7. Infection Prevention and Control and Occupational Health and Safety Measures

> [H]e demonstrated for them an innovation he had experimented with: the wearing of gauze masks by patients with respiratory disease … Welch called the mask "a great thing … an important contribution in prevention of spray infections." He encouraged Capps to write an article for the Journal of the American Medical Association and advised Pearce to conduct studies of the masks' effectiveness."
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> The Great Influenza, John M. Barry

During an influenza pandemic, infection prevention and control and occupational health and safety measures can help protect the public, patients, and health care providers from exposure to the influenza virus. It is critical that everyone be aware of the type of measures they should take to reduce the spread of influenza. The first part of this section describes infection prevention and control measures the public and organizations should use. The second addresses occupational health and safety requirements for health care settings.

Legislated Occupational Health and Safety requirements designed to protect workers against infectious diseases involve more than just "personal protective equipment". Protection from infectious diseases depends on having a hierarchy of controls in place and effective health and safety systems. This section describes those controls and systems.

The MOHLTC is currently developing a provincial position on the type of personal protective equipment to be used during an influenza pandemic. This chapter will be updated when that work is complete.

Note: this section refers to Occupational Health Services. In settings that do not have a designated Occupational Health Service, senior management is responsible for fulfilling those roles and responsibilities and for complying with legislation regarding confidentiality of personal health information.

7.1 Objective

- To ensure the public knows how to reduce the risk of exposure to influenza.
- To ensure health care providers have access to the appropriate training, infection prevention and control practices and equipment, and other supports to protect themselves and patients from exposure to influenza.

7.2 General Infection Prevention and Control

Infection Prevention and Control Practices for the Public

All influenza viruses are primarily droplet-spread; however airborne transmission cannot be conclusively ruled out. The public should be advised of the steps they can take to reduce the risk of being exposed to influenza, including:

- having the annual influenza immunization
- washing their hands frequently – particularly after coughing or sneezing (i.e., hand hygiene)
- keeping one metre or an arms-length away from someone who is coughing or sneezing
- avoiding activities where large number of people gather in enclosed spaces (e.g., sporting events, concerts)

- thoroughly cleaning surfaces in the home when someone is ill with influenza
- complying with any public health measures recommended by the medical officer of health (see Chapter 6)
- staying home from work or school when ill
- covering their mouth when coughing using a tissue or sleeve rather then your hands
- not visiting people in hospital or a long-term care home when ill with influenza.

The wearing of masks by the public has not been proven to be an effective means of limiting the spread of influenza during a pandemic. Therefore, the use of masks in the community is not recommended; however, if individuals choose to wear masks, they should:

- wear a surgical/procedure mask
- learn the proper procedures to put masks on and off
- know how to properly dispose of used masks without contaminating themselves and increasing the risk of infection
- understand that masks or any protective equipment is not a substitute for hand hygiene.

Infection Prevention and Control Practices in Schools and Daycares

Settings where children gather face particular infection prevention and control challenges because children shed virus longer than adults and because children – particularly young children – may not be capable of implementing some practices independently (e.g., hand washing, using tissues). This is one reason why the public health system may consider closing schools or daycares during a pandemic. To help improve infection prevention and control measures in these settings, Ontario will develop guidelines in 2007.

7.3 Infection Prevention and Control Practices in Health Care Settings

Note: Section 7.3 reflects an interim position. This section will be updated pending results of national deliberations and further consultation.

The Risk in the Workplace

As noted in Chapter 1, influenza is directly transmitted from person to person primarily 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 (i.e., droplet spread). Because the virus in droplets can survive for 24 to 48 hours on hard non-porous surfaces, for 8 to 12 hours on cloth, paper and tissue, and for 5 minutes on hands, people can acquire influenza indirectly by touching contaminated hands, surfaces and objects (i.e., contact-spread). The issue of whether influenza can also be spread by airborne transmission is controversial. Current scientific literature investigating whether airborne influenza transmission can occur between humans is inconclusive; therefore, airborne transmission cannot be conclusively ruled out.

Opinions differ on whether health care providers will be at a higher risk of exposure than the general public. Some experts believe that, because of the ease with which respiratory illnesses pass from person to person in the community, health care workers will be at no greater risk in their work environment; in fact, they may benefit from being in a controlled environment that has procedures in place to reduce disease

spread. Others take the position that health care workers will be at greater risk because of the large number of people with influenza they will have contact with in their work setting.

The risk to health care providers in the workplace is higher when staff are performing procedures that generate aerosols on patients with pandemic influenza (more detailed information on aerosol generating procedures is provided in section 7.4) because droplets containing influenza virus may become aerosolized and can be spread through the air.

Duty to Provide Care and Responsibility to Protect Workers

As noted in the ethical framework for decision making (Chapter 2), health care providers have an ethical duty to provide care and respond to suffering. At the same time, society has an ethical responsibility to support health care providers. During a pandemic, health care providers' concerns about their own health or the health of their families may cause them to weigh their duty to provide care against competing obligations. The steps that the health care system and the broader society take to support health care providers can make it easier for them to fulfill their duty to provide care.

7.4 Occupational Health and Safety Legislation: The Workplace Partnership

The purpose of the Occupational Health and Safety Act is to protect workers against health and safety hazards on the job. Workers and employers share the responsibility for occupational health and safety (i.e., the workplace partnership). This concept of an internal responsibility system is based on the principle that the workplace parties themselves are in the best position to identify health and safety problems and to develop solutions. Ideally, the internal responsibility system involves everyone, from the company chief executive officer to the worker. How well the system works depends upon whether there is a complete, unbroken chain of responsibility and accountability for health and safety.

Several provisions of the Act are designed to foster the internal responsibility system, including:

- the requirement for employers to have a health and safety policy and program
- the direct responsibility that officers of a corporation have for health and safety.

The joint health and safety committee or -- in smaller workplaces -- the health and safety representative has a role to play in monitoring the internal responsibility system. The Act sets out the basic rules of operation for both joint committees and health and safety representatives

A joint health and safety committee is an advisory group of worker and management representatives. The workplace partnership to improve health and safety depends on the joint committee. It meets regularly to discuss health and safety concerns, review progress and make recommendations to improve workplace health and safety. This function is supported by inspections of the workplace (For more information on the composition and role of the joint health and safety committee, see the Ministry of Labour website at: http://www.labour.gov.on.ca/english/hs/jhsc/index.html).

Personnel requiring restrictions during a pandemic will provide Occupational Health Services with medical documentation supporting their requirement for accommodation. Appropriate alternative work will be provided where available.

If an employer is told that a worker has an occupational illness or that a claim for an occupational illness has been filed with the Workplace Safety and Insurance Board (WSIB), the employer must notify a director of the Ministry of Labour, the joint committee (or health and safety representative) and the union, if any, within four days.

Role of the Workplace Safety and Insurance Board (WSIB)

The WSIB is responsible for preventing workplace illness and injuries and for promoting health and safety in Ontario's workplaces. The Ontario health and safety associations funded by the WSIB provide training programs, products, and consulting services to the province's employers and workers. The Ontario Safety Association for Community & Healthcare is the designated safe workplace association for the health care and community care sector. The WSIB administers no-fault workplace insurance for employers and provides disability benefits, monitors the quality of healthcare, and assists in early and safe return to work for workers who are injured on the job or contract an occupational disease.

Employers must notify WSIB about a workplace injury or illness within three days after learning about it and, as stated above, notify the Ministry of Labour, the joint committee and the union within four days.

For more information, please visit the WSIB website at: file://localhost/(http/::www.wsib.on.ca:wsib:wsibsite.nsf:public:home_e)

Hierarchy of Infection Prevention and Control Measures

All health care settings should have a hierarchy of infection prevention and control measures in place to prevent transmission of infectious disease and to protect health care providers from health care acquired infectious diseases. The hierarchy of controls operates at all levels, including the source, the path and the worker. Examples of controls include but are not limited to:

- engineering controls such as ventilation systems designed and maintained in accordance with the CSA Standard *Special Requirements for Heating, Ventilation and Air Conditioning (HVAC) Systems in Health Care Facilities*
- work practices such as routine and additional transmission-based infection control precautions (droplet, contact, and/or airborne precautions); hand hygiene, respiratory hygiene and cough etiquette
- administrative procedures such as screening, triage, spatial separation of persons with symptoms, cohorting and patient surveillance
- occupational health measures such as immunization and surveillance of health care providers
- environmental cleaning and disinfection
- education and training
- personal protective equipment (PPE).

See Chapter 7A for more detailed examples of the hierarchy of controls.

7.5 Next Steps

Additional research on influenza transmission will inform the final policy on personal protective equipment. The MOHLTC, in collaboration with internal and external partners, will continuously review emerging and evolving science on influenza transmission, and update the recommended protective precautions as appropriate.

In the fall of 2006, a nationally sponsored meeting will be held to identify the most current science regarding influenza transmission and recommend appropriate personal protective equipment.

Our goal is to have a definitive policy position on protective equipment as well as associated operational and logistical issues by December 2006. This will provide greater clarity for both employees and employers.

The MOHLTC will continue to work closely with the Ministry of Labour and with the Provincial Infectious Diseases Advisory Committee (PIDAC) to develop information and guidelines for infection prevention and control for the public and for health care setting, and for occupational health and safety for health care workers. The priority in this area will be developing:

- education programs for the public
- training and education programs for health care providers.