [Routine Practices and Additional Precautions in All Health Care Settings](#), point of care risk assessments are an integral component of RP/AP. During an influenza pandemic, health workers should continue to perform point of care risk assessments prior to each interaction with a C/P/R and/ or their environment in order to inform appropriate safe work practices. Health sector employers should ensure that health workers are incorporating the latest OHS & IPAC recommendations from the MOHLTC into their point of care risk assessments, including any enhancements or modifications to PPE controls based on the epidemiology of the virus. As well, health sector employers should ensure that the results of risk assessments at the organizational level are communicated to health workers so they can incorporate relevant findings into their point of care risk assessments. [Figure 3](#) details a point of care risk assessment that health workers may apply during an influenza pandemic.

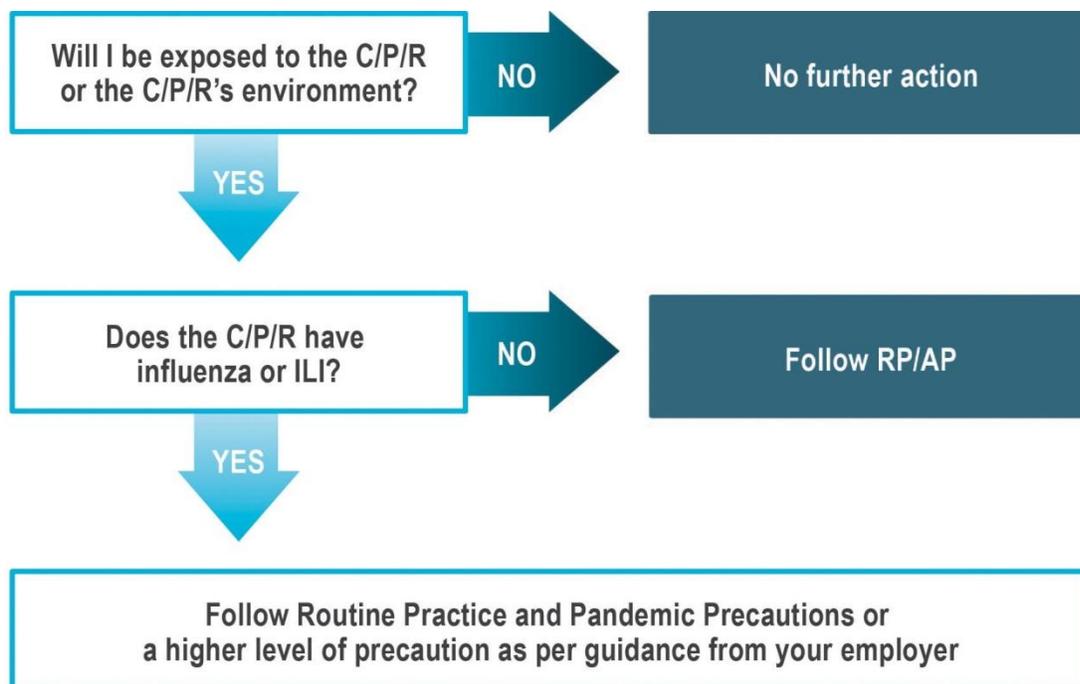


FIGURE 3. POINT OF CARE RISK ASSESSMENT FOR INFLUENZA OR ILI DURING AN INFLUENZA PANDEMIC

