



**Toronto  
Pandemic Influenza  
Plan**

**Appendix 1.12  
A Planning Guide for Schools**

 **TORONTO** Public Health

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Dr. Irene Armstrong, Associate Medical Officer of Health, Toronto Public Health  
Dr. Lisa Berger, Associate Medical Officer of Health, Toronto Public Health  
Christopher Broadbent, Manager Occupational Health & Safety, Toronto District School Board  
Philippa Campsie, Plain Language Communications  
Diane Jamieson, Program Coordinator for Music, Toronto District School Board  
Corrado Maltese, Senior Manager Occupational Health and Safety, Toronto Catholic District School Board  
Sandra Montgomery, Superintendent of Special Services, Toronto Catholic District School Board  
Geri Nephew, Manager, Toronto Public Health  
Valerie Nicholl, Facility Permitting Coordinator, Toronto District School Board  
Elaine Pacheco, Coordinator Emergency Planning, Toronto Public Health  
Gerald Lawrence, Manager, Toronto Public Health  
Christopher Usih, Superintendent of Education, Toronto District School Board  
Dr. Barbara Yaffe, Director, Communicable Disease Control & Associate Medical Officer of Health,  
Toronto Public Health

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*Disclaimer: This Planning Guide is a tool to support planning for pandemic influenza in the school sector. Toronto Public Health is not responsible for any misinterpretation or misuse of this guide.*

*This guide will be updated as planning progresses and new information is available. For the most up-to-date version of the guide please refer to the website at: [www.toronto.ca/health/pandemicflu/index.htm](http://www.toronto.ca/health/pandemicflu/index.htm)*

# 1.0 Introduction

## 1.1 Purpose of this guide

This general planning guide has three purposes. First, it provides background information on pandemic influenza. Second, it outlines Toronto Public Health's (TPH) role during an influenza pandemic. Third, it identifies issues and critical elements of emergency preparedness that schools should consider in planning for an influenza pandemic. This guide will help planners develop more detailed service continuity plans for their school. Although TPH will identify broad public health issues, every school must plan for the specific disruptions it will face during a pandemic. Sector specific issues are outlined in section 6 while sections 1 to 5 of the guide provide general information.

The overall goal of pandemic influenza planning is to reduce illness (morbidity), death (mortality), and social disruption resulting from an influenza pandemic. Although this guide identifies specific issues associated with pandemic influenza, much of the information applies to other emergencies as well.

The planning guide for schools is an evolving document and as planning continues at the federal, provincial and local levels, updated information will be added. For the most up-to-date version of the planning guide, please refer to the Toronto Public Health website at

[www.toronto.ca/health/pandemicflu/pandemicflu\\_plan.htm](http://www.toronto.ca/health/pandemicflu/pandemicflu_plan.htm)

For additional information, please refer to the Toronto Pandemic Influenza Plan ([www.toronto.ca/health/pandemicflu/pdf/toronto\\_pandemic\\_influenza\\_plan.pdf](http://www.toronto.ca/health/pandemicflu/pdf/toronto_pandemic_influenza_plan.pdf)) or visit the websites listed in the "Additional Information" and the "Reference" sections of this guide.

## 1.2 What to expect

- Pandemic influenza will be caused by a new sub-type of the influenza A virus (see sections 2.3 and 2.4).
- Since pandemic influenza will simultaneously affect the City, the Province of Ontario, and other jurisdictions, for planning purposes we are assuming that there will be no aid from other sources.
- When the World Health Organization (WHO) declares "Pandemic Phase 6" (which means increased and sustained transmission in the general population – see section 2.7), the pandemic influenza strain will probably appear in Toronto a short time afterwards.
- There will be two or three waves of pandemic influenza activity over a one to two year period.
- During the course of an influenza pandemic it is estimated that 15 to 35% of Torontonians will become ill enough that they will be unable to continue with their usual activities for a period of time.
- The severity of illness and the death rate may be just moderately worse than in the usual influenza seen every winter or it may be much more severe. Specifics such as who will be most affected and how they will be affected will not be known until the pandemic virus actually emerges.
- Children and otherwise healthy adults may be at more risk of becoming ill than elderly adults. Elderly people may have some residual immunity if the pandemic is caused by a virus related to one that has previously caused widespread influenza, and if they were infected by that virus earlier in their lives.
- Physical illness is not the only effect of an influenza pandemic. The psychological impact on the public will likely be significant.
- Important community services may need to be curtailed, consolidated, or suspended because of widespread absenteeism in the workplace.
- Community activities may need to be curtailed or cancelled to prevent the spread of infection.
- Supply chains of resources for every sector will likely be disrupted.
- The City of Toronto will implement the Incident Management System (see section 3.1) in Pandemic Alert Phase 5.
- The Toronto Pandemic Influenza Plan will continue to be updated as local, provincial, and federal planning proceed

## 2.0 Pandemic Influenza Information

### 2.1 What is influenza?

Influenza, commonly known as “the flu,” is a highly contagious and common respiratory illness caused by a virus. There are three known types of influenza virus – A, B, and C. Types A and B cause seasonal influenza. Only type A is associated with pandemics.

Influenza is usually transmitted from person to person by droplet spread or direct contact.

- Droplet spread refers to spray with relatively large, short range droplets produced by sneezing, coughing, talking or singing. These droplets may spray up to one meter (about three feet) and can land directly in the eye or be breathed in through the nose or mouth.
- Direct contact occurs when there is immediate transfer of the virus through skin to skin contact or kissing. For example, an infected person may cough into his or her hands and then shake hands with another person who may then touch his or her eyes, nose or mouth.

Please see Chapter 10 of the Toronto Pandemic Influenza Plan for more information on how influenza is transmitted.

The incubation period (the time between being exposed to the virus and the point at which one starts to experience symptoms) is one to three days. Most people recover in seven to 10 days.

Most adults are infectious to others between 24 hours before and up to five days after they develop symptoms. Children and some adults may be infectious for seven or more days after they develop symptoms.

Humans are usually infected by other humans. However, in some rare cases, humans may be infected by close contact with infected birds or mammals such as pigs.

About 30 to 50% of those who are infected by the influenza virus experience no symptoms at all. The remainder will experience symptoms ranging from mild to severe.

- The first symptoms are usually fever, headache, chills, muscle aches, physical exhaustion, and a dry cough.
- Later, the infected person may have a sore throat, a stuffy or runny nose, and a worsening cough.
- Children may feel sick to their stomach, and may vomit or have diarrhea.
- Elderly people and those whose immune system is weak may not develop a fever.

These symptoms may be caused by other viruses or bacteria, not just the influenza virus. Diagnosing influenza depends on laboratory testing and epidemiological characteristics.

In North America, the influenza season is usually from November to April. The virus is constantly changing or mutating, resulting in minor changes known as “antigenic drift.” A new vaccine must be developed every year based on current and emerging viral strains identified through worldwide disease surveillance.

For most people, seasonal flu is not life-threatening. The most seriously affected are the elderly, people with chronic medical conditions, and children less than two years old. For these people, the flu may lead to complications such as pneumonia, which can be fatal. In Toronto each year there are an average of 30 influenza-related deaths and an average of 43 influenza outbreaks in institutional settings (These statistics are based on data from the 2000/01 to 2004/05 influenza seasons).

## 2.2 Annual influenza immunization

The best way to protect yourself from seasonal influenza is to get vaccinated every fall. The influenza vaccine (or “flu shot”) is made from particles of influenza viruses that have been killed and contains three different types of influenza viruses (two types of influenza A and one type of influenza B). Every year, doctors and scientists around the world identify the strains of influenza virus that are circulating, and the vaccine is prepared to protect against the types that are most likely to occur that year. The body needs about two weeks after being vaccinated to build up protection against the virus, and this protection lasts about four to six months. The influenza virus changes each year, so a different vaccine has to be created and used each year.

Everyone should consider being vaccinated against seasonal influenza each year. This immunization may also reduce the chances of a new influenza virus emerging through genetic mixing.

The influenza vaccine is offered free of charge to everyone who lives, works, or attends school in Ontario, through family physicians, workplaces, and public health clinics. TPH immunizes 40,000 to 50,000 individuals in public clinics throughout the City every year.

## 2.3 What is an influenza pandemic?

An influenza pandemic occurs when there is an abrupt and major change in the structure of the influenza A virus (known as “antigenic shift”). This change may occur in two ways:

1. When two different influenza viruses infect the same cell, their genetic material may mix (reassortment), resulting in a completely new strain of virus. For example, this may occur when a bird virus and a human virus both infect a pig. Such mixing most often occurs where pigs, birds, and humans live in close proximity to one another.
2. A virus may undergo random mutation. This type of change may occur during the sequential infection of humans and other mammals and lead to a virus more efficiently transmitted between humans.

Since people have little or no immunity to the completely new strain of influenza A virus, it can spread very quickly. When outbreaks occur in one or more countries or worldwide, the event is called a pandemic. The exact nature of the pandemic virus (such as how severely it affects people, how long the incubation period is, and how easily the virus is transmitted from one person to another) cannot be known until the new strain emerges.

## 2.4 How often do influenza pandemics occur?

From historical records, we know that a pandemic strain of influenza tends to emerge three or four times each century.

In the last century, influenza pandemics occurred in 1918 (Spanish flu), 1957 (Asian flu) and 1968 (Hong Kong flu). The pandemic of 1918-1919 caused between 20 and 40 million deaths worldwide, while the pandemics of 1957 and 1968 caused much less mortality and morbidity. It is generally believed that another influenza pandemic will occur but there is no way of predicting when that might be, nor precisely the level of illness that might result.

## 2.5 What is the difference between seasonal influenza and pandemic influenza?

The following chart summarizes the main differences between seasonal influenza and pandemic influenza.

Seasonal influenza	Pandemic influenza
Occurs every year (November to April).	Occurred three times in the 20th century.
Occurs during the winter.	Occurs at any time of the year.
For most people, it is an unpleasant but not life-threatening infection.	It is typically a more serious infection for everyone.
Most people recover within one or two weeks without requiring medical treatment.	Some people will not recover, even with medical treatment. Because the illness is more severe, there is greater risk that an infected person may die.
The very young, the very old and people with chronic illness are most at risk of serious illness.	People of every age may be at risk of serious illness.
Vaccine is available in advance.	Vaccine will not be available in advance.
Annual vaccination is recommended, especially for those at risk of serious illness.	The whole population will be offered vaccination when the specific vaccine required becomes available.
Antiviral drugs are available to treat those at special risk.	Antiviral drugs are likely to be in limited supply and will be used according to how the disease develops.

Adapted from:

Department of Health (England) "Pandemic Flu: Frequently Asked Questions" October 19 2005 at [www.dh.gov.uk](http://www.dh.gov.uk) and Ministry of Health and Long-term Care "Differences between seasonal or "annual" influenza and the influenza pandemic" Fact Sheet at [http://www.health.gov.on.ca/english/public/program/emu/pan\\_flu/pan\\_flu\\_mn.html](http://www.health.gov.on.ca/english/public/program/emu/pan_flu/pan_flu_mn.html)

## 2.6 What is avian influenza?

Avian influenza or "bird flu" is a contagious disease of animals, caused by influenza viruses that normally infect only birds and sometimes pigs. Avian influenza viruses have on rare occasions crossed the species barrier to infect humans.

Infection with avian influenza viruses cause two main forms of disease in domestic poultry. One is a mild form that causes hens to have ruffled feathers and produce fewer eggs, and the other is very severe, spreading rapidly and killing most infected poultry.

The H5N1 sub-type that is currently circulating in Asia and parts of Europe is the severe form. This sub-type has infected some humans who have been in close contact with infected birds and over half of these infected individuals have died. There is a possibility that the virus may change to a highly infectious form that spreads very easily from person to person. Such a change could mark the start of a pandemic.

However, current strains of avian influenza will not necessarily become a pandemic strain. The next pandemic could arise from a different influenza virus altogether.

For information on human cases of avian influenza, check the World Health Organization website at [www.who.int/csr/disease/avian\\_influenza/en/index.html](http://www.who.int/csr/disease/avian_influenza/en/index.html) For more information on avian influenza, see the Public Health Agency of Canada website at [www.phac-aspc.gc.ca/influenza/avian\\_e.html](http://www.phac-aspc.gc.ca/influenza/avian_e.html)

## 2.7 World Health Organization alert phases

Pandemic planning begins with the World Health Organization (WHO) classification system, developed in 1999 and revised in April 2005. The WHO phases are intended to guide planning in individual countries and regions and are incorporated into the Canadian, Ontario, and Toronto plans. The WHO identifies which phase is occurring internationally and will declare when a pandemic has begun. The Public Health Agency of Canada (PHAC) and the Ministry of Health and Long-Term Care (MOHLTC) will declare when a pandemic period has begun in Canada and Ontario, respectively. The following table outlines the WHO Pandemic Phase Model:

**World Health Organization Pandemic Phases**

Interpandemic Period*	<b>Phase 1</b> No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human infection or disease is considered to be low.
	<b>Phase 2</b> No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus sub-type poses a substantial risk of human disease.
Pandemic Alert Period**	<b>Phase 3</b> Human infection(s) with a new subtype, but no human to human spread, or at most rare instances of spread to a close contact.
	<b>Phase 4.</b> Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.
	<b>Phase 5</b> Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).
Pandemic Period	<b>Phase 6</b> Pandemic phase: increased and sustained transmission in the general population.

\*The distinction between **phase 1** and **phase 2** is based on the risk of infection or disease from circulating strains in animals. The distinction is based on various factors and their relative importance according to current scientific knowledge. Factors may include pathogenicity in animals and humans, occurrence in domesticated animals and livestock or only in wildlife, whether the virus is enzootic or epizootic, geographically localized or widespread, and/or other scientific parameters.

\*\* The distinction between **phase 3**, **phase 4** and **phase 5** is based on an assessment of the risk of a pandemic. Various factors and their relative importance according to current scientific knowledge may be considered. Factors may include rate of transmission, geographical location and spread, severity of illness, presence of genes from human strains (if derived from an animal strain), and/or other scientific parameters.

Postpandemic Period – return to Interpandemic Period.

At the time this document was prepared (March 2007), the world was in Pandemic Alert Phase 3. We have been in this phase since December 2003.

## 2.8 Potential health impact of pandemic influenza on the City of Toronto

Unlike Severe Acute Respiratory Syndrome (SARS), which spread primarily among people within a hospital or within a household, an influenza pandemic will likely spread quickly throughout the general community.

According to the Canadian Pandemic Influenza Plan, during the course of an influenza pandemic, between 15 to 35% of the population might become ill such that they will not be able to continue with their usual activities (e.g., attendance at work or school) for a period of time. This compares to an average of 5 to 20% of the public who are affected by “normal” seasonal influenza outbreaks. Previous influenza pandemics have occurred in two or three waves. Each wave is likely to last six to eight weeks.

Planning for a pandemic is based on this estimate of 15 to 35% of the population being affected. However, when an actual pandemic begins, the specific impact on the City of Toronto may be different from these estimates.

### Estimated Direct Health Impact of Pandemic Influenza on the City of Toronto

Description	Based on 15% attack rate	Based on 35% attack rate
Clinically ill	392,000 individuals	914,000 individuals
Require outpatient care	161,000 individuals	701,000 individuals
Require hospitalization	1,600 individuals	14,000 individuals
Deaths	630 individuals	4,300 individuals

Based on FLUAID 2.0 – A CDC software designed to provide a range of estimates of the impact of pandemic influenza available at [www2a.cdc.gov/od/fluid/](http://www2a.cdc.gov/od/fluid/) and Toronto population estimates of 2,611,661 based on the 2001 Census data.

## 3.0 Role of Toronto Public Health During a Pandemic

TPH takes the lead in developing a local pandemic influenza plan for the City of Toronto. Although local planning is critical, many decisions made at the federal or provincial levels must be followed locally, such as establishing who has priority in receiving vaccination once a pandemic vaccine becomes available.

The specific TPH roles during a pandemic influenza emergency response will include:

- Disease surveillance and reporting
- Case investigation and management
- Identification and follow-up of close contacts
- Health risk assessment and communications
- Liaison with hospitals and other agencies
- Community-based disease control strategies
- Vaccine and antiviral medication administration and distribution

The roles of TPH and the City of Toronto are described in more detail in the Toronto Pandemic Influenza Plan - Chapter 3, available at [www.toronto.ca/health/pandemicflu/pandemicflu\\_plan.htm](http://www.toronto.ca/health/pandemicflu/pandemicflu_plan.htm)

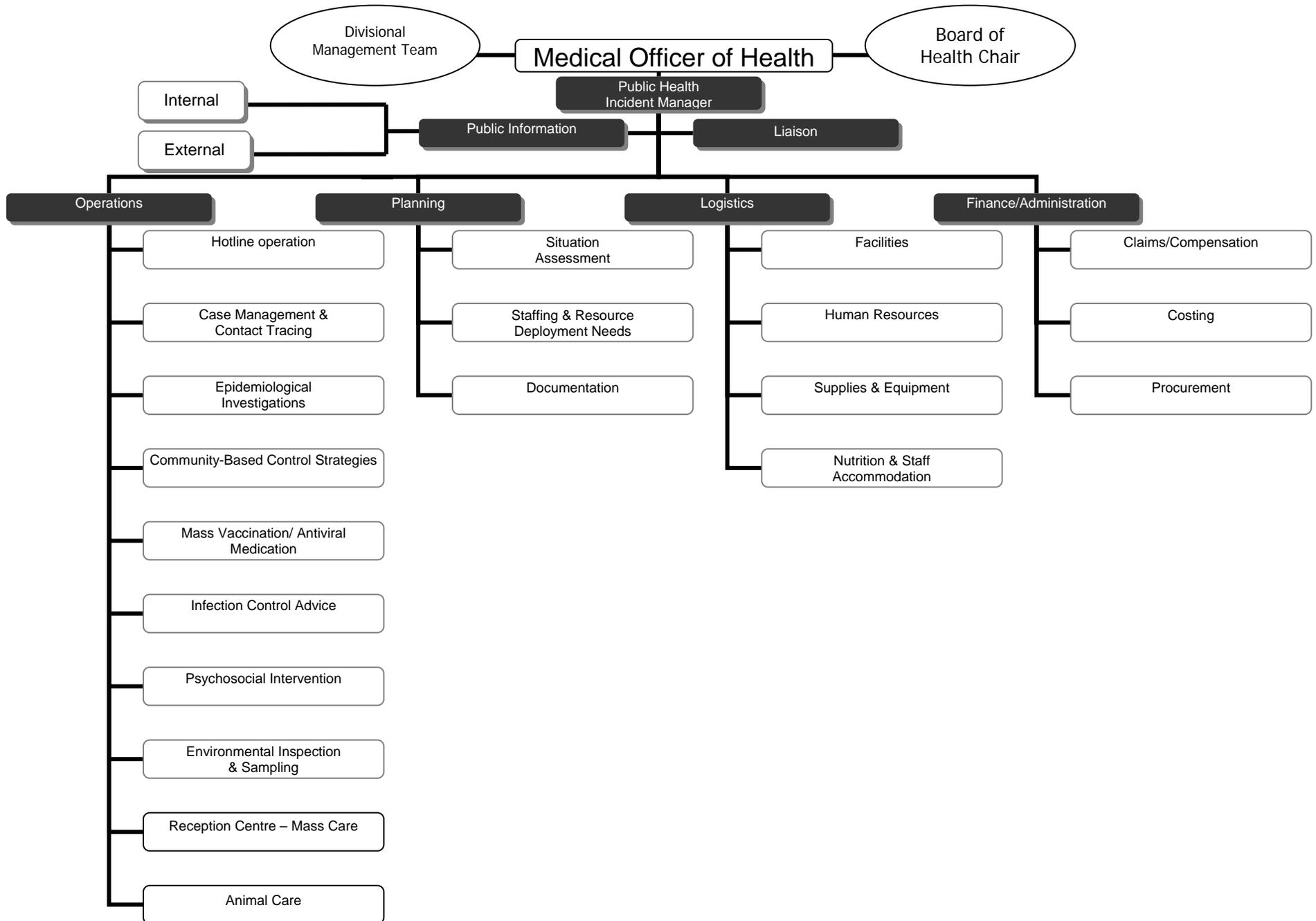
### 3.1 Incident Management System

The Incident Management System (IMS) is an emergency response model. It provides a way of coordinating the efforts of agencies and resources by using a common organizational structure that can expand or contract based on the scope of response.

The IMS is used by agencies across the City to respond to emergencies. TPH has adopted the IMS and will organize itself accordingly to communicate, cooperate and respond collectively with other City emergency response partners. Figure 1 illustrates TPH's IMS organization and functions in a pandemic which will allow TPH to coordinate our own efforts, integrate our activities with other responding agencies and manage resources during an emergency.

For more detailed information on IMS, refer to the Toronto Pandemic Influenza Plan – Chapter 3, available at [www.toronto.ca/health/pandemicflu/pandemicflu\\_plan.htm](http://www.toronto.ca/health/pandemicflu/pandemicflu_plan.htm)

**Figure 1: Toronto Public Health Pandemic Influenza Incident Management System**



## 4.0 Challenges During a Pandemic

Schools will likely face a number of significant challenges as a result of the widespread illness and social disruption that may occur during an influenza pandemic.

### 4.1 Employee absenteeism

Health Canada estimates that 15 to 35% of the population will become ill during the course of a pandemic and will be unable to work for a period of time. Many people who are not ill may stay home to care for children, other family members, or friends who are ill. As well, some people may stay home due to concerns or fears about potential exposure to influenza in the community and in the workplace. The resulting high rates of employee absenteeism will affect every sector and every part of the City. Strategies to manage staffing shortages include redeploying staff from non-urgent activities or drawing on additional workers such as recent retirees, students, or volunteers.

To support our health care system and the City's critical infrastructure whenever possible, health care providers or emergency/essential service providers should consider having their spouse/partner stay home to care for sick family members or provide child care.

### 4.2 Supply chain disruption

Given widespread social disruption and employee absenteeism, supply chains may be interrupted. The pandemic will affect countries around the world, with some regions hit earlier, longer, and harder than others. If border crossings or transportation systems are disrupted, the delivery of supplies may be delayed.

Schools should purchase from local suppliers wherever possible, make plans for regular shipments, and stockpile six to eight weeks of critical supplies (those required to maintain service operations). In addition to critical supplies, your school should have an adequate supply of disposable tissues, hand sanitizers, and hand-washing supplies.

### 4.3 Public health measures

Public health measures are non-medical interventions that may be used to reduce the spread of the influenza virus in the community. These measures may include public education, case and contact management, and community-based disease control measures such as restricting public gatherings (e.g., conferences or sporting events) or closure of schools and day nurseries. In addition, the federal government may issue travel restrictions and screening of travelers.

According to the Ontario Health Pandemic Influenza Plan (September 2006), school closures may be considered but the formal closing of events is unlikely; instead, there will be a focus on public education and promotion of social distancing. The Provincial Chief Medical Officer of Health will make specific recommendations about the measures recommended for use province wide. This will help to ensure that the types of public health measures implemented across Ontario are consistent. The decision to implement public health measures will be made by Toronto's Medical Officer of Health in consultation with the Ministry of Health and Long-Term Care and neighbouring jurisdictions, where possible and would be triggered by the characteristics of the pandemic strain and the phase of the pandemic.

### 4.4 Changes in demand for services

During an influenza pandemic, the people of Toronto will need access to information and City services to help reduce the impacts of the pandemic on their health (e.g., emergency services, public health services, and clean water) and daily activities (e.g., public transit).

To prepare for an influenza pandemic, each school must develop a service continuity plan that:

- identifies the school's mandated and critical services
- ranks all services in order of priority
- identifies the internal and external effects of disruptions

## **5.0 Critical Elements of Emergency Preparedness**

### **5.1 Communication**

Communication will be critical to an effective response to the pandemic. All schools should have plans in place for communicating with employees during an emergency. Phone trees or e-mail lists ensure rapid and efficient communication with a large number of employees, provided that employee contact information is kept up-to-date. Your school may choose to designate one individual who will be responsible for receiving and communicating information. Strategies should also be developed for communicating with parents and community stakeholders about changes to or disruptions in services.

### **5.2 Education and training**

Education and training sessions should be developed and provided to staff regarding emergency and service continuity plans, so they will know their roles and responsibilities. Staff should also be trained in infection control precautions and the proper use of personal protective equipment.

### **5.3 Skill set inventory**

The skills of all employees and the skills needed to provide the critical services of the school should be recorded. The skill set inventory provides the planners with the ability to identify transferable skills that would allow an employee to be transferred from one task, job, or workplace to another without the need for extensive training or close supervision.

### **5.4 Service continuity plan**

Schools will need to prepare for pandemic influenza to reduce the impact on their operations and ensure continuation of services wherever possible. Schools must also begin to prepare for the specific disruptions they may face during a pandemic and develop a service continuity plan. This information will assist schools with planning and preparedness for any emergency.

Service continuity planning includes:

1. Establishment of a steering committee or lead individual
2. Service impact analysis
3. Service continuity plan
4. Readiness procedures
5. Quality assurance

## **1. Establishment of a steering committee or lead individual**

The first step in the planning process is to establish a Steering Committee or designate an individual to oversee, support, and direct the development of a service continuity plan. This includes:

- providing strategic direction and communicating essential messages
- approving the results of the service impact analysis
- reviewing critical services
- approving continuity plans and arrangements

## **2. Service impact analysis**

The service impact analysis provides the school with a list of critical services and identifies how disruptions will affect internal and external stakeholders. The analysis involves the following steps:

- review the mandate of your school and determine which services must continue during an emergency.
- for each service, identify:
  - ◀ the impact of a disruption and the length of time the organization or the community could function without the service
  - ◀ additional expenses that arise due to the loss of service
  - ◀ intangible expenses such as loss of image or reputation
- identify any insurance requirements
- rank the critical services according to:
  - ◀ the severity of impact a disruption would cause
  - ◀ time required to recover from the disruption
- identify internal and external requirements for providing the services:
  - ◀ internal – employee availability, equipment, facilities, vehicles, etc.
  - ◀ external – suppliers, utilities, transportation, etc.

## **3. Service continuity plan**

A service continuity plan should be created for each critical service identified in the service impact analysis. The service continuity plan is a detailed list of response and recovery activities and arrangements to ensure that all necessary actions are taken to provide services during an emergency.

In planning for service continuity, schools should:

- identify risks that might threaten the service and develop methods to eliminate or reduce the risk
- analyze current recovery capabilities and review current recovery plans
- create service continuity plans that can be changed as the severity of the emergency changes; plans should be based on the most realistic and effective option

## **4. Readiness procedures**

The key to any service continuity plan is to ensure that the staff carrying out the plan have been properly trained and that the plan's readiness has been tested. This means:

- briefing all staff on the contents of the plan and their roles in the event of an emergency
- ensuring that managers or staff with specific functions outlined in the plan are trained in those functions and conducting exercises to ensure a high level of competence and readiness

## **5. Quality assurance**

The service continuity plan should be reviewed regularly to identify opportunities for improvement and to ensure that it meets any new demands of the organization or addresses emerging risks.

For further information on service continuity planning, visit Public Safety and Emergency Preparedness Canada at [www.psepc-sppcc.gc.ca](http://www.psepc-sppcc.gc.ca)

## **5.5 Changes in staffing and redeployment**

High rates of absenteeism may result in changes to staffing, chains of command, hours of work, or employee responsibilities. Schools should discuss these implications with employees, unions, and human resources staff before an emergency begins.

During an emergency, agencies may delegate new job functions to employees or move employees to other job sites where they are most needed.

## **5.6 Human resources policies**

All workplaces should develop alternate human resource policies for a pandemic emergency to address the following issues.

### **Attendance management**

During an influenza pandemic, TPH will advise ill people to stay home. However, attendance management policies may create barriers to staff staying home. For example, your organization may require employees to obtain physician notes following a certain number of consecutive days of absence due to illness. During an influenza pandemic the health care system may be overwhelmed with people seeking necessary medical attention. Requests for physician notes will overload the system unnecessarily. Once a local emergency has been declared for an influenza pandemic, current policies that may pose a barrier to effective disease control and prevention should be suspended or revised as appropriate.

### **Ill employees at work**

During a pandemic, some employees will develop symptoms of influenza while at work. These individuals must immediately leave the workplace and should not return to work until five days after the onset of symptoms, or when they feel well enough to return to their duties, whichever is longer. This procedure will help slow the transmission of the virus in the workplace. Ill employees should be requested by their manager or supervisor to leave work even if they do not have sick day credits. Schools will need to address the issue of compensation for this type of situation.

### **Emergency scheduling**

During a pandemic, work schedules may have to be changed. In planning for these changes, schools must consider the implications of:

- shift changes
- changes to hours of work
- compensation and scheduling of overtime
- the need to assign the most qualified employees to specific tasks
- training employees for newly assigned work
- provision of food to employees
- parking requirements or reimbursement for transportation expenses
- scheduling of breaks

The current collective agreement, if applicable, may not adequately address these issues. Schools should negotiate solutions to these issues with each relevant union so that emergency response plans can be implemented effectively and efficiently.

## 5.7 Occupational health and safety

A pandemic will likely cause a high level of fear and anxiety among the general population. Employees will be concerned about their own health and the health of their families. They may be concerned about potential exposure to influenza in the workplace and, as a result of these concerns, some may refuse to work. Employees will have questions relating to occupational health and safety. Informing employees of their rights, providing training and equipment as appropriate, and communicating openly about emergency planning processes will help to alleviate anxiety.

### Psychosocial support

People affected by a disaster, such as a pandemic, must adjust to major changes in their lives. People may be grieving for friends or family members and may have to deal with personal or family crises. Many people will need to talk about their feelings and experiences and learn how to face the challenges of an unknown future.

The Toronto Emergency Plan includes an Operational Support Function to address psychosocial issues. TPH, along with its community partners, will coordinate a psychosocial response to enhance peoples' strengths to cope with difficulties and promote healing and recovery. TPH and its partner agencies will facilitate opportunities for social support and education to maximize access to existing resources.

All schools should develop strategies to increase psychosocial support for both employees and students during a pandemic.

## 5.8 Infection prevention and control measures

This section provides general information on infection prevention and control. More specific measures for schools are outlined in section 6.0. According to the Ontario Health Pandemic Influenza Plan (September 2006), the Ministry of Health and Long-Term Care will be developing guidelines in 2007 to help improve infection prevention and control in school settings.

TPH has developed hand washing, hand sanitizing and cover your cough posters and fact sheets which are available on our web site at [www.toronto.ca/health](http://www.toronto.ca/health)

Infection control measures are actions that can help prevent the spread of the influenza virus in the workplace and other settings. These measures include:

### (a) Practise hand hygiene

Clean your hands frequently with an alcohol-based hand sanitizer or soap and water, especially after you cough, sneeze, or blow your nose. A 60 to 90% alcohol-based hand sanitizer is the preferred agent for hand hygiene unless your hands are visibly soiled. If your hands are visibly soiled, you should wash them with soap and water. If you are not near water and your hands are visibly soiled, clean your hands with a moist towelette to remove visible debris, then use an alcohol-based hand sanitizer. The influenza virus is easily killed by soap, hand wash or hand sanitizer products. Therefore gloves or special antibacterial hand wash products are not needed. Hand washing/sanitizing is a very important method to prevent the spread of pandemic influenza.

#### Hand washing procedure

1. Wet hands.
2. Apply soap.
3. Lather for 15 seconds. Rub between fingers, back of hands, fingertips, under nails.
4. Rinse well under running water.
5. Dry hands well with paper towel or hot air blower.
6. Turn taps off with paper towel, if available.

### **Hand sanitizing procedure**

1. Apply sanitizer (minimum 60% alcohol-based).
2. Rub hands together.
3. Work the sanitizer between fingers, the back of hands, fingertips, under nails.
4. Rub hands until dry.

For more information on hand hygiene, refer to section 6.7.

### **(b) Practise respiratory etiquette**

People should be encouraged to cover their mouth and nose when they cough or sneeze. This will help stop the spread of germs that can make people sick. It is important to keep your distance (e.g., more than one metre/three feet) from people who are coughing or sneezing, if possible.

### **Cover your cough procedure**

1. Cover your mouth and nose with a tissue when you cough, sneeze or blow your nose.
2. Put used tissues into the waste basket.
3. If you don't have a tissue, cough or sneeze into your sleeve, not in your hands.
4. Wash your hands with soap and water or hand sanitizer (minimum 60% alcohol-based).

### **(c) Avoid touching your eyes, mouth and nose**

Influenza spreads when the infected respiratory secretions from the mouth or nose of one person come into contact with the mucous membranes (mouth, nose or eyes) of another person. Without even realizing it, you may touch the infected nose and mouth secretions of someone who has influenza (e.g., by shaking hands). If you go on to touch your mouth, nose or eyes, the influenza virus may gain entry into your body causing infection.

### **(d) Stay home if you are ill**

Most adults infected with influenza can transmit the virus from 24 hours before and up to five days after they begin to experience symptoms. For some adults and for young children, this period may last for seven or more days. Some experts believe that people are most infectious in the first three days after they are infected with influenza. However there are no clear data on how long a person should wait before returning to work or school to minimize the risk of infecting others. The best advice at this time is that adults should not return to their usual activities for at least five days after they begin to experience influenza symptoms (seven days for young children) or when they feel well enough to return to their duties, whichever is longer. It should be made clear that employees must not come into work when they have influenza-like symptoms. If an employee develops influenza-like symptoms while at work they should immediately leave the workplace.

### **(e) Use of masks**

The use of masks is a difficult and unresolved issue. According to the Canadian Pandemic Influenza Plan, there is no evidence that the use of masks in public will protect an individual from infection when the influenza virus is circulating widely in the community. However a person wearing a mask properly at the time of exposure to influenza may benefit from the barrier that a mask provides.

Toronto City Council has urged the federal and provincial ministers of health to give further consideration to the wearing of masks in situations where potential exposure to infectious individuals is unavoidable. For additional information on the use of masks see section 6.5.

#### **(f) Vaccine administration and distribution**

According to the Ontario Health Pandemic Influenza Plan (September 2006), a vaccine for the pandemic influenza strain will not be available until three to nine months after the pandemic strain is identified.

Ontario's goal is to obtain enough vaccine for the entire population but, during the early stages of a pandemic, vaccine will be in short supply. In this situation, the province will follow the national recommendations for priority groups for influenza immunization, adapting them as required to meet provincial needs. TPH will follow federal and provincial guidelines.

When vaccine becomes available, TPH will organize mass vaccination clinics to vaccinate the general public. TPH will make public announcements about the time and location of these clinics.

#### **(g) Use of antiviral medication**

Antiviral medication can be used to treat and prevent influenza, and will be an important disease management strategy during an influenza pandemic. The Province of Ontario has committed to maintaining a stockpile of antiviral medication large enough to treat up to 25% of the population and has placed orders to purchase more antiviral medication, primarily oseltamivir (Tamiflu) as well as a supply of zanamivir (Relenza) for pregnant and lactating women. The stockpile will be complete in 2009.

An early treatment strategy is being developed federally in consultation with the Ministry of Health and Long-Term Care. Once developed, TPH will develop a local plan.

At this time, the potential role of antiviral medication for prevention of infection (or prophylaxis) during an influenza pandemic is being considered by the federal government.

#### **(h) Cleaning workplaces**

People with influenza may contaminate their surroundings with respiratory secretions from their nose and mouth. Surfaces that are touched frequently by people (e.g., door knobs, computer terminals, bathroom faucets or other shared equipment) should be cleaned more often than usual during a pandemic, if possible. The influenza virus is easily killed by regular cleaning products, therefore special cleaning agents or disinfectants are not required. Schools should follow their current infection control protocols for cleaning and disinfecting. Garbage created by a person with known or suspect influenza does not need any special handling and may be placed with the regular garbage for disposal.

#### **(i) Social distancing in the workplace**

During an influenza pandemic, the more people you are in contact with, the more you are at risk of coming in contact with someone who is infected with influenza. Social distancing means reducing or avoiding contact with other people as much as possible. Some workplace strategies to achieve this may include:

- minimizing contact with others by using stairs instead of crowded elevators; canceling non-essential face to-face meetings and using teleconferencing, e-mails, and faxes instead; staying one metre (three feet) away from others when a meeting is necessary
- avoiding shaking hands, hugging, or kissing people
- bringing lunch and eating at your desk or away from others

## 6.0 Schools – Specific Issues

This section of the guide has been developed in collaboration with representatives from the education sector and reflects specific issues identified by these stakeholders. This section provides sector-specific information which complements the general information outlined in sections 1 to 5.

### 6.1 Communications plan

Each school should prepare a communications plan that specifies how the school will communicate with staff, parents, volunteers, public health authorities, and the Ministry of Education during a pandemic. Important topics that may need to be communicated include information on infection control, possible school closures, and alternate methods for continuing education.

TPH may use schools to distribute fact sheets or brochures on pandemic influenza to parents and staff. During an influenza pandemic, TPH's two primary communication vehicles will be:

- A telephone hotline that will be staffed seven days a week likely from 8:30 a.m. to 11:00 p.m., and
- The TPH website ([www.toronto.ca/health/pandemicflu/pandemicflu\\_plan.htm](http://www.toronto.ca/health/pandemicflu/pandemicflu_plan.htm)), where information will be posted as soon as it becomes available.

### 6.2 Emergency contact lists

Each school should prepare and keep up-to-date a hard copy list of contact information for staff, parents, volunteers, TPH, and Ministry officials. Schools should expand their current lists of contact names and numbers of individuals pre-approved for student pick-up, in case the designated persons (usually two) are unavailable during a pandemic.

### 6.3 Continuing education

School boards and the Ministry of Education should plan for alternate education strategies for the ill or recovering child and for all children in the case of school closures. Some strategies may include home teaching tools or the internet.

### 6.4 Protection of students whose families cannot care for them

Schools should develop plans for situations in which no next of kin or guardian is available to care for a student, either temporarily or permanently, because the next of kin or guardian is ill, in hospital, or has died. Current protocols for notifying children's aid societies should be followed.

TPH has begun discussions with Children's Services and the four major Toronto child welfare agencies on planning for the protection of children whose parents or families are unable to care for them. Contact information for these agencies is provided in Section 9.0.

### 6.5 Ill students

Parents should be informed that they should not send children with signs of influenza-like illness to school. Parents should advise the school of the reason for their child's absence. If a student shows symptoms of influenza-like illness while at school, parents should be immediately notified to pick up their child. In the meantime, the student should be removed from the regular classroom to wait in an office or a separate room under supervision and away from other students. Staff should provide the student with tissue to cover his or her mouth and nose when coughing or sneezing and should try to keep a distance of at least one metre (three feet) from the ill student. Tissues should be disposed of immediately in a garbage can. The student should use an alcohol-based hand sanitizer following disposal of the tissue. Staff members should also practise frequent hand hygiene.

Consideration could be given to the wearing of masks by the sick child, if tolerated, and by school staff providing direct care to a child with influenza-like illness awaiting pick up. According to the Ontario Health Pandemic Influenza Plan (September 2006), the Ministry of Health and Long-Term Care is currently developing a provincial position on the type of personal protective equipment to be used during an influenza pandemic. This section will be updated when the provincial position is released.

Ill students should return to school either five days after the onset of symptoms (seven days for very young children) or when they feel well enough to return, whichever period is longer.

Note: The Canadian Pandemic Influenza Plan recommends that parents should not send children who have been exposed to an individual with influenza-like illness in the past three days to school, unless the pandemic has already been through the school.

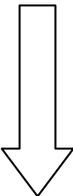
## 6.6 Isolation of ill students in dormitories

During an influenza pandemic, student dormitories (in private schools) or school infirmaries may need to provide basic care for ill students, as hospitals will be overwhelmed. When feasible, ill students should go home. If this is not achievable, an ill student should be isolated as soon as possible to reduce the chance of spreading the virus. Depending on the size of the dormitories, the school may need to isolate several students with influenza in specified rooms (e.g. rooms at one end of the hall, designated wing or floor). Staff may encounter a range of challenges in isolating ill students, depending on the school population served, the services offered, and the physical lay-out of the facility.

Consideration should be given to the following recommendations when caring for ill students in dormitories:

- Place ill students in a single room, if possible.
- Separate ill students in the same room by more than one metre.
- Staff members should wear a mask when they are within one metre of an ill student.
- In shared rooms, arrange beds so that students lie head to toe relative to students in neighbouring beds.
- In larger rooms, create temporary physical barriers between beds, using sheets or curtains.
- Provide easy access to washrooms if possible, particularly when accommodating a group of ill students. If communal washrooms are used, clean them frequently.
- Increase the schedule for cleaning common areas, if possible.
- Ensure ill students have access to food, water, and medications.
- Send ill students to hospitals, if necessary.

### Isolation in Dormitories

	1 Person Ill	2 – 10 People Ill	More than 10 People Ill	Majority of People Ill
<b>IDEAL</b>  <b>LEAST IDEAL</b>	Isolate in separate room	Accommodate together in separate room	Accommodate together on one floor or in a separate section of the building	Accommodate together throughout the entire site
	Isolate in shared room	Accommodate together in common area	Accommodate together throughout the entire site	
	Isolate in large shared space	Accommodate together in one end of floor		

## 6.7 Hand hygiene

Hand hygiene is an important element of infection control in all schools. During an influenza pandemic, hand hygiene should be reinforced and practised by staff, children, parents, and visitors.

Hands should be cleaned frequently. At a minimum, practise hand hygiene:

- before eating lunch or snacks
- before and after food preparation
- after using the toilet
- after sneezing or coughing
- after wiping a child's nose (or a child wiping his/her own nose)
- before and after using shared computers, sports equipment, toys, etc.
- upon entering or leaving the school

## 6.8 Wind instruments

A wind instrument is a musical instrument that contains some type of resonator (usually a tube), in which a column of air is set into vibration by the player blowing into (or over) a mouthpiece set at the end of the resonator. Wind instruments are typically subdivided into brass and woodwind instruments.

During an influenza pandemic, schools should consider suspending the use of shared wind instruments due to the possibility of indirect transmission of the virus. Schools that continue the use of wind instruments during a pandemic must ensure mouthpieces and sections of the instrument that may contain/retain saliva are properly cleaned and sanitized in accordance with school protocols. Hand hygiene should be practised following the use of wind instruments.

## 6.9 Student gatherings

Schools may decide to limit large indoor student gatherings (e.g., recess, assemblies, or sporting events). Whenever possible, student activities should be limited to classrooms.

## 6.10 Food services

During an influenza pandemic, schools should reinforce routine food safety and sanitation practices.

Schools should also consider the following:

- Reinforce regular hand washing by staff members who prepare food
- Use disposable cutlery and pre-packaged food, if staffing levels are low
- Consider stockpiling a six to eight week supply of non-perishable food, in case deliveries of food are disrupted
- Regular catering services may be interrupted, plan for alternative food supplies

For more information on food and water supplies, visit the City of Toronto Office of Emergency Management website at [www.toronto.ca/wes/techservices/oem/pdf/oem\\_booklet.pdf](http://www.toronto.ca/wes/techservices/oem/pdf/oem_booklet.pdf)

For recommendations on proper food handling, call Toronto Public Health at 416-338-7600 or visit [www.toronto.ca/health/he](http://www.toronto.ca/health/he)

## 6.11 Tours/New admissions

Screen staff, children, parents and visitors for symptoms of influenza-like illness to keep the school healthy. If a parent or child has influenza-like symptoms or has been exposed to an individual with influenza, postpone their tour or new admission. Although complete suspension of tours or new admissions to the school would probably not stop the spread of the influenza virus, such measures may become necessary when staffing levels are low.

## **6.12 Mass vaccination clinics**

The Ontario Health Pandemic Influenza Plan (September 2006) states a vaccine will not be available until three to nine months after the pandemic strain is identified. When enough vaccine becomes available, TPH will organize mass vaccination clinics in order to vaccinate the general public. At the request of Toronto Public Health the Toronto District School Board and the Toronto Catholic District School Board have agreed to allow TPH to use their schools for mass vaccination clinics and vaccine distribution centres. The schools selected for mass vaccination clinics were selected based on site recommendations from the Toronto District School Board and Toronto Catholic District School Board. If mass vaccination clinics take place during the school year, temporary school closures may be necessary. If clinics continue for extended periods, they may be rotated to other schools, if necessary. Where schools remain open during a mass vaccination clinic, they should plan for disruptions during that time (e.g., discontinued use of the gymnasium and other areas of the school being used for the clinic).

## **6.13 School closures**

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).

According to the Ontario Health Pandemic Influenza Plan (September 2006), public health officials may recommend school closures prior to or during a pandemic, especially if the novel virus strain preferentially affects school-aged children or causes unusually severe illness in this age group. If schools are closed it would likely be done early in the pandemic in order to have the greatest possible benefit.

The decision to close Toronto schools would be made by the Medical Officer of Health in consultation with the Ministry of Health and Long-Term Care, Ministry of Education, neighbouring jurisdictions and affected school boards.

School boards should identify other situations that could result in school closures, (e.g., insufficient number of staff).

## 7.0 Planning Checklist

### 7.1 Planning checklist - short version

Planning Issues	Completed Yes/no	Comments
Does your school have an emergency plan?		
Have you made your employees aware of emergency response plans?		
Have you identified which tasks and positions would be essential during an emergency?		
Have you considered alternative strategies on how to continue service delivery when normal methods are disrupted?		
Have you developed a service continuity plan for your school for decreasing or altering the services that you offer?		
Have you considered how to keep your school operational with a large number of staff ill and unable to work?		
Do you have a mechanism to monitor increases in staff absenteeism?		
Have you considered how to deal with employees who report to work ill?		
Do you know where to get up-to-date and accurate information about influenza and the pandemic?		
Have you trained your employees on proper hand hygiene and respiratory etiquette?		
Is your cleaning staff aware of proper disinfecting techniques during a pandemic?		
Have you considered stockpiling necessary supplies?		
In case of a death on-site, do you know who to contact (ambulance, coroner, funeral home)?		
Have you considered how you would communicate information to your staff and parents in an efficient manner?		
Have you considered how you would provide your staff with support and counseling?		

## 7.2 Planning checklist - long version

Planning Issues	Completed Yes/No/Not Applicable	COMMENTS Document who is responsible for each action and the decision making process
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### Activation/Termination of Pandemic Flu Response Plan

Who has responsibility for activating the service continuity plan for your school and who is that person's back-up?		
Has your school identified a process through which the decision will be made to activate and terminate the plan?		
Do you have a communication strategy for reaching employees and service partners as a result of having to implement any section of the service continuity plan?		

### Decision-making and Reporting

Who needs to approve the Pandemic Response Plan?		
Who is identified as being in charge in the event of pandemic influenza and are the roles of the various stakeholders clearly defined?		
Who makes what decisions?		

### Agencies and Stakeholder Communications

Do you have a list of all relevant agencies and stakeholders and their contact information?		
Who notifies the various stakeholders?		

### Communications with Staff and the General Public

Who will be in charge of communicating to the employees in your school and who is their back up person(s) to assume this responsibility?		
Have you prepared site-specific notification for closures and contacts for the public?		

<b>Planning Issues</b>	<b>Completed Yes/No/Not Applicable</b>	<b>COMMENTS Document who is responsible for each action and the decision making process</b>
Who will be in charge of communicating with the general public?		
How will reduction/temporary termination of regular services be communicated to local stakeholders and the public?		
Who has authority to issue public service announcements/news releases and who is their alternate?		
How fast can these announcements be produced and approved?		
If mail service is interrupted, is there critical mail delivery which you need to make alternative arrangements for?		
Do you know where to get up-to-date and accurate information about influenza and the pandemic? <ul style="list-style-type: none"> <li>▪ Vaccine and antiviral medications information</li> <li>▪ Infection control</li> <li>▪ Personal care</li> <li>▪ Public health measures</li> </ul>		

## Planning

Who is in charge in the event of a pandemic episode and are the roles of the various stakeholders clearly defined? Who makes what decisions? Who notifies the various stakeholders?		
Who do you need input from both internally and externally to prepare and review a service continuity plan for your school? <ul style="list-style-type: none"> <li>▪ Elected officials</li> <li>▪ Legal counsel</li> <li>▪ Community partners</li> <li>▪ Labour unions and bargaining agents</li> </ul>		
Who needs to approve the service continuity plan?		
Is the pandemic influenza service continuity plan integrated with your emergency preparedness plan(s)?		
Is your school's service continuity plan integrated the City of Toronto's Emergency Plan and Toronto Pandemic Influenza Plan?		

<b>Planning Issues</b>	<b>Completed Yes/No/Not Applicable</b>	<b>COMMENTS Document who is responsible for each action and the decision making process</b>
What is the staff capacity and are there provisions to bring in additional staff or volunteers?		
Have you identified the key services that must be provided? (Note: take into account minor to major lack of availability of staff due to illness)		
Has your school identified possible key functions, staff positions, and supplies for each key service?		
<b>Testing of the Plan</b>		
How will you test and/or evaluate your service continuity plan?		
How will you test your communication systems, e.g., fan-out?		
<b>Training and Orientation</b>		
What are your training needs for staff and external stakeholders regarding: <ul style="list-style-type: none"> <li>▪ infection control measures</li> <li>▪ environmental cleaning</li> <li>▪ equipment use</li> <li>▪ review of your school's service continuity plan, including explanation of roles and responsibilities</li> </ul>		
What additional training will volunteers and reassigned staff require?		
<b>Educational Materials</b>		
Have educational materials been prepared?		
Have public education efforts been planned?		
<b>Human Resources</b>		
Is there a list of all employees, complete with telephone numbers (home and business) and job titles (including those recently retired)?		
Does your school maintain a fan-out list to contact employees?		

<b>Planning Issues</b>	<b>Completed Yes/No/Not Applicable</b>	<b>COMMENTS Document who is responsible for each action and the decision making process</b>
Is there a contact list of all senior staff within your school?		
If public transit becomes a problem, can employees arrange alternate forms of transportation to work, e.g., carpooling?		
Has your school addressed the issue of staff being unable to report to work due to possible school and daycare closures?		
Do you currently have adequate staffing for regular day-to-day function?		
Do you have a mechanism to monitor increases in staff absenteeism?		
Has your school prepared an inventory of skills and professional competencies in the event that people from your school are required to perform duties/functions in other areas to maintain essential services?		
How has your school planned to maintain the employee payroll?		
<b>Health and Safety</b>		
Is there a copy of the Health and Safety manual on site in your school?		
Have insurance and union issues been addressed?		
Has an inventory been prepared for specialized equipment/facilities that may be needed during an influenza pandemic?		
Have liability issues been addressed for volunteers and re-assigned staff?		
Have support care services been planned for employees? <ul style="list-style-type: none"> <li>▪ Psychosocial support</li> <li>▪ Grief counselling</li> </ul>		
<b>Materials and Supplies</b>		
Are there clearly stated policies and procedures that cover signing authority and acquisitions?		

<b>Planning Issues</b>	<b>Completed Yes/No/Not Applicable</b>	<b>COMMENTS Document who is responsible for each action and the decision making process</b>
Is there a mechanism that will ensure that additional equipment (e.g., cell phones, pagers, refrigerators, etc.) can be obtained with minimum delay?		
Who has authority for ordering repair/replacement for equipment and who is their alternate?		
Have you considered developing a 6-8 week stockpile of critical supplies required to maintain your "must do" services, and stockpile of infection control supplies (e.g., alcohol-based hand sanitizers, tissues)?		
Does your school have contact lists for all your suppliers and alternate suppliers?		
Has a recovery phase been planned for (e.g., depleted supplies or backlogs)?		
<b>Documentation and Record Keeping</b>		
<p>Has your school developed appropriate record keeping procedures for such items as:</p> <ul style="list-style-type: none"> <li>▪ Complaints and issues raised.</li> <li>▪ Significant decisions that were made.</li> <li>▪ Regular reporting to provincial/federal governments as required.</li> </ul>		
Are there people in your school who have sole access to incoming information (e.g., reports, complaints, etc.) and who are their alternates?		
<b>Information and Technology</b>		
Does your school maintain a central inventory of passwords to office equipment and electronic files?		
If your information and technology person is ill, who is their alternate?		
Does your school have access to inventory (including serial numbers) of all computer equipment, printers, fax machines, photocopiers in case repairs are needed?		
Does your school have contact lists for all equipment repair persons?		

<b>Planning Issues</b>	<b>Completed Yes/No/Not Applicable</b>	<b>COMMENTS Document who is responsible for each action and the decision making process</b>
Does your school have the staff and equipment for a website/telephone call-in line to update staff and parents?		
<b>Facilities</b>		
Could any of the school's services be provided from another work location or from home?		
If necessary, could staff live at the work location or alternative work location for some period of time?		
Who is your security contact should there be a problem with physical access to your work location and who is their alternate?		
How are courier packages generally sent out and received?		
<b>Procurement of Additional Resources</b>		
Who has the responsibility for procurement matters (e.g., ordering resources and/or equipment) during an influenza pandemic?		
Who will be responsible for payment issues related to overtime and/or additional salary issues and who is their alternate?		
Who has the authority to hire contract/temporary workers and to take on volunteers and who is their alternate?		
Is there a pre-approval process in place for purchasing additional supplies? If not, how long does it take for the approval process?		
<b>Post Pandemic</b>		
What are the immediate lessons learned from the previous wave when planning for multiple pandemic waves?		
Who will be responsible for evaluating your response to the pandemic?		
What factors should be included in the evaluation?		

<b>Planning Issues</b>	<b>Completed Yes/No/Not Applicable</b>	<b>COMMENTS Document who is responsible for each action and the decision making process</b>
Who will have the authority to notify the various employees, parents and stakeholders regarding the school's return to full service?		
Who will decide to reinstate full service?		

**Adapted from the Ministry of Health Pandemic Influenza Response Plan Template – July 27, 2001**

## 8.0 Glossary of Terms

### A

**Acute Care Facility** – facility or hospital providing emergency, general medical, surgical, psychiatric, obstetric, diagnostic, and other services; and staffed by physicians and other health professionals.

**Adaptive mutation** – stepwise changes in the composition of an organism, such as a virus, which occur during the infection of humans or other mammals, and make the organism more easily transmitted among humans.

**Airborne transmission** – the transmission of organisms, such as a bacteria or viruses, through the dispersion of very small infectious droplets (less than 5 microns in diameter). Such droplets can remain suspended in the air for long periods of time and may be inhaled into the lungs.

**Antigenic drift** – minor changes in the protein structure of the influenza virus.

**Antigenic shift** – an abrupt and major change in the protein structure of the influenza A virus resulting in a new subtype.

**Antiviral medication** – medication used to treat individuals who show early signs and symptoms of influenza and to prevent illness among those exposed to the influenza virus.

**Asymptomatic** – not showing signs or symptoms of disease.

**Avian influenza** (“bird flu”) – a disease caused by influenza viruses carried and spread among birds. On rare occasions, avian influenza viruses have crossed the species barrier to infect humans.

### C

**Cleaning** – the physical removal of foreign material such as dust, soil, and organic material (e.g., blood, secretions, excretions and microorganisms) with water, detergents, and mechanical action. Physical cleaning removes rather than kills microorganisms.

**Cohort** – a group of people. In the case of infection, a cohort is a group of people who have been exposed to or infected with the same organism. The word may also be used as a verb to describe the process of separating infected and non-infected people in the same area or institution.

**Communicable disease** – an illness due to a specific infectious agent or its toxic products that arises through transmission of that agent or its products from an infected person, animal or inanimate reservoir to a susceptible host; either directly or indirectly through an intermediate plant or animal host, vector or inanimate environment.

**Communicable period** – the time during which an infectious agent may be transferred directly or indirectly from an infected person to another person, from an infected animal to human, or from an infected person to animal, including arthropods (insects and related species).

**Contact transmission** – transmission of infection through direct physical contact and/or indirect contact via an intermediate object such as contaminated instruments, door handles, etc.

**Contact precautions** – precautions taken to prevent the spread of infectious agents through contact transmission.

**Contagious** - able to be spread from person to person or from living object to nonliving object to living object (such as person to object to person).

**Critical services/Products** – goods or services that must be delivered without fail to ensure the continuing operation of an organization or agency. These goods and services may be mentioned in the mission statement of the organization, or the organization may have legal requirements for delivering specific services and products.

## D

**Disaster** – a natural or man-made event that harms people, properties, livelihoods, or industries, often resulting in permanent changes to human societies, ecosystems, and environments.

**Disinfection** – the killing of infectious agents on objects and surfaces by direct exposure to chemical or physical agents.

**Droplet precautions** – precautions taken to prevent the spread of infectious agents by droplet transmission.

**Droplet transmission** – the transmission of organisms, such as a bacteria or viruses, by large droplets (greater than 5 microns in diameter) produced by sneezing, coughing, talking or singing. These droplets are propelled a short distance (1 metre/3 feet or less) through the air and can come in contact with the eyes, nose, or mouth of another person, thus infecting them.

## E

**Emergency** – the existence of a dangerous situation or the threat of an impending dangerous situation that will adversely affect the property or the health, safety and welfare of the community.

**Emergency Operations Centre** – a centralized location from which emergency operations can be directed and coordinated.

**Emergency plan** - documents that describe principles, policies and methods for carrying out emergency operations and providing mutual aid during emergencies, including such elements as continuity of government, emergency functions of government agencies, mobilization of resources, and public information.

**Endemic** – the constant presence of a disease or infectious agent within a given geographic area or the usual prevalence of a given disease within an area.

**Epidemic** – the occurrence of cases of an illness (or an outbreak of illness) in a community or region more often than would normally be expected.

**Epidemiology** – the branch of medical science dealing with the transmission and control of disease, including the study of epidemics and epidemic diseases.

## F

**Flu** – an abbreviation for influenza which is a highly contagious and common respiratory illness caused by a virus. There are three known types of influenza virus – A, B, and C.

**FluWatch** – weekly reports produced by the Centre for Infectious Disease Prevention and Control (CIDPC) summarizing influenza surveillance activities in Canada. Influenza surveillance is a collaborative effort involving provincial and territorial ministries of health, participating laboratories, the College of Family Physicians of Canada, designated health professionals, and the CIDPC.

## G

**Genetic reassortment** – the process that occurs when genetic material is exchanged.

## H

**Host** – a person or other living animal infected by an organism such as a virus.

## I

**Immunity** – resistance to an infectious agent usually associated with the presence of protective antibodies or cells.

**Immunize** – to make immune, that is able to resist a particular disease, most often through administration of a vaccine delivered by a needle.

**Incident Management System** – a model for the command, control and coordination of emergency response, used by individual organizations working towards the common goal of stabilizing the emergency situation and protecting life, property and the environment.

**Incubation period** – the time interval between initial contact with an infectious agent and the first appearance of symptoms associated with the infection.

**Indirect transmission** – the transmission of a pathogen from an infected person to an inanimate object and then to another person.

**Infection** – a condition in which organisms multiply within the body and cause a response from the host's immune defenses. Infection may or may not lead to clinical disease.

**Infection control** - activities aimed at the prevention of the spread of pathogens between people or animals.

**Infectious agent** – a disease-causing virus, bacterium, parasite, or other microbe.

**Infectious disease** – a disease of humans or animals resulting from an infection.

**Influenza** - a highly contagious and common respiratory illness caused by a virus. There are three known types of influenza virus – A, B, and C.

**Influenza-like illness** – acute onset of respiratory illness with fever and cough and one or more of the following: sore throat, joint aches, muscle aches or extreme exhaustion, which could be due to the influenza virus.

**iPHIS** – a web-based integrated public health information system. iPHIS software provides customized health information management tools for daily case management and for reporting health surveillance data at the regional, provincial, and national levels.

**Isolation** – the separation of an infected person or animal, during the communicable period of a disease, from others to prevent the spread of the infection to others.

## M

**Mitigation** - efforts to prevent a disaster from ever occurring, or to reduce the effects of a disaster when it does occur.

**Morbidity** – illness; departure from a state of well being, either physiological or psychological.

**Morbidity rate** – the number of persons in a population who develop a disease during a specified period of time.

**Mortality** – death.

**Mortality rate** – the number of deaths occurring in a population during a specified period of time, usually a year, relative to the number of persons at risk of dying during the period.

**Must do** – critical services that cannot be deferred or delegated.

**Mutation** – a permanent, transmissible change in the genetic material of a cell.

## N

**Novel virus** – a virus that has never previously infected humans, or has not infected humans for a long time.

## O

**Oseltamivir** – an antiviral drug effective against influenza A and B viruses that inhibits the neuraminidase protein, effectively trapping the influenza virus within the host cell and preventing it from infecting new cells. This can help in preventing infection (prophylaxis) or in reducing the duration and severity of illness once infected. It is effective if treatment is started within 48 hours of symptom onset. In Canada and the USA, oseltamivir is sold under the brand name Tamiflu.

## P

**Pandemic** – an epidemic occurring worldwide, or over a very wide area, crossing international boundaries, and usually affecting a large number of people.

**Pathogen** - any organism capable of producing disease.

**Pathogenicity** – the power of an organism to produce disease.

**Personal protective equipment** – attire used to protect workers against airborne or droplet transmission of an organism and against exposure to blood and body fluids. PPE generally includes masks, eye goggles, face shields, gloves, gowns and foot-covers.

**Pneumonia** – an inflammation of the lungs caused by infection.

**Primary Care** – the first level of care and usually the first point of contact that people have with the health care system. Primary care involves the provision of integrated, accessible health care services by clinicians who are responsible for addressing a large majority of personal health care needs, developing a sustained partnership with patients and practicing in the context of family and community. It includes advice on health promotion and disease prevention, assessments of one's health, diagnosis and treatment of episodic and chronic conditions and supportive and rehabilitative care.

**Priority Group** – the people most at risk for influenza or those who could spread influenza to those at the greatest risk.

**Prophylaxis** – prevention of or protective treatment of disease.

**Psychosocial supports** – outlines the processes specifically designed to prevent or mitigate the development of post-traumatic stress among individuals.

**Public health measures** – non-medical interventions used to reduce the spread of the influenza virus during a pandemic.

## Q

**Quarantine** – restriction of the activities of well persons or animals who have been exposed to a case of communicable disease, during its period of communicability, in order to prevent transmission of that disease during the incubation period if infection should occur.

## R

**Respiratory etiquette** - simple tips to keep respiratory infections from spreading such as covering your nose and mouth every time you sneeze or cough; using a tissue when you blow your nose; putting used tissues in the trash; and washing your hands frequently, especially if you or someone you are close to is sick.

## S

**Screening** - checking for disease when there are no symptoms.

**Sentinel surveillance** - surveillance based on selected population samples chosen to represent the relevant experience of particular groups.

**Skill set inventory** – a record of the skills of all employees and of the skills needed to provide the critical services of the organization. The skill set inventory enables emergency planners to identify transferable skills that would allow an employee to be transferred from one task, job or workplace to another without extensive training or supervising requirements.

**Social distancing** – a way to reduce the risk of exposure to an organism, such as the influenza virus, by reducing or avoiding contact with other people as much as possible.

**Stockpile** – reserve; goods saved for future use or a special purpose.

**Strain** - a specific genetic variant of an organism.

**Sub-clinical infection** – the presence of an infection without recognizable signs or symptoms. Of importance because an individual may appear well although infected and thus be capable of spreading the infection to others.

**Surveillance** – an on-going, systematic method for continuous monitoring of diseases in a population, in order to detect changes in disease patterns and implement prevention and/or control measures in a timely fashion.

**Susceptible** - a person or animal not possessing sufficient resistance against a particular pathogenic agent to prevent contracting infection or disease when exposed to the agent.

**Symptoms** – any perceptible change in the body's normal function, appearance or sensation which is experienced by the patient and indicates a disease process.

## T

**Tamiflu** – the name under which oseltamivir is marketed in Canada and the United States.

**Transmission** – any mechanism by which an infectious agent is spread from a source of infection to other persons or animals.

**Triage** – a system whereby patients or a group of casualties are sorted according to the seriousness of their illness or injuries, in order to set treatment priorities. In emergency situations, triage is designed to maximize the number of survivors.

## V

**Vaccination** – the act of administering a vaccine

**Vaccine** – a dead or weakened form of an infectious organism that is injected into the body to stimulate an immune response, without causing disease, and thereby protect against subsequent infection by that organism.

**Virulence** – the level of pathogenicity of an infectious agent, indicated by death rates among those infected or the ability of the agent to invade and damage tissues of the host.

**Virus** – a group of infectious agents characterized by their inability to reproduce outside of a living host cell. Viruses may subvert the host cells' normal functions, causing the cell to behave in a manner determined by the virus.

## 9.0 Additional Information

### City of Toronto

Office of Emergency Management

[www.toronto.ca/wes/techservices/oem/index.htm](http://www.toronto.ca/wes/techservices/oem/index.htm)

Toronto Public Health

[www.city.toronto.on.ca/health/index.htm](http://www.city.toronto.on.ca/health/index.htm)

Toronto Public Health – Emergency Planning & Preparedness Unit

[www.toronto.ca/health/esu/index.htm](http://www.toronto.ca/health/esu/index.htm)

Toronto Public Health – Pandemic Influenza

[www.toronto.ca/health/pandemicflu/index.htm](http://www.toronto.ca/health/pandemicflu/index.htm)

Learning from SARS: Recommendations for Toronto Public Health Emergency Preparedness, Response and Recovery

[www.toronto.ca/legdocs/2004/agendas/committees/hl/hl041018/it003.pdf](http://www.toronto.ca/legdocs/2004/agendas/committees/hl/hl041018/it003.pdf)

### Government of Ontario

[www.gov.on.ca/](http://www.gov.on.ca/)

Ministry of Health and Long-Term Care

[www.health.gov.on.ca/](http://www.health.gov.on.ca/)

Ontario Health Plan for an Influenza Pandemic

[www.health.gov.on.ca/english/providers/program/emu/pan\\_flu/pan\\_flu\\_plan.html](http://www.health.gov.on.ca/english/providers/program/emu/pan_flu/pan_flu_plan.html)

Telehealth Ontario

1-866-797-0000

TTY : 1-866-797-0007

[www.health.gov.on.ca/english/public/program/telehealth/telehealth\\_mn.html](http://www.health.gov.on.ca/english/public/program/telehealth/telehealth_mn.html)

Emergency Management Unit

[www.health.gov.on.ca/english/public/program/emu/emu\\_mn.html](http://www.health.gov.on.ca/english/public/program/emu/emu_mn.html)

Ontario Best Practice Manual: *Preventing Febrile Respiratory Illnesses*

[www.health.gov.on.ca/english/providers/program/infectious/diseases/ic\\_fri.html](http://www.health.gov.on.ca/english/providers/program/infectious/diseases/ic_fri.html)

Ministry Community Safety and Correctional Services

[www.mpss.jusgov.on.ca/](http://www.mpss.jusgov.on.ca/)

Emergency Management Ontario

[www.mcscs.jus.gov.on.ca/english/pub\\_security/emo/about\\_emo.html](http://www.mcscs.jus.gov.on.ca/english/pub_security/emo/about_emo.html)

## **Government of Canada**

[www.canada.gc.ca/](http://www.canada.gc.ca/)

Public Health Agency of Canada

[www.phac-aspc.gc.ca/new\\_e.html](http://www.phac-aspc.gc.ca/new_e.html)

Canadian Pandemic Influenza Plan for the Health Sector

[www.phac-aspc.gc.ca/cpip-pclcpi/index.html](http://www.phac-aspc.gc.ca/cpip-pclcpi/index.html)

Health Canada

[www.hc-sc.gc.ca/](http://www.hc-sc.gc.ca/)

Global Pandemic Influenza Readiness

[www.hc-sc.gc.ca/ahc-asc/intactiv/pandem-flu/index\\_e.html](http://www.hc-sc.gc.ca/ahc-asc/intactiv/pandem-flu/index_e.html)

Public Safety and Emergency Preparedness Canada

[www.psepc-sppcc.gc.ca/index-en.asp](http://www.psepc-sppcc.gc.ca/index-en.asp)

Public Safety and Emergency Preparedness Canada - Emergency Management

[www.psepc.gc.ca/prg/em/index-en.asp](http://www.psepc.gc.ca/prg/em/index-en.asp)

## **U.S. Department of Health and Human Services – Centers for Disease Control and Prevention**

[www.cdc.gov/](http://www.cdc.gov/)

Information about Influenza Pandemics

<http://www.pandemicflu.gov/>

## **World Health Organization**

[www.who.intu/en/](http://www.who.intu/en/)

Pandemic Preparedness

[www.who.int/csr/disease/influenza/pandemic/en/index.html](http://www.who.int/csr/disease/influenza/pandemic/en/index.html)

Global Influenza Preparedness Plan

[www.who.int/csr/resources/publications/influenza/WHO\\_CDS\\_CSR\\_GIP\\_2005\\_5/en/index.html](http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_5/en/index.html)

Checklist for Influenza Pandemic Preparedness Planning

[www.who.int/csr/resources/publications/influenza/WHO\\_CDS\\_CSR\\_GIP\\_2005\\_4/en/index.html](http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/index.html)

## Children's Aid Societies

Toronto Children's Aid Society

416-924-4646

[www.torontocas.ca/](http://www.torontocas.ca/)

Catholic Children's Aid Society

416-395-1500

[www.ccas.toronto.on.ca](http://www.ccas.toronto.on.ca)

Jewish Family and Children's Services

416-638-7800

[www.toronto.com/community/listing/000-212-268#lon-79.4409\\_lat43.7635\\_zml3](http://www.toronto.com/community/listing/000-212-268#lon-79.4409_lat43.7635_zml3)

Native Child and Family Services of Toronto

<http://www.nativechild.org/>

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Public Health Agency of Canada. Canadian Pandemic Influenza Plan for the Health Sector – December 2006

[www.phac-aspc.gc.ca/influenza/pandemicplan\\_e.html](http://www.phac-aspc.gc.ca/influenza/pandemicplan_e.html)

Ontario Ministry of Health and Long-Term Care. Ontario Health Pandemic Influenza Plan September 2006

[www.health.gov.on.ca/english/providers/program/emu/pan\\_flu/pan\\_flu\\_plan.html](http://www.health.gov.on.ca/english/providers/program/emu/pan_flu/pan_flu_plan.html)

Halton Region Health Department Pandemic Influenza Response Plan

[www.halton.ca/health/services/PDF/pandemic\\_influenza\\_response\\_plan.pdf](http://www.halton.ca/health/services/PDF/pandemic_influenza_response_plan.pdf)

Commonwealth of Massachusetts – Influenza Pandemic Preparedness Planning Document

[www.mass.gov/dph/cdc/epii/flu/statepln.pdf](http://www.mass.gov/dph/cdc/epii/flu/statepln.pdf)

Vancouver Coastal Health Pandemic Influenza Response Plan - October 2006

<http://www.vch.ca/pandemic/>

Ottawa's Interagency Influenza Pandemic Plan – September 2005

[ottawa.ca/residents/health/emergencies/pandemic/plan/plan\\_en.html](http://ottawa.ca/residents/health/emergencies/pandemic/plan/plan_en.html)

Public Safety and Emergency Preparedness Canada - Emergency Management

[www.psepc.gc.ca/prg/em/index-en.asp](http://www.psepc.gc.ca/prg/em/index-en.asp)

The City of Toronto: *Emergency Plan*, May 2005

[www.toronto.ca/wes/techservices/oem/pdf/emergency\\_plan.pdf](http://www.toronto.ca/wes/techservices/oem/pdf/emergency_plan.pdf)

Ministry of Health and Long-Term Care. *Emergency Response Plan*. July 2005

[www.health.gov.on.ca/english/providers/program/emu/emerg\\_prep/emerg\\_resp\\_plan.html](http://www.health.gov.on.ca/english/providers/program/emu/emerg_prep/emerg_resp_plan.html)

Board of Funeral Services website

[www.funeralboard.com](http://www.funeralboard.com)

Ontario Seniors' Secretariat: *A Guide to Programs and Services for Seniors in Ontario*

[www.citizenship.gov.on.ca/seniors/english/guide-legal.htm](http://www.citizenship.gov.on.ca/seniors/english/guide-legal.htm)

Government of Ontario: *Life Events - What to Do when Someone Dies*

[www.gov.on.ca/ont/portal!/ut/p/.cmd/cs/.ce/7\\_0\\_A/.s/7\\_0\\_252/.s.7\\_0\\_A/7\\_0\\_252/1/en?docid=004448](http://www.gov.on.ca/ont/portal!/ut/p/.cmd/cs/.ce/7_0_A/.s/7_0_252/.s.7_0_A/7_0_252/1/en?docid=004448)

Ministry of Government Services: *Births, Deaths & Marriages*

[www.cbs.gov.on.ca](http://www.cbs.gov.on.ca)

## Vaccine and Antiviral Medications

Centers for Disease Control and Prevention. *Annex 2: General Guidelines for Smallpox Vaccination Clinics*. [www.bt.cdc.gov/agent/smallpox/response-plan/files/annex-2.pdf](http://www.bt.cdc.gov/agent/smallpox/response-plan/files/annex-2.pdf)

Centers for Disease Control and Prevention. Emergency Preparedness and Response. *CDC Smallpox Response Plan and Guidelines. Annex 3: Smallpox Vaccination Clinic Guide: Logistical Considerations for State and Local Planning for Emergency, Large-scale, Voluntary Administration of Smallpox Vaccine in Response to a Smallpox Outbreak*. September 2002. [www.bt.cdc.gov/agent/smallpox/vaccination/pdf/smallpox-vax-clinic-guide.pdf](http://www.bt.cdc.gov/agent/smallpox/vaccination/pdf/smallpox-vax-clinic-guide.pdf)

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Vancouver Coastal Health, *Regional Pandemic Influenza Response Plan*. October 2006 <http://www.vch.ca/pandemic/>

World Health Organization. *Safety of Mass Immunization Campaigns*. Immunization Safety Priority Project. Department of Vaccines and Biologicals. [www.who.int/vaccines-documents/DocsPDF02/www669.pdf](http://www.who.int/vaccines-documents/DocsPDF02/www669.pdf)

## Other

Ontario Best Practice Manual: *Preventing Febrile Respiratory Illnesses* [www.health.gov.on.ca/english/providers/program/infectious/diseases/ic\\_fri.html](http://www.health.gov.on.ca/english/providers/program/infectious/diseases/ic_fri.html)

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Canada Communicable Disease Report  
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[www.phac-aspc.gc.ca/publicat/ccdr-rmtc/02vol28/28s1/index.html](http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/02vol28/28s1/index.html)

Canada Communicable Disease Report  
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[www.phac-aspc.gc.ca/publicat/ccdr-rmtc/98pdf/cdr24s8e.pdf](http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/98pdf/cdr24s8e.pdf)

Canada Communicable Disease Report  
Infection Control Guidelines – Routine practices and Additional Precautions for Preventing the  
Transmission of Infection in Health Care  
[www.phac-aspc.gc.ca/publicat/ccdr-rmtc/99vol25/25s4/index.html](http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/99vol25/25s4/index.html)