

TORONTO STAFF REPORT

November 24, 2005

To: Board of Health
From: Dr. David McKeown, Medical Officer of Health
Subject: Pandemic Influenza Plan for the City of Toronto

Purpose:

To present to the Board of Health and City of Toronto Council, the first version of the Pandemic Influenza Plan for the City of Toronto.

Financial Implications and Impact Statement:

There are no immediate financial implications regarding endorsement of the Pandemic Influenza Plan for the City of Toronto. Additional resources for Pandemic Influenza planning in the amount of \$760.8 thousand gross / \$266.28 thousand net, and 13 positions have been requested in the Toronto Public Health 2006 Operating Budget Submission and approval is subject to the 2006 Operating Budget process.

In the event of a Pandemic Influenza emergency response, significant resources would be required across the City of Toronto.

The Deputy City Manager and Chief Financial Officer has reviewed this report and concurs with the financial impact statement.

Recommendations:

It is recommended that:

- (1) the Board of Health endorse the City of Toronto Pandemic Influenza Plan;
- (2) the Medical Officer of Health continue to actively monitor the influenza situation worldwide and report to the Board of Health on any urgent issues as they arise;
- (3) the Medical Officer of Health report to the Board of Health on the status of the City of Toronto Pandemic Influenza Plan on an annual basis, prior to each influenza season;

- (4) City of Toronto Council urge the federal and provincial Ministers of Health to:
 - a) ensure an adequate supply of anti-viral medications and vaccine for designated priority groups and effective distribution mechanisms to local public health units;
 - b) give further consideration to the wearing of masks in community situations where potential exposure to infectious individuals is likely and unavoidable.

- (5) City of Toronto Council urge the provincial Minister of Health and Long-Term Care to:
 - a) develop effective strategies to maximize the surge capacity for all components of the health care system (including hospitals and the Provincial Public Health Laboratory) to handle pandemic influenza;
 - b) ensure that the needs of vulnerable populations, including the homeless and underhoused population, persons with addictions and mental health issues and the frail elderly, be addressed as part of provincial pandemic influenza planning;
 - c) proactively address barriers for key service providers to prepare and respond to an influenza pandemic (e.g. advance funding for funeral/crematoria service providers to stockpile resources, insurance and compensation for self-employed health care providers);
 - d) develop clear criteria for the implementation of public health measures such as closure of schools, day nurseries and cancellation of social gatherings, in collaboration with local public health units to ensure consistency;

- (6) City of Toronto Council urge the provincial Ministers of Labour and Health and Long-Term Care to:
 - a) collaborate to ensure that provincial infection control advice and directives regarding pandemic influenza are consistent and take into account both health and labour perspectives;
 - b) develop emergency sick leave policies to help ensure that ill people do not have to work during an influenza pandemic.

- (7) City of Toronto Council direct the City Manager to:
 - a) proactively address the human resources and labour relations issues, in collaboration with the bargaining agents, that would arise in responding to an influenza pandemic;
 - b) ensure that all city divisions, agencies, boards and commissions have a service continuity plan for pandemic influenza by July, 2006;
 - c) implement an information and education plan for the Toronto Public Service regarding pandemic influenza in 2006, in collaboration with the Medical Officer of Health.

- (8) City of Toronto Council urge the Local Health Integration Networks (LHINs) in the City of Toronto to work with Toronto Public Health on pandemic influenza planning as an urgent priority;

- (9) share this report with other Boards of Health in Ontario, the Association of Local Public Health Agencies, the Ontario Public Health Association, the Public Health Agency of Canada, the Ontario Minister of Health and Long Term Care, the Ontario Minister of Labour and the Canadian Urban Health Network for their information; and
- (10) the appropriate City officials be authorized and directed to take the necessary action to give effect thereto.

Background:

At its meeting on May 9th, 2005, the Board of Health considered a report from the Medical Officer of Health providing an overview of Pandemic Influenza planning in the City of Toronto. At that meeting, the Board requested the Medical Officer of Health to provide an update on progress made with respect to Pandemic Influenza planning, prior to the 2005/06 influenza season. In addition, the Board decided to monitor Toronto Public Health preparedness for pandemic influenza as part of its annual budget exercise and to continue to advocate for a strong and stable public health infrastructure for the City of Toronto as a critical component of an effective emergency response.

Toronto Public Health (TPH) initiated Pandemic Influenza planning in December, 2002. In order to effectively plan for an emergency response, TPH sought input from key stakeholders in the health, emergency planning, social service, volunteer, community and business sectors. This approach has facilitated the development of working relationships and partnerships which are essential for an emergency response in the City of Toronto.

The attached City of Toronto Pandemic Influenza Plan (TPIP) (Attachment 1) is the first version of a plan that will be revised and updated as new information becomes available.

Comments:

Influenza pandemics have affected Toronto's population in the past, and are widely expected to do so again. The timing and health impact of any future pandemic is unpredictable, and could range from a modest increase in typical seasonal influenza to a major outbreak with thousands of cases of illness and up to 4300 deaths over several months. The worst case scenario would pose a significant challenge to Toronto Public Health, the health care system and the community as a whole.

Influenza pandemics occur in waves over a period of months to a year. An effective vaccine would likely take four to six months to be available. Initial control measures will focus on personal hygiene, isolation of cases (minimal quarantine of contacts only in the initial stage), and limited administration of antiviral medications for treatment and prevention.

A form of bird flu known as H5N1 is currently spreading in bird populations globally. As of November 17, 2005 it has been associated with 130 human cases and 67 deaths (a mortality rate of more than 50%). To date there is no evidence that this virus has the ability to spread

efficiently person-to-person. Significant mutation of this virus or any other influenza virus would be required to cause a pandemic.

Every government and every sector has a role to play in planning and preparing for a pandemic, building on the lessons learned from SARS and other communicable disease outbreaks. The Public Health Agency of Canada is expecting to release the next version of the Canadian Pandemic Influenza Plan in December 2005. The Ontario Health Pandemic Influenza Plan (June 2005) was significantly enhanced from the previous version. Both governments continue to work on strengthening and addressing gaps in the plans to provide an over-arching framework that offers consistent and clear support to local planning.

Public Health and health care system infrastructure and preparedness at the local level is critical to an effective response. Individual influenza cases will present to local physicians or emergency departments, laboratory specimens will be collected and processed locally, cases will receive health care locally, and the impact of societal changes will be felt at the local level.

Pandemic influenza could challenge the health care system because of greatly increased demand coupled with a reduced workforce. Planning to maximize surge capacity (including human resources, equipment, space, etc.) and prioritize/ration services is therefore critical at all levels.

Effective pandemic influenza preparedness requires dedicated resources, with appropriate infectious disease, infection control and epidemiology expertise and up-to-date information on best practices. In addition, the expertise and involvement of bio-ethicists, and the leveraging of information technology is required.

The Toronto Pandemic Influenza Plan (TPIP):

In late 2002, TPH brought together a steering committee of health care, emergency response, social service, volunteer sector and others to plan for an influenza pandemic in Toronto. The TPIP was developed from the work of this committee and its working groups, as well as from extensive consultation with other experts and local stakeholders. It is based on the Canadian Pandemic Influenza Plan (February 2004) and the Ontario Health Pandemic Influenza Plan (June 2005).

The goals of the TPIP are to reduce the morbidity (illness) and mortality (death) associated with a new and virulent strain of influenza and to minimize societal disruption during an influenza pandemic in the City of Toronto.

The objectives of TPIP are:

- 1) To coordinate the City of Toronto response to an influenza pandemic.
- 2) To define and recommend preparedness activities that should be undertaken before a pandemic occurs that will enhance the effectiveness of a pandemic response.
- 3) To make recommendations on interventions that should be implemented as components of an effective pandemic influenza response.

- 4) To develop a plan that can be adapted for other public health emergencies (e.g. smallpox).
- 5) To develop community linkages and effective working partnerships with key stakeholders that will improve the city's preparedness for any public health emergency.
- 6) To work collaboratively at provincial and federal levels in pandemic influenza planning and to clarify roles, responsibilities and actions.
- 7) To support provincial and federal planning initiatives by being represented on planning workgroups and steering committees.

TPIP will become a part of the Infectious Diseases Emergency Operating Procedure in the City of Toronto's Emergency Plan. It builds on the City's overall emergency plan to focus on issues specific to pandemic influenza and is geared to multiple audiences including government, health care, business and volunteer sectors as well as the general public.

The full TPIP will be available on the TPH website and from the City Clerk. It is written so that each chapter can stand alone. This is the first version of the plan. TPH will revise and update sections of the plan on the web as new information becomes available. Evaluation is built into components of the plan as appropriate.

The Toronto Pandemic Influenza Plan includes;

- 1) Current information about pandemic influenza;
- 2) Roles and responsibilities of the different orders of government;
- 3) Surveillance activities currently underway or being developed;
- 4) Communications plans and activities;
- 5) Emergency measures to address coordination and preparation of services needed to maintain public safety and order;
- 6) Issues pertaining to the health care system;
- 7) Public health measures to reduce community transmission;
- 8) Supply and distribution of vaccine and anti-viral medications;
- 9) Information on infection control practices in the community and health-care facilities;
- 10) Self care information.

A. Toronto Public Health Preparedness:

Toronto Public Health is the lead agency for City of Toronto Pandemic Influenza preparedness and response. Responsibility for the management of public health rests with the local Board of Health, in accordance with the Health Protection & Promotion Act.

The major components of the core public health response to pandemic influenza will be:

- 1) Disease Surveillance and Reporting

Surveillance is critical for early detection of the pandemic flu strain in the population and for timely implementation of control activities to slow the spread of infection. This

function depends on alert clinical physicians, high quality and timely laboratory testing, and comprehensive and effective infection control and public health measures.

Influenza cases and respiratory outbreaks in institutions are reportable to the Medical Officer of Health under the provincial Health Protection & Promotion Act. In addition, hospitals and physicians also monitor and report on febrile respiratory illness (FRI) to TPH, with the support of TPH communicable disease staff who have been placed in every hospital post-SARS. TPH routinely shares information on outbreaks and emerging illnesses with hospitals, Emergency Medical Services, infectious disease specialists and other key stakeholders.

A new provincial information system for communicable disease control, Integrated Public Health Information System (iPHIS), is being implemented across the province, with significant input from TPH. This will enable collection and sharing of detailed information across the province. TPH will implement iPHIS in December 2005. In addition, TPH has an operational information system called Case & Contact Management System (CCMS) which can be used for tracking FRI. TPH is currently developing tools to monitor absenteeism in workplaces and selected symptoms in people who present to hospitals and 911 emergencies to help detect disease trends as early as possible.

In the event of a pandemic, once there is evidence of local transmission, information needs will change dramatically. TPH is working with the Province to determine surveillance requirements and data collection and reporting protocols for the different phases of a pandemic.

2) Case and Contact Investigation and Management

Case and contact management early in a pandemic influenza situation will focus on general education on basic hygiene, other infection control measures, self isolation (i.e. “stay at home if you are sick”) and self care.

It is important to distinguish between quarantine and isolation. Quarantine refers to segregating healthy people who have been exposed but who are not ill. Isolation refers to segregating people who are ill and infectious to others.

Quarantine was used successfully to reduce transmission of SARS during the 2003 Toronto outbreak. Based on the lessons learned from SARS research, there would be limited use of quarantine and only in the earliest stages of an influenza pandemic. This is because the incubation period for influenza is much shorter than SARS and people are infectious before they develop symptoms. In addition, influenza can be highly infectious (more infectious than SARS) and will likely be widely transmitted in the general community. It would therefore be impossible to reach people and quarantine them before they become infectious to others. This issue is discussed in a separate Board of Health report “Preliminary Results of SARS-related Public Health Research”.

TPH has clear policies and procedures in place for case and contact management in respiratory outbreaks. These will be updated as new information, such as provincial directions or guidelines, becomes available.

3) Public Health Measures

Public health measures may include public education, community-based strategies and travel/border measures. The federal and provincial pandemic plans call for consideration of closure of schools, day nurseries and the cancellation of public gatherings in the event of a pandemic. These measures may slow down the spread of illness. Decisions about such control measures would be made by the Medical Officer of Health, in consultation with the provincial government, other public health units, school boards, and other stakeholders, based on the epidemiology of the pandemic. Any travel/border restrictions would be under federal jurisdiction.

Use of Masks

The use of masks is a difficult and unresolved issue. There is no evidence that the use of masks in general public settings will be protective when the influenza virus is circulating widely in the community. However it is acknowledged that individuals who are wearing a surgical mask properly at the time of an exposure to influenza may benefit from the barrier that a mask provides. The Canadian and Ontario plans recommend the use of surgical masks and eye protection for health care workers providing direct care (face-to-face contact) to patients with influenza-like illness. The plans also recommend that people who are ill with influenza-like illness who must leave their home to receive medical attention should wear a mask. The plans do not recommend masks as a community-based disease control strategy. However the federal plan states that members of the public may wish to purchase and use masks for individual protection.

At this time the World Health Organization does not have a formal position on the issue of masks but will likely be recommending to member countries an evaluation of the effectiveness of mask use (and respiratory etiquette) with respect to prevention of cases, costs and alleviation of public concern.

Although masks may provide some reassurance to people, the effectiveness of this measure in preventing infection in the general community is unknown. If masks are used, they should only be used once and must be changed if wet (because they become ineffective when wet). As well, people who use masks should be trained on how to use them properly to avoid contaminating themselves when removing the mask. In addition, there may be issues of access due to cost or supply shortages and other feasibility concerns.

Further consideration should be given to the wearing of masks in community situations where potential exposure to infectious individuals is likely and unavoidable e.g. care of an ill family member, large public gatherings. Additional research needs to be done on this on an urgent basis.

4) Vaccine and Anti-viral Medication Distribution and Administration

Each year TPH promotes Ontario's universal influenza vaccination program and immunizes 40,000-50,000 people in community-based clinics throughout the city. TPH has thus built a foundation for a mass vaccination/anti-viral medication distribution plan.

TPIP includes a plan for distribution and administration of vaccine to those designated by provincial and federal plans as priority groups 1, 2 and 3 (health care workers; key health decision makers; other emergency/essential service providers) as well as a plan for vaccinating the entire Toronto population. Further work needs to be done to secure accessible locations to reach the full population. Given the scale of this initiative, TPH will need considerable staff resources and collaboration with other health care providers to implement a mass vaccination program during a pandemic.

The broad use of anti-viral medications will be a new challenge. The Province has stockpiled 12.5 million doses of the anti-viral medication Oseltamivir (Tamiflu) and the federal government has stockpiled 15-20 million doses. Anti-viral medications can be used for both prevention and treatment of influenza and will therefore have an important role in mitigating the impact of a pandemic. It is expected that demand for anti-virals will exceed supply. Priority groups for these medications are outlined in the federal and provincial plans, but many important details remain to be clarified.

5) Health Risk Assessment and Communication

To help ensure consistency in communication, TPH staff participate on provincial and local teaching hospital communications committees. Key messages will focus on what to do to prevent the flu, what to do if you become ill, clear information on the availability of anti-virals, etc. In a pandemic situation, TPH will use multiple channels of communication to distribute information, including a hotline (with special numbers for particular groups), website, media, materials translated in a number of languages and other targeted outreach vehicles.

Target groups that will have specific information needs include: Toronto Emergency Management Planning Committee; City staff; Board of Health; City Council; other public health units, provincial and federal governments; local hospitals; long-term care facilities; community care access centres; community health centres; physicians, dentists and other health care providers; homeless/housing services and other social service providers; schools; businesses; police.

TPH Staff Education and Training:

A large number of TPH staff have been trained in emergency response, including advanced training in Incident Management System for selected leaders. Draft training modules for vaccine administration and hotline are being developed, to be rolled out when a pandemic is imminent. Starting in early 2006, TPH will provide basic pandemic influenza information and education to all managers and staff in Toronto Public Health.

TPH Service Continuity Plan:

The majority of TPH staff would have to be involved in responding to a major pandemic. In addition, there may be up to 35% absenteeism. Consequently, a large scale-back of regular programs and services would be inevitable. A service continuity plan for TPH has been developed based on a range of service delivery functions, depending on the scale and severity of the pandemic.

B. Community-wide Preparedness:

All sectors in Toronto should be aware of the potential impact of an influenza pandemic and make preparations appropriate to their role and needs. TPH cannot plan on behalf of other organizations and sectors, but can provide information and support.

TPH has worked with many different stakeholders to develop planning guides for a number of key sectors to support planning efforts (business sector; City of Toronto Divisions; colleges and universities; community care access centres; community health centres; correctional facilities; day nurseries; faith community; funeral homes/crematorium services; general public; homeless service providers; hospitals; long-term care homes, schools and volunteer sector). TPH staff participate on federal and provincial planning committees as well as the Toronto Academic Health Sciences Network (TAHSN) hospital planning committee, and have made presentations to hospitals, physician groups, community health centres, long term care facilities, as well as the City's Human Resources directors, unions, Emergency Medical Services management and some businesses. TPH and Shelter, Housing and Administration Division have jointly chaired a homeless/housing providers group formed post-SARS to develop an infection control manual for shelters/drop-ins and a pandemic influenza planning guide. There is still much work to be done to support key sectors in pandemic influenza planning.

City of Toronto

The role of City government will include: declaration of an emergency to free up required resources and reallocation of staff, provision of essential services, ensuring the health and safety of City workers and communication with staff and the public. It is important that all divisions, agencies, boards and commissions in the City develop service continuity plans to ensure the continued delivery of essential services. A motion to this effect was approved by the Board of Health and City of Toronto Council in spring 2005. It is therefore recommended that the City Manager ensure that all City divisions, agencies, boards and commissions have service continuity plans in place by July 2006.

Next Steps:

At the federal and provincial levels there are many policy questions to be clarified (e.g. prioritization of who should get anti-viral medications, criteria for closure of schools and cancellation of public gatherings). At the provincial level the Ministries of Labour and Health and Long-Term Care need to ensure that they provide consistent infection control advice, taking into account the occupational health and safety concerns. Although the province is moving

toward a more integrated health system with the implementation of Local Health Integrated Networks, this is in very early stages and there is currently no clear mechanism to coordinate and communicate across the silos of various health care organizations and professionals. There are also particular challenges to communication with the thousands of independent physicians practising in the City.

At the City, further work is needed on emergency-related human resources policies and procedures (e.g. absenteeism policy, shift work). As discussed above, it is critical that all City divisions, agencies, boards and commissions have a business continuity plan.

TPH will continue to work on strengthening the TPIP and educating and supporting others to enhance the City's preparedness. Some of the areas of focus over the next year include: to widely disseminate information about the plan, implement an information campaign for the general public on preventive measures, provide information and education to City staff on pandemic influenza, continue work on the special needs of vulnerable populations, continue to develop surveillance capability and vaccination and anti-viral distribution plans, continue and expand collaboration with the health sector (e.g. to reach out to primary care physicians), and conduct emergency training exercises, etc.

Conclusions:

Influenza pandemics have affected Toronto's population in the past, and are widely expected to do so again. The timing and health impact of any future pandemic is unpredictable, and could range from a modest increase in typical seasonal influenza to a major outbreak with thousands of cases of illness and up to 4300 deaths over several months. The worst case scenario would pose a significant challenge to Toronto Public Health, the health care system and the community as a whole.

As the lead agency for City of Toronto Pandemic Influenza preparedness and response, TPH has worked collaboratively with federal and provincial governments, experts and local stakeholders to produce the first version of the City of Toronto Pandemic Influenza Plan. Undoubtedly the planning process itself has helped to build relationships and shared expectations. TPH will continue to work with others to revise and update the plan as new information becomes available. Although much work remains to be done, this first version of the plan will help inform, support and stimulate improved preparedness in the City.

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Attachment 1 – City of Toronto Pandemic Influenza Plan

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Message from the Chair of the Toronto Pandemic Planning Steering Committee

Planning for the impact of pandemic influenza on a city the size and complexity of Toronto is a challenging experience. To create an effective plan, engaging and building bridges with many stakeholders in the health, emergency planning, social, volunteer, community, and business sectors has been essential. Over the past three years, the relationships amongst stakeholders have become the strength and backbone of the planning process in Toronto and will stand us in good stead in the event of an emergency response.

As Chair of the Toronto Pandemic Influenza Steering Committee, I would like to take this opportunity to express my deep appreciation to everyone who participated on the Steering Committee, Workgroups and Planning Guide development for their input, perseverance, support and dedication in creating the Toronto Pandemic Influenza Plan. Their expertise and hard work has been and continues to be invaluable. The release of this plan represents another step forward. There will be many more to follow.

Dr. Barbara Yaffe
Director, Communicable Disease Control &
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Preface

While experts agree that an influenza pandemic is inevitable. Influenza will spread globally when a novel strain of the influenza virus arises from nature to which humans have no immunity and which develops the ability to transmit efficiently person to person. A pandemic is defined as an epidemic of a communicable disease with widespread prevalence throughout a country or around the world. The ability to detect, control and prevent the spread of influenza virus with pandemic potential has improved since the 1918 Spanish flu, 1957 Asian flu and 1968 Hong Kong flu pandemics that resulted in millions of deaths.

Toronto Public Health is the lead agency for City of Toronto Pandemic Influenza planning and response. Toronto Public Health has adopted a key stakeholder model for the development of the Toronto Plan, comprised of a large multi-sector steering committee and five workgroups. Planning was initiated in December 2002 but paused in 2003 due to the Severe Acute Respiratory Syndrome (SARS) emergency. TPH reconvened the Toronto Pandemic Influenza Steering Committee in January 2004, building on the lessons learned through SARS.

In its interim report, "SARS and Public Health in Ontario", the Campbell Commission acknowledges that when SARS hit, Ontario had no influenza pandemic plan, and was unprepared to deal with any major outbreak of infectious disease. Since then, federal and provincial pandemic influenza plans have been developed, and released, providing an overall planning framework for Toronto. The Toronto Pandemic Influenza Plan will be part of the Infectious Diseases Emergency Operating Procedures within the City of Toronto's Emergency Plan and its overall approach and objectives are aligned with those of the Provincial and Federal pandemic plans.

The Toronto Influenza Pandemic Plan will be an evolving document in the coming months and years. As planning continues at federal, provincial and local levels, updated information will be added to the plan. Subsequent amendments and additions will be released on the Toronto Public Health website. The Communicable Disease Control Service of Toronto Public Health will act as the custodian of the plan.

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Executive Summary

Preamble:

The Toronto Pandemic Influenza Plan is intended to be aligned with existing Provincial and Federal guidelines, regulations and directions. The plan is specific to pandemic influenza and is not applicable to the management of routine respiratory illnesses. The plan has been developed in accordance with the Canadian Pandemic Influenza Plan (2004), the Ontario Health Pandemic Influenza Plan (June 2005) and other key documents, expert opinion and stakeholder input.

Chapter 1 Planning Approach

The overall goals of the Toronto Pandemic Influenza Plan are to minimize illness and death and to reduce societal disruption resulting from an influenza pandemic. This is the first version of a Toronto Pandemic Influenza plan. The plan will be continuously revised and updated as new inputs are available.

Toronto Public Health initiated pandemic influenza planning in December 2002. In order to effectively plan for an emergency response, TPH sought input from key stakeholders in the health, emergency planning, social service, volunteer, community and business sectors. This approach has facilitated the development of working relationships and partnerships which are essential for an emergency response in the city. TPH recognizes that this first version of the plan is simply a starting point and that ongoing input from stakeholder sectors is needed.

An ethical framework for local decision-making and references to relevant legislative authority are also presented in Chapter 1.

Chapter 2 Pandemic Influenza

Influenza is a common virus that is present in our community primarily on a seasonal basis. A pandemic is a worldwide epidemic, which constitutes a global health emergency. Influenza pandemics have the capacity to cause serious mortality and morbidity as the population has little or no immunity to the circulating strains of influenza. Historically, influenza pandemics have occurred approximately every 35 – 40 years. Although there is no way to predict when the next influenza pandemic will occur, many health experts believe that it is overdue and planning should take place to deal with such an emergency.

Chapter 2 provides an overview of information about influenza, pandemics and the current concern re Avian Influenza in other parts of the world. The World Health Organization pandemic phases are reviewed, as well as the scope and impact of illness that is expected to occur in the City of Toronto.

Chapter 3 Roles and Responsibilities

All governments and all sectors have a role to play in preparing for, responding to and recovery from an influenza pandemic. It is critical that roles and responsibilities are clear and that there is good communication and coordination of efforts.

Planning and preparedness efforts are continuing at all levels of government. Current roles and responsibilities for the World Health Organization, Public Health Agency of Canada, Ministry of Health and Long Term Care and the City of Toronto are presented in Chapter 3.

The World Health Organization, Public Health Agency of Canada and the Ontario Ministry of Health and Long Term Care have all released influenza pandemic documents to guide the local planning process and to address prevention, preparedness and operational activities for an effective response and recovery. The overall goal of these plans is to minimize serious illness, death and societal disruption in the event of an influenza pandemic.

Chapter 4 Surveillance

The purpose of surveillance is to monitor and describe the threat of a novel strain of influenza, including but not limited to early identification of its introduction into Toronto and a description of its epidemiology.

Chapter 4 outlines the surveillance activities that are currently taking place or are being developed in the City of Toronto.

Chapter 5 Communications

Effective and timely communication is critical before, during and after an influenza pandemic.

Chapter 5 provides information about the role of communications and outlines the communication plans and activities TPH would use to provide timely, accurate and credible information to its staff, the public, provincial and federal governments, hospitals and other responding agencies.

Chapter 6 Emergency Planning

Emergency measures address coordination and preparation of services needed to maintain public safety and order during a pandemic. These include security for vaccine transportation and clinics, location and acquisition of space for clinics and emergency operations as required, volunteer management and mass fatality issues. As per the City of Toronto Emergency Plan, Toronto Public Health is the lead agency for Psychosocial Response and Recovery and Animal Protection Operational Support Functions (OSF). Shelter, Support and Housing Administration is the lead City agency for Donations and Volunteer Management and Mass Care OSFs. Toronto Police Services and Office of the Chief Coroner are the lead agencies for Mass Fatality OSF. Toronto Public Health will continue to support these agencies in the further development and operationalization of these components for the circumstances of pandemic influenza. Other key stakeholders include Office of Emergency Management, Corporate Security, Toronto Fire Services, Toronto Emergency Medical Services, other key City Divisions, Toronto Transit Commission, Canadian Red Cross, St. John Ambulance, Funeral Home Association, Ontario Hospital Association and the Greater Toronto Hotel Association.

Chapter 7 Health Services

The delivery of health care services in the City of Toronto will be greatly challenged throughout an influenza pandemic. Health care capacity issues are already significant and will be further stressed with health care provider absenteeism and the increased volume of patients seeking health care for influenza.

Chapter 7 addresses the issues that will be faced by the health care system during an influenza pandemic emergency response. A health care facility capacity survey completed by Toronto hospitals in 2004 confirmed that there is very little surge capacity available in the system. Human resource shortages will be a major issue during a pandemic emergency response.

Many of the health service issues require provincial planning direction e.g. hospital admission and discharge criteria, licensure issues for health care workers and triage guidelines. Consistency in the delivery of health care services across Toronto and the province of Ontario is essential. Toronto Public Health will continue to work with the provincial planning workgroups and key stakeholders to support local planning of Health Services.

Chapter 8 Public Health Measures

Public Health Measures are non-medical interventions that may be used to reduce the spread of the influenza virus. Public health measures include public education, case and contact management, community-based disease control strategies (i.e., social distancing, school closures and restriction/cancellation of large public gatherings), and travel restrictions and border measures. The type of public health measures used will depend on the epidemiology of the virus (e.g., pathogenicity, modes of transmission, incubation period, attack rate in different age groups, period of communicability, and susceptibility to antivirals).

Important decisions will be made about community-based disease control strategies aimed at minimizing the transmission of influenza in the community. The Medical Officer of Health in consultation with other levels of government will be responsible for decisions regarding the implementation of community-based disease control strategies in order to best protect the public.

Public health measures to curtail community transmission should be consistently applied within and across jurisdictions. The severity of the pandemic strain and the stage of the pandemic, as it unfolds globally, would be considered when making this determination.

Chapter 9 Vaccine and Antiviral Medications

The World Health Organization, the Public Health Agency of Canada and the Ontario Ministry of Health and Long-Term Care all agree that a monovalent influenza vaccine will be a powerful tool for reducing disease, death and societal disruption during an influenza pandemic. Antiviral medications will also play an important role in preventing and treating influenza illness during a pandemic.

During a pandemic, Toronto Public Health will serve as the primary coordinator for the distribution and administration of vaccine and distribution of antiviral medications in the City. As it is likely that the supply of both antiviral medications and vaccine will be limited during a pandemic, the distribution of both will be controlled by the Ontario government.

Recommendations for priority groups for vaccination and antiviral medications for both treatment and prophylaxis have been established in the Canadian Pandemic Plan and are further elaborated on in the Ontario Pandemic Plan. Implementation of the vaccine and antiviral medication distribution plan will require assessment of the product availability and the epidemiology of the disease. These recommendations will be used by Toronto Public Health to direct the distribution of stockpiled antiviral medications and distribution and administration of vaccine once it becomes available for Toronto residents.

Chapter 10 Infection Control

This chapter outlines the basic principles of infection control related to influenza. General information on influenza is presented, including modes of transmission, communicability, incubation period and symptoms. Infection control practices are outlined for the general public. In addition, infection control references for health care and community settings are provided. Adherence to infection control practices is essential to minimize the transmission of influenza. Frequent and careful hand washing is emphasized as a key infection control strategy and may be the only significant preventive measure available, particularly early in a pandemic.

Chapter 11 Self Care

Torontonians will need to have access to basic information for caring for individuals with influenza. This information may support caring for a family member or providing self care. The information provided in chapter 11 outlines measures to decrease the chance of catching influenza, how people will know if they have influenza and advice on basic care.

Chapter 1

Planning Approach

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1.0 Introduction

The overall goals of the Toronto Pandemic Influenza Plan are to minimize illness and death and to reduce societal disruption resulting from an influenza pandemic. This is the first version of a Toronto Pandemic Influenza plan. The plan will be continuously revised and updated as new inputs are available.

Toronto Public Health initiated pandemic influenza planning in December 2002. In order to effectively plan for an emergency response, TPH sought input from key stakeholders in the health, emergency planning, social service, volunteer, community and business sectors. This approach has facilitated the development of working relationships and partnerships which are essential for an emergency response in the city. TPH recognizes that this first version of the plan is simply a starting point and that ongoing input from stakeholder sectors is needed.

An ethical framework for local decision-making and references to relevant legislative authority are also presented in Chapter 1.

1.1 Purpose and Scope

The Toronto Pandemic Influenza Plan (TPIP) is a guide for responding to a pandemic influenza emergency at a local level.

TPIP has multiple target audiences and will be used by different sectors of the community in different ways. Target audiences include but are not limited to:

- TPH staff – the plan provides an overview of the activities that TPH staff will be involved in during the pandemic response and recovery phase.
- Other City divisions – the plan provides an overview of the roles and responsibilities of TPH during an influenza pandemic, as well as general information to support planning by other city divisions.
- Key planning stakeholders – the plan provides an overview of the planning activities to date, roles and responsibilities of stakeholders and next steps.
- Other stakeholders in Toronto – the plan provides general information which will allow local stakeholders to complete their own business continuity planning. Examples include:
 - health sector
 - community physicians
 - dentists, midwives, pharmacists
 - community health sector, laboratories
 - funeral, crematorium, and cemetery professionals

- homeless service providers
- community service providers
- business sector
- ethno-cultural and faith communities
- schools, universities/colleges
- day nurseries
- correctional facilities
- General public – provides general information and emergency planning that will be utilized during a pandemic (e.g. self care and infection control)

TPH is the lead agency for the City of Toronto pandemic influenza planning preparedness and response. Although local planning must be based on the federal and provincial plans, local contingency plans are required for surveillance, communications, health services, emergency measures and vaccine/antiviral medication administration and distribution.

At the beginning of the planning period, the Toronto Pandemic Influenza Steering Committee and subsequent workgroups identified specific goals and planning assumptions for each of the five workgroups. The planning approach undertaken has evolved and the outcomes have been outlined in the subsequent chapters. Next steps have been identified by other lead agencies and TPH.

The plan will continually be updated and revised as new information, directions or recommendations are made available. There are many gaps and areas for further development by the federal and provincial governments as well as locally. Next steps for all levels of government are identified throughout the plan.

The plan has been placed on the TPH web page (www.toronto.ca/health) in chapter format and will be updated regularly (updates will be indicated by dates). TPH will continue to develop and improve the plan in collaboration with other governments and local stakeholders. The release of this first version marks an important step in moving forward.

1.2 Goals of Pandemic Planning

The following goals were based on the Canadian Pandemic Influenza Plan (CPIP) and the Ontario Health Pandemic Plan (OHPPI).

1. To reduce the morbidity and mortality associated with detection of a novel and virulent strain of influenza.
2. To minimize societal disruption during pandemic influenza in the City of Toronto.

1.3 Objectives

The following objectives were developed for the Toronto Pandemic Influenza Plan and the planning approach.

1. To coordinate the City of Toronto response to pandemic influenza.
2. To define and recommend preparedness activities that should be undertaken before a pandemic occurs that will enhance the effectiveness of a pandemic response.
3. To make recommendations on interventions that should be implemented as components of an effective pandemic influenza response.
4. To develop a plan that can be adapted for other public health emergencies (e.g. smallpox).
5. To develop community linkages and effective working partnerships with key stakeholders that will improve the city's preparedness for any public health emergency.

6. To work collaboratively with the provincial and federal levels in pandemic influenza planning and to clarify roles, responsibilities and actions.
7. To support provincial and federal planning initiatives by being represented on planning workgroups and steering committees.

1.4 General Planning Assumptions

Although there is agreement with the planning assumptions of the federal and provincial plans, the TPIP has adapted the following general assumptions:

- Toronto Pandemic Influenza Plan will be an evolving document that continues to build as local, provincial and federal planning proceeds.
- Pandemic influenza will simultaneously affect the City of Toronto and the Province of Ontario.
- Pandemic influenza will be caused by a new or novel sub-type of influenza A virus.
- Toronto will likely have very little lead time between when WHO declares pandemic phase 6 and when the novel pandemic influenza strain is identified in Toronto.
- The impact of illness upon Torontonians will be significant. There will be an attack rate of 15 - 35% during the first wave.
- There will be multiple waves of influenza pandemic activity.
- More severe illness and mortality than the usual seasonal influenza is likely in all population groups though the specific pandemic epidemiology will not be known until the pandemic virus emerges.
- Children and otherwise healthy adults may be at greater risk because elderly adults may have some residual immunity from exposure to a similar virus earlier in their lives if the pandemic is caused by a recycled influenza strain
- Critical community services may need to be curtailed, consolidated, or suspended due to widespread absenteeism in the workplace.
- Supply chains are likely to be disrupted.
- The Incident Management System will be implemented in pandemic alert phase 5 and utilized as the model for emergency response.

Workgroup-specific planning assumptions are identified later in this chapter.

2.0 Stakeholder Model of Planning

Toronto Public Health adopted a key stakeholder model approach for the development of this plan. A steering committee and five workgroups were formed, each with community stakeholder and Toronto Public Health representation. Planning was initiated in December 2002 but was paused during the SARS emergency in 2003. Planning recommenced in January 2004. A membership list of steering committee and workshop members is located in Appendix 2.

2.1 Steering Committee Membership

The Toronto Pandemic Influenza Steering Committee consists of representatives from the following organizations:

- Canadian Red Cross
- City of Toronto - Emergency Medical Services
- City of Toronto - Fire Services
- City of Toronto - Legal
- City of Toronto - Shelter, Housing and Support Services
- City of Toronto - Works and Emergency Services
- Kane Funeral Home
- Ministry of Health and Long-Term Care – Community Health Branch

- Ministry of Health and Long-Term Care -Laboratory Services Branch
- Mount Sinai Hospital
- Office of the Chief Coroner
- Ontario Hospital Association
- Shared Health Supply Services
- Sunnybrook and Women's College Health Sciences Centre
- The Scarborough Hospital
- Toronto and District Funeral Directors Inc.
- Toronto Community Care Access Centre
- Toronto District Health Council
- Toronto East General Hospital
- City of Toronto - Office of Emergency Management
- Toronto Police Service
- City of Toronto - Toronto Public Health
- University Health Network

Goal of the Steering Committee:

- To provide expertise and direction for the development of a pandemic influenza plan for the City of Toronto.

Objectives of the Steering Committee:

- To provide expert advice and liaise with workgroups to ensure readiness for an pandemic influenza.
- To ensure that a plan is created and kept up-to-date through liaison with those necessary to carry out the overall plan.
- To liaise with appropriate external agencies (neighboring health units, provincial and federal governments) to coordinate activities, receive advice, support, and assistance.
- To detail the decision making process for various functions for each pandemic influenza phase.

2.2 Workgroups

Five workgroups were formed with multiple stakeholder representatives to support planning for laboratory and surveillance, communications, emergency measures, health services and vaccine and antiviral medication.

Each workgroup developed planning goals and assumptions at the outset of the process. Some of the goals have been achieved, while others will require development in the next steps of the planning process

1. Laboratory and Surveillance Workgroup

The Laboratory and Surveillance Workgroup developed a plan regarding the collection, analysis and dissemination of influenza activity and trend data during all phases of a pandemic. Key stakeholder membership on this workgroup included the Ontario Public Health Laboratory, Toronto Fire Services, Ontario Association of Medical Laboratories, Toronto Police Services, Toronto Emergency Medical Services, Toronto Practitioners in Infection Control and hospital representatives. See Chapter 4 for the details of the Laboratory and Surveillance Plan.

Planning Goals

- To monitor the introduction and progression of influenza illness in Toronto – before, during, and after a pandemic.
- To detect influenza-related activities outside of Toronto that may pose a future threat.
- To strengthen disease-based reporting of influenza activity and augment it with data that is syndrome-based.
- To effectively characterize Toronto influenza trends and detects unusual activities or clusters of events in a timely way (through the development and use of epidemiologic data analysis tools).
- To share surveillance data with health and other colleagues at all levels e.g. homeless service providers.

Planning Assumptions

- Existence of a pandemic strain in the Province of Ontario will be declared by the Provincial Chief Medical Officer of Health.
- Influenza pandemic will likely start outside of Toronto.
- Illness from the pandemic strain of influenza will likely present with classic influenza-like illness (ILI) symptoms.
- The strains will spread via the same mode of transmission and at a similar rate as the influenza we currently experience.
- Labs will have the ability to detect and confirm the new strain by the time it gets to Toronto.
- Surveillance data are most useful before, during the entry and early spread of a pandemic strain; this data may not be available during the height of a pandemic.
- Standard non-influenza related disease surveillance reports may be suspended at the start of a pandemic. As the pandemic moves through the population in phase 6, reports summarizing influenza-related morbidity data will be suspended and only mortality data will be collected.

2. Communications Workgroup

The Communications Workgroup has developed a communications plan and educational tools in collaboration with the province and key stakeholders. This includes information materials for the public, media and for TPH staff. Public information will be available in multiple languages and key messages will be developed for specific audiences (e.g. health care workers, city staff, and schools). TPH will continue to link with the Provincial Communications Subcommittee as communication mechanisms and strategies are being developed. See Chapter 5 for the details of the Communications Plan.

Planning Goals

To develop a communications plan that provides ongoing information on the state of pandemic and the needed protective measures and resources in the event of a pandemic. The goals are as follows:

- To inform and educate staff, the public, health care professionals, partner organizations, media and other key audiences about potential public health risks and how to respond before, during, and after a pandemic, without causing alarm.
- To provide a vehicle designed to promote public confidence and order.
- To identify and develop messages and accessible materials for key audience needs and interests before, during and after a pandemic emergency response.
- To use the Incident Management System with the City and other responding agencies to ensure coordinated protocols and communications response.

Planning Assumptions

- There may be widespread societal anxiety with unprecedented demand for timely, detailed information from a trusted source.
- Communication messages and activities from TPH will need to address the multicultural/multilingual population of Toronto.
- The plan will need to be multifaceted utilizing a variety of channels to reach the general population and target populations (e.g. website, hotline, fact sheets, question and answers, etc).
- Target populations may change throughout the pandemic phases.
- Linkages will need to be maintained with internal/external stakeholders.
- There will need to be a consistent communications approach and strategies must be aligned federally, provincially, locally and with Corporate Communications at the City of Toronto.

3. Emergency Measures Workgroup

The Emergency Measures Workgroup addressed the coordination and preparation of services needed to maintain public safety and order during a pandemic. This included security for vaccine transportation and clinics, location and acquisition of city space as required, coordination of volunteer management, death care issues and the development of a mass fatality plan. Key stakeholder membership on this workgroup included Toronto Police Services, Toronto Fire Services, Toronto Emergency Medical Services, Toronto Transit Commission, Office of Emergency Management, Corporate Security, Canadian Red Cross, St. John Ambulance, Toronto Children's Services, Office of the Chief Coroner, Funeral Home Association, Ontario Hospital Association and the Greater Toronto Hotel Association. See Chapter 6 for the details of the Emergency Measures Plan.

Planning Goals

To ensure coordination and preparation of services needed to maintain public order and safety during a pandemic influenza emergency. The goals are as follows:

- To develop strategies to ensure coordinated provision of essential services.
- To provide secure transport of vaccine and antiviral medications.
- To control traffic and public order, security and safety at health care facility sites (and those designated as alternative sites, if applicable).
- To monitor food and water supply.
- To manage emergency housing, child care, home care, and other programs that may need to be set up.
- To recruit volunteers, if needed.
- To develop a plan for mass fatalities.
- To develop business continuity plans.
- To develop community-based control strategies to slow transmission of influenza or lessen the impact on Toronto.
- To develop triggers/criteria for the implementation of public health measures.
- To support stakeholders by developing a plan of public health measures to consider during interpandemic/pandemic alert phases.
- To support the business sector in developing business continuity plans by providing health-related information about pandemic influenza.
- To support the business sector in minimizing illness in employees by providing information about infection control measures.

Planning Assumptions

- TPH will implement Public Health Measures.
- A consistent and coordinated approach to the initiation of public health measures in the community across the province will be more effective. Therefore, TPH will continue to work with federal and provincial planning workgroups to develop public health measure strategies.
- TPH will involve local stakeholders in developing public health measures plans, whenever appropriate.
- Businesses in the City of Toronto will experience significant disruption as a result of such issues as employee absenteeism, loss/reduction of customers, etc.
- Each business in the City of Toronto has capacity and expertise to develop their own continuity plans. Toronto Public Health's role will focus on the provision of current, accurate health-related information.

4. Health Services Workgroup

The Health Services Workgroup focused on assessment of health care needs within Toronto during a pandemic and the development of plans for addressing these through working with key stakeholders. This included the identification and consideration of resource issues (human, space, equipment, transportation, supply chain etc.). Key stakeholder membership on this workgroup included hospital representatives, Toronto Fire Services, Community Care Access Centres, Ontario Hospital Association, equipment suppliers, MOHLTC and the Toronto District Health Council. See Chapter 7 for the details of the Health Services Plan.

Planning Goals

To assess health care needs during pandemic influenza and to develop plans for alternative health care facilities and providers. The goals are as follows:

- To develop an inventory of existing surge capacity at the local level and compare this to need.
- To identify possible alternative health care facilities, role and resources to meet gaps.
- To identify alternate human resources, including health care providers, from volunteer and other agencies and potential training needs.
- To develop and disseminate infection control policies and procedures for pandemic influenza to cover the spectrum of facilities and community, including occupational health and safety.

Planning Assumptions

- The health care system may be overwhelmed and care will be provided by persons doing work that is not normally part of their daily activities, in settings not usually used for health care.
- Health care services in Toronto are currently working at or near capacity and pandemic influenza may overwhelm the system quickly.

5. Vaccine/Antiviral Workgroup

The Vaccine and Antiviral Workgroup has developed a plan for the distribution of and access to vaccine and antiviral medication within Toronto. This was done in collaboration with the provincial vaccine/antiviral planning workgroup as well as the Greater Toronto Area Pandemic Planners. Key stakeholder membership on this workgroup included hospital representatives, the Ontario Long Term Care Association, the Ontario Pharmacists Association, the College of Family Physicians, Toronto Emergency Medical Services and the MOHLTC. See Chapter 9 for the details of the vaccine/antiviral plan.

Planning Goals

To develop a plan for the distribution of and access to vaccine and antiviral medication in the City of Toronto. The goals are as follows:

- To acquire, distribute and administer safe and effective vaccine and antiviral medications as rapidly as possible to the appropriate groups of people in Toronto.
- To implement priority groups for distribution and administration of vaccine and antiviral medications for Toronto as outlined in the Ontario Health Pandemic Influenza Plan (OHP/IP).
- To reduce influenza-related illness and death.
- To minimize societal disruption.
- To develop a system for monitoring adverse events to vaccine.
- To control outbreaks in closed populations, until they can be vaccinated e.g. long-term care homes.
- To treat seriously ill patients.
- To create, or access, a stockpile of antiviral medications.
- To ensure a secure and effective mechanism for distribution of vaccine and antiviral medications.
- To enumerate the number of individuals within each of the priority groups for both vaccine and antiviral medications identified by the OHP/IP in Toronto.
- To determine the responsibility for the administration of vaccine and antiviral medications to each group identified in the OHP/IP in Toronto.
- To assess the need for antiviral medications and the creation of, or access to, a stockpile of antiviral medications.

Planning Assumptions

- Vaccine for the novel strain of influenza will not be available when the first wave of pandemic influenza strikes Toronto.
- All persons will lack previous exposure to the novel strain of influenza and will require two doses of vaccine.
- 75% of Canadians will voluntarily seek vaccination.
- Security of vaccine/antiviral supplies will be critical.
- A well matched vaccine will be 70-90% effective in healthy adults
- Antiviral medication will be available prior to the development of an effective vaccine – planning for the distribution and administration of antiviral medication is not yet complete

Next Steps

The Steering Committee and workgroup structure will be replaced in early 2006 by a small advisory group and a larger reference group.

The Advisory Group will consist of 9-10 key stakeholders and TPH staff. Representation will include the following sectors: Public Health; Hospital (e.g. infectious disease/infection control specialist, hospital administration), Long Term Care; Community Health (e.g. family physician, community health centre); Laboratory; and Funeral Home.

The terms of reference of the Advisory Group will be to:

- Update/revise the Toronto Pandemic Influenza Plan as new information is available.
- Continue to monitor federal and provincial pandemic influenza planning developments and advocate for local planning needs.
- Provide advice on policy issues to TPH and key stakeholders during each phase of the pandemic response.

All stakeholders who have participated on the Steering Committee, workgroups or Planning Guides will be invited to join a larger reference group. This group is expected to meet on a bi-annual/annual basis. The purpose of this group will be to:

- Continue to support the development of partnerships and effective working relationships.
- Share updates to the Toronto Pandemic Influenza Plan, as well as federal and provincial planning developments.
- Share other relevant information/developments depending on the World Health Organization phase response level at the time.

Additional stakeholder consultation is required as planning continues, in order to involve additional stakeholders in sector-specific planning. This may be done by larger reference group meetings or sector-specific focus groups in 2006. These groups include but are not limited to:

- Community physicians
- Dentists
- Pharmacists
- Midwives
- Business community e.g. Board of Trade, hospitality industry, food distribution supply chain
- Ethno-cultural and faith communities

3.0 Ethical Framework for Pandemic Influenza Planning, Response and Recovery

All governments will have to make difficult decisions using an ethical framework. Ethical considerations include honesty and transparency with clear reasons provided for decisions related to the allocation or prioritization of scarce resources e.g. access to vaccine and antiviral medications.

There should be stakeholder involvement in the decision-making process, with clear, accurate communication.

The following table outlines how the Toronto Pandemic Influenza Plan has adopted the Ethical Framework for Decision Making as outlined in the Ontario Health Pandemic Influenza Plan.

Decision Making Principle	Toronto’s Approach
<p>Open and transparent - The process by which decisions are made must be open to scrutiny and the basis should be explained.</p>	<p>The pandemic influenza plan for the City of Toronto was developed by the Toronto Pandemic Influenza Steering Committee and the following workgroups:</p> <ul style="list-style-type: none"> ▪ Communications ▪ Emergency Measures ▪ Health Services ▪ Laboratory and Surveillance ▪ Vaccine/Antiviral medications <p>Community stakeholder participation was an important component throughout the entire planning process. However, much remains to be done. Further outreach/consultation with stakeholders is needed. Feedback forms are in place to allow comments on this version of the TPIP.</p>

Decision Making Principle	Toronto's Approach
<p>Reasonable - Decisions should be based on reasons (i.e., evidence, principles, and values) and be made by people who are credible and accountable.</p>	<p>The TPIP is closely aligned with direction provided in the federal and provincial pandemic influenza plans. Decisions made were based on input from:</p> <ul style="list-style-type: none"> ▪ Steering Committee members, ▪ Workgroup members, ▪ Other sector-specific stakeholders, ▪ Infectious disease/infection control experts, current literature ▪ Medical Officer of Health & Associate Medical Officers of Health
<p>Inclusive - Decisions should be made explicitly with stakeholder views in mind and stakeholders should have opportunities to be engaged in the decision-making process.</p>	<p>TPH has adopted a key stakeholder model for the development of a comprehensive approach to planning, response and recovery from pandemic influenza. Input from stakeholders in the health, emergency planning, social, volunteer, community and business sectors was provided and will continue with further local planning.</p>
<p>Responsive - Decisions should be revisited and revised as new information emerges, and stakeholders should have opportunities to voice any concerns they have about the decisions (i.e., dispute and complaint mechanism)</p>	<p>TPIP will continue to be developed, enhanced and revised as new information emerges from the federal and provincial plans with on-going stakeholder input. Opportunities for input will continue through larger reference groups, focus groups for sector-specific consultations, etc</p>
<p>Accountable- There should be mechanisms to ensure that ethical decision-making is sustained throughout the pandemic.</p>	<p>Mechanisms will be developed to ensure accountability throughout the pandemic.</p>

Toronto's response to an influenza pandemic will be based on the following core ethical values as outlined in the OHPIP.

Core Ethical Values	Toronto's Approach
<p>Individual Liberty – may be restricted in order to protect the public from serious harm.</p>	<p>Restrictions to individual liberty will:</p> <ul style="list-style-type: none"> ▪ Be proportional to the risk of public harm ▪ Be necessary and relevant to protecting the public good ▪ Employ the least restrictive means necessary to achieve public health goals ▪ Be applied without discrimination
<p>Protection of the Public from Harm – public measures may be implemented to protect the public from harm.</p>	<p>Protective measures will:</p> <ul style="list-style-type: none"> ▪ Weigh the benefits of protecting the public from harm against the loss of liberty of some individuals (e.g., isolation) ▪ Ensure all stakeholders are aware of the medical and moral reasons for the measures, the benefits of complying, and the consequences of not complying ▪ Establish mechanisms to review decisions as the situation changes and to address stakeholder concerns and complaints

Core Ethical Values	Toronto's Approach
<p>Proportionality – restrictions on individual liberty and measures taken should not exceed the minimum required to address the level of risk or community needs</p>	<p>Toronto will:</p> <ul style="list-style-type: none"> ▪ Use the least restrictive or coercive measure possible when limiting or restricting liberties or entitlements ▪ Use more coercive measures only in circumstances where less restrictive means have failed to achieve appropriate public health ends
<p>Privacy – individuals have a right to privacy, including the privacy of their health information.</p>	<p>Toronto will:</p> <ul style="list-style-type: none"> ▪ Determine whether the good intended is significant enough to justify the potential harm of suspending privacy rights (e.g., potential stigmatization of individuals and communities) ▪ Require private information only if there are no less intrusive means to protect health ▪ Limit any disclosure to only that information required to achieve legitimate public health goals ▪ Take steps to prevent stigmatization (e.g., public education to correct misperceptions about disease transmission).
<p>Equity – All patients have an equal claim to receive the health care they need, and health care institutions are obligated to ensure sufficient supply of health services and materials. During a pandemic, tough decisions may have to be made about who will receive antiviral medication and vaccinations, and which health services will be temporarily suspended.</p>	<p>Toronto will:</p> <ul style="list-style-type: none"> ▪ Strive to preserve as much equity as possible between the needs of influenza patients and patients who need urgent treatment for other diseases ▪ Establish fair decision-making processes/criteria identify diversity and respect wherever possible ethno-cultural-faith practice
<p>Duty to Provide Care – Health care workers have an ethical duty to provide care and respond to suffering. During a pandemic, demands for care may overwhelm health care workers and their institutions, and create challenges related to resources, practice, liability and workplace safety. Health care workers may have to weigh their duty to provide care against competing obligations (i.e., to their own health, family and friends). When providers cannot provide appropriate care because of constraints caused by the pandemic, they may be faced with moral dilemmas.</p>	<p>To support providers in their efforts to discharge their duty to provide care, Ontario and/or Toronto will:</p> <ul style="list-style-type: none"> ▪ Work collaboratively with stakeholders, regulatory colleges and labour associations to establish practice guidelines ▪ Work collaboratively with stakeholders, including labour associations, to establish fair dispute resolution processes ▪ Strive to ensure the appropriate supports are in place (e.g., resources, supplies, equipment) ▪ Develop a mechanism for provider complaints and claims for work exemptions
<p>Reciprocity – Society has an ethical responsibility to support those who face a disproportionate burden in protecting the public good. During a pandemic, the greatest burden will fall on public health practitioners, other health care workers, patients, and their families. Health care workers will be asked to take on expanded duties. They may be exposed to greater risk in the workplace, suffer</p>	<p>Decision-makers will:</p> <ul style="list-style-type: none"> ▪ Take steps to ease the burdens of health care workers, patients, and patients' families

Core Ethical Values	Toronto's Approach
physical and emotional stress, and be isolated from peers and family. Individuals who are isolated may experience significant social, economic, and emotional burdens.	
Trust – trust is an essential part of the relationship between government and citizens, between health care workers and patients, between organizations and their staff, between the public and health care workers, and among organizations within a health system. During a pandemic, some people may perceive measures to protect the public from harm (e.g., limiting access to certain health services) as a betrayal of trust.	In order to maintain trust during a pandemic, decision-makers will: <ul style="list-style-type: none"> ▪ Take steps to build trust with stakeholders before the pandemic occurs (i.e., engage stakeholders early) ▪ Ensure decisions-making processes are ethical and transparent
Solidarity – an influenza pandemic will require solidarity among community, health care institutions, public health units, and government.	Solidarity requires good communication and open collaboration within and between these stakeholders to share information and coordinate health care delivery.
Stewardship – in our society, both institutions and individuals will be entrusted with governance over scarce resources, such as vaccines, ventilators, hospital beds and even health workers. Those entrusted with governance should be guided by the notion of stewardship, which includes protecting and developing one's resources, and being accountable for public well-being.	To ensure good stewardship of scarce resources, decision-makers will: <ul style="list-style-type: none"> ▪ Consider both the benefit to the public good and equity (i.e., fair distribution of both benefits and burdens).

4.0 Legal/Legislative Framework

Actions taken during an emergency response must be guided by the legal/legislative framework which gives authority to the city, public health and others for their actions. If interventions such as quarantine or isolation are used during a pandemic emergency, they can pose an unusual burden on members of society and social distancing for disease containment such as school closures or limiting large public gatherings. Consideration must also be given to how best to address individuals unwilling or unable to be effectively quarantined or isolated. This would include those in homeless shelters, rooming houses, school residences and correctional facilities. Legal authority must be considered in every component of pandemic planning.

It is anticipated that the following statutes will play a role and provide legal authority to respond to pandemic influenza at the local level:

- Health Promotion and Protection Act R.S.O. 1990 c. H. 7 (HPPA)
- Emergency Management Act R.S. O. 1990, c. E. 9
- Personal Health Information Protection Act, 2004 S.O. 2004, c. 3 Sched. A (PHIPA)
- Quarantine Act R.S.C. 1985, c. Q-1

- City of Toronto Municipal Code Chapter 59, Emergency Planning
- Coroners Act R.S.O. 1990 c. C.37
- Occupational Health and Safety Act R.S.O. 1990 c.O.1

Health Promotion and Protection Act

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90h07_e.htm)

In Ontario, the Health Protection and Promotion Act requires Boards of Health to provide or ensure provision of a minimum level of public health programs and services in specified areas such as the control of infectious and reportable diseases, health promotion, health protection and disease prevention. Mandatory Health Programs and Services Guidelines published by the Minister of Health and Long-Term Care, set out minimum standards that must be met by Boards of Health delivering these public health programs and services.

Regulations published under the authority to the HPPA assist to control the spread of communicable and reportable diseases. Regulation 569, Reports, (http://www.e-laws.gov.on.ca/DBLaws/Regs/English/900569_e.htm) establishes the parameters within which those who are required to report communicable and reportable diseases to the Medical Officer of Health must operate. The Report regulation specifies the information that must be reported for diseases listed in the regulation and under certain conditions, such additional information that the Medical Officer of Health may require.

A medical officer of health is authorized under section 22 of the HPPA to issue an order under prescribed conditions to control communicable diseases. The content of these orders could include to an order requiring an individual to isolate himself or herself, to place himself or herself under the care and treatment of a physician (if the disease is a virulent disease, as defined in the HPPA) or to submit to an examination by a physician.

A medical officer of health may also, under certain conditions, seek a court order under section 35 of the HPPA to isolate an individual in a hospital or other facility for a period of up to four months.

Emergency Management Act

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90e09_e.htm

The Emergency Management Act establishes the requirements for emergency management programs and emergency plans in the Province of Ontario. The Act specifies what must be included in emergency management programs and emergency plans. Municipal councils are required to adopt emergency plans by by-law.

Personal Health Information Protection Act, 2004 (PHIPA)

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/04p03_e.htm

PHIPA regulates the collection, use and disclosure of personal health information by health information custodians (a defined term in the Act) and includes physicians, hospitals, long term care facilities, medical officers of health and the Ministry of Health and Long term Care. The Act also establishes rules for individuals and organizations receiving personal information from health information custodians. Consent is generally required to collect, use and disclose personal health information however, the Act specifies certain circumstances when it is not required. For example, the Act permits disclosure of personal health information to the Chief Medical Officer of Health or medical officer of health without the consent of the individual to whom the information relates where the disclosure is for a purpose of the Health Protection and Promotion Act. Disclosure of personal health information without consent is also permitted for the purpose of eliminating or reducing a significant risk of serious bodily harm to a person or group of persons.

Quarantine Act

<http://laws.justice.gc.ca/en/Q-1/index.html>

The purpose of the federal Quarantine Act is to prevent the introduction and spread of communicable diseases in Canada. It is applicable to persons and conveyances arriving in or in the process of departing from Canada. It includes a number of measures to prevent the spread of dangerous, infectious and contagious diseases including the authority to screen, examine and detain arriving and departing individuals, conveyances and their goods and cargo, which may be a public health risk to Canadians and those beyond Canadian borders.

Bill C-12, the new Quarantine Act, received Royal Assent on May 12, 2005. The new Act will not come into force until quarantine regulations have been drafted, likely by the fall of 2006. The new legislation updates and expands the existing legislation to include contemporary public health measures including referral to public health authorities, detention, treatment and disinfection. It also includes measures for collecting and disclosing personal information if it is necessary to prevent the spread of a communicable disease.

City of Toronto Municipal Code Chapter 59, Emergency Planning

http://www.toronto.ca/legdocs/municode/1184_059.pdf

As required by the provincial Emergency Management Act, the City of Toronto has developed an emergency plan and an emergency program, both of which have been adopted by by-law. The plan and the program are set out in Chapter 59, Emergency Planning, of the City of Toronto Municipal Code. The plan is implemented in the event of an emergency which is defined as a situation or an impending situation caused by the forces of nature, an accident, and an intentional act or otherwise that constitutes a danger of major proportions to life or property.

Coroners Act

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90c37_e.htm

Where a person dies while a resident in specified facilities including, a resident in a home for the aged or a nursing home, a psychiatric facility or an institution under the Mental Hospitals Act the Coroners Act requires the person in charge of the hospital, facility or institution to immediately give notice of the death to the Coroner. Further, if any person believes that a person has died under circumstances that may require investigation that person must immediately notify a coroner or police officer of the facts and circumstances relating to the death. The Coroner must investigate the circumstances of the death and determine whether to hold an inquest.

Occupational Health and Safety Act

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90o01_e.htm

The Occupational Health and Safety Act is enforced by the Ministry of Labour. The Act imposes a general duty on employers to take all reasonable precautions to protect the health and safety of workers. The duties of workers are, generally, to work safely in accordance with the Act and regulations.

Other Legislative References

Ambulance Act, 1990.

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90a19_e.htm

Public Hospitals Act, 1990.

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90p40_e.htm

Private Hospitals Act, 1990.

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90p24_e.htm

Nursing Homes Act, 1990.

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90n07_e.htm

Charitable Institutions Act, 1990.

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90c09_e.htm

Homes for the Aged and Rest Homes Act, 1990.

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90h13_e.htm

Health Facilities Special Orders Act, 1990.

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90h05_e.htm

Long-Term Care Act, 1994.

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/94l26_e.htm

Community Care Access Corporations Act, 2001.

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/01c33_e.htm

Regulated Health Professions Act, 1991 (RHPA)

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/91r18_e.htm

Medicine Act, 1991.

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/91m30_e.htm

Nursing Act, 1991.

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/91n32_e.htm

Medical Laboratory Technology Act, 1991.

http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/91m28_e.htm

Health Care and Residential Facilities Regulation

http://www.e-laws.gov.on.ca/DBLaws/Regs/English/930067_e.htm

Chapter 2 Pandemic Influenza - General Information

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1.0 Introduction

Influenza is a common virus that is present in our community primarily on a seasonal basis. A pandemic is a worldwide epidemic, which constitutes a global health emergency. Influenza pandemics have the capacity to cause serious mortality and morbidity as the population has little or no immunity to the circulating strains of influenza. Historically, influenza pandemics have occurred approximately every 35 – 40 years. Although there is no way to predict when the next influenza pandemic will occur, many health experts believe that it is overdue and planning should take place to deal with such an emergency.

Chapter 2 provides an overview of information about influenza, pandemics and the current concern re Avian Influenza in other parts of the world. The World Health Organization pandemic phases are reviewed, as well as the scope and impact of illness that is expected to occur in the City of Toronto.

2.0 What is Influenza?

Influenza, 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. Influenza A viruses are sub-typed according to two proteins on the surface of the virus- hemagglutinin (H) and neuraminidase (N). Sixteen different H sub-types and nine different N sub-types have been identified. Influenza A and B cause seasonal influenza. Only influenza A is associated with pandemics.

The vast majority of influenza is 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 eyes 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, this can occur by shaking hands with someone who has infectious mouth or nose secretions on their hands. Please see chapter 11 for more information on influenza modes of transmission.

For most adults, the period of communicability is from 24 hours before and up to 3-5 days after symptoms develop. Children and some adults may be infectious for 7 or more days after the onset of symptoms. The incubation period is 1 to 3 days.

Humans are the primary source for human infections. However birds and mammals such as swine can provide sources of new human sub-types of influenza virus.

About half of the influenza infections are asymptomatic, with the other half showing a spectrum of symptoms from mild to severe. These include:

- Sudden onset of fever, headache, chills, muscle aches, physical exhaustion and a dry cough.
- Subsequent onset of sore throat, stuffy or runny nose and worsening cough.
- Children may also feel sick to their stomach, vomit or have diarrhea.
- Elderly and immune compromised people may not develop a fever.
- Most people recover in 7-10 days.

These symptoms are non-specific and may be caused by other viruses or bacteria. Diagnosis of influenza cases depends on laboratory testing and epidemiological characteristics.

For most people, this 'seasonal' flu is not life threatening. The most seriously affected are young children (less than 2 years old), people with chronic medical conditions, and the elderly. Specifically, they are at increased risk for developing complications, such as pneumonia, which can be fatal. In Toronto, there is an average of 30 (range 0 to 91 deaths per year) influenza-related deaths and 43 confirmed institutional influenza outbreaks each year (based on data from the 2000/01 to 2004/05 influenza seasons).

The influenza virus is constantly changing and mutating. This usually results in minor changes ("antigenic drifts") in the virus protein structure, which cause influenza illness and outbreaks every winter (November to April). A new vaccine is developed every year based on current and emerging viral strains identified through worldwide disease surveillance.

3.0 What is an Influenza Pandemic?

An influenza pandemic occurs when there is an abrupt and major change in protein structure of the Influenza A virus resulting in a new subtype. This is known as an 'antigenic shift'. This change may occur in two ways. When two viruses infect the same cell, they may share genetic material (reassortment) and result in a new human virus. Alternatively, a virus may undergo random mutation resulting in an adaptive form more likely to survive in the host. This second type of change may occur during sequential infection of humans and other mammals and lead to a virus more efficiently transmitted amongst humans.

The conditions for the development of a pandemic include:

- Emergence of a novel Influenza A subtype as a result of an antigenic shift.
- Efficient and sustained person to person viral transmission.
- High proportion of susceptible people in the population with little or no immunity.
- New virus has capacity to cause serious clinical illness and death.

Since people have little or no immunity to this new strain, it can spread quickly causing outbreaks in one or more countries or worldwide. This is called a pandemic. The exact nature of the pandemic virus (e.g. virulence, presentation, periods of incubation, transmissibility and routes of transmission) and illness will not be known until it emerges.

4.0 How often do Influenza Pandemics Occur?

From historical records, we know that a pandemic strain of influenza tends to emerge 3 or 4 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.

5.0 What is the Difference between Seasonal Influenza and Pandemic Influenza?

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

Seasonal flu	Pandemic flu
Occurs every year (October to April)	Occurred 3 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. Due to the higher severity of illness, there is greater risk of death
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 vaccinated when vaccine 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 to best effect according to how the disease develops

Adopted from:

Department of Health (England) "Pandemic Flu: Frequently Asked Questions" October 19 2005
<http://www.dh.gov.uk>

Ministry of Health and Long Term Care "Differences between seasonal or "annual" influenza and the influenza pandemic" Fact Sheet

6.0 What is Avian Influenza?

Avian influenza or "bird flu" is a contagious disease of animals, caused by viruses that normally infect only birds and less commonly pigs. Avian influenza viruses are highly species specific but 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, distinguished by low (ruffled feathers, decreased egg production) and high (rapid spread with high mortality) pathogenicity.

The H5N1 subtype that is currently circulating in Asia and parts of Europe is a highly pathogenic form. The subtype has infected humans and resulted in a high mortality rate. Although rare, there have been instances of human-to-human transmission of H5N1. In addition there is a possibility that if the virus is given enough opportunities it will change to a form that is highly infectious for humans and spread easily from person-to-person. Such a change could mark the start of a pandemic. Current strains of avian influenza will not necessarily become a pandemic strain. The next influenza pandemic could arise from a different influenza virus.

For current information on human cases of avian influenza please refer to the World Health Organization website at:
http://www.who.int/csr/disease/avian_influenza/country/cases_table_2005_10_20/en/. For additional information on avian influenza, refer to the Public Health Agency of Canada website at http://www.phac-aspc.gc.ca/influenza/avian_e.html

7.0 World Health Organization Alert Phases

The backbone of pandemic planning is the World Health Organization (WHO) Classification System, developed in 1999 and revised in April 2005. The WHO phases are meant to guide planning efforts and are incorporated into the federal, Ontario and Toronto plans. The WHO will identify which phase is currently occurring internationally and will declare the beginning of a pandemic. The Public Health Agency of Canada (PHAC) and the Ministry of Health and Long-Term Care will declare the beginning of the pandemic period in Canada and Ontario, respectively.

The following table identifies the WHO Pandemic Phase Model:

World Health Organization Pandemic Phases

Interpandemic Period*	Phase 1 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.
	Phase 2 No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.
Pandemic Alert Period**	Phase 3 Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact.
	Phase 4. Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.
	Phase 5 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	Phase 6 Pandemic phase: increased and sustained transmission in general population
Postpandemic Period	Return to interpandemic period.

*The distinction between phase 1 and phase 2 is based on the risk of infection or disease from circulating strains in animals.

** The distinction between phase 3, phase 4 and phase 5 is based on the risk of a pandemic

8.0 Health Impact of Pandemic Influenza on the City of Toronto

Unlike Severe Acute Respiratory Syndrome (SARS), where disease transmission was primarily confined to hospitals and close household contacts, an influenza pandemic will spread quickly throughout the general community.

According to the Canadian Pandemic Influenza Plan (CPIP), during a 'normal' influenza epidemic (occurring every winter in North America), an average of 5% to 20% of the public becomes ill. The highest rates of infection and clinical illness occur in children but serious complications and death occur mainly in the elderly. Pandemic influenza can lead to as many as 15% to 35% of the population becoming ill. According to the Canadian Pandemic Influenza Plan (CPIP), previous influenza pandemics have observed multiple waves. The duration of each pandemic influenza wave is likely to be six to eight weeks in length.

In order to plan for a pandemic effectively, estimates of illness and deaths have been developed based on a Centers for Disease Control model.

Planning for pandemic influenza uses estimates of morbidity and mortality based on 15% to 35% attack rates. When a pandemic begins, epidemiological data will provide more specific information and the impact on the City of Toronto may be different.

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 <http://www2a.cdc.gov/od/fluaid/> and Toronto population estimates of 2,611,661 based on the 2001 Census data.

Additional information on pandemic influenza is located in Appendices 3 – 5.

Chapter 3 Roles and Responsibilities

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1.0 Introduction

All governments and all sectors have a role to play in preparing for, responding to and recovery from an influenza pandemic. It is critical that roles and responsibilities are clear and that there is good communication and coordination of efforts.

Planning and preparedness efforts are continuing at all levels of government. Current roles and responsibilities for the World Health Organization, Public Health Agency of Canada, Ministry of Health and Long Term Care and the City of Toronto are presented in Chapter 3.

The World Health Organization, Public Health Agency of Canada and the Ontario Ministry of Health and Long Term Care have all released influenza pandemic documents to guide the local planning process and to address prevention, preparedness and operational activities for an effective response and recovery. The overall goal of these plans is to minimize serious illness, death and societal disruption in the event of an influenza pandemic.

2.0 International - World Health Organization

The World Health Organization (WHO) is responsible for coordinating a global response to an influenza pandemic. The WHO has conducted influenza surveillance since 1947 to detect prevalent and emerging strains.

The mandate of the WHO with respect to pandemic influenza is to:

- Conduct world-wide surveillance and reporting of disease
- Identify the beginning of a pandemic through the use of the phased response
- Co-ordinate global response to a pandemic
- Provide recommendations on the management of a pandemic

3.0 Federal – Public Health Agency of Canada

The Public Health Agency of Canada (PHAC) is responsible for coordinating the nation-wide health response to pandemic influenza. Federal responsibilities include entering into agreements and arrangements with international organizations such as WHO to support surveillance, coordination and investigation activities.

The Canadian Pandemic Influenza Plan (CPIP) was released in February 2004 (next version to be released in December 2005). The plan details the federal government actions and expectations for the provinces and territories.

The mandate of the PHAC with respect to pandemic influenza is to:

- Liaise with the World Health Organization, the US Centers for Disease Control and other national/international organizations to coordinate surveillance, investigation and vaccine activities
- Procure/distribute diagnostic reagents and technical information to provincial/territorial public health laboratories
- Establish domestic influenza vaccine manufacturing capacity
- Acquire influenza vaccine and antiviral drugs and allocate them equitably to provinces and territories.
- Work with provinces and territories to provide vaccine and antiviral drugs to specific populations for which the federal government is responsible (e.g., First Nations, RCMP, military personnel)
- Develop communication strategies, plans and framework

PHAC connects with provinces and territories through the Pandemic Influenza Committee (PIC) and does not connect directly with Toronto or any other city.

4.0 Provincial - Ontario Ministry of Health and Long Term Care

The Ministry of Health and Long Term Care (MOHLTC) is responsible for coordinating the province-wide response to an influenza pandemic, including the declaration of a provincial emergency. The Ontario Health Pandemic Influenza Plan (OHPIP) was released on May 31, 2004 and updated in June 2005.

The mandate of the MOHLTC is to:

- Implement national recommendations on influenza surveillance and immunization programs
- Maintain provincial surveillance activities, report diseases caused by influenza and participate in national surveillance activities
- Coordinate investigations of outbreaks and clusters of febrile respiratory illness (FRI)/influenza-like illness (ILI)
- Undertake tasks most effectively done at the provincial level (e.g. bulk purchasing equipment, stockpiling and distributing vaccine and antiviral, distributing medical supplies)
- Provide guidelines and direction to local public health authorities to ensure a consistent planning and response across the province
- Support special studies to enhance the province's capacity to manage a pandemic
- Coordinate public education programs
- Provide guidelines and direction to local pandemic planning groups
- Provide guidance to the health field during a pandemic

The OHPIP Steering Committee and Workgroups were established in the fall of 2004 to further develop the plan. Toronto Public Health currently has representation on the following groups: OHPIP Public Health Subcommittee; Surveillance Working Group; Health Services Workgroup; Public Health Measures Working Group; and Vaccine and Antiviral Working Group. Additional representation on other workgroups is ensured by Toronto Pandemic Influenza Steering Committee member representation.

Other sections of the MOHLTC that are involved in emergency planning/management include the Public Health Division, Emergency Management Unit and the Provincial Infectious Disease Advisory Committee. See Appendix 6 for fact sheet on roles and responsibilities.

4.1. Public Health Division of the MOHLTC

The Public Health Division oversees activities relating to Ontario's public health system and is led by the Chief Medical Officer of Health and Assistant Deputy Minister. The Infectious Diseases Branch provides leadership and support to Ontario's public health system including 36 boards of health. The Infectious Diseases Branch provides public health, epidemiological, expert consultation and technical support to local boards of health and other health agencies with respect to the programs of the Mandatory Health Programs and Services Guidelines (MHPSG). The Infectious Diseases Branch is also responsible for disease-related databases, communications and support for health units during outbreaks.

4.2. Emergency Management Unit

The Emergency Management Unit (EMU) was created in December 2003 to support emergency management activities within the MOHLTC and the health care system. EMU is a branch of the Public Health Division and is focused on enhancing an integrated approach to the challenges faced during emergencies. Their mission is to collaborate with stakeholders to develop, implement and maintain a comprehensive strategy to prepare for, respond to and recover from health emergencies of known and unknown origins.

The EMU's mandate is to:

- Identify and develop the infrastructure required to ensure emergency readiness sustainability;
- Identify and coordinate the business continuity plan for the Ministry;
- Develop Ministry emergency readiness plan(s) and emergency response protocols that are consistent with Emergency Management Ontario's expectations and Ministry/health care system needs; and
- Ensure Ministry emergency plans are transparent with clear accountabilities within the health care system and with Ontarians.

The Emergency Management Unit struck the OHPIP Steering Committee to oversee the development of the health influenza pandemic plan. The EMU has provided administrative support to OHPIP's Communications Sub-Committee. The EMU is also working collaboratively with Emergency Management Ontario (EMO) to ensure a coordinated response to an influenza pandemic.

During an influenza pandemic, the role of the EMU will be to coordinate the Ministry Emergency Operations Centre (MEOC), which will provide direction and operational management of the health care sector. The MEOC reports to the Emergency Executive Management Committee, which reports to the province's Chief Medical Officer of Health. The MEOC will be linked with the Provincial Emergency Operations Centre as part of a provincial effort to coordinate the emergency response in non-health related sectors (see Figure on page 6). The Provincial Emergency is coordinated at Emergency Management Ontario (EMO).

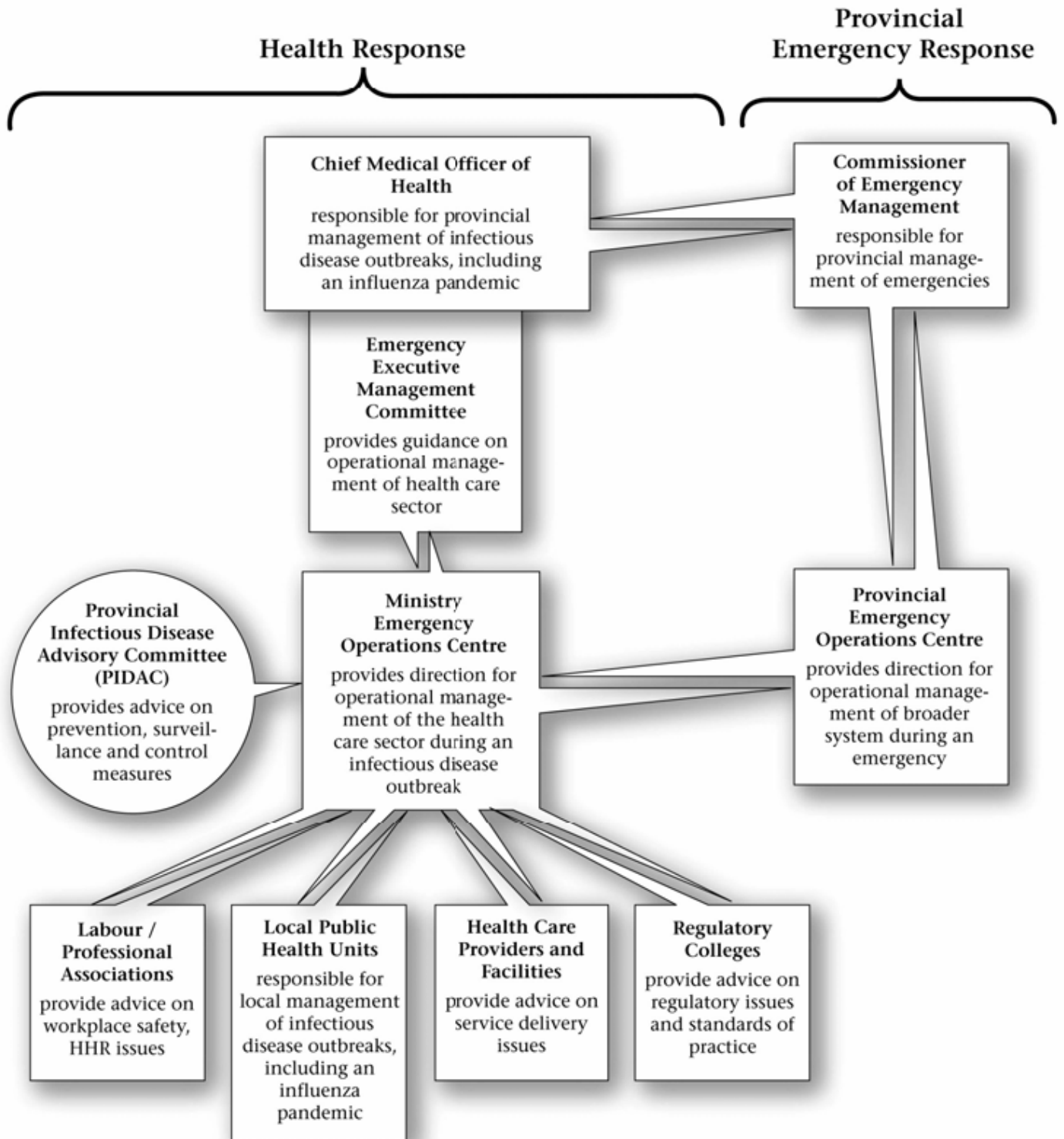
4.3. Provincial Infectious Disease Advisory Committee

The Ministry of Health and Long-Term Care established the Provincial Infectious Diseases Advisory Committee (PIDAC) in response to a recommendation by the Expert Panel on SARS and Infectious Disease Control (the Walker Panel) in order to provide a single standing source of expert advice on infectious diseases for Ontario.

PIDAC advises the Chief Medical Officer of Health (CMOH) on prevention, surveillance and control measures necessary to protect the people of Ontario from infectious diseases. PIDAC provides the CMOH with advice on issues such as standards and guidelines for infection control, emergency preparedness for an infectious disease outbreak, protocols to prevent and control infectious diseases and immunization programs.

The role of PIDAC during an influenza pandemic will be to provide advice on prevention, surveillance and control measures to the province's CMOH.

Roles and Relationships in Emergency Management in Ontario



Ontario Health Plan for an Influenza Pandemic – June 2005

5.0 Local

The mandate of municipal government and local health care authorities according to OHPIP and with respect to pandemic influenza is to:

- Maintain a local surveillance system, reporting clusters of FRI/ILI and investigating outbreaks
- Develop plans to provide mass immunization and distribute vaccines, antiviral drugs and medical supplies
- Liaise with local partners (e.g. emergency responders, hospitals, community services, mortuary services, schools, workplaces)
- Assess the capacity of local health services, including health human resources and helping health services identify additional/alternative resources
- Define clear responsibilities for communication at the local and facility level during pandemic influenza
- Collaborate with the provincial government to deliver public information/education programs
- Deliver mass vaccination/prophylaxis program

Local pandemic planning groups, led by public health authorities, are responsible for planning the local response to an influenza pandemic, based on the provincial and federal plans. Toronto Public Health is participating on the Central East Public Health Network in order to develop plans in accordance with other health units and share resources and information. There has also been collaboration with other jurisdictions for vaccine/antiviral distribution and administration planning. TPH is currently working with the Toronto Academic Health Sciences Network (TAHSN) hospitals in order to support local planning at the hospital level

The municipal structure of the City of Toronto is integral to the effective planning, preparedness and response to an emergency. The Pandemic Influenza Plan forms an operating procedure to the City of Toronto Emergency Plan. Although TPH is the City's lead for pandemic influenza planning, every part of the City has an important role.

5.1. Mayor

The Mayor or designate is the Chair of the Toronto Emergency Management Program Committee (TEMPC) and may declare that an emergency exists or has been terminated in the municipality. In the event of a declared emergency in Toronto, the Mayor ensures that the Solicitor General and the Minister of Community Safety and Correctional Services and members of Council are notified. The TEMPC reports to Council through Community Services Committee on all steps taken pursuant to a declaration of emergency.

5.2. Toronto Emergency Management Program Committee

The Toronto Emergency Management Program Committee (TEMPC) is responsible for emergency management in the City of Toronto. Its primary responsibility is to provide the executive leadership and support for the actions required to develop and implement the municipal requirements of the Emergency Management Act.

The committee is generally responsible for the initiation and coordination of plans for all divisions, agencies and local boards under the jurisdiction of City Council. It is also responsible for the coordination of any procedures for implementation of the plan developed by such divisions, agencies and local boards for the purpose of integration with the plan. The usual role of the committee is proactive, comprising mitigation and preparedness activities

In the event of an emergency, TEMPC will immediately convene. The Emergency Operations Centre will be activated by staff with the Office of Emergency Management and attended by TEMPC members to manage emergency response and recovery operations.

The Medical Officer of Health is a member of TEMPC and has the lead role in providing advice and direction on disease related matters. Pandemic planning efforts have been presented to TEMPC. Other members of TEMPC include: Mayor, Deputy Mayor, City Manager, the two Deputy City Managers, Deputy City Manager and Chief Financial Officer, Chief and General Manager of Emergency Medical Services, Chief Corporate Officer, Chief General Manager of Toronto Transit Commission, Chief of Police, Executive Director of Technical Services, Fire Chief and General Manager of Fire Services, General Manager of Shelter, Support and Housing Administration, General Manager of Transportation, General Manager of Water, Manager, Office of Emergency Management and Treasurer.

5.3. Toronto Office of Emergency Management

The Toronto Office of Emergency Management (TOEM) is the coordinating agency for emergency and disaster preparedness, response and recovery activities, as part of the city's Emergency Management Program. The Office is responsible for developing the Toronto Emergency Plan (TEP) and coordinating City agencies in developing supporting documents to the TEP. The supporting documents contain either specific response plans for hazards that may pose a threat to the City of Toronto or division specific procedures.

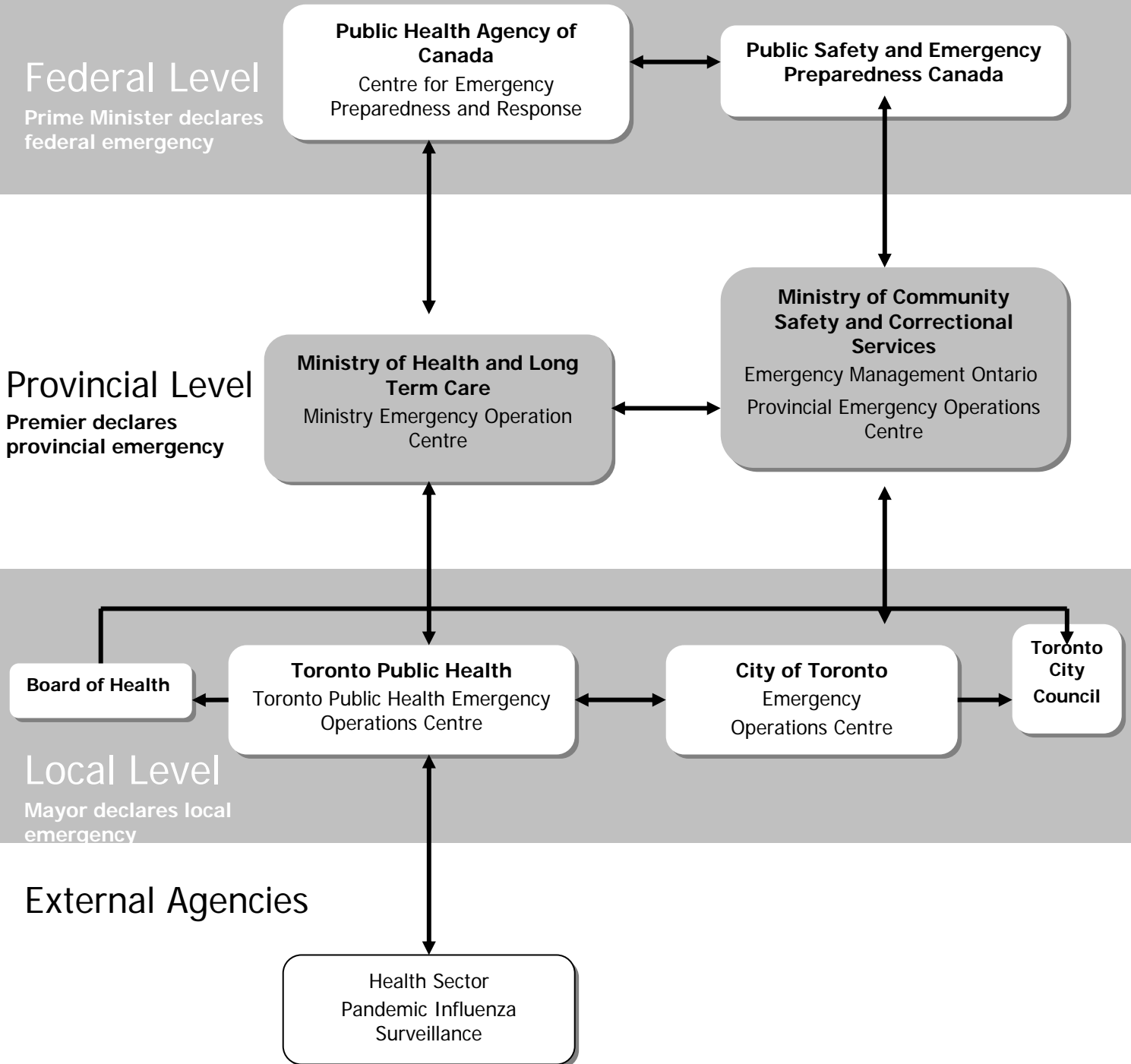
Senior staff analogous with the City divisions represented on TEMPC (such as Emergency Medical Services, Toronto Fire Services, Toronto Police Services, Shelter, Support and Housing Administration and Toronto Public Health) work together collaboratively in developing the supporting documents. Agency or division business area expertise and responsibility provide the basis for determining lead responsibility for preparing and collating these documents jointly or separately.

TOEM is responsible for maintaining the Toronto Emergency Operations Centre (TEOC) and initiating the notification of key personnel and agencies in the event of an imminent or actual emergency or disaster. The TEOC is a physical location where members of TEMPC convene to collectively provide the executive and strategic direction and coordination of emergency response operations within the City of Toronto

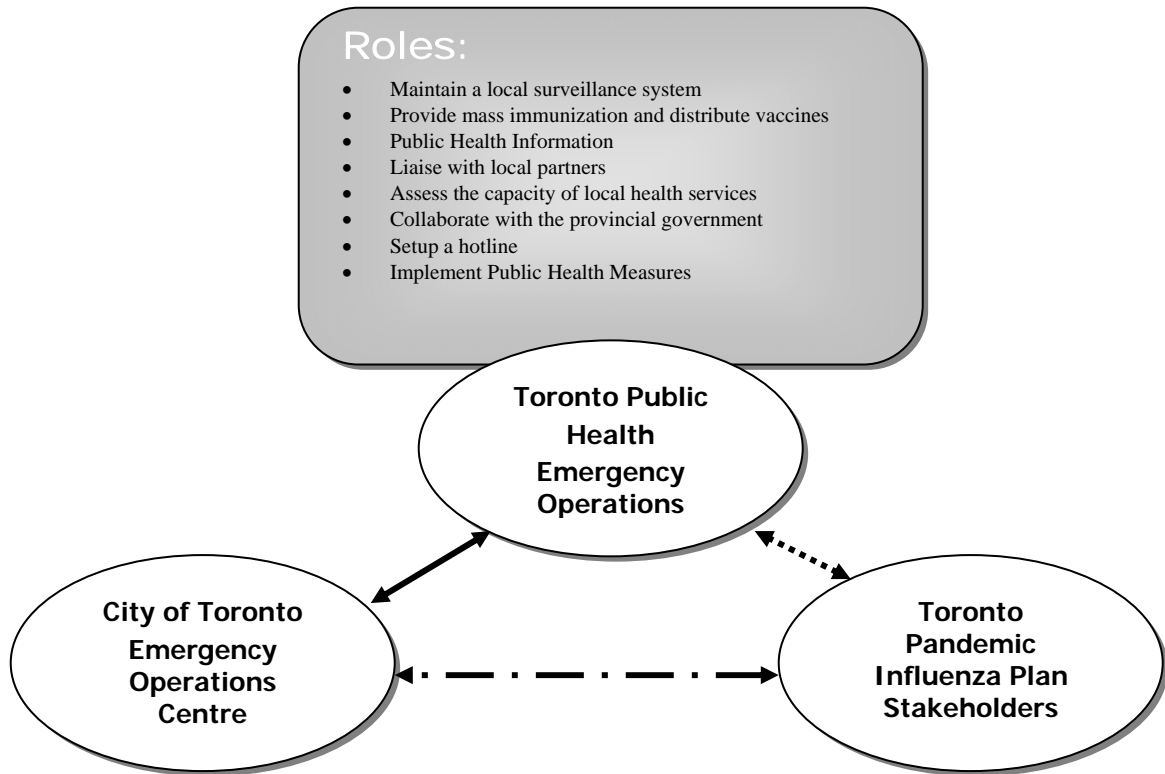
5.4. City Divisions

The City Divisions are responsible for engaging in preparedness training and exercise activities to ensure continual readiness of their specific Operational Support Functions. They will be required to employ their standard business continuity and business resumption planning principles to ensure the continuity of essential services. Toronto Public Health will provide City divisions with health related information to assist with pandemic influenza preparedness. A City Division Planning Guide is posted on the TPH website. City agencies should utilize TPH guidance to develop their own service continuity plans.

Emergency Management Structure for the Interagency Pandemic Response



Decision Centres for Coordinating the City of Toronto Response to a Pandemic Influenza



- Roles:**
- Maintain a local surveillance system
 - Provide mass immunization and distribute vaccines
 - Public Health Information
 - Liaise with local partners
 - Assess the capacity of local health services
 - Collaborate with the provincial government
 - Setup a hotline
 - Implement Public Health Measures

- Roles:**
- Mitigation, preparedness, response & recovery
 - Support of emergency operations at the site(s)
 - Overall management of operations
 - Risk identification, critical infrastructure protection
 - Immediate effective response to an emergency
 - Mobilization of all municipal, voluntary, and other agencies required
 - Prevention of further injury, loss of life, property damage
 - Alternate accommodation for evacuated persons
 - Establishment of information centres for the public and news media
 - Procurement of essential resources
 - Restoration of utilities and other essential services
 - Rehabilitation

- Roles:**
- Provides expert advice regarding specific sector issues
 - Coordinates external activities
 - Liaise with other external agencies

..... Consultations between TPH and stakeholders to assist with sector specific decisions.

- . - Some stakeholders may be requested to provide expert advice at the City of Toronto EOC.

6.0 Toronto Public Health

Toronto Public Health (TPH) is responsible for developing a local pandemic influenza response plan for the City of Toronto. Although local planning is critical, many decisions are within federal/provincial jurisdiction and directions must be followed locally e.g. vaccine priority groups. Federal and provincial plans provide the framework for local planning.

Planning within TPH for internal local response to pandemic influenza is critical during the interpandemic phase. Lessons learned from the SARS emergency response in 2003, demonstrated the need to be as proactive as possible. Proactive and accelerated internal planning began in February 2005 to establish clearly defined response plans for TPH.

6.1. Board of Health

The Board of Health for the City of Toronto Health Unit (TPH) is established under the Health Protection and Promotion Act (HPPA) and is required by the Act to ensure that specified public health programs and services are provided in each health unit. In Toronto, the Board develops public health policy and advises Toronto City Council on a broad range of health issues.

In any emergency, effective communications between key stakeholders is essential. As the governing body for Toronto Public Health, the Board of Health must be kept fully informed in order to play its role during an emergency. TPH will therefore provide timely information to the Chair and members of the Board, during a pandemic influenza emergency.

6.2. Divisional Management Team

The Divisional Management Team (DMT) provides overall policy and direction for Toronto Public Health. During an emergency the DMT will advise and support the Medical Officer of Health on aspects of the specific incident prior to the establishment of Incident Management System and on the status of ongoing business operations. Members of DMT who have not be reassigned to functional roles in the IMS response model will continue to manage ongoing program operations and essential services. DMT will also assist the Public Health Incident Manager in mobilizing staff to respond to the emergency.

6.3. Emergency Planning and Preparedness

The Emergency Planning and Preparedness (EPP) unit develops the TPH response to an emergency and assists the local health sector and other response divisions in the City of Toronto.

The mandate of the EPP is to:

- Develop and maintain TPH emergency response capability including joint planning with other agencies
- Develop and maintain TPH emergency response and recovery frameworks within the context of the City of Toronto Emergency Plan
- Provide training including exercises and drills on TPH emergency response and recovery measures and staff roles and responsibilities
- Provide advice on appropriate TPH operational procedures for emergency related issues
- Develop and maintain a TPH emergency operations centre
- Develop logistical supports (i.e. communication tools and processes, documentation tools)

- Collaborate with intergovernmental working groups to deal with common emergency response issues
- Develop community partnerships with public and private organizations to deliver public health related emergency response and recovery services
- Increase public awareness of self protection measures (i.e. public health and safety measures relative to emergency/disaster categories)
- During an emergency activate the TPH Emergency Operating Centre (EOC), advise the TPH Incident Manager on IMS process elements and perform IMS functional duties as assigned (Lead on Psychosocial Response and Recovery)

Since SARS, EPP has been providing staff training on the Incident Management System (IMS). Advanced Incident Management System training has been provided to a core management team who will assume leadership roles in the IMS model during any emergency response.

Tabletop and simulation exercises are ongoing for internal preparedness training, as well as plans for larger scale exercises with key stakeholders. These exercises will focus on pandemic influenza and other emergency events and will better prepare TPH staff.

6.4. Incident Management System

The Incident Management System (IMS) is a model for emergency response that provides a way of co-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 more complex the situation becomes, the more critical it is for every agency involved to co-ordinate their own efforts as well as integrate their activities with those of other responding agencies. IMS design makes that possible, as it utilizes standardized terminology and communication systems, consolidated action plans, pre-designated facilities, and an all-hazards approach appropriate for all types of emergencies.

IMS is used by government agencies across Canada, including Toronto Public Health and all other agencies of the City of Toronto to manage an emergency. In a city-wide response, such as Pandemic Influenza, utilization of the IMS response model will maximize the capacity of agencies involved, and will ensure that resources and skills are utilized in the most appropriate and the most efficient way.

The IMS structure is built around **five functions: command, operations, planning, logistics and finance/administration**. In a small scale emergency response, one person can, and often will perform all functions. In a complex, large scale emergency response the system can quickly expand from this one person to several hundred people supporting each function and that is likely going to happen early on in the City of Toronto's response to Pandemic Influenza.

Command function determines the flow of decision-making and communications. In a public health emergency such as Pandemic Influenza, the Public Health Incident Manager will lead the command function and the overall response effort. As an incident expands, the Public Health Incident Manager will assign other people to fill the positions of Public Information and Liaison. Although these responsibilities are delegated to others, they remain under the authority of the command function.

Liaison function co-ordinates with participating agencies and represents the Toronto Public Health Incident Manager when dealing with other agencies and community groups. While maintaining communications with TPH Incident Manager, this function establishes formal communication with agencies and services involved in Pandemic Influenza response and with community groups as needed. Some of the internal and external stakeholders include the Board of Health, Mayor's Office, Corporate Communications, TEMPC, TOEC, hospitals, physicians, etc.

Public Information is responsible for media relations, communication strategy and releasing information about the Pandemic Influenza and TPH response strategies to staff, other organizations and media.

Responsibilities of the **planning** function include assessing the situation and creating an Incident Action Plan (I.A.P.). The I.A.P. identifies public health objectives for the emergency response and the response activities.

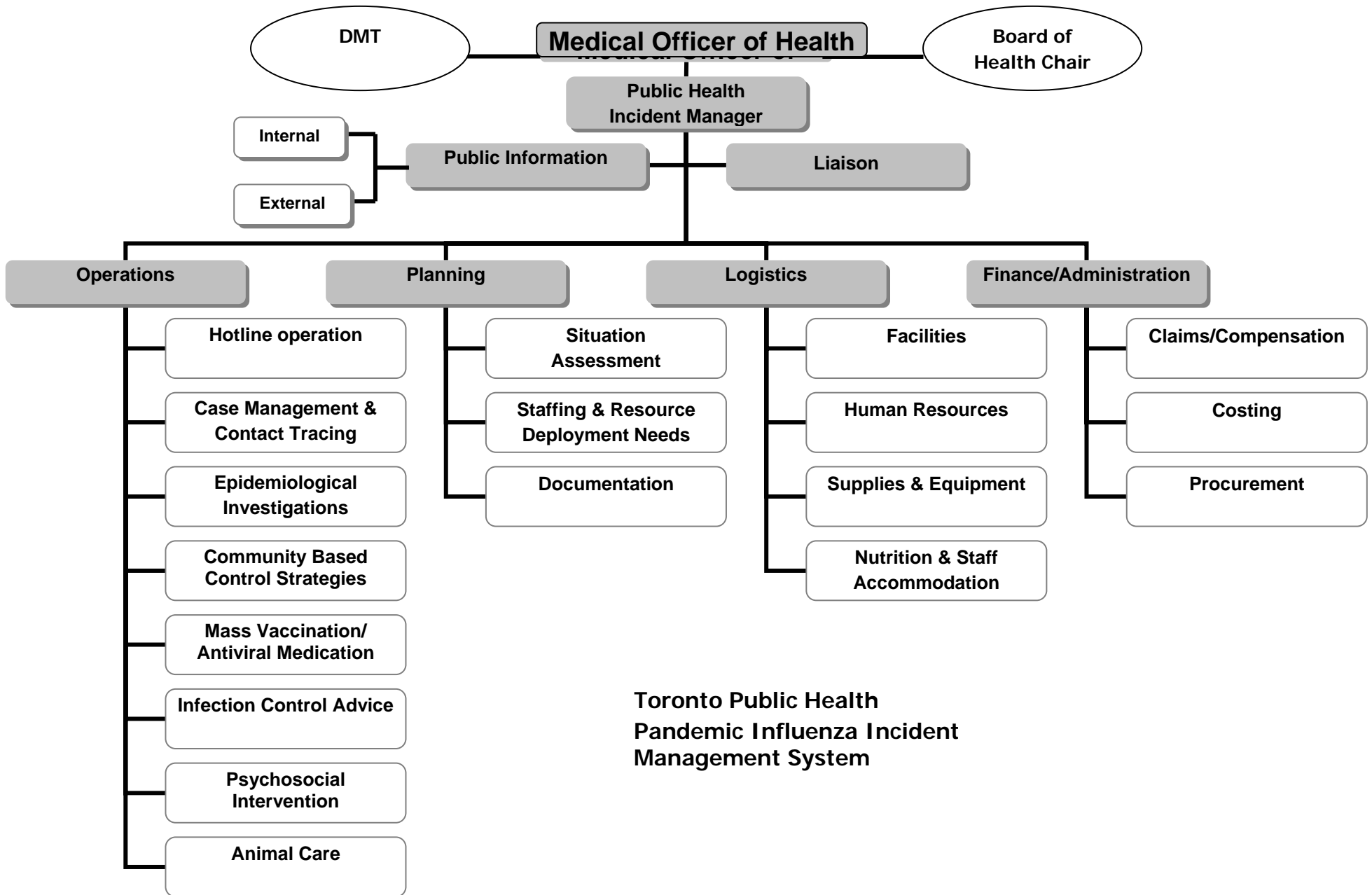
Operations function is responsible for managing the TPH response operations, such as hot line and case management.

Logistics function is responsible for providing facilities, services, materials and personnel to operate the emergency response. This section takes on great significance in long-term or extended operations by organizing and confirming availability of staff.

Finance/Administration function is critical for tracking all expenses, expenditures, claims, purchases and contracts initiated during the emergency. Administration monitors all expenses and identifies Toronto Public Health resources used during the emergency response.

The chart on page 38 illustrates the application of the IMS model within Toronto Public Health in responding to pandemic influenza.

In addition to creating specific plans regarding the application of the IMS model in the circumstances of Pandemic Influenza response, Toronto Public Health has developed a **Service Continuity Plan** for the Division outlining service areas that must continue, as well as service areas from which resources can temporarily be pulled to assist with the emergency response.



Chapter 4 Surveillance

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Chapter 4 Surveillance

1.0 Introduction

Disease surveillance is the collection, analysis, and dissemination of disease-related information to facilitate public health planning and action. Information that is timely, ongoing, and shared among international, national, regional and local health care authorities is needed to understand the trends of disease transmission so that morbidity and mortality may be reduced. Monitoring influenza activity in Toronto is already an ongoing function that can be enhanced by collecting and analysing complementary data for early detection and the potential application of targeted interventions.

Surveillance data can serve various purposes throughout the phases of a pandemic. Early identification of the arrival of a pandemic strain and tracking how it moves through our population during the early alert periods is one of the most important reasons to collect and analyse these data. The components of Toronto Public Health's current communicable disease surveillance system are used for the ongoing monitoring of disease trends and apply to the interpandemic and early pandemic alert phases. The Ontario Ministry of Health and Long Term Care is taking the lead with identifying additional data needs during and after a pandemic strain appears. These enhancements and changes to routine surveillance data will reflect information needed to make decisions and understand the extent of the outbreak throughout the response period.

Laboratories are key partners in monitoring influenza trends in our city. Currently the Provincial Public Health Laboratory performs rapid testing, culture confirmation, and strain identification of influenza throughout the year. The confirmation that a pandemic strain has arrived in Toronto will be the role of the PHL. During each influenza season, the PHL is responsible for tracking any changes in the circulating strains of influenza and reporting these to local and provincial public health authorities. In Toronto, additional testing for influenza is conducted in hospital laboratories licensed to perform these tests. Community laboratories are not currently licensed to perform influenza tests, but are an important resource for any other diagnostic testing that may be needed as illness spreads through our city. See Appendix 7 and 8.

This Surveillance chapter is divided into two sections to best characterize influenza surveillance activities relevant to pandemic planning and response: 1) a description of our current system and methods for monitoring influenza activities, and 2) a list of those surveillance activities planned for the future. Each section provides some detail on activity currently, but does not describe the actual data elements that will be collected or included in reports. These details await direction and reporting requirements currently being developed by the Surveillance workgroup of the Ontario Health Pandemic Influenza Planning group.

2.0 Current Surveillance

2.1 Sporadic Influenza Cases

Diseases designated as reportable and communicable under the Health Protection and Promotion Act (HPPA) and associated Ontario regulations must be reported to Toronto's Medical Officer of Health in a timely manner by laboratories, physicians, and administrators of institutions. Influenza is a reportable and communicable disease. Toronto Public Health (TPH) regularly sends out reminders of reporting responsibilities, changes to the requirements by the Province, and general contact information via mail, website postings, and newsletters (Communiqué). Influenza cases are reported to TPH through the centralized Communicable Disease Surveillance Unit.

Based on the last 10 years of data (1994 to 2005), Toronto Public Health receives notice of an average of 340 (range: 82 to 626) sporadic cases of influenza each season. Sporadic cases are cases of influenza found in the community, without evidence they are associated with an institutional outbreak (see outbreak section below). TPH investigates and follows up each report of laboratory-confirmed influenza to collect basic demographic information, vaccine history, assess possible sources of infection, and to determine if there is any further risk of transmission to vulnerable populations (e.g. if a case lives in a long term care facility).

Each influenza season, TPH Communicable Disease Epidemiology team performs descriptive analyses early on and into the season to describe the epidemiology of the population affected (i.e. age, gender, geography, institutional or community) by influenza. During a pandemic such data may help ensure appropriate targeting of interventions early on. During the influenza season (October to April), aggregate summaries of case counts, their basic epidemiology, and comparisons to previous seasons are generated weekly.

Weekly influenza bulletins are generated by Toronto Public Health's Communicable Disease epidemiology team and summarize the descriptive epidemiology and activity of influenza as it progresses in the community throughout the season. The information in these bulletins provides baseline data that can be shared with the larger public health community and which provide a historical context for any changes in a given season. These bulletins will continue to be provided before and into the early phases of a pandemic. In the event of a pandemic, reports will continue and increase in frequency to capture the rate of new information available. Once the pandemic strain has spread through the City (i.e. once there is evidence that all demographic groups are affected), the majority of cases will not be lab-confirmed and reporting requirements will likely change as per provincial direction.

Monthly and annual surveillance summary reports are also generated for all of Toronto's communicable diseases, and posted on the website. These reports generate period rates and can be used to see variability of influenza and other diseases for given time periods. Overviews of background levels of influenza can be found in these reports. The additional analyses in the annual report provide the basis for understanding the pattern and range of disease spread (i.e. when it arrives, who it affects, and how many) over an 11 year period.

Influenza data are currently transmitted biweekly to the MOHLTC through the Reportable Disease Information System. Starting in December 2005, information on individual cases will be shared in near real-time with the rest of Ontario Public Health Units and the Ministry of Health and Long Term care through their entry into the integrated Public Health Information System (iPHIS).

2.2 Influenza Outbreaks

Outbreaks of respiratory diseases in institutions are immediately (i.e. by telephone) reportable to the Medical Officer of Health under the HPPA and its associated regulations. The MOHLTC defines a respiratory 'outbreak' as the detection of two or more cases of respiratory illness linked in space and time within an institutional facility. Each acute care hospital and long term care home has a key contact within TPH for the early reporting of suspect respiratory outbreaks. Other institutions report potential outbreaks to TPH through the centralized Communicable Disease Surveillance Unit. TPH provides support to receive notice and initiate investigations of any respiratory outbreaks in institutions on a 24 hour/7 day per week basis.

TPH investigators work closely with each institution to facilitate the rapid implementation of infection control measures, and to identify the causative agent of an outbreak for a more targeted response. Nasopharyngeal swabs are used to collect specimens from ill facility clients and sent to the Public Health Lab for testing, including rapid direct antigen tests for influenza. If negative, additional tests are conducted for influenza and other agents. Confirmation of influenza permits the administration of the appropriate chemotherapy and prophylaxis regimen for those affected. Based on the last 5 years of data, (2000/01 to 2004/05), TPH receives notice of an average of 43 (range: 3 to 111) influenza outbreaks each season.

TPH generates a list of active institutional outbreaks in the city that is updated and shared with hospital infection control practitioners, long term care facility administrators, Emergency Medical Services, Toronto Fire Services, the Coroner's Office, and the Ministry of Health and Long Term Care. This list is produced daily and was designed to provide information about patients who may be transferred between institutions, so that appropriate precautions and infection control actions are taken.

The weekly influenza bulletins posted on the website during the influenza season also have a section specific to outbreaks. Data on region of the city, attack rates, hospitalization rates, number of pneumonias, and deaths are summarized each week to give the most up to date picture of outbreaks at any given time. These bulletins will continue to be provided before and into the early phases of a pandemic.

Annual surveillance summary reports include trends in outbreaks reported in Toronto. These reports show the range of cases per outbreak, deaths, and proportion of outbreaks each year that can be attributed to influenza. Again, these reports provide background levels of outbreak data so that exceptional patterns are easily identifiable.

Basic data on respiratory outbreaks (e.g. signs and symptoms, number ill, number at risk, deaths, hospitalizations) are first reported to the MOHLTC within 24 hours of notification, and then again when the outbreak is declared over. Respiratory Outbreak Report forms provided by the MOHLTC (Appendices 12 and 13) are used to collect and track information until electronic reporting becomes available for outbreak data. A modified version of this form to be used for more frequent reporting during a pandemic is being developed by the OHPIP Surveillance workgroup.

2.3 Trends in Influenza-like Illness – Febrile Respiratory Illness

After SARS, it was recognized that emerging or threatening respiratory diseases would likely present as influenza-like illness (ILI) or an unspecified Febrile Respiratory illness (FRI). The MOHLTC has requested all health care settings to systematically assess all clients for the presence of FRI symptoms (see Chapter 10 for more detail). Any clusters of FRI in an institutional setting or individual cases with a positive travel history are to be reported to Public Health immediately. This system is particularly useful early on in a pandemic, to identify any ill individuals who may have traveled to areas with circulating pandemic strains so that immediate precautions to minimize the risk of transmission are taken.

Clusters of FRI are investigated as suspect respiratory outbreaks (see above) and individual reports are investigated to understand how travel history may provide information on possible communicable agents. Gathering information on patients presenting to acute care settings has been greatly facilitated through placement of TPH staff from the Communicable Disease Liaison Unit (CDLU) in Toronto hospitals. These staff work closely with hospital infection control teams to access information needed to carry out a public health investigation.

Currently, data on individuals who present with FRI are stored in the Case and Contact Management System (CCMS) which was developed by TPH during SARS to systematically track and manage cases and their contacts. Three years of data in this system can now be used to better understand background numbers of individuals who return from areas with threatening respiratory diseases each year. Future FRI reports will be captured using iPHIS.

2.4 Trends in Influenza-like Illness – Sentinel Physicians

The Federal Flu Watch program includes data on influenza-like illness reported from sentinel physicians across the country representing various areas. When generalizable and representative, these data can illustrate when influenza-like illness enters and how it moves through the community. The Public Health Agency of Canada (PHAC) coverage standards are 1 physician per 250,000 population, which currently entails 14 Toronto physicians who are participating as seasonal sentinels (3 of these physicians also act as sentinels year-round). These data are currently being received by TPH and used to complement respiratory outbreak data, and reports of sporadic influenza as one additional indicator of influenza activity in Toronto.

2.5 Emerging Threats to Toronto

Increased awareness of trends in zoonotic disease such as avian influenza that may pose a threat to Toronto is necessary to be prepared for the arrival of a pandemic variant of influenza. Our Communicable Disease Epidemiology team regularly scans web resources, publications, and participates at meetings related to emerging diseases from other parts of Canada and globally to stay abreast of issues related to emerging pathogens. Information concerning communicable disease trends/issues that may pose a threat to Toronto residents is identified and shared via an e-alert with Infection Practitioners, Infectious Disease specialists, Emergency Medicine specialists, Emergency Room contacts, Emergency Medical Services, the Coroner's Office, and any other health professionals who have requested receipt of this information.

2.6 Information Systems

Information on all sporadic cases of influenza is currently being stored in the Provincially mandated Reportable Disease Information System (RDIS), which contains reportable communicable disease data that go back to 1990. TPH developed templates for regular influenza surveillance reports so that they are easily and consistently produced once data are extracted from RDIS. A separate database was developed by TPH staff to store outbreak data so that regular tracking of the complex elements needed to characterize outbreaks is facilitated. As of December, 2005 TPH will be implementing use of the new provincial information system for communicable diseases, the integrated Public Health Information System (iPHIS).

3.0 Planned Surveillance

Surveillance is critical for the early detection of the pandemic flu strain in a population. Efforts to facilitate early identification of trends in influenza-like illness syndromes and increased absenteeism from work or school are ongoing. These are described below.

3.1 Trends in Influenza-like Illness – Febrile Respiratory Illness

● *Future steps/in progress*

- Work with hospitals to build capacity and tools to collect and report all FRI's to public health in a timely manner.
- Develop analyses and reports that are useful to both public health and hospitals.

3.2 Trends in Influenza-like Illness - Sentinel Physicians

● *Future steps/in progress*

- Develop and implement active recruiting strategies to add more sentinel physicians from Toronto to Public Health Agency of Canada's Flu Watch program.
- Invite Toronto Community Health Centre physicians to participate as community physician sentinels.

3.3 Trends in Influenza-like Illness – 911

Dispatch data from callers to 911 were used as part of a pilot during World Youth Day in 2002 for the early detection of various conditions, and found to be useful in detecting increases in heat-related illness. TPH is working with the University of Toronto to evaluate the same stream of data for detecting the early arrival and any clusters of influenza-like illness in Toronto.

● *Future steps/in progress*

- Continue work with EMS to prospectively receive these data.
- Develop evaluation plan to determine what these data can add about influenza trends that goes beyond routine surveillance data.

3.4 Trends in Influenza-like Illness – Emergency Room Chief Complaint Data

Chief complaint data from hospital emergency rooms are being used in several cities across the U.S. to signify any unusually high activity of illness (as specified through the definition of syndromes of interest). Influenza-like illness and respiratory disease activity can be tracked this way. A group working with the MOHLTC and based in Kingston is currently in the midst of piloting use of these data for both enteric and respiratory illness.

● *Future steps/in progress*

- TPH will initiate discussions on the willingness, capacity and resources needed to implement this type of surveillance in Toronto area hospitals.

3.5 Trends in Influenza-like Illness – Workplace Absenteeism

Absenteeism data provide additional means to assess what segments of the population are experiencing illness and how it is moving across Toronto. Requesting large employers to provide attendance records on a regular basis may allow TPH to understand the impact on the population. Toronto Police have agreed to act as a pilot workplace for sharing weekly absenteeism data, including general cause of illness, across their uniformed and civilian workforce.

● *Future steps/in progress*

- Continue development of system to capture and analyse use of police absenteeism data so that there is minimal disruption and change to the work of the Police Department and informative alerts generated for public health.

3.6 Trends in Influenza-like Illness – School-based Absenteeism

Absenteeism data for school-aged children also provide good estimates of influenza illness early in a season. Tracking rates in schools is an additional tool that can complement existing surveillance data to illustrate how illness moves into and through our community. The Toronto District School Board (TDSB) has agreed to develop mechanism for sharing absenteeism data with TPH on a regular basis.

● *Future steps/in progress*

- Continue development of mechanism for secure data transfer between the TDSB central attendance repository and TPH

3.7 Data Collection Tools

As pandemic phases progress, the ability to collect data will be challenged and the type of data that will be useful will change. Once influenza cases become widespread and health resources start getting taxed, there will be less data available. Questions will shift from characterizing who is getting sick to addressing health resources capacity issues. Requirements for data needed during the response phases will need to be prioritized to the few crucial elements that can be reported to Public Health in a simple manner (e.g. number of deaths, Emergency room visits, ventilators used). These surveillance tools are being developed at the provincial level.

● *Future steps/in progress*

- Continue to participate on provincial OHPIP Surveillance Workgroup which is developing the following tools for surveillance purposes:
 1. Health care reporting forms
 - for hospitals
 - for long-term care homes
 - for primary care
 2. Community reporting forms
 - for sporadic cases
 - for institutional settings
 - for community clusters
 3. FRI case-finding protocols
 4. Sentinel sites
 - health care facilities
 - community sites
 5. Protocols for special studies
 6. Vaccine anti-viral reporting forms
 - Adverse events
 - Uptake
 7. Mortality surveillance

3.8 Sending Out Mass Alerts

Identifying efficient methods to alert health colleagues of important trends, threats, or changes has been an ongoing priority for TPH. Posting information on our website has proven useful in sharing updates on items already in the news, but does not assure time-sensitive information gets to individuals who may need it. The current e-mail and fax systems used to convey urgent information are useful, but rely on accurate, well-maintained contact lists and have technological limitations.

● *Future steps/in progress*

- Continue search for current and well-maintained lists of physicians' contact information that can be used during an alert e.g. for physicians, homeless service providers, etc
- Complete search for system that facilitates quick transmission of information in a variety of media (e.g. fax, e-mail, mail) to large lists of individuals.

3.9 Information Systems

Once iPHIS is fully implemented by the end of 2005, TPH will have access to several enhancements over the current RDIS information system being used. One important difference is the addition of the Outbreak Module in iPHIS, which evolved from information needs that were identified during SARS. The ability to capture cases who present only with symptoms of concern (as opposed to needing a diagnosed disease) and to track large numbers of contacts through time can be very useful early on in trying to control the spread of the pandemic strain.

Once TPH starts using iPHIS, the MOHLTC will have near real-time access to all communicable disease events in the province for larger picture analyses. Additionally, a feature that permits data sharing between health units and with the MOHLTC will be useful to track trends that go outside of health-unit limits, share information on outbreaks that may cross health-unit borders, or easily transfer follow-up of a case to another health unit.

The reporting tool (Cognos – Report Net) used with iPHIS allows for the development of pre-canned reports that can be scheduled and disseminated to large groups. These reports can be tailored to address the different information needs required as a pandemic progresses, and can be prescheduled to run at a given time on each day.

Unfortunately, the system does not currently capture data reported on institutional respiratory outbreaks and so cannot generate reports on these data. The use of paper-based tracking forms and parallel database to enter data for outbreak reporting purposes will remain.

● *Future steps/in progress*

- Work with Provincial iPHIS advisory group to capture relevant outbreak information electronically, so that summary reports can be readily created and disseminated.
- Create and save report templates that may be used during different phases of pandemic.
- Advocate to obtain user manuals and a data dictionary to ensure standardized use of system.
- Advocate to provide hospitals with the ability to enter FRI data directly into system for immediate follow-up.
- Advocate to receive laboratory reports electronically through interface with the Ontario Laboratory Information System.

See Appendix 9 for Pandemic influenza Surveillance Chronology Schematic.

Chapter 5 Communications

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Chapter 5 Communications

1.0 Introduction

Effective and timely communication is critical before, during and after a pandemic influenza.

Chapter 5 provides information about the role of communications and outlines the communication plans and activities Toronto Public Health (TPH) would use to provide timely, accurate and credible information to its staff, the public, provincial and federal governments, hospitals and other responding agencies.

2.0 Core Communications

The communication plan addresses a number of areas critical to successful public and stakeholder communications before, during and after a pandemic. The plan identifies core goals, objectives, strategies, key messages and audiences, key spokespersons, approval processes, media relations and evaluation common to all pandemic periods. It describes specific actions required during the pandemic alert, pandemic and post pandemic periods.

The information needs of internal, external and stakeholder audiences are assessed in each phase to prepare appropriate messages and information products, and determine strategies. Risk (or crisis) communications principles are incorporated in each phase.

This communication plan has been developed with consideration of our partners in the community, health sectors and governments at all levels to ensure the common goal of improved readiness to protect the health of the population. It is aligned with the provincial, federal and World Health Organization (WHO) communication plans and includes the TPH response to the Public Health Agency of Canada (PHAC) recommendations on public education. For more information regarding the PHAC public education recommendations, please see Chapter 8, Public Measures.

Core Goals *(what we want to achieve)*

- Clearly explain and promote the Toronto Pandemic Influenza Plan (TPIP)
- Provide information to the public and stakeholders to assist them in making the best possible decisions about their well-being during all phases of a pandemic

Core Objectives *(how we intend to achieve our goal)*

- Establish a broad network for disseminating information during all pandemic phases
- Provide clear, accurate messaging to all audiences during all pandemic phases
- Communicate transparently, accurately and in a timely manner through a variety of methods to reach all audiences

Core Communications Strategy

The pandemic communication strategy is broken down into three periods, corresponding to the phases of pandemic influenza outbreak as outlined by the WHO. The communication plan will evolve phase by phase, concurrently with the pandemic periods. Each phase or period has its own unique communications requirements. Communication products that are clearly understood, multilingual and available through multiple distribution systems will be developed for each period. By following a phased-in approach, the communications needs of internal, external and stakeholder audiences can be anticipated and developed. A range of communication activities will be undertaken at each phase. The WHO Pandemic phases are:

- Pandemic Alert Period (phase 3, 4, 5)
- Pandemic Period (phase 6)
- Postpandemic Period

For more information or detailed definitions of the periods and the phases within the pandemic periods, please refer to the Toronto Pandemic Influenza Plan, Chapter 2 or the World Health Organization web site at www.who.int/en/

Core Key Messages

During a pandemic two main messages will need to be expressed:

- What Toronto Public Health and/or the City of Toronto is doing to reduce illness and death and minimize societal disruption
- What the public can do to reduce illness and death and minimize societal disruption

For example:

Toronto Public Health will continue to provide timely and helpful information and advice on how you can protect your health and what to do if you or others become ill.

Core Key Spokespersons

Each phase or period of a pandemic requires a primary spokesperson representing Toronto Public Health to ensure main messages are clear and aligned with those of other City divisions, governments or elected officials.

The primary spokesperson for Toronto Public Health during an Influenza Pandemic is the Medical Officer of Health or designate. Establishing a consistent, identifiable, credible Toronto Public Health spokesperson will contribute to reducing public anxiety and panic.

As the situation evolves and during each pandemic period, key spokesperson requirements and roles will be reviewed and evaluated. Knowledgeable and articulate subject matter experts outside the organization may be recruited as required. Toronto Public Health Communications Unit will coordinate media requests, verify appointed spokespersons, establish and build credibility for spokespersons and TPH and provide risk communications management and media training for key staff as needed.

Core Information Approval Process

All Pandemic Influenza information issued by Toronto Public Health will be approved by the Medical Officer of Health or designate and the Manager of Communications. Content development for information is the responsibility of:

- Director of Communicable Disease Control and Associate Medical Officer of Health
- Associate Medical Officers of Health
- Manager of Communicable Disease Liaison Unit
- Designated subject matter expert or manager

Information, key messages, backgrounders and fact sheets will be developed and pre-approved in advance whenever possible. When an emergency has been declared, the TPH information approval process will be revised based on the Incident Management System (IMS) and the requirements of the City's Emergency Operations Centre (EOC).

Core Audiences

Internal

- Toronto Public Health staff
- Board of Health
- City Councillors
- Mayor's Office
- City of Toronto staff – (particularly those dealing with vulnerable populations), including Homes for the Aged, Children's Services, Daycare, Shelter, Support and Housing Administration, Social Services, Court Services
- Call Centre staff – Access Toronto, Health Connection, 311 Project Office
- Corporate Communications
- City Manager
- Web and Internet Services
- Unions
- Executive Management Team
- City Managers
- Human Resources, Occupational Health and Safety
- Emergency response and recovery workers

Stakeholders and Partners

- Hospitals
- Health care professionals, including but not limited to: Physicians, Nurses, Pharmacists, Dentists
- Community agencies and groups, e.g. homeless services, settlement and immigration service providers, emergency shelter services, mental health agencies
- Other levels of government
- Other health units
- Neighbouring municipalities
- TTC, Police Services, Fire Services, Emergency Services, Emergency Medical Services
- Communication professionals in health care and other sectors
- Funeral industry
- Coroner's Office

External

- General Public - recognizing the varying social, cultural and linguistic needs of Toronto's diverse communities
- Media – TV, Radio, Print, New Technology (Internet) , Multilingual
- Business, Trade & Industry
- Schools, Childcare Providers
- Colleges and Universities
- People with influenza and their caregivers
- People with chronic conditions and their caregivers
- Faith communities
- Volunteer agencies
- International community
- Visitors/tourist industry

Core Media Relations

The media will be essential to the delivery of timely information to the public during a pandemic. From school closings to hand-washing tips to health system status, news reports will be the primary source of information for the vast majority of residents. The media will also play a central role in shaping public reaction to the pandemic itself, as well as the public's perception of how efficiently TPH and other agencies are responding to it.

TPH will provide media with:

- A dedicated pandemic influenza media phone number
- Access to credible spokespersons
- Accurate, consistent, timely and accessible information about the pandemic
- Details about what TPH is doing (except where doing so would compromise safety and/or security)
- Information placed in context of provincial, national and global events
- Specific public health information about how people can protect themselves and maintain health
- Quick response to rumours or inaccuracies
- Information that is consistent with that from federal and provincial governments, hospitals and other responding agencies as appropriate

Media Relations includes on-going media analysis, monitoring to identify trends and assist in determining strategy and response. In-depth analysis and evaluation will determine the degree to which communications efforts have met objectives.

Core Risk Communications

Appropriate risk communication considerations should be applied before, during and after a crisis. Effectively communicating complex, scientific or technical information can improve public responses to a serious crisis. The communication plan takes into account the following:

- Provide information that is relevant and easily understood
- Protect TPH credibility and reduce the chances of panic
- Don't over-reassure
- Don't underestimate risk

- Acknowledge uncertainty and change of circumstances
- Acknowledge people's fears and pain
- Give people things to do to adjust to the new environment
- Give people a choice of actions to match their level of concern
- Promote awareness of the changed environment

Core Evaluation

Evaluation of the communications functions will improve program delivery and determine if communications is effective in meeting its objectives. The development of evaluation tools to gauge changes in attitudes, behaviours, knowledge, skills, status or levels of functions will be considered for each pandemic period. Key evaluation objectives and criteria of program success will be developed.

Evaluation activities will include monitoring of:

- Media Relations - Daily monitoring and analysis of media coverage will determine if strategy is working and if improvements are required. To facilitate lessons learned and evaluation of communications after the pandemic, copies of newspaper clippings and television/radio broadcasts will be saved. News conferences, briefings, major speeches will be taped.
- Web visits
- Use of Rapid Risk Factor Surveillance System (RRFSS), an on-going telephone survey
- Call centre inquiries
- Hot line inquiries
- Public presentations
- Requests for information

3.0 Pandemic Alert Period (Phases 3, 4, 5)

Pandemic Alert Goals

- Increase awareness of the Toronto Pandemic Influenza Plan
- Raise awareness of the risks of pandemic influenza and the steps people can take to minimize a pandemic influenza from spreading
- Determine, refine, prepare and test communications channels between TPH and its stakeholders

Pandemic Alert Objectives

- Release and promote the Toronto Pandemic Influenza Plan and encourage feedback
- Develop social marketing campaign to encourage proactive responses and behaviour change to reduce spread of infection
- Integrate pandemic influenza communications with broader health, emergency and corporate/divisional communications as well as federal and provincial communications activities (annual influenza campaign, emergency response messages)
- Prepare audiences for imminent onset of pandemic, particularly during Phase 5

Pandemic Alert Strategies

Strategies during the pandemic alert period include using a variety of communication vehicles to raise awareness of what Toronto Public Health and the City of Toronto are doing to prepare for a pandemic and what individuals, businesses and others can do to prepare.

- Web site updates – posting of the Toronto Pandemic Influenza Plan, intranet/internet updates
- Establishment of secure intranet site for TPH staff
- Development of Pandemic e-mail address
- Presentations to the public, health care workers, health care stakeholders, internal audiences, business sector
- Preparation of sector-specific Planning Guides
- Social marketing campaign on hand washing, cover your cough/sneeze, stay home when ill (to include multiple ways to disseminate information)
- Direct mail campaign to include seasonal (spring/fall) newsletter from Medical Officer of Health to all residents with pandemic preparedness messages possibly combined with other important health messages such as smog, sun safety, West Nile Virus, heat safety, pesticide reduction
- Water bill inserts with hand washing/cover your cough messages
- Pandemic preparedness messages included with other TPH program messages to expand reach of communications channels
- Stories developed to show how simple infection control procedures increased positive outcomes
- Multilingual displays on infection control procedures developed for a variety of audiences, e.g. childcare, schools, workplaces
- Ad campaign for major shopping malls
- Video and public service announcement on infection control procedures developed for physicians' offices, hospitals, elevators, schools
- Video and public service announcement on infection control procedures, video billboards
- Call centre recorded messaging on pandemic information
- Newspaper ad campaign
- Pandemic Hotline

Pandemic Alert Key Messages

Key messages during the Pandemic Alert Period will focus on strategies in place to prepare for a pandemic, specifically how Toronto Public Health and the City of Toronto are building response capacity in all program areas for a pandemic. Key messages will inform the public about the situation and what they can do to protect themselves.

- City of Toronto is preparing for a pandemic
- All city divisions are working on pandemic response plans
- Businesses need to be prepared - we can help you plan
- You can prepare too
- Wash your hands
- Cover your cough
- Stay home if you are ill

Pandemic Alert Key Spokespersons

The key spokespersons will focus on preparedness during the pandemic alert period.

- Medical Officer of Health – Toronto Public Health
- AMOH and Director Communicable Disease Control – Toronto Public Health
- Manager, Communicable Disease Liaison Unit – Toronto Public Health
- Corporate/divisional spokespersons – to be determined
- Health partner/stakeholder spokespersons – to be determined
- Mayor
- Chair of Board of Health

Pandemic Alert Information Approval Process

Toronto Public Health is the communications lead for the city during the pandemic alert period. The Medical Officer of Health, Toronto Public Health Communications, and Communicable Disease Control will establish internal communications verification and clearance/approval procedures for Toronto Public Health. Corporate and other divisional pandemic messages will be developed in coordination with Toronto Public Health to ensure consistent key messaging. TPH will collaborate with provincial officials and other public health units.

Pandemic Alert Audience

All internal, external and stakeholder audiences (see page 6) must be considered during the pandemic alert phase. Information content, translation requirements, distributions systems and feedback requirements will be considered for all deliverables and tailored to each audience as required.

Pandemic Alert Media Relations

Toronto Public Health's (TPH) central message in the pandemic alert period focuses on planning and preparedness. Through a report to the Board of Health in May 2005 and many interviews, TPH informed the public, staff, other health partners and senior governments that the City is taking the risk of a pandemic seriously and is planning accordingly.

The TPH website remains a source of information on the pandemic and regular influenza for reporters. TPH is also working with the media to deliver its annual messages about flu shots and clinics. This activity is an opportunity to deliver pandemic influenza messages as well.

TPH will develop a health partner/stakeholder spokesperson list for the media.

A dedicated pandemic influenza media hotline may be necessary. TPH staff dedicated to pandemic influenza communications and provided with the latest information would respond to calls. This would provide one-stop shopping for reporters and help ensure accurate, timely and consistent messages from TPH. A dedicated line would also free up the regular media lines for requests not related to the pandemic.

Pandemic Alert Risk Communications

During the pandemic alert period communications will focus on the following pro-active actions and strategies:

- Establish credible, trustworthy TPH spokesperson
- Consider and address each audience's needs and concerns
- Prioritize development of messages for each audience
- Ensure message is free from jargon, provides realistic advice and is easy to translate
- Use clear and effective graphics and design
- Consider audience education, current subject knowledge, experience, age, language spoken/read, cultural norms, belief systems, socio-economic status and geographical location

Pandemic Alert Evaluation

Evaluation and feedback mechanisms will be built into communications vehicles whenever possible. Materials will be focus-group tested. Strategies used to meet the goals and objectives will be reviewed. Overall effectiveness of communications plan will be assessed. Telephone inquiries at all call centres, web site visits, event attendance, media coverage, correspondence will be measured. A communications summary report will identify benefits, costs and program changes prior to the next phase.

4.0 Pandemic Period (Phase 6)

Pandemic Period Goals

- Reduce death and illness associated with sustained transmission of a new and virulent strain of influenza in the general population
- Minimize societal and economic disruption
- Communicate the changing role of Toronto Public Health during a Phase 6 pandemic period, including the activation of Emergency Operations Centres

Pandemic Period Objectives

- Clarify the roles and responsibilities concerning decision-making authority and how decisions will be communicated
- Outline ongoing surveillance activities
- Communicate the importance of continuing with stringent infection control measures and other public health measures
- Communicate the symptoms of illness and notify health partners, the media and the public, especially seniors, long-term care providers, schools and vulnerable populations
- Announce changes in levels of TPH health care services

Pandemic Period Strategies

The strategy during pandemic period Phase 6 will be to assist the public in coping with the pandemic influenza. This includes an explanation of what to expect during this phase of sustained transmission in the general population, including altering behaviours and changes in services for all audiences - internal, external and stakeholders.

The internal strategy requires a clear explanation of what to expect when the TPH Emergency Operations Centre has been activated. Details about the Incident Management System (IMS) and the roles and responsibilities of the Medical Officer of Health, the Public Health Incident Manager and the Public Information and Liaison functions will be communicated to staff and to the media.

The communications resources of all City divisions may be required to provide a comprehensive range of products and services. All divisions will be responsible to ensure residents and businesses are kept apprised of developments during the pandemic period, including any changes to the provision of City services and any major actions required. The Toronto Health Connection and Access Toronto Call Centre will play a critical role in delivering public information in the event of a pandemic. Call centres serve as a primary information service on behalf of the City. Call centre capacity will be expanded during an emergency to respond to increased call volumes. The official City of Toronto Web site will feature a direct link to pandemic information and will be updated regularly.

Stakeholder communication includes ensuring a timely exchange of information between the Ministry of Health and Long-Term Care (MOHLTC) Ministry Emergency Operations Centre, the Toronto Emergency Operations Centre and the Toronto Public Health Emergency Operations Centre, and sharing relevant information with all stakeholders. See Draft Communications Cycle – Pandemic Period, Appendix 10.

Actions include:

- Communications to staff - voicemail, e-mail, hotline, secure intranet site for management of overall TPH response, including staff reassignments
- Notification of reduction of services and possible alternatives
- Promote official guidelines and recommendations
- Coordination of time, location, protocols for media briefings, staff meetings, teleconferences
- Updates and information exchange with hospitals and health partners
- Update of web posting
- Posters, notifications on public buildings
- Direct mail campaign – support campaign to encourage prompt self-diagnosis
- Electronic and video billboards
- Transit messaging
- Phone messaging

Pandemic Period Key Messages

Medical interventions such as vaccines and antiviral drugs will not be available for everyone. Messages will provide information about the distribution and specific things people should know or be doing to minimize risk and maintain health. For example:

- Toronto Public Health is responsible for the distribution and administration of vaccine and anti-viral medication in Toronto
- Priority groups have been established federally and provincially for the distribution of vaccine and anti-viral medication

- Toronto Public Health has a planned approach to reach the priority groups (with details on how people can obtain vaccine or anti-viral medication)
- Updated information on the number of cases (confirmed, suspected and potential)
- Identification of which government level is responsible for which key decisions, programs, services
- Self-imposed isolation information to protect people from unnecessary exposure
- Infection Control Measures continue – hand washing, "cover your cough" messages
- Business continuity messages (could include health precautions in the workplace, screening, environmental cleaning)
- How to stay healthy at home and at work
- Self diagnosis – symptoms and prevention
- Self treatment – what to do if you or your family get sick
- When to seek medical attention - list and degree of symptoms
- How to seek medical attention - where to go, protocol on how to enter hospital or medical centre
- Caring for the seriously ill
- Death at home - what to do next
- Bereavement counselling and support messages
- Where to go for non medical help – child care, pets, food
- Assess and publicize the current impact on Toronto, including reduction of programs
- Detailed information for health professionals
- Acknowledge and thank internal, external and key stakeholders for their efforts and cooperation
- Advise staff on appropriate personal protection

Pandemic Period Key Spokespersons

Toronto Public Health will continue to provide expert medical advice and leadership through key spokesperson during the activation of the Toronto Public Health Emergency Operations Centre. Toronto Public Health key spokespersons will actively participate in the City's Office of Emergency Management response.

- Medical Officer of Health - Toronto Public Health
- Associate Medical Officer of Health and Director of Communicable Disease Control –Toronto Public Health
- Public Health Incident Manager, to be determined
- Manager of the Office of Emergency Management - City of Toronto
- Corporate spokespersons, to be determined (Human Resources, TTC, Police, EMS)
- Mayor - City of Toronto
- Chair of Board of Health

Pandemic Period Information Approval Process

During a pandemic period, the information approval process becomes centralized through the Toronto Office of Emergency Management (OEM). The Toronto Office of Emergency Management is the coordinating agency for the City of Toronto Emergency Management Program Committee. This committee is composed of representatives from divisions throughout the City and assumes responsibility for managing and coordinating emergency operations and providing personnel and resources needed to minimize the effects of the emergency.

Approval of TPH messages is the responsibility of the TPH Incident Manager and the Medical Officer of Health or designate. The responsibility for preparing and releasing information to the public falls under the Public Information function of the Incident Management System. For more information please refer to the Toronto's Emergency Plan, May 2005 at www.toronto.ca/wes/techservices/oem/index.htm

Pandemic Period Audience

All internal, external and stakeholder audiences (see page 6) must be considered during the pandemic period. Communications content and delivery will be tailored to audiences as required. Particular focus and messages will be crafted for:

- People who are sick
- People who are taking care of people who are sick
- City staff
- Federal, provincial governments
- International audience
- Business community
- Hospitals
- Other health partners

Pandemic Period Media Relations

The media are a prime transmitter of communication and information. They play a critical role in setting agendas and in determining outcomes.

The pace of media relations will accelerate significantly once the pandemic period begins. Messages to the public and staff, businesses and governments and the international community about the situation in Toronto will be delivered through the media. News releases, fact sheets, backgrounders, brochures, speaking notes, TV and radio ad scripts will be some of the communication products.

Once an emergency has been declared and the Incident Management System has been implemented, the responsibility for Toronto Public Health media relations and communication strategy shifts to the Public Information function under the Public Health Incident Manger.

Toronto Public Health Communications will support the Public Information media relations function along with communications staff from other city divisions.

News conferences will be held regularly. Timing would depend on when provincial and federal conferences take place. The Medical Officer of Health or designate will update the public health aspect of the pandemic's impact on Toronto. A communicable disease expert will be needed to provide clinical updates.

The Mayor, Chair of the Board of Health, EMS, Police and other agencies may be part of the media conferences. There may be a need for joint conferences with hospitals and other agencies, such as school boards, and senior governments. Media relations staff may be required to be on call late into the evening and possibly around the clock.

Pandemic Period Risk Communications

This period will involve a highly complex information environment. Communicating catastrophic news and helping people learn to cope with trauma and uncertainty requires attention to the following:

- Assessing the environment in which information is being introduced
- Understanding the public's attitude toward the situation
- Acknowledging and attempt to contain public anxiety, grief and distress
- Dealing with resistance to accept change
- Recognizing and acknowledging anger and frustration
- Keeping up with changes in decision making
- Addressing worry and concern

Pandemic Period Evaluation

Evaluation during Phase 6 provides a significant opportunity to add to the international body of knowledge about this type of emergency communication plan. Evaluation will identify the benefits and costs of changes and assist in reaching an agreement on any needed adjustments in order to improve response strategy.

5.0 Postpandemic Period

Postpandemic Goals

- Declare end of emergency operations
- Address public health needs, including grief and post-traumatic stress counseling
- Provide information on the re-establishment of essential public health services
- Acknowledge contribution of all stakeholders and staff

Postpandemic Objectives

- Join with other stakeholders in public announcements to show comprehensive approach
- Publicly address community emotions after pandemic
- Make people aware of uncertainties associated with subsequent waves
- Prepare for transfer of responsibilities from Toronto Emergency Management Program Committee back to Toronto Public Health
- Request and advocate for recovery assistance as required

Postpandemic Strategies

The strategy during this period is to help people move toward hope for the future through actions they can take and through the actions of all responders to the pandemic. Tactics that support the Toronto Public Health strategy for recovery may include:

- Official announcement of end to emergency measures
- Communication to residents and staff regarding the social and economic recovery plans
- Announcements and notifications of gradual restoration of services
- Continued promotion of key health messages - infection control procedures
- Information about possible relapse

- Posters on public buildings
- Healthy city social marketing campaign with appropriate partners
- Direct mail campaign

Postpandemic Key Messages

Key messages will inform the public of plans for the gradual return of services. The focus is on recovery and rebuilding. Key messages include:

- Toronto is recovering from the pandemic
- We are all adjusting to a changed environment
- This has been a difficult time for everyone
- Toronto Public Health will help you and your family
- Recovery means that residents can again access some of the best public health programs and services in the world - services are increasing
- TPH continues to implement improvements in emergency planning
- TPH is working closely with partners, stakeholders and the community to improve capacity for community outreach after the pandemic
- TPH continues to work with businesses to help with recovery efforts
- Final death toll, other statistics
- Remembrance messaging

Postpandemic Key Spokespersons

During this period key spokespersons from other city divisions, levels of government or elected officials will speak to their recovery efforts. In Toronto Public Health key spokespersons include:

- Medical Officer of Health
- Associate Medical Officer of Health and Director of Communicable Disease Control
- Toronto Public Health Directors and/or Managers as required

Postpandemic Information Approval Process

Information verification and clearance approval for the release of information are the joint responsibility of the:

- Medical Officer of Health
- Director of Communicable Disease Control and Associate Medical Officer of Health
- Associate Medical Officer of Health
- Manager of Communications
- Manager of Communicable Disease Liaison Unit
- Designated subject matter expert or manager

Postpandemic Audience

All internal, external, stakeholders audience with particular focus on:

- Internal – how to return to business as usual
- International
- Businesses

Postpandemic Media Relations

Once the pandemic ends, the media relations focus will shift to analysis and follow-up. Reports to the Board of Health and senior governments on the pandemic's impact on Toronto and the TPH response would be natural sources of further media interest. Recommendations for improvements, along with the associated issues of budgets and staffing, will also be a focus in this phase.

Postpandemic Risk Communications

During the postpandemic period, risk communications will focus on the significant emotional needs of those who have been most affected by the pandemic. Understanding and being sensitive to the emotional and physical impact and the permanent life changes for individuals and organizations will help shape the tone of all communication. Key messages will:

- Acknowledge failures or mistakes
- Be a role model by showing a willingness to carry on
- Help people regain a sense of control by giving them reasonable choices
- Work with the community towards solution

Postpandemic Evaluation

Evaluation of communications in the postpandemic period is an opportunity to review information about how functions and responsibilities have been carried out. It will document the progress made on meeting communications requirements and expectations during each pandemic period. An overall evaluation report will help identify effective and ineffective services, practices and approaches. By reviewing the communications strategies, tactics and actions Toronto Public Health can develop improved service delivery and determine future objectives for other programs. The evaluation of communications will likely be part of a larger evaluation report on the pandemic response. Evaluating the effectiveness of communications response and reviewing lessons learned will guide future actions.

Chapter 6 Emergency Planning

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1.0 Introduction

Emergency measures address coordination and preparation of services needed to maintain public safety and order during a pandemic. These include security for vaccine transportation and clinics, location and acquisition of space for clinics and emergency operations as required, volunteer management and mass fatality issues. As per the City of Toronto Emergency Plan, Toronto Public Health is the lead agency for Psychosocial Response and Recovery and Animal Protection Operational Support Functions (OSF). Shelter, Support and Housing Administration is the lead City agency for Donations and Volunteer Management and Mass Care OSFs. Toronto Police Services and Office of the Chief Coroner are the lead agencies for Mass Fatality OSF. Toronto Public Health will continue to support these agencies in the further development and operationalization of these components for the circumstances of pandemic influenza. Other key stakeholders include Office of Emergency Management, Corporate Security, Toronto Fire Services, Toronto Emergency Medical Services, other key City Divisions, Toronto Transit Commission, Canadian Red Cross, St. John Ambulance, Funeral Home Association, Ontario Hospital Association and the Greater Toronto Hotel Association.

2.0 Elements of the Emergency Plan

2.1 Vaccine Security

Toronto Police Services will provide security for the transportation of vaccine. Vaccine will be picked up at a designated provincial site and transported to either Toronto Public Health or directly to a mass vaccination site.

Next Steps

Consultation with City of Toronto Corporate Security will need to occur in order to effectively plan for vaccine security at mass vaccination clinics.

2.2 Public Order Security

Toronto Police Service will provide perimeter control in high traffic areas such as hospital parking lots. In the event of societal disruption, Toronto Police Services have identified the need to mobilize every available officer for public order needs. Toronto Police Services respond to all 911 calls in collaboration with Emergency Medical Services and Toronto Fire Services. As a viable part of the tiered emergency call response in Toronto, further planning is needed in order to review Police Services roles in responding to influenza related calls. Police officers may also be called upon to enforce public health orders. Planning needs to occur as to how this will occur during a pandemic.

2.3 Alternate Care Sites

Alternate care sites are temporary health care sites that could be opened during a pandemic influenza to deal with the overflow of patients seeking medical attention.

Toronto Public Health conducted a health care service capacity survey of Toronto hospitals in 2004. It was found that there is no surge capacity in Toronto hospitals to deal with the expected volume of patients who will seek medical attention during a pandemic influenza. There will be a shortage of health care providers required to keep the doors of Toronto hospitals open. The key stakeholder group planning health services and emergency measures felt strongly that alternate care facilities are not feasible at this time due to the lack of surge capacity and the lack of human resources in the current health care settings.

Provincial planning for alternate care sites will continue in 2005/06 in the form of a literature review/environmental scan/feasibility study and will address the viability and the feasibility of these sites and look at the required supplies, equipment and HR resources.

2.4 Isolation Framework for Community Living Settings

The issue of isolating individuals in community living settings who are unwilling/unable to be isolated is a complex issue. Settings would include shelters, rooming houses, boarding homes, university residences, correctional facilities, group homes for developmentally challenged individuals, etc. It is an assumption that not everyone who is ill in these settings will be able to be sent to an acute care facility for health services. Care in place will need to occur.

In order to begin to address this issue, Toronto Public Health initiated a stakeholder advisory group of homeless services providers. This group worked on developing a framework for dealing with ill residents of shelters, rooming houses, boarding homes and drop-in centers. Since this population can be quite migratory during the day seeking community services, the potential for infection is great. Overcrowding and living in close proximity means that influenza is likely to spread quickly throughout these community living settings. Resources are already limited and most facilities have little or no health care provider support.

The framework provides homeless services providers in the City of Toronto with a decision making tool to deal with progressive numbers of ill residents in a shelter situation. Each shelter or facility is physically set up differently so decisions need to be made by looking at individual settings and keeping in mind the numbers of individuals who are ill. Infection control practitioners provided infection control expertise in the development of this framework. While the ideal situation may be to provide an isolated, physically separate living situation for the ill homeless population, the reality is that because of the volume of ill individuals, most people will need to stay in the shelter or other setting. An overview of the framework is in Appendix 1, under the heading Planning Guide for Homeless Service Providers.

The isolation issue is not specific to the homeless population. There are other community living settings where isolation of ill individuals will be difficult. Students living in university/college residences will have nowhere else to go when ill. Correctional facilities will not be able to send all ill inmates to hospitals because there will be no capacity available. Working with these agencies/facilities will need to occur in the future in order to further plan for the issues of isolation in community living settings.

2.5 Child Care/Supportive Care Issues

It is expected that the need for childcare will increase throughout the pandemic. While the mortality rate for children infected with pandemic influenza will be low, the infection of parents and other caregivers is likely to have a more significant impact on the welfare of their children. Protecting children whose parents and/or family are unable to care for them either on a temporary or permanent basis will be necessary. To plan for this, discussion has been initiated with the Executive Directors of each of the four Toronto child welfare agencies. Through their Executive Director meeting, a process will be established

to review each of their existing or developing emergency response plans to ensure that they address pandemic influenza and to facilitate co-ordination across the four agencies.

Other vulnerable populations may also be affected by ill or deceased care providers. The issue of provision of support in the community will need to be addressed in the future. This may include vulnerable seniors, disabled individuals, etc.

Next Steps

Discussion/consultation with stakeholders working with vulnerable populations will need to occur in order to plan effectively for support to this community.

2.6 Maintaining Critical Essential Services

The planning for maintenance of critical essential services in our community will need to continue.

The role of City government will include: declaration of an emergency to free up required resources and reallocation of staff, provision of essential services, ensuring the health and safety of City workers and communication with staff and the public. It is important that all divisions in the City develop service continuity plans to ensure the continued delivery of essential services.

For more details, please refer to Appendix 1 for the City Division Planning Guide.

2.7 Psychosocial Services

People impacted by a disaster, including pandemics, have to adjust to significant changes in their lives. The resulting psychological, social and economic disruptions affect the well-being of individuals, families and the community as a whole. During these events, people may have to grieve for their losses, deal with personal or family crises, or perhaps look for a new job. Many will need to learn to talk about their feelings and experiences and how to face the challenges of an unknown future. As part of Toronto Emergency Plan, an Operational Support Function has been drafted to address psychosocial issues.

Toronto Public Health's Psychosocial Services offer victims of disasters timely and appropriate information and services to help them better understand, express, and manage the psychosocial effects of disasters and their consequences and facilitate their journey to recovery and healing.

In a pandemic, Toronto Public Health will co-ordinate with partner agencies and will identify, monitor, track and respond to psychosocial needs and requirements with those affected. Based on this ongoing assessment, the delivery of psychosocial services to affected populations will be mobilized and coordinated.

Trauma-affected individuals, families, communities and cultures have inherent strengths and resilience. Toronto Public Health along with community partners will coordinate a psychosocial response to enhance these strengths and promote healing and recovery. Toronto Public Health and partner agencies will facilitate opportunities for social support, education to maximize access to existing resources.

2.8 Volunteer Management Plan

Volunteer agencies played a key role in SARS response and it is anticipated that they will play an integral role in a future pandemic. In collaboration with the City of Toronto's Office of Emergency Management, Corporate Human Resources and the volunteer sector, a volunteer management plan has been developed. The Plan outlines a process through which volunteers would be referred to an affiliate agency utilizing the Donation and Volunteer Operations Centre (DVOC). Meetings with volunteer organizations have been held to further the development of the framework, with a view to developing memoranda of understanding for volunteer management. For information related to health and safety issues for volunteers, please refer to Appendix 1 for the Volunteer Sector Planning Guide.

2.8.1. Pandemic Influenza Volunteer Management Plan

It is estimated that in the city of Toronto there will be 392,000 to 914,000 people clinically ill, with 161,000 to 701,000 requiring outpatient care, 1,600 to 14,000 requiring hospitalization and 630 to 4,300 people will die. Response activities will include not only direct provision of health care, but also dealing with issues such as mass fatalities and increased pressure on other public services.

Many of these response activities will need to occur simultaneously and within each phase. The health care system may become overwhelmed within a short period of time and there will be a great need for additional human resources within the public service sector.

The issue of volunteerism will therefore become another key element in responding to a pandemic influenza. The City is undertaking a number of measures to put systems in place that would allow for efficient mobilization and utilization of volunteer resources. Volunteer agencies played a key role in the SARS outbreak and it is anticipated that they will play an integral role in a future pandemic.

Pandemic volunteer management planning is based on Toronto Emergency Plan, Canadian Pandemic Influenza Plan, Ontario Health Pandemic Influenza Plan, and learning from the SARS experience. Toronto Emergency Plan provides an outline for volunteer management which can be implemented in any emergency situation, and establishes a consistent framework for coordinating with many volunteer organizations that would be required to support a response.

Based on the above documents and in collaboration with the City of Toronto Office of Emergency Management (OEM) and Corporate Human Resources, Toronto Public Health (TPH) leads the development of a pandemic volunteer management framework. Meetings with major volunteer organizations have been held to further the development of this framework, with a view to developing memoranda of understanding for volunteer management. The framework identifies possible roles and responsibilities of different agencies within the pre-pandemic, pandemic and post-pandemic periods (see pg.72 and 73).

2.8.2. Pre-pandemic Period

During the pre-pandemic period, the Office of Emergency Management will work with Toronto Public Health and Shelter, Support and Housing Administration, as well as volunteer agencies to develop the volunteer framework further so that it can be operationalized in the pandemic period. Roles and responsibilities of different agencies involved still need to be clarified and agreed upon.

As the existing volunteer agencies will be the primary source of already screened and trained volunteers, ongoing communication and planning with these agencies is one of the focus areas for TPH. A separate planning guide has been developed in order to assist volunteer agencies with their contingency planning related to pandemic influenza (See Appendix 1).

Efforts to educate all the stakeholders, including the general public about the expected pandemic are ongoing. This also includes messaging related to the promotion of volunteerism and the expected great need for human resources.

2.8.3 Pandemic Period

Activities related to volunteer management during the pandemic period will be four-fold:

a) Needs Assessment

During the initial phase of the pandemic period and as part of the overall response, needs assessment will be conducted to determine the extent of the emergency and to develop response objectives. Based on this and having in mind already available resources, areas in which it may be necessary to engage volunteers will be identified.

b) Volunteer agencies supportive assistance

Volunteer agencies may be providing supportive assistance to the emergency response. For example, during SARS the Canadian Red Cross and The Salvation Army were delivering medical kits to people in quarantine. The decision to do this will be made based on the needs

assessment and other service related considerations (efficiency, skill-sets required, cost savings, etc.).

c) Registration of new volunteers

It is expected that during the pandemic period, many people will come forward to volunteer their time or give donations. In order to manage this influx of offers, a Donation and Volunteer Operations Centre (DVOC) will be set up to coordinate activities of voluntary efforts and deal with incoming offers and requests. The types of calls that will come to this centre may include the following:

- offers from individuals to volunteer their time
- offers of assistance from volunteer agencies
- offers of financial donations
- offers of in-kind donations from individuals
- offers of goods and services from organizations both public and private
- offers of assistance from outside of Toronto
- requests for assistance from individuals (both goods and services)
- requests for assistance from organizations (both goods and services)

As the information comes into the DVOC, it will be entered into a database and assigned a tracking number. The information will undergo an initial assessment with the following decisions being made:

- Offer from individuals to volunteer their time will be referred to Volunteer Toronto, who will refer the individuals to the most appropriate volunteer agency (based on the matching of the individual's skill set with needs of particular volunteer agencies).
- Offers of assistance from volunteer agencies will be processed further based on needs assessment and response activities.
- Offers of financial donations will be directed to identified volunteer organizations or bank accounts (if established).
- Offers of in-kind donations will be discouraged. Experience shows that financial donations are the most efficient, as they reduce (or eliminate) the time necessary to process donations, transportation and handling costs. Financial donations also ensure that the goods purchased are the most appropriate ones, which may also be a risk-management tactic.
- Offers from outside the Toronto area will be referred to the Province (EMO) for coordination.
- Requests for assistance will be assessed, prioritized and referred to the most appropriate service provider. This can include a volunteer agency, a city service or an external organization.

The responding agency or organization for each of the above scenarios will be accountable for their particular response.

d) Utilization of volunteers by the City

In certain service areas it may be possible that newly registered volunteers are temporarily and directly engaged by the City, provided they have the required skill sets. Examples of these service areas include: providing admin support to mass vaccination clinics, greeting at mass vaccination centers, providing support to homeless shelters, etc.

2.8.4 Post-pandemic Period

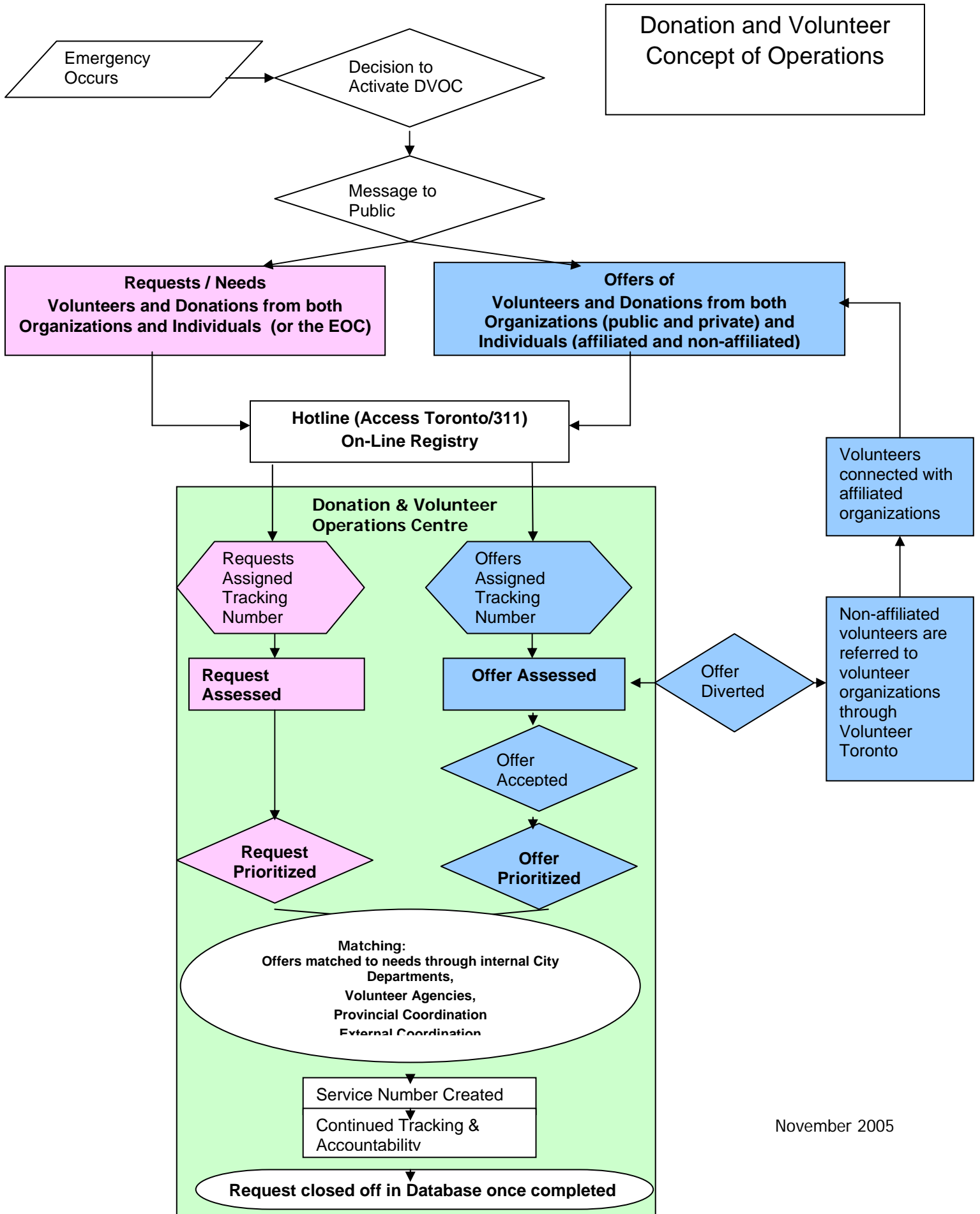
Volunteer agencies are encouraged to conduct debriefing sessions with their volunteers. In addition, EMO will organize debriefing meetings with partnering volunteer agencies to identify achievements and areas of improvement. Volunteer management plans will be revised to reflect the learning and new best practices.

Volunteer Management Plan

	Pre-pandemic period	Pandemic period	Post-pandemic period
Office of Emergency Management (OEM)	<ol style="list-style-type: none"> 1. Follow up with Shelter, Support & Housing Administration regarding further development of Donations and Volunteer Management OSF as part of Toronto Emergency Plan. 2. Development of policies and procedures for setting up a Donation and Volunteer Operations Centre (DVOC) and ensuring that systems are in place. 3. Support the efforts of volunteer agencies to promote volunteerism. 	Ongoing communication with TPH, Shelter Support & Housing Administration and volunteer agencies in order to address issues as they come up.	<ul style="list-style-type: none"> - Participate in volunteer appreciation/recognition events as appropriate. - Utilize findings from volunteer debriefings to identify areas of improvement.
Toronto Public Health (TPH)	<ol style="list-style-type: none"> 1. Relationship with volunteer agencies established. 2. Support further development of a framework for volunteer management for the circumstances of pandemic influenza. 	<ol style="list-style-type: none"> 1. Ongoing communication with OEM and volunteer agencies. 2. Ongoing messaging through media to the public to encourage the most efficient ways of assisting with the response activities. 	<ul style="list-style-type: none"> - Participate in volunteer appreciation/recognition events as appropriate. - Utilize findings from volunteer debriefings to identify areas of improvement.
Volunteer Agencies	<ol style="list-style-type: none"> 1. Pre-pandemic recruitment: <ul style="list-style-type: none"> - volunteer position descriptions in place - screening/interviews - references and documentation - criminal record searches, where required/appropriate - placement, orientation and training 2. Policies and procedures in place for recruitment and orientation of volunteers during the pandemic period (referred by the DVOC, or walk-in volunteers). 	<ol style="list-style-type: none"> 1. Continued communication with TPH. 2. Upon receiving a request from TPH for support to specific response actions organize for a deployment of volunteers by: <ul style="list-style-type: none"> - scheduling - providing briefing, instructions, training as needed - on-going support and management of volunteers 3. As needed, implement policies and standards for the recruitment of new volunteers referred by the DVOC, or walk-in volunteers. 	<ul style="list-style-type: none"> - Debriefing and response evaluation - Volunteer appreciation/recognition events and activities

Next Steps

While the concept of operations for volunteer management has been identified (chart provided on the next page) it still needs to be operationalized and address issues such as the location of the DVOC, lead implementation agency, identification of service areas for volunteer engagement, etc.



November 2005

2.9 Mass Fatality Plan

A Mass Fatality Plan has been developed with key stakeholders. The Regional Coroner's Office is working with this stakeholder group to outline a plan for managing deaths that occur in the community as a result of pandemic influenza. This plan will outline the assessment of the deceased in their home, pronouncement protocols to follow transportation of the body to the funeral home and death certification. This will involve screening at 911 to help assess the situation. The draft plan has been sent from the Coroner's Office to the Provincial Infectious Disease Advisory Committee for consultation.

Toronto Public Health continues to meet with key stakeholders in the funeral home sector to further planning for body management issues. Education sessions continue to be provided.

2.9.1. Management of Mass Fatalities during Pandemic Influenza

The total number of deaths (including all other causes) during a pandemic wave of six to eight weeks is estimated to be similar to that which usually occurs over a period of six months. Planning for mass fatalities is therefore necessary as there will be a strain on the current system for a prolonged period of time. Some of the issues that need to be addressed include:

- pronouncement and certification of deaths
- transportation of bodies
- morgue capacity, including in acute care facilities
- planning and gathering at funerals
- supply management

A few documents providing guidance for planning around these and other related matters are already in place:

- ✓ The Canadian Pandemic Influenza Plan provides an annex that contains guidelines to assist local authorities and other relevant agencies in planning for the management of mass fatalities during a pandemic influenza, including dealing with issues such as corpse management, temporary morgues, transportation, social/religious considerations, etc.
- ✓ The Ontario Health Pandemic Influenza Plan outlines a requirement to develop a plan at the local level for mass fatalities resulting from a pandemic influenza.
- ✓ The Office of the Chief Coroner of Ontario has prepared a Provincial Multiple Fatality Plan. This plan has a recent addition that reflects the anticipated increased mortality of a pandemic influenza.

Toronto Public Health is collaborating with the City's Office of Emergency Management in the development of a mass fatality plan, which could be utilized in the event of a pandemic. In addition to that and as part of the development of Toronto Pandemic Influenza Plan, Toronto Public Health has established an advisory committee of key stakeholders in the funeral home sector to examine the above issues and develop specific plans for addressing them. Meetings with the Regional Coroner's Office have occurred to further the development of this plan and to address local capacity issues.

The following table identifies roles and responsibilities of different agencies within the pre-pandemic, pandemic and post-pandemic period. The list is not exhaustive and is subject to change, based on the future planning considerations. The Planning Guide for Funeral Homes and Crematorium Services in Appendix 1 provides further planning considerations for the sector.

Table 1: Mass Fatality Plan

	Pre-pandemic period	Pandemic period	Post-pandemic period
Office of Emergency Management (OEM)	<p>Developed a draft Mass Fatality OSF as part of Toronto Emergency Plan, together with Toronto Police, Coroner's Office, Transportation Safety Board, TPH and other agencies.</p> <p>Next Steps</p> <p>Identify the lead to ensure that the plan is finalized and systems in place for implementation as needed.</p>	<ol style="list-style-type: none"> 1. Ensure mass fatality issues are communicated to affected stakeholders through the Emergency Operating Centre (EOC). 2. Maintain contact with the Provincial Emergency Operations Centre and Office of the Coroner. 3. Establish if Funeral Directors Association representation is required at the City's Emergency Operations Centre. 	<ul style="list-style-type: none"> - Conduct evaluation of the response as it relates to dealing with mass fatalities. - Utilize findings to identify areas of improvement.
Toronto Public Health (TPH)	<ol style="list-style-type: none"> 1. Relationship with relevant agencies, including Coroner's Office, Funeral Directors Association, and Toronto Police Service, established. 2. Planning Guide for Funeral Homes developed to assist in their planning on how to reduce and deal with the impact of the high number of fatalities on the sector. <p>Next Steps</p> <p>Keep in close contact with relevant agencies and provide expert advice as to how to deal with the effects of a pandemic.</p>	<ol style="list-style-type: none"> 1. Establish representation at the City's Emergency Operations Centre. 2. Ongoing communication with relevant agencies in order to address issues as they come up. 3. Ongoing monitoring of necessity of measures to protect public health (e.g. restricting attendance at funerals). 4. Ongoing communication with the general public through media and other appropriate channels to inform them regarding the above public health measures. 5. Ensure provision of psychosocial support to the families of the deceased. 6. Provide care for ownerless pets. 7. Through Toronto Health Connection hot line 416-338-7600, provide information and/or referrals. Information related to fatalities is also going to be posted on TPH's web site. 	<ul style="list-style-type: none"> - Conduct evaluation of the response as it relates to dealing with mass fatalities. - Utilize findings to identify areas of improvement.
Toronto Police Service	<p>As one of the lead agencies for dealing with mass fatalities, Toronto Police Service was involved in developing the Mass Fatalities Operational Support Function (OSF), as part of Toronto Emergency Plan.</p> <p>Next Steps</p> <p>Next steps/ongoing: Ensure systems are in place to implement the OSF as needed.</p>	<ol style="list-style-type: none"> 1. Establish representation at the City's Emergency Operations Centre. 2. Implement the Mass Fatalities Operational Support Function as outlined. 	<ul style="list-style-type: none"> - Conduct evaluation of the response as it relates to dealing with mass fatalities. - Utilize findings to identify areas of improvement.
Toronto Regional Coroner's Office	<p>Participated and provided expert advice to the development of the mass fatality plan and recommendations for dealing with the impact of pandemic on the sector.</p> <p>Next Steps</p> <p>Next steps/ongoing: Ensure systems are in place to implement the OSF when needed.</p>	<ol style="list-style-type: none"> 1. Ensure communication between Provincial EOC and Toronto EOC related to mass fatality issues. 2. Based on the needs assessment, provide consultative advice on identification of morgue site and/or temporary short-term storage facility. 3. Provide advice on notification of the next of kin, if needed. 4. Communicate with the Office of the Chief Coroner of Ontario, in particular regarding the need to activate the Provincial Multiple Fatality Plan. 	<ul style="list-style-type: none"> - Provide input to the response evaluation and help identify "best practices" for future implementation.
Hospitals	<p>As part of pandemic influenza planning, develop specific plans for dealing with high mortality rates in hospitals due to pandemic.</p>	<ol style="list-style-type: none"> 1. Based on need, enlarge morgue capacity or adapt alternate space to accommodate a higher than normal mortality rate. 2. Notify TPH of all deaths with influenza as the cause or contributing cause. 	<ul style="list-style-type: none"> - Provide input to the response evaluation and help identify "best practices" for future implementation.
Funeral Homes and Crematoriums	<ol style="list-style-type: none"> 1. Develop preparedness plans to address issues such as supplies, equipment, vehicles and personnel. 2. Maintain a six months inventory of supplies in stock. 	<ol style="list-style-type: none"> 1. Implement preparedness plans. 2. Raise issues of concern with TPH or through the Board of Funeral Services and/or the office of Toronto and Regional District Funeral Directors. 3. Maintain a six months inventory of supplies in stock. 	<ul style="list-style-type: none"> - Provide input to the response evaluation and help identify "best practices" for future implementation.

2.9.2 Care of Deceased and other Technical Considerations

As the practice and legal requirements in the care and management of the deceased vary by province, it is important to outline requirements specific to Ontario. Under regular circumstances, what happens with the body of the deceased depends largely on the services selected and the final destination for the deceased. The executor and/or next of kin bear legal responsibility in the disposition of the deceased. Having in mind the estimated rate of mortality in pandemic influenza, it is expected that the funeral services sector will be significantly affected and funeral directors overwhelmed. Body storage and limited resources will be the main issue since capacity in funeral homes and hospitals is limited. Certain services may need to be adapted so that the capacity of the system is utilized in the most efficient way.

The following is an outline of the usual steps, along with some technical considerations that may be of influence in the situation of pandemic influenza:

Pronouncement of Death: In Ontario, there is no statutory requirement for who can pronounce death, although traditionally it has been done by someone with either medical training (nurse, paramedic, physician), or by someone in a position of authority (police officer). Death can be certified, however, only by a physician, or in certain specified circumstances by a Registered Nurse, Extended Class. Deaths warranting further investigation have to be reported to a coroner (deaths under circumstances listed in section 10 of the Coroners Act). The attending physician, or in some cases the coroner, completes the *Medical Certificate of Death* and submits it to the funeral home who takes it along with the Statement of Death (see below) to the local Division Registrar of the Office of the Registrar General of Ontario.

A family member or Funeral Director completes the *Statement of Death* with information about the deceased and submits it to the local Division Registrar of the Office of the Registrar General of Ontario. The Office of the Registrar General is responsible for registering deaths and issuing certified death certificates. They are required for such purposes as settlement of estates, insurance and access to or termination of certain government services, if the Proof of Death provided by the Funeral Home is not accepted.

Once the Certificate of Death and Statement of Death are completed, the next step is to obtain a *burial permit*. Burials and cremations cannot be performed until the burial permit is issued. Funeral Directors look after this requirement for the family. If the death occurs in Ontario but the burial is to take place outside of Ontario, the body cannot be removed until an Ontario burial permit is obtained. If the death occurs outside of Ontario but the burial or other disposition is to take place in Ontario, a burial, transit or removal permit is required from the jurisdiction where the death occurred.

If the deceased had expressed a wish to donate organs for transplant or the entire body for scientific research, arrangements are made quickly because there are specific time limits for making such donations. Donations can be refused for a range of reasons and the process for dealing with this issue in a pandemic is yet to be developed, although organs or bodies from potential donors who have died as a result of a contagious disease would not likely be accepted.

Because of the expected increased mortality rates in the pandemic the Emergency Management Unit of the Ministry of Health and Long Term Care is working to develop an expedited process for pronouncement, certification and registration of deaths that would minimize potential roadblocks and backlogs.

Transportation: The deceased is transported to a provider, cemetery or other destination, depending on the services selected. Funeral Directors usually look after this for the family. There are no special legal requirements in terms of driver license or vehicle for transportation of a corpse.

Morgue storage: In order to deal with the increase in fatalities, it may be necessary to develop strategies to augment funeral home and hospital morgue capacities. If the body is not going to be cremated, plans to expedite the embalming process should be developed since in the case of a pandemic, bodies may have to be stored for an extended period of time.

Temporary storage facilities must be considered. These may include refrigerated trucks. Use of local businesses for the storage of human remains is not recommended and should only be considered as a last resort. The post-pandemic implications of storing of human remains at these sites can be very serious and may result in negative impacts on business with ensuing liabilities.

The Office of the Chief Coroner has a morgue with a capacity for 100 bodies, while the combined capacity of Toronto removal services is between 25 and 50 bodies. The Office of the Chief Coroner has had discussions with the Ontario Trucking Association to access resources through their communication channels.

Autopsy: In order to establish the facts of death and to increase the medical knowledge about the disease the Coroner can order an autopsy. Many deaths in a pandemic would not require an autopsy. However, for the purpose of public health surveillance, respiratory tract specimens or lung tissue for culture or direct antigen testing could be collected post-mortem. Permission will be required from the next-of-kin for this purpose where the death has not been the subject of a coroner's investigation.

Embalming is not required in Ontario, but may be necessary under some circumstances. Cremated bodies are usually embalmed less often than bodies being buried.

Funeral service: Funeral homes should implement infection control measures to reduce the risk of influenza transmission through contact with families and friends of the deceased. Deceased bodies are not "contagious" and infection control measures are not required for the handling of persons who died from influenza. For specific infection control measures, refer to Chapter 10.

Burial: Bodies to be buried may or may not be embalmed and may need to be stored in a temporary vault prior to burial.

Cremation: Most crematoriums can handle one body every four hours but could run 24 hours to cope with increased demand. Cremations have fewer resource requirements than burials and, where acceptable, may be an expedient and efficient way of managing large numbers of corpses during a pandemic. Cremated bodies are embalmed less frequently. Families may choose to have a funeral service followed by cremation or to have the body cremated first and a memorial service later.

The table below from the Canadian Influenza Plan outlines limiting factors and possible solutions for each step in the management of a corpse.

Table 2: Corpse Management

Steps	Requirements	Limiting Factors	Planning for possible solutions/expediting steps
Death pronounced	<ul style="list-style-type: none"> Person legally authorized to perform this task 	<ul style="list-style-type: none"> If death occurs in the home then one of these authorized persons will need to be contacted Availability of people able to do this task 	<ul style="list-style-type: none"> Provide public education re: how to access an authorized person Consider planning an on call system 24/7 specifically for this task
Death Certified	<ul style="list-style-type: none"> Person legally authorized to perform this task 	<ul style="list-style-type: none"> Legally, may not necessarily be the same person that pronounced death 	<ul style="list-style-type: none"> Consider collecting corpses and having one authorized person perform this task en masse to improve efficiency
Body wrapped	<ul style="list-style-type: none"> Person(s) trained to perform this task 	<ul style="list-style-type: none"> Body bags Supply of human and physical (body bags) resources If death occurs in the home: the availability of these requirements 	<ul style="list-style-type: none"> Consider developing a rotating six month inventory of body bags, given their shelf life Consider training or expanding the role of current funeral home staff to include this task Provide this service in the home in conjunction with pronouncement and transportation to morgue
Transportation to the morgue	<ul style="list-style-type: none"> In hospital: trained staff and stretcher Outside hospital: informed person(s), stretcher and vehicle suitable for this purpose 	<ul style="list-style-type: none"> Availability of human and physical resources 	<ul style="list-style-type: none"> In hospital consider training additional staff working within the facility Consider keeping old stretchers in storage instead of discarding Look for alternate suppliers of equipment that could be used as stretchers in an emergency e.g. trolley manufacturers Outside hospital: provide public education or specific instructions re: where to take corpses if the family must transport

Steps	Requirements	Limiting Factors	Planning for possible solutions/expediting steps
Morgue storage	<ul style="list-style-type: none"> • A suitable facility that can be maintained at +4 to +8 ° Celsius 	<ul style="list-style-type: none"> • Capacity of such facilities 	<ul style="list-style-type: none"> • Identify and plan for possible temporary morgue sites
Autopsy if required/requested	<ul style="list-style-type: none"> • Person qualified to perform autopsy and suitable facility with equipment 	<ul style="list-style-type: none"> • Availability of human and physical resources • May be legally required in some circumstances 	<ul style="list-style-type: none"> • Ensure that physicians and families are aware that an autopsy is not required for confirmation of influenza as a cause of death
1.Cremation*	<ul style="list-style-type: none"> • Suitable vehicle for transportation from morgue to crematorium • Availability of cremation service • A cremation certificate 	<ul style="list-style-type: none"> • Capacity of crematorium/speed of process • Availability of coroner or equivalent official to issue certificate 	<ul style="list-style-type: none"> • Identify alternate vehicles that could be used for mass transport • Examine the capacity and surge capacity of crematoriums within the jurisdiction • Discuss and plan appropriate storage options if the crematoriums become backlogged • Discuss and plan expedited cremation certificate completion processes
2.Embalming**	<ul style="list-style-type: none"> • Suitable vehicle for transportation from morgue • Trained person • Embalming equipment • Suitable location 	<ul style="list-style-type: none"> • Availability of human and physical resources • Capacity of facility and speed of process 	<ul style="list-style-type: none"> • Consult with service provided regarding the availability of supplies and potential need to stockpile or develop a rotating 6 month inventory of essential equipment /supplies • Discuss capacity and potential alternate sources of human resources to perform this task (e.g. retired workers or students in training programs) • Consider “recruiting” workers that would be willing to provide this service in an emergency
3. Funeral Service	<ul style="list-style-type: none"> • Appropriate location(s), casket (if not cremated), Funeral director 	<ul style="list-style-type: none"> • Availability of caskets • Availability of location for service and visitation 	<ul style="list-style-type: none"> • Contact suppliers to determine lead time for casket manufacturing and discuss possibilities for rotating 6 month inventory • Consult with the Funeral Services Association of Canada (FSAC) to determine surge capacity and possibly the need for additional sites (e.g. use of churches etc. for visitation)
3a.Transportation to a temporary burial site	<ul style="list-style-type: none"> • Suitable vehicle and driver 	<ul style="list-style-type: none"> • Availability of human and physical resources 	<ul style="list-style-type: none"> • Identify alternate vehicles that could be used for this purpose • Consider use of volunteer drivers
3b.Temporary storage	<ul style="list-style-type: none"> • Access to and space in a temporary storage area 	<ul style="list-style-type: none"> • Temporary storage capacity and accessibility (e.g. ice rinks, curling rinks, cold storage lockers or refrigerated trucks) 	<ul style="list-style-type: none"> • Expand capacity by increasing temporary storage sites
3c. Burial	<ul style="list-style-type: none"> • Grave digger, space at cemetery 	<ul style="list-style-type: none"> • Availability of grave diggers and cemetery space • Extreme cold and heavy snow fall 	<ul style="list-style-type: none"> • Identify sources of supplementary workers

* Cremated bodies are not usually embalmed; families may choose to have a funeral service followed by cremation or to have the body cremated first and a memorial service later.

** Bodies to be buried may be embalmed and may need to be stored in a temporary vault prior to burial.

2.9.3. Funeral Homes in Toronto

The funeral services sector will be significantly affected by increased rates of mortality, employee absenteeism, and possibly shortages of supplies. Public health measures, such as cancellations of large gatherings may also affect this sector. In order to mitigate the disruption, it is recommended that funeral homes develop continuity plans for pandemic influenza to address issues such as supplies, equipment, vehicles and personnel.

A list of funeral homes in Toronto can be accessed from www.funeralboard.com

2.9.4. Supply Management

The Funeral Service Association of Canada (FSAC) is recommending to funeral directors that they do not order excessive amounts of supplies such as embalming fluids, body bags, etc. but that they have enough on hand in a rotating inventory to handle the first wave of the pandemic (e.g. enough for six months of normal operation). Fluids can be stored for years, but body bags and other supplies have a limited shelf life. Cremations generally require fewer supplies since embalming is less frequent. As the funeral homes are the only non government 'agency' involved in handling of bodies, the cost of these supplies may be a burden on many and therefore options will need to be considered provincially to support this sector.

Families having multiple deaths are unlikely to be able to afford multiple higher-end products or arrangements. Funeral homes could quickly run out of lower-cost items (e.g. inexpensive caskets) and should be prepared to provide alternatives.

2.9.5. Social/Religious Considerations

A number of religious and ethnic groups have specific directives about how bodies are managed after death and such needs must be considered as a part of pandemic planning. The wishes of the family will provide guidance, however, if no family is available local religious or ethnic communities can be contacted for information. As a result of these special requirements, some religious groups maintain facilities such as small morgues, crematoria and other facilities, which are generally operated by volunteers. Religious groups should be contacted to ensure these facilities and volunteers are prepared to deal with pandemic issues.

Religious groups should be involved in planning for funeral management, bereavement counseling, and communications, particularly in ethnic communities with large numbers of people who do not speak the official languages.

2.10 Animal Care and Relief Services

Because of the impact of the pandemic influenza in terms of the morbidity and mortality rates, it is expected that there will be an increased need for the provision of animal care and relief services. As many pet owners will become ill, their concerns as to their pet's welfare can add significantly to their sense of despair. Many pets will also become ownerless, due to increased mortality rates.

As a lead agency for animal protection as designated by the Toronto Emergency Plan, TPH has developed a draft Operational Support Function to address animal care and relief services. The City's capacity to respond to animal care and relief issues may become overwhelmed as a result of a pandemic. Animal care and relief services include but are not limited to the following:

- Animal rescue
- Recovering lost or injured animals
- Evacuating animals and assisting with the housing and care of pets belonging to hospitalized or deceased persons, if needed
- Emergency veterinary services
- Providing information and referral to the public
- Registration
- Managing special needs, donations and services

During the pandemic, Toronto Public Health will co-ordinate with partner agencies and will identify, monitor, track and respond to animal care and relief needs and requirements. Based on this ongoing assessment, Animal Care and Relief Services Committee (ACRSC) will mobilize and co-ordinate the delivery of animal care and relief services to affected populations. ACRS is a partnership of animal care and relief agencies and organizations that collaborate in providing immediate and short term services and programs for adequate care and proper disposition for companion animals, livestock and wildlife.

Chapter 7

Health Services

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Chapter 7 Health Services

1.0 Introduction

The delivery of health care services in the City of Toronto will be greatly challenged throughout an influenza pandemic. Health care capacity issues are already significant and will be further stressed with health care provider absenteeism and the increased volume of patients seeking health care for influenza.

Chapter 7 addresses the issues that will be faced by the health care system during an influenza pandemic emergency response. A health care facility capacity survey completed by Toronto hospitals in 2004 confirmed that there is very little surge capacity available in the system. Human resource shortages will be a major issue during a pandemic emergency response.

Many of the health service issues require provincial planning direction e.g. hospital admission and discharge criteria, licensure issues for health care workers and triage guidelines. Consistency in the delivery of health care services across Toronto and the province of Ontario is essential. Toronto Public Health will continue to work with the provincial planning workgroups and key stakeholders to support local planning of Health Services.

2.0 Acute Care Facilities

There are 15 acute care hospitals in Toronto at 19 different sites. The issues facing acute care facilities in planning for influenza pandemic are complex and multi-factorial and cannot be dealt with solely at a local level. Provincial direction is needed to ensure a consistent approach to these issues.

Individual facilities will need to plan for triage of patients ill with influenza, while continuing to see patients with other urgent medical problems. This will be complicated due to limitations of space and absenteeism of health care providers. Facilities will require direction and consistent triage criteria from the Ministry of Health and Long-Term Care (MOHLTC) to enable this planning. Appendix 11 provides information from the Ontario Health Pandemic Influenza Plan on acute care facility surge capacity.

There is a need for clear and consistent guidelines for admission to and discharge from hospital as well as admission to and discharge from intensive care units. Ventilator capacity will be saturated very early into the pandemic so hospitals will need to follow criteria for ventilator use. The MOHLTC is developing these criteria to guide individual facilities. In addition, plans are underway to stop non-essential services.

Consistent with the mode of transmission of influenza, recommendations are for the use of droplet and contact precautions in hospitals, including the use of the following personal protective measures:

- Surgical masks covering the nose and mouth of a worker who is providing direct patient care (within one meter)
- Protective eyewear when providing direct care
- Hand hygiene – proper washing of hands and use of gloves
- Minimizing direct contact with patient where appropriate
- Gowns where clothing may become contaminated

Toronto Public Health may assist with education in hospitals regarding personal protective equipment.

Facilities will need to plan for space to accommodate influenza patients and cohort them away from patients without influenza and those at high risk of severe complications of influenza.

Facilities will need to develop strategies to maximize staff through redeployment of staff away from non-urgent work, offering full-time work to part-time staff, using recent retirees, etc. There will be a need to develop occupational health policies for fitness-to-work and return-to-work criteria for staff who develop influenza during the pandemic, as well as other supports such as psychosocial support, child care, etc.

There will be a need for facilities to consider traffic and visitor control policies and general security of the facility. Security will need to be planned for vaccine and antiviral medication supplies within the facility.

It is anticipated that supply chains will be disrupted during the pandemic. An eight week stockpile of supplies is recommended.

Hospitals currently are dependent on volunteers for many of the services that they provide. Volunteers may not be available during a pandemic. Volunteers are not in priority groups 1, 2 or 3 for vaccine/ antiviral medications during the pandemic. Hospitals should establish a clear understanding regarding deployment of students during a pandemic with schools/colleges/universities who place students in the facility.

TPH provides education and support to hospital partners as they proceed with planning for the influenza pandemic. TPH has developed a hospital planning guide based on the Sunnybrook and Women's College Health Sciences Centre plan to assist hospitals in their individual planning.

The Ontario Hospital Association was represented on the City of Toronto Pandemic Influenza Steering Committee. The Ontario Hospital Association, Sunnybrook and Women's College Health Sciences Centre and Toronto Public Health conducted a one-day education session for health care facilities to provide an overview of facility planning. Plans are proceeding to conduct more of these sessions in 2006.

TPH has representation on the Toronto Academic Health Sciences Network (TAHSN) which is a pandemic planning task force created to coordinate planning for consistent delivery of service during a pandemic. TAHSN is developing a planning manual for hospitals which will be appended to the TPH plan when it is available.

TPH continues to investigate reports of febrile respiratory illness and manage outbreaks of febrile respiratory illness in acute care facilities (see Respiratory Outbreak Control package in Appendix 12). The approach to management of these outbreaks may change once the characteristics of the pandemic are identified. See Appendix for Hospital Planning Guide.

3.0 Long-Term Care Homes

There are 101 Long-Term Care Homes in Toronto. Long-Term Care Homes will need to address many of the same issues that will face acute care facilities e.g. supply chain disruption; health care provider absenteeism; lack of volunteers; and use of PPE. In addition, provincial criteria regarding interfacility transfer of ill residents with will need to be developed by the Provincial Transfer Authorization Centre.

There will be a need for Long Term Care Homes to plan to manage residents in place, even if more seriously illness develops.

TPH has been providing education and support to our Long-Term Care partners and has developed a planning guide for facilities to use and assist in their individual planning (see Appendix 1). Febrile respiratory outbreaks are managed by TPH (see Respiratory Outbreak Control Package in Appendix 13).

The management of these outbreaks may change once the characteristics of the pandemic are identified.

4.0 Community Health Centres

TPH has worked extensively with the 18 Toronto Community Health Centres (CHC) on pandemic influenza planning. The Toronto CHCs have created a task force to proceed with their planning. A pandemic influenza planning guide for CHCs has been developed by TPH. The CHC task force has expanded upon this guide and developed a checklist for use by all CHCs.

CHCs may be able to function in additional roles during a pandemic, such as participating in triage or vaccination. TPH plans to discuss these roles with CHCs in conjunction with the MOHLTC. See Appendix 1 for CHC Planning Guide.

5.0 Community Physicians

More than 8,000 physicians practice medicine within the City of Toronto. They have a mixture of practice types including solo, group, and hospital-based practices. Many physicians have hospital affiliations. However, the Ontario College of Family Physicians estimates that approximately 30% of its members do not have hospital privileges.

Pandemic influenza raises numerous issues for physicians. In the event of a pandemic, doctors will encounter illness amongst themselves, family members, staff and colleagues. There will be an increased burden on their practices due to large numbers of ill patients and decreased numbers of staff members due to illness. Physicians will require access to antivirals and vaccine, once the latter becomes available, for themselves and their front line staff. There will be an increased demand for personal protective equipment that will likely be in short supply late in the pandemic. Enhanced infection control in the office or hospital setting will require increased manpower. Mechanisms for patient triage will have to be sorted out, hopefully well in advance of the pandemic. Systems for timely communication between local public health and the health care system must be in place. Physicians will also have concerns regarding compensation and disability coverage.

TPH wishes to enhance communication with local physicians, and involve them in pandemic influenza planning as appropriate. To this end, TPH has made initial contact with the Ontario College of Family Physicians and Family Physicians Toronto.

In the future, TPH will outreach to physicians in Toronto to provide information and determine their needs.

6.0 Other Health Practitioners

(Pharmacists, dentists, midwives, chiropractors, etc)

To date no planning has occurred with these groups. TPH will need to consider how to consult with these groups.

7.0 Community Care Access Centres

There are 5 Community Care Access Centres in Toronto. Initial links have been made with this sector. Further planning will occur as the MOHLTC addresses health service issues in the community sector in 2006. A planning guide for Community Care Access Centres is under developments (see Appendix 1).

8.0 Triage Sites and Alternate Care Sites

As illness increases in Toronto there will be a need to triage patients ill with influenza. This will be difficult due to limitations of space and absenteeism among health care providers. The Steering Committee and Health Services Workgroup had serious concerns about the lack of human resources to staff alternate care sites and under whose authority they would function. The MOHLTC will be conducting a literature review/environmental scan to determine the feasibility of setting up triage and alternate care sites. However a certain amount of local planning will be necessary. TPH will support this planning as the Ministry decisions are communicated to local public health units. Appendix 14 has information on healthcare worker protection during pandemic influenza.

Chapter 8 Public Health Measures

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Chapter 8

Public Health Measures

1.0 Introduction

Public Health Measures are non-medical interventions that may be used to reduce the spread of the influenza virus. Public health measures include public education, case and contact management, community-based disease control strategies (i.e., social distancing, school closures and restriction/cancellation of large public gatherings), and travel restrictions and border measures. The type of public health measures used will depend on the epidemiology of the virus (e.g., pathogenicity, modes of transmission, incubation period, attack rate in different age groups, period of communicability, and susceptibility to antivirals).

Important decisions will be made about community-based disease control strategies aimed at minimizing the transmission of influenza in the community. The Medical Officer of Health in consultation with other levels of government will be responsible for decisions regarding the implementation of community-based disease control strategies in order to best protect the public.

Public health measures to curtail community transmission should be consistently applied within and across jurisdictions. The severity of the pandemic strain and the stage of the pandemic, as it unfolds globally, would be considered when making this determination.

Public Health Measures are being considered in the planning at all levels of government as a means to minimize the transmission of the novel virus during a pandemic. Until early epidemiological information is known, it is difficult to predict which public health measures will be most effective and therefore, need to be implemented in the community. Planning for criteria and triggers for the implementation of any public health measure is continuing with the federal and provincial planning workgroups.

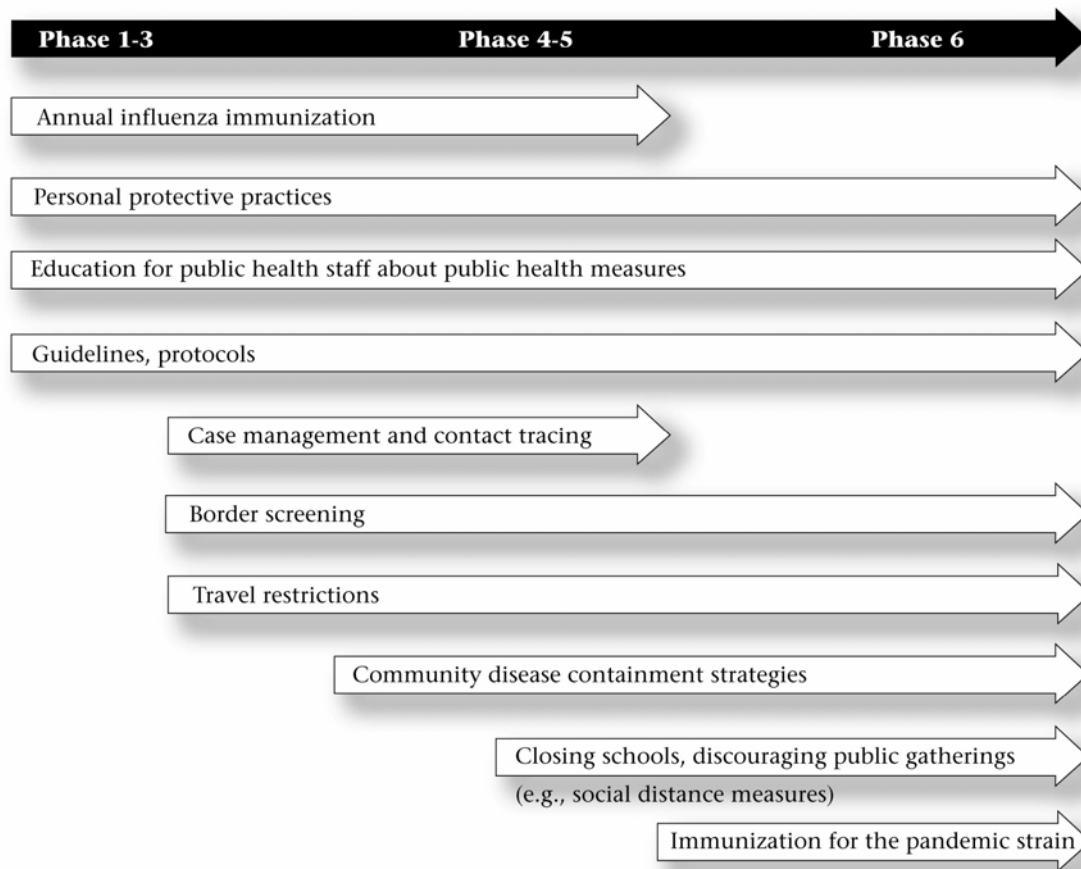
A comprehensive approach to public health measures includes:

- **individual public health measures** to protect those who have contact with people with influenza, such as: the use of personal protective equipment and practices (i.e., annual influenza immunization, respiratory etiquette, hand hygiene, stay home if ill, self care if ill), case management and contact tracing, self isolation, and individual activity restrictions.
- **community public health measures**, such as canceling public gatherings and closing schools.

Ontario Health Plan Influenza Pandemic - Public Health Measures by Pandemic Periods

Pandemic Period	Public Health Measures
Interpandemic Period	<p>Public Health Measures in the Interpandemic Period</p> <p>The effectiveness of public health measures depends primarily on:</p> <ul style="list-style-type: none"> • the epidemiology of the pandemic strain --because influenza is highly contagious, the opportunity to avert or contain a pandemic will end once efficient, sustained human-to-human transmission is established. • the ability to implement public health measures – which will be affected by the phase of the pandemic, the human and financial resources available, the associated costs, and the public’s acceptance of the measures. <p>During the interpandemic period, Ontario will:</p> <ul style="list-style-type: none"> • establish protocols for case management and contact tracing at different phases and stages of the pandemic • establish guidelines for the use of measures to increase social distance (e.g., closing schools or day nurseries, discouraging public gatherings) • establish, in conjunction with PHAC, guidelines for travel restrictions • develop educational materials on influenza and personal protective practices • develop guidelines for public health staff on how to implement public health measures • review, revise and disseminate infection control guidelines.
Pandemic Alert Period	<p>Public Health Measure in the Pandemic Alert Period</p> <p>For public health measures to be effective, they must be used aggressively at the beginning of the pandemic. In the pandemic alert period (Phases 4 and 5), the focus will be on identifying ill individuals early – as well as those who had contact with them -- in order to contain the spread of the virus (i.e., case management and contact tracing). Ontario will encourage aggressive follow-up of confirmed and suspected cases</p>
Pandemic Period	<p>Public Health Measures in the Pandemic Period</p> <p>During the pandemic period, when a significant number of people are infected, the focus of public health measures will be on community containment strategies, such as measures to increase social distance (e.g., closing schools, discouraging public gatherings) and providing general messages about how to avoid getting or spreading influenza including:</p> <ul style="list-style-type: none"> • If sick, stay home from day nursery, school, work and public events • Reduce non-essential travel • Avoid crowds • Wash hands frequently and meticulously • Practice respiratory etiquette, including covering one’s mouth when coughing or sneezing and proper tissue disposal • Increase fresh air in buildings (i.e., open windows) • How to clean and disinfect environmental surfaces <p>When and how to seek medical attention in a way that minimizes exposure to influenza</p>

Timing/Use of Public Health Measures During a Pandemic (OHPIP)



For additional information on the roles and responsibilities at the federal, provincial and local levels by pandemic period and phase, please refer to Appendix 34 Public Health Measures by Pandemic Period and Phase, OHPIP.

2.0 Public Education

An influenza pandemic is a global health emergency and therefore public demand for information will be extremely high and sustained as the illness spreads and is confirmed in Toronto. Public education must exist during all of the pandemic phases.

The goal of public education is to:

- Minimize the time needed to disseminate educational materials to the public during an alert and as the pandemic evolves and information needs change
- Increase baseline public knowledge (i.e. before an alert is issued) by providing information on pandemic influenza during the Interpandemic period.
- Establish Toronto Public Health as an accurate, reliable and trusted source of information on pandemic influenza through a well coordinated and prepared educational/communication plan.

During the pandemic, information will be made available on risks, risk avoidance, and how/when to seek health care services. TPH has the Toronto Health Connection phone line open Monday to Friday 8:30 a.m. – 4:30 p.m. to address questions and issues from the general public. The hours of operation will be expanded during the pandemic to 8:30 a.m. – 11 p.m., seven days a week. Information will continue to be shared with the public using a variety of communication channels, including media, print, and website.

For additional information, please refer to chapter 5 – Communications which provides information about the role of communications and outlines the communication plans and activities TPH would use to provide timely, accurate and credible information to its staff, the public, provincial and federal governments, hospitals and other responding agencies.

The Public Health Agency of Canada (PHAC) Public Education Recommendations

PHAC Recommendations	Toronto Public Health
<p>Prepare educational material for the general public during the Interpandemic Period.</p> <p>Focus on:</p> <ul style="list-style-type: none"> • risks and risk avoidance, universal hygiene behaviour (including respiratory hygiene) • information to reduce transmission of illness (including how to seek medical attention in a way that minimizes exposure opportunities) • prepare them for the next phase 	<p>Educational Materials</p> <ul style="list-style-type: none"> • Question and Answer • Hand washing sign • Hand sanitizer sign • Fact Sheet on Isolation • Fact Sheet on Quarantine • Fact Sheet on Active Surveillance • General Public Planning Guide <p>Next Steps</p> <ul style="list-style-type: none"> • Respiratory Etiquette Sign
<p>Review/update educational materials for health care professionals. Reinforce existing recommendations for management of patients presenting with febrile respiratory illness, including providing masks for coughing patients</p>	<p>Educational Materials</p> <p>The following Planning Guides</p> <ul style="list-style-type: none"> • Hospital • Long Term Care Homes • Community Health Care Centres (references the PIDAC Document)
<p>Anticipate special educational and resource needs e.g. translation requirements and targeted packages for more specific groups like physician offices, school boards, day nursery operations, businesses etc.</p> <ul style="list-style-type: none"> • Encourage business continuity planning that is appropriate for the unique challenges that would be presented by an influenza pandemic • Encourage school boards to strategize regarding continuity of education in the event that school facilities are closed. 	<p>Sector Specific Planning Guides include:</p> <ul style="list-style-type: none"> • Business • Day Nursery • Correctional Facilities • Universities/Colleges • Hospitals • Long Term Care Homes • Volunteers • Community Health Care Centres • Homeless • Funeral Homes

PHAC Recommendations	Toronto Public Health
	<ul style="list-style-type: none"> • Translation Services available to phone-line staff <p>☐ Next Steps</p> <ul style="list-style-type: none"> • Faith Community Planning Guide • Translation of Educational Material
<p>Ensure appropriate linkages are in place with communication staff within the public health organization and determine roles, responsibilities and information flow in the event of a pandemic. Together with communication staff:</p> <ul style="list-style-type: none"> • Have a toll-free telephone information line established or ready to be rapidly implemented with transcripts for prepared phone-line staff. • Consider components of the information dissemination process, including web-based postings as well as print material. 	<p>Pandemic Influenza Team</p> <ul style="list-style-type: none"> • Consists of communication staff/manager and web designers <p>Incident Management System (IMS) Model</p> <ul style="list-style-type: none"> • Public Information Lead • Internal/External consisting public health and communication staff <p>Communication Vehicles</p> <ul style="list-style-type: none"> • Use of Health Connections Line • Pandemic Influenza Hotline ready for activation at any time. • Internet and Intranet Site
<p>Develop templates for specific purposes such as consent for immunization, and public education regarding antiviral drug therapy, availability and/or prioritization system</p>	<p>Templates include:</p> <ul style="list-style-type: none"> • Enumeration Package/Tool • Workplace/School Absenteeism Reporting Tool • Respiratory Outbreak Control Package for Acute Care Facilities – Initial Respiratory Outbreak Notification/Respiratory Outbreak Response • Respiratory Outbreak Line Listing <p>☐ Next Steps</p> <ul style="list-style-type: none"> • Consent for immunization • Health Protection and Promotion Act Section 22 Orders
<p>Ensure ongoing training of staff with the public health authority, to ensure that expertise is not lost due to staff turnover.</p>	<ul style="list-style-type: none"> • Continual education/training of staff

3.0 Case Management

Individuals reported to Toronto Public Health with febrile-respiratory illness (FRI) or influenza-like illness (ILI) will be followed using the Provincial Infectious Disease Advisory Committee's (PIDAC) document "Preventing Febrile Respiratory Illness" (2005) available online at http://www.health.gov.on.ca/english/providers/program/infectious/diseases/ic_fri.html

This document reflects the best expert opinion on the prevention and control of droplet spread febrile respiratory illness. Components of these best practices include: influenza immunization, case finding and surveillance, preventive practice, reporting, and evaluation.

Isolation of cases early in the Pandemic Alert Period or Pandemic Period in Toronto may prevent secondary cases or slow the spread of the illness within the population. This may also prevent or reduce disruption of the health care system by flattening the epidemic curve, that is reducing the demand for health care services from a short intensive outbreak to a more manageable level of demand over a longer period. This could also help reduce societal disruption and potentially buy time for vaccine manufacture and administration, thus mitigating the effects of the pandemic in the community as a whole.

Individual case management early in the pandemic will facilitate the collection of epidemiological data that could be used to characterize how the virus presents in Toronto. Ongoing evaluation of the epidemiological data from individual cases and comparisons with information from other affected countries may help focus control efforts.

The Goal of Case Management

- Cases will have knowledge about how to reduce disease transmission.
- Reduce opportunity for transmission of the novel virus.
- Possible containment of an inefficiently spread virus or delay the spread of the pandemic virus.
- Documentation and reporting of ill individuals meeting surveillance case definitions.
- A well-integrated case management system that adapts as the situation evolves.

Public Health Agency of Canada - Recommendations for Case Management

Canadian Pandemic Phase	Case Management
<p>Pandemic Alert Period, Sporadic Activity in Canada - Phase 3</p> <p>Sporadic human infection(s) with a novel virus subtype in Canada, with no spread, or at most rare instances of spread to close contacts only.</p>	<ul style="list-style-type: none"> • Facilitate appropriate management of ill individual(s) suspected of having the novel virus identified through surveillance system <ul style="list-style-type: none"> ➢ Disseminate messages to front line health care providers in conjunction with enhanced surveillance protocols, regarding: the notification/reporting process for ill individuals of concern (i.e., those with a potential risk factor due to travel or contact with an infected avian/animal source), any updates on infection control precautions, clinical management or laboratory testing requirements. • report individual cases and facilitate lab testing as agreed upon in the enhanced surveillance process to the Province and federal authorities. • isolate ill individuals in hospital (if clinically indicated or recommended based on available epidemiological data) or at home

Canadian Pandemic Phase	Case Management
	<ul style="list-style-type: none"> ➤ in-home management should include follow-up of both the case and their close contacts through active surveillance, education regarding infection control precautions in the home setting and instructions regarding what to do if their illness progresses. ➤ adults recommended for self-isolation at home should stay there for a minimum of 5 days after onset of symptoms (7days for young children) or until symptoms have resolved or which ever is longer (or if period of communicability is known) ➤ cases should be given instructions regarding infection control measures to be implemented if they must leave their home to visit a health care provider (e.g., phone ahead, wear a mask) • Medical management of these individuals would likely include treatment with antiviral drugs (depending on availability and sensitivity profile of the novel virus). This treatment will need to be monitored, with any relevant outcomes (e.g. clinical deterioration despite initiation of antivirals within 48 hours of symptom onset, laboratory evidence of viral resistance or compliance problems/adverse events) reported to the appropriate public health authority.
<p>Pandemic Alert Period, Sporadic Activity in Canada - Phase 4 or 5</p> <p>Outside of Canada clusters resulting from human to human transmission may be occurring but the virus has not demonstrated the efficiency of transmission necessary to cause a pandemic</p>	<ul style="list-style-type: none"> • Same as above
<p>Pandemic Alert Period, Localized/Widespread cluster activity in Canada - Phase 4 or 5</p> <p>Cluster(s) occurring in Canada with “limited” (phase 4) or “substantial” (phase 5) pandemic risk based on various factors. Outside of Canada clusters may be occurring (assuming the virus did not originate in Canada) but the virus has not demonstrated the efficiency of transmission necessary to cause a pandemic.</p>	<ul style="list-style-type: none"> • As per above • Aggressively implement protocols for influenza case and outbreak management with consideration of the recommendations in the infection control component of the CPIP. These measures include: <ol style="list-style-type: none"> 1. Isolation of cases 2. Laboratory testing of suspect cases 3. Closing of affected hospital wards or institutions to visitors etc. 4. Aggressive contact tracing and follow-up (refer to contact tracing) 5. Individual case reporting to province and federal public health authorities ▪ Medical management of cases presenting within 48 hours of symptom onset may include antiviral treatment depending on the availability of these drugs.

Canadian Pandemic Phase	Case Management
	<ul style="list-style-type: none"> ▪ During the pandemic alert period it is anticipated that antiviral drugs will be used to treat the first cases identified in Canada and attempt to control subsequent spread of these cases. Once the pandemic is declared or the supplies dedicated for this early control strategy are exhausted, the antiviral strategy will change to focus on the overall goal of the pandemic response by encouraging dispensing of these medications using the nationally agreed upon list of priority groups/indications. ▪ As previously noted, antiviral treatment will need to be monitored with outcomes reported to the appropriate public health authority
<p>Pandemic Period, Sporadic Cases occurring in Canada - Phase 6 Sporadic infection(s) with the pandemic virus detected in Canada. No clusters identified in Canada</p>	<p>As per above</p> <p>Note: If the incubation period, period of communicability and method of transmission for the novel strain are consistent with other known influenza strains, it is likely that this phase will have a very short duration or may even be skipped in Canada (i.e., novel virus activity may not be detected prior to the occurrence of a cluster of cases).</p>
<p>Pandemic Period, Localized or Widespread activity occurring in Canada - Phase 6 Sustained transmission of the virus resulting initially in cluster followed by localized and widespread activity in the general Canadian population.</p>	<ul style="list-style-type: none"> ▪ As case numbers increase, operationalize the sections of the plan that apply to clinical care (e.g. coordinate patient flow to appropriate sites/settings). ▪ Switch from individual case reporting to reporting of more broad indicators of pandemic impact, (e.g., activity level, hospitalizations), as per surveillance guidelines. ▪ Provide public messaging on self care (including isolation), reporting of illness, where, when and how to present for medical assessment, and availability of limited resources (discontinue individual-focused active surveillance) ▪ Determine duration of isolation for ill individuals cared for outside of a health care facility based on the epidemiological data available at the time. <ul style="list-style-type: none"> ➤ In the absence of data, isolate cases until 24 hours after their symptoms have resolved – which-ever is longer. (At the time of the pandemic it may become necessary for essential workers to return to work during their convalescent period when they may still be communicable. In this situation, health authorities may make recommendations for these individuals to minimize the possibility of transmission (e.g., have them wear mask when in public settings). ➤ Except when visiting a health care provider, these individuals should stay at home during this time period and avoid close contact with unexposed household members, (unless an alternative diagnosis is established).

Canadian Pandemic Phase	Case Management
	<ul style="list-style-type: none"> ➤ Consider extending this isolation period for immuno-compromised patients or children, who are more likely to have prolonged viral shedding. ▪ Use of antiviral drugs will be based on the priority groups/indications, therefore not all cases occurring at this time may qualify for a treatment course (refer to CPIP Antiviral Annex). ▪ If cases have occurred in Canada prior to this period, it will be necessary to communicate any changes to the recommendations for case management now that the pandemic virus has arrived in Canada. ▪ As case numbers decrease at the end of a pandemic wave: <ul style="list-style-type: none"> ▪ A more individualized focus may be possible including individual case reporting and management (refer back to Phase 6) ▪ Consideration should be given to evaluating the implemented case management strategies in order to optimally inform the response to any additional waves or pandemics

Compliance among isolated individuals will likely vary with severity of the illness and their perception that they are actually infected with the pandemic virus. Personal situations, for example, the tolerance of employers and/or compensation available may also affect compliance. Legal orders for isolation may be necessary in some situations; however this “individual focused” intervention will not likely be sustainable beyond the earliest stages of the pandemic.

Individual case management practices will likely be stopped once disease transmission has occurred in the general community. Specific criteria and triggers for this decision are to be developed in partnership with the OHPIP public measures workgroup so that consistency in management is maintained with other Greater Toronto Area health units.

3.1 Self Isolation

Individuals who are ill will be asked to stay home from work, school/day nurse and public events. The key message will be to isolate yourself at home, adults for a minimum of 5 days after onset of symptoms (7days for young children) or until symptoms have resolved or which ever is longer. Infection control measures should be implemented if ill individuals must leave their home to visit a health care provider (e.g., phone ahead, wear a mask).

3.2 When to Seek Medical Attention

The decision on when to seek medical attention can be complicated by many factors which may include things like age, existing health problems, or current medications, to name a few. Below are some points to think about when you are trying to decide whether or not you need to seek medical advice. You may get advice from your family doctor/general practitioner, Toronto Public Health's Health Connection telephone line at (416) 338-7600 or Telehealth Ontario's confidential telephone service (available 24 hours per day, 7 days per week) at 1-866-797-0000. If your symptoms are severe and you think you need immediate attention, go to the closest hospital emergency department or call 911.

Adults

If you are a **normal healthy person** and have been suffering with the flu, it is time to call your doctor, health line or 911 if:

- You become short of breath while resting or doing very little.
- Your breathing is difficult or painful.
- You are coughing up bloody sputum.
- You are wheezing.
- You have had a fever for three or four days and you are not getting better – or you may be getting worse.
- You have started to feel better, and suddenly you get a high fever and start to feel sick again.
- You or others note that you are extremely drowsy and difficult to wake up or that you are disoriented and confused.
- You have extreme pain in your ear.

Seek medical attention as soon as possible, in order to prevent your condition from worsening. Bacteria may have infected your damaged tissues. At this point your doctor may consider giving you an antibiotic.

If you have heart or lung disease or any other chronic condition that requires regular medical attention, if you are frail, if you have an illness, or if you are on treatments or medications that affect your immune system and you get the flu, call your doctor. If you are living with a long-term illness, your doctor may suggest changes to your usual management routine and/or provide you with extra help in treating the flu and preventing complications, such as prescribing an antiviral medication. Antiviral medications must be taken within 48 hours of the first symptoms to be effective so call your doctor right away.

Children

The Canadian Paediatric Society recommends that you should contact your doctor or take your child to the emergency department if your child has symptoms of influenza and:

- Has lung or heart disease, has an illness or is taking treatment that affects the immune system, takes acetylsalicylic acid (ASA or Aspirin) regularly for a medical condition or has any other chronic illness requiring regular medical care.
- Is less than 3 months old and has a rectal temperature over 38.5°C.

- Has trouble breathing when resting, is wheezing, has chest pain when breathing or is coughing up bloody sputum (phlegm).
- Drinks very little fluid and has not urinated at least every 6 hours when awake.
- Has vomiting or severe diarrhea.
- Is constantly irritable and will not calm down.
- Is listless, not interested in playing with toys or unusually sleepy.
- Still has a fever and is not feeling better after 5 days or was feeling better and suddenly develops a new fever.
- Has a seizure (convulsion/fit).

Take your child immediately to a hospital emergency department or call 911 if your child:

- Has severe breathing trouble or blue lips.
- Is limp or unable to move.
- Is hard to wake up or does not respond.
- Has a stiff neck.
- Seems confused.
- Has a seizure (convulsion/fit).

4.0 Management of Contacts of Cases

Contact tracing will be a public health measure used only in the initial stages of the pandemic strain entering Toronto. According to the Canadian Pandemic Influenza Plan, contacts are those individuals who have had face to face exposure within one metre of a case. TPH staff will ask each case to identify close contacts from 24 hours prior to symptoms until isolation at home or in the hospital. TPH staff will contact those individuals and assess for symptoms.

Goals of Contact Management

- Identification of infected contacts of cases prior to their becoming communicable.
- Early detection of additional cases, decreasing interval between onset of communicability and isolation.
- Potential limitation of spread or slowing of the spread.
- People in close contact with cases will have knowledge regarding how to reduce the possibility of further exposure to the virus.
- Gain knowledge on the impact of implemented strategies.

General Recommendations:

- Health care workers who are contacts of cases due to occupational exposure should follow the directions provided by their occupational health and/or infection control departments within their facility.
- Risk assessments should be performed in order to ensure that the following recommendations are tailored to suit the specific situations particularly prior to declaration of a pandemic.

- All contacts of cases should be provided with information on:
 - Personal protective measures (e.g. hand washing)
 - Symptoms of influenza-like illness (ILI)
 - What to do if they develop symptoms (i.e., who to call and when)
 - How to seek medical attention for any reason, and
 - The objectives and expectations with respect to any activity restrictions
- Educate contacts and members of their household on practicing good hand and respiratory etiquette and to frequently clean and then disinfect household surfaces that could be potentially contaminated, particularly during the 3 days following last exposure to a case.
- If a contact of a case develops one or more symptoms compatible with influenza, then they should be managed as a case.
- Any use of antivirals for post-exposure prophylaxis should ideally be monitored with outcomes (break-through infection and any adverse events) reported to the appropriate health authority.

Public Health Agency of Canada - Recommendations for Contact Management

Canadian Pandemic Phase	Contact Management
<p>Pandemic Alert Period, Sporadic Activity in Canada - Phase 3</p> <p>Sporadic human infection(s) with a novel virus subtype in Canada, with no spread, or at most rare instances of spread to close contacts only.</p>	<p>Monitoring</p> <ul style="list-style-type: none"> ▪ Trace contacts of cases and monitor for symptoms of illness for 3 days after last exposure to the case or for the duration of the incubation period associated with the novel virus – whichever ever is longer ▪ Monitoring for illness may be passive (i.e., contact is encouraged to self-monitor and report any illness) or active, with or without activity restrictions, depending on the specific situation and the discretion of Medical Officer of Health. <p>Activity Restriction</p> <ul style="list-style-type: none"> ▪ Consider advising contacts to defer travel to unaffected areas for the duration of monitoring period. ▪ This precautionary measure is intended to reduce the risk that a contact of a case transmits the infection when it is unclear whether human to human transmission is occurring.

Canadian Pandemic Phase	Contact Management
	<p>Antiviral Use</p> <p>Do not routinely offer post-exposure prophylaxis with antiviral drugs to household and any other close contacts of human cases in the absence of any suspected human-to human transmission (see Human Health Issues related to Domestic Avian Influenza Outbreaks, Interim Guidelines, July 2004 for additional recommendations); however, consider this in severe or unusual cases or when limited human-to-human transmission cannot be ruled out.</p> <p>Recommend annual flu vaccine</p>
<p>Pandemic Alert Period, Sporadic Activity in Canada - Phase 4 or 5</p> <p>Outside of Canada clusters resulting from human-to-human transmission may be occurring but the virus has not demonstrated the efficacy of transmission necessary to cause a pandemic</p>	<p>Monitoring</p> <p>Trace contacts of cases and implement active surveillance for symptoms of illness for 3 days after last exposure to the case or for the duration of the incubation period associated with the novel virus – which ever is longer</p> <p>Activity Restrictions</p> <p>If contacts are promptly identified (e.g., within incubation period), quarantine them or as a minimum ask them to restrict contact with others for 3 days after last contact with the case or for the duration of the incubation period whichever is longer. The decision to quarantine would be based on the risk assessment – which takes into consideration the specifics of the situation(s), including severity of illness and pandemic potential of the virus.</p> <p>Antiviral Use</p> <p>Consider use of antivirals for post-exposure prophylaxis, depending on availability and resistance status of the novel strain.</p> <p>Consider giving annual flu vaccine</p>
<p>Pandemic Alert Period, Localized/Widespread cluster activity in Canada - Phase 4</p> <p>Small localized cluster(s) occurring in Canada with “limited” (phase 4) pandemic risk based on various factors</p>	<p>Monitoring</p> <p>Aggressively trace contacts of cases and implement active surveillance for illness in these individuals.</p>

Canadian Pandemic Phase	Contact Management
	<p>Activity Restrictions</p> <ul style="list-style-type: none"> ▪ If contacts are promptly identified for the cases (i.e., within the known or expected incubation period), quarantine these individuals or at a minimum ask them to restrict their contact with others for a period of 3 days after last contact with the case or for the duration of the incubation period associated with the novel virus – whichever is longer. ▪ Recommend that contacts refrain from traveling for duration of monitoring period. <p>Antiviral Use</p> <p>Consider use of antiviral drugs for post-exposure prophylaxis of close contacts depending on the availability of the drugs and resistance status of the novel virus.</p>
<p>Pandemic Alert Period, Localized or Widespread cluster activity in Canada – Phase 5</p> <p>Cluster(s) occurring in Canada with “substantial” pandemic risks based on various factors</p>	<p>Monitoring</p> <ul style="list-style-type: none"> ▪ Aggressively implement protocols for influenza case and outbreak management as long as possible with consideration of the recommendations in the infection control component of the CPIP. ▪ Assessment of exposure may involve identifying possible exposure sites (e.g., schools, workplace) rather than trying to identify individuals that were in close contact with the case. ▪ If feasible consider active surveillance for close contacts of the case(s) ▪ Facilitate and encourage self-monitoring for ILI for individuals linked to possible exposure sites but with unknown exposure to case(s) ▪ Provide instructions and resources for those “self-monitoring” to report any early signs of ILI immediately (24 hours/day, 7 days/week) and receive instructions regarding isolation and medical management.

Canadian Pandemic Phase	Contact Management
	<p>Activity Restrictions</p> <ul style="list-style-type: none"> ▪ Quarantine close contacts and individuals linked to the exposure sites or at a minimum asking these individuals to restrict their contact with others for a period of 3 days after last contact with the case or for the duration of the incubation period associated with the novel virus – which ever is longer. ▪ If not quarantined, recommend that contacts and individuals linked to exposure sites refrain from traveling for duration of monitoring period. <p>Antiviral Use</p> <ul style="list-style-type: none"> ▪ Consider use of antiviral drugs for post-exposure prophylaxis of close contacts depending on the availability of the drugs and resistance status of the novel virus. ▪ Assist in coordinating the distribution of antivirals for this purpose as supplies will be limited and this strategy will only be used briefly prior to the declaration of a pandemic in an attempt to control spread of the novel virus ▪ Discontinue this strategy once a pre-determined trigger (e.g. detection of community spread) is met or the supplies dedicated for this early control strategy are exhausted.
<p>Pandemic Period, Sporadic Cases occurring in Canada - Phase 6 Sporadic infection(s) with the pandemic virus detected in Canada. No clusters identified in Canada</p> <p>Note: If the incubation period, period of communicability and method of transmission for the novel strain is consistent with other know influenza strains, it is likely that this phase will have a very short duration and may not occur at all in Canada (i.e., novel virus activity may not be detected prior to the occurrence of a cluster of cases).</p>	<p>Monitoring</p> <ul style="list-style-type: none"> ▪ Identify possible exposure settings and instruct all close contacts of the case(s) and individuals linked to the exposure setting (e.g., passengers on same flight) to self-monitor for early signs of ILI for 3 days after last exposure to the case or for the duration for the incubation period associated with the novel virus – whichever is longer.

Canadian Pandemic Phase	Contact Management
	<ul style="list-style-type: none"> ▪ Provide instructions and resources for those “self-monitoring” to report any early signs of ILI immediately (24 hrs/day, 7 days/week) and receive instructions regarding isolation and medical management. <p>Activity Restrictions</p> <ul style="list-style-type: none"> ▪ Educate known and potential contacts of cases about the period of communicability for influenza and the need to isolate themselves immediately should they start to develop signs of ILI. ▪ Discourage travel during the “self-monitoring” period. <p>Antiviral Use</p> <p>Support/facilitate distribution of antiviral drugs (from stockpiles) for indications identified in the nationally agreed upon priority list.</p>
<p>Pandemic Period, Localized or Widespread activity occurring in Canada - Phase 6</p> <p>Sustained transmission of the virus resulting initially in cluster followed by localized and widespread activity in the general Canadian population</p>	<p>Monitoring</p> <ul style="list-style-type: none"> ▪ As the number of cases and subsequent contacts increases, advice to contacts should be incorporated in messages directed at the affected community as a whole. ▪ Provide guidance on how to monitor for signs of ILI (e.g., temperature recording or identification of respiratory symptoms) ▪ Contact follow-up may intensify once pandemic activity appears to be declining in order to identify the end of a pandemic wave <p>Activity Restriction</p> <p>If quarantining of contacts was previously implemented consider discontinuing this practice at this phase, that is , when the virus is know to be efficiently spreading form human to human and resources might be better utilized for other activities.</p> <p>Antiviral Use</p> <p>Support/facilitate distribution of antiviral drugs (from stockpiles) for indications identified in the nationally agreed upon priority list.</p>

Post-Pandemic Period - Reports of cases counts and other broad indicators of pandemic activity in Canada suggest that the pandemic virus is no longer causing significant illness in the population.

- Consider evaluation activities examining the effectiveness of the contact management strategies employed during the pandemic wave(s).

4.1 Quarantine

Quarantine of well individuals who have been exposed to a confirmed case of influenza is community-based disease control measure that may be considered in order to slow transmission in the community. If used, it will be most effective in the very early stages of detection of the pandemic influenza strain in Toronto. Individuals identified as contacts may be asked to isolate themselves at home for the incubation period of influenza.

Once transmission occurs in the community, this measure will no longer be effective to slow or contain transmission. At that time, Toronto Public Health will use community-wide communication strategies to inform the general public of what to do when they have been exposed to influenza, how to care for themselves and how/when to seek health care services. Information will also be posted on the TPH pandemic influenza webpage.

Quarantining of contacts will require extensive public health resources as its success as a containment/control strategy is contingent on thoroughness of contact tracing, rapid implementation and ongoing monitoring. This effort will not be sustainable beyond the Pandemic Alert Period and depending on the size of the outbreaks may need to be discontinued prior to pandemic activity in Canada (i.e., phases 6).

4.2 Active Surveillance

Active surveillance is used for WELL people who have had contact with someone who is ill with a fever and respiratory symptoms. Those in active surveillance are **not** in quarantine, but require daily follow-up by Toronto Public Health (TPH) to ensure that they remain well. TPH will call once a day and ask if you have any of the following symptoms:

- fever (temperature greater than 38°C or 100.4°F)
- new or worsening cough or shortness of breath
- body aches & pains
- headache
- tiredness (can be extreme)
- sore throat
- runny or stuffy nose
- nausea, vomiting or diarrhea (in children)

Once transmission occurs in the community, active surveillance will no longer be effective to slow or contain transmission. TPH will then provide guidance on how to self-monitor for symptoms of influenza-like illness and provide instructions on the need to self-isolate and when to seek medical attention. Please refer to Chapter 11 – Self care for additional information. See Appendix 15 to 17 for Fact Sheets on Isolation, Quarantine and Active Surveillance

5.0 Community Based Disease Control Strategies

Important decisions will be made about community-based disease control strategies aimed at minimizing the transmission of influenza in the community. Toronto Public Health, together with other levels of government, will be responsible for decisions regarding the implementation of community-based disease control strategies in order to best protect the public. The triggers for the following measures will depend on the measure and on the way the pandemic unfolds. In general, implementation decisions regarding these measures will likely be made locally. However, it is recognized that directions may also be forthcoming from the Federal and Provincial governments to ensure consistency of a broad-based approach.

In the pandemic response phase, the Toronto Public Health general message to the public will be to stay home from public events/locations whenever possible, particularly if they are ill and to practice “social distancing” whenever possible. Reduction of non-essential travel will be stressed.

5.1 Stay home (i.e., self-isolate) if you have fever and new onset of respiratory symptoms

Individuals who are ill will be asked to stay home from work, school/day nursery and public events. The key message will be to isolate yourself at home, adults for a minimum of 5 days after onset of symptoms (7 days for young children) or until symptoms have resolved or whichever is longer. Infection control measures should be implemented if ill individuals must leave their home to visit a health care provider (e.g., phone ahead, wear a mask).

5.2 School/Day Nursery Closures

Closure of schools and day nurseries will need to be considered, as children are known to be efficient transmitters of influenza. Closing schools and large day nurseries may reduce transmission or delay spread of the disease (both in this age group and in younger siblings, parents and close contacts of school and child care attendees). These control measures will undoubtedly cause increased hardship to parents and caregivers and will have profound effects on the business sector, as parents/caregivers may need to take time off work to provide child care. The costs/benefits will need to be weighed before making the decision to implement this control measure. The Canadian Pandemic Influenza Plan outlines advantages and disadvantages of this public health measure. It states that this strategy would be triggered by the declaration of one or more confirmed cases in the local community by the local public health authority (i.e., confirmation of pandemic presence) and depending on the epidemiological context (i.e., extent to which these settings are expected to contribute to transmission based on observed age of cases etc.). It would not be necessary or desirable to wait until spread within these settings is demonstrated.

TPH is working with the provincial public health measures workgroup to further develop criteria and triggers for the implementation of this measure. This will help ensure a consistent response across the province. Discussions are beginning at the provincial level with the Ministry of Education and TPH has begun discussing this control measure with the school boards in Toronto and once criteria have been developed, they will need to be communicated to local school officials.

5.3 Large Gathering Restrictions/Cancellations

Consideration will need to be given to the benefit of canceling indoor large gatherings in the community. This could potentially decrease the number of opportunities for exposure to influenza from close proximity to others. Gatherings may include funeral services, sporting

events, religious gatherings, conferences or any other large public events. Planning will need to continue to identify criteria and triggers for such decisions with key stakeholders and the provincial and federal public measures workgroups.

Due to the unknown effectiveness and difficulty with sustainability of canceling or restricting large indoor public gatherings, it is not recommended as a broad public health measure.

If the epidemiology of the pandemic suggests higher morbidity and/or mortality in specific types of individuals (e.g. adolescents) then cancellation of specific events known to attract this "high-risk" group should be considered especially if the virus is being efficiently transmitted. The objective of these "targeted" cancellations/restrictions would be to reduce transmission.

5.4 Social Distancing

Once pandemic influenza has arrived in the community, people may want to consider using "social distancing" as a way to reduce the risk of being exposed to the influenza virus. The more people you are in contact with, the more you are at risk for 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 possible strategies for social distancing include:

- Minimize visitors to your home.
- Cancel or postpone family gatherings, outings or trips.
- Avoid shaking hands, hugging, or kissing people as greetings.
- Stock up on household items (6 to 8 weeks) such as groceries or other supplies (e.g. cleaners, tissues, medications) so you do not have to go shopping as often. This will ensure that you are ready in the event of an emergency in the community such as pandemic influenza.
- Avoid peak shopping times and find out which stores are open 7 days a week/24 hours per day.
- Order groceries online or over the phone for delivery.
- Arrange to pay bills at ATMs, online or over the phone.
- Work from home or arrange to work flex hours to avoid rush hour crowding on public transit.
- At work, minimize your contact with other people: keep your office door closed; use stairs instead of crowded elevators; bring your lunch to work and eat at your desk away from others; cancel non-essential face-to-face meetings and instead use teleconferencing, videoconferencing, emails, or fax; and if you need to meet with people, stay at least one meter apart (three feet).
- Consider walking, driving or riding a bike.

Decision Chart for Situations to Avoid During a Pandemic

Black box – Consider canceling or postponing events and avoid places that are listed (or similar to those listed).

Grey boxes – If possible avoid places and events in the grey boxes

Light grey boxes – May attend places or events in the light grey box, but continue to use good personal and environmental hygiene practices.

		How many people am I in contact with?		
		Very Crowded	Many People	A Few People
How long am I in this situation?	Prolonged (over 4 hours)	<ul style="list-style-type: none"> • Day nursery • Elementary & high school • Post-secondary institutions (including dormitories) 	<ul style="list-style-type: none"> • Closed workplaces 	<ul style="list-style-type: none"> • Home • Baby-sitting
	Intermediate (over 1 hour)	<ul style="list-style-type: none"> • Entertainment venues (movies, concerts) • Sporting events • Community centres • Swimming pools 	<ul style="list-style-type: none"> • Day tours (via buses, boats) • Religious gatherings • Business conventions and trade shows • Weddings or funerals • Playgrounds • Team sport activities 	<ul style="list-style-type: none"> • Restaurants • Shopping malls
	Short (less than 1 hour)	<ul style="list-style-type: none"> • Public transit during rush hour • Retail stores during major sales events 	<ul style="list-style-type: none"> • Public waiting areas or lines (e.g. banks, grocery stores, etc.) 	<ul style="list-style-type: none"> • Home deliveries

Draft adapted from Vancouver Coastal Health Regional Pandemic Influenza Response Plan

5.5 Community Use of Masks - Use of masks by well individuals

The use of masks is a difficult and unresolved issue. There is no evidence that the use of masks in general public settings will be protective when the influenza virus is circulating widely in the community. However it is acknowledged that individual people who are wearing a surgical mask properly at the time of an exposure to influenza may benefit from the barrier that a mask provides. At this time the Canadian and provincial plans recommend the use of surgical masks and eye protection for health care workers providing direct care (face-to-face contact) to patients with influenza-like illness.

As well, the plans recommend that people who are ill with influenza-like illness who must leave their home to receive medical attention should wear a mask. The plans do not recommend masks as a community-based disease control strategy. However the federal plan states that members of the public may wish to purchase and use masks for individual protection.

At this time the World Health Organization does not have a formal position on the issue of masks but will likely be recommending evaluation of the effectiveness of mask use (and respiratory etiquette) with respect to prevention of cases, costs and alleviation of public concern.

Although masks may provide some reassurance to people, the effectiveness of this measure in preventing infection in the general community is unknown. If masks are used, they should only be used once and must be changed if wet (because they become ineffective when wet). As well, people who use masks should be trained on how to use them properly to avoid contaminating themselves when removing the mask. In addition, there may be issues of access to masks due to cost or supply shortages and other feasibility concerns.

Further consideration should be given to the wearing of masks in community situations where potential exposure to infectious individuals is likely and unavoidable e.g. care of an ill family member, large public gatherings. Additional research needs to be done on this on an urgent basis.

The following table outlines the advantages and disadvantages of the use of masks by well individuals as stated in the Canadian Pandemic Influenza Plan

Advantages of the use of masks by well individuals	Disadvantages of the use of masks by well individuals
<ul style="list-style-type: none"> • May decrease exposure to large droplets containing virus. • Psychologically reassures people that they are taking measures to prevent infection. 	<ul style="list-style-type: none"> • Hands and other surfaces may be contaminated when mask is removed (requires public education) • May cause panic if availability of masks is limited. • Public purchase of masks may limit availability of masks in health care settings where they are required. • Not all members of the public can afford to purchase masks – if recommended by public health there could be an expectation that they will be publicly-funded and provided by public health. • It is not feasible to wear masks constantly for the duration of pandemic wave. • Use of masks, apart from other infection control practices, is of limited effectiveness and may provide a false sense of security.

Source Canadian Pandemic Influenza Plan

5.6 Community Based Disease Strategies Recommended or Not Recommended as a Community Based Intervention

Recommended as a community based intervention	Not Recommended as a community based control intervention
<ul style="list-style-type: none"> • Stay home from public events/locations (i.e., self-isolate) if you have a fever and new onset of respiratory symptoms. • Consider school and day nursery closures. • Restriction of indoor public gatherings other than schools if “high risk” settings can be identified. 	<ul style="list-style-type: none"> • Broad restrictions on indoor public health gatherings other than schools. • Use of masks by well individuals (not including care providers). • Implementation of hand-sanitizing stations in public settings. • Increase in the frequency of cleaning of surfaces in public settings. • Urge entire population in an affected area to check for fever at least once a day. • Thermal scanning in public places. • Air disinfection. • Disinfection of clothing, shoes, or other objects of persons exiting affected areas. • Actively restrict travel to and from affected areas. • Cordon sanitaire.

Source Canadian Pandemic Influenza Plan

5.7 Travel and Border Related Measures

An extensive list of measures that could be considered at the international level is addressed in the report from the WHO international consultation on public health measures. In general the report does not encourage entry screening for travelers from affected areas with the exception of geographically isolated infection-free areas (e.g. islands) where it is considered to be potentially more feasible. There is potential value of exit screening for all travelers from areas with human infection when human-to-human transmission was known to be occurring (i.e., starting in the Pandemic Alert Period, Phases 4 & 5). This could be achieved through health declarations/questionnaires and potentially temperature screening in combination with widespread messaging recommending that ill persons postpone travel. Implementation of “stop lists” (i.e., of isolated or quarantined persons) is considered feasible for certain countries but is generally not encouraged, as was medical examination for travelers at risk or with fever.

Travel and Border related measures - International Origin

Canadian Pandemic Phase	Actions	Comments
Canadian Pandemic Phase 3.0 <i>Human infection(s) with a novel virus subtype occurring in one or more locations outside of Canada, but little immediate pandemic risk (no spread, or at most rare instances of spread to a close contact only).</i>	Advisories	PHAC will post travel advisories informing travelers about the following: <ul style="list-style-type: none"> • Occurrence of human infections in specific international geographic regions. • Recommend personal health measures to reduce health risks. • Recommend pre-travel medical consultation for an individual risk assessment. • Recommend post-travel medical consultation for travel related illness.
	Public Health Measures	<ul style="list-style-type: none"> • Respond to news releases and travel advisories that are posted on PHAC and WHO websites informing travelers of the occurrence of human infection in a specific international geographic region. • Update health care providers in order to: <ol style="list-style-type: none"> 1. Raise awareness of medical staff providing pre-travel consultations. 2. Raise awareness of medical staff assess influenza like illness in returning travelers. • Manage any cases from a public health perspective.
Canadian Pandemic Phases 4 & 5 <i>Cluster(s) occurring outside of Canada with "limited" (Phase 4) or "substantial" (Phase 5) pandemic risk based on various factors (e.g., rate of transmission, geographic localization and spread, severity of illness, impact of control measures, presence of genes from human strains (if derived from an animal strain), other information from the viral genome, and/or other</i>	Advisories	PHAC will post either a Travel Health Advisory or a Travel Warning, based on available information. This will inform travelers of the following: <ul style="list-style-type: none"> • Occurrence of human infections in specific international geographic regions. • Defer or delay nonessential travel to a specific destination. <p>These advisories may be targeted to identified groups of at risk individuals or to all travelers.</p>
	Public Health Measures	<ul style="list-style-type: none"> • Manage any identified arriving case in Canada (see Screening Logistics) • Manage the contacts of cases (see Contact Management) • Provincial and local public health authorities need to consider how to manage travelers from affected areas who are advised to self-monitor for a fever. The following responses may need to be implemented: <ol style="list-style-type: none"> 1. Case management and monitoring contacts 2. designate phone lines for self-reporting by symptomatic travelers 3. Identify assessment sites that will be linked to public health surveillance activities. • Disseminate information regarding Travel Advisories/Travel Warnings to health care settings

Canadian Pandemic Phase	Actions	Comments
<p><i>Scientific information). Sporadic imported cases may be occurring in Canada (denoted by phase 4 and 5)</i></p>		<ul style="list-style-type: none"> • Provide latest outbreak information, guidance and support to government and health care settings. • Collaborate with federal and provincial authorities regarding the advanced notification of the arrival of ill travelers. The following may need to be implemented: <ol style="list-style-type: none"> 1. Assessing ill travelers 2. Releasing ill travelers 3. Detaining ill travelers 4. Transferring ill travelers for medical examination • PHAC will implement Traveller Contact Information Forms (TCIF) if deemed necessary appropriate carriers • PHAC will distribute Health Alert notices to international travelers at points of entry • Increase traveler awareness by using educational materials at the points of entry.
	<p>Screening Logistics</p>	<p>Screening of ill travelers arriving in Canada will continue under the authority of the Quarantine Act. Thermal screening will not likely be considered.</p>
	<p>Contact Management Logistics</p>	<p>Contact tracing will be initiated for those arriving on international flights or ships with a confirmed or suspect case. The province will outline the operational framework used to access the contact information of airline passengers.</p>
<p>Pandemic Period – Canadian Pandemic Phase 6 Amplification and sustained transmission in the population</p>	<p>Advisories</p>	<p>During this phase the wording of travel advisories may be strengthened to specifically recommend not traveling (i.e., under any circumstances), to affected areas. This, however, may not be necessary if the public demand decreases and airline companies cancel service to certain areas.</p> <p>When pandemic activity is increasing in Canada actions implemented during Pandemic Alert Period (Phases 4 & 5) will quickly become unsustainable. Once there is widespread community transmission in Canada, the allocation of resources targeted at keeping the virus out will become unnecessary and resources should be re-allocated.</p>
	<p>Public Health Measures</p>	<ul style="list-style-type: none"> • Similar to Pandemic Alert Period (Phases 4 & 5), until no longer feasible or deemed to be ineffective due to widespread activity • Public health measures aimed at travelers will likely be discontinued or scaled back at different times in different jurisdictions as the local epidemiology dictates.

Canadian Pandemic Phase	Actions	Comments
		<ul style="list-style-type: none"> In subsequent waves of the pandemic, messaging and wording on health declarations and screening activities may need to be revised to take into consideration persons who were ill during the first wave and are now probably immune.
Post Pandemic Period in Canada <i>Reports of cases counts and other broad indicators of pandemic activity in Canada suggest that the pandemic virus is no longer causing significant illness in the population.</i>	Advisories	Travel advisories would be revised as pandemic activity declines in various geographical areas. Public messaging may once again focus on travelers as sources of infection if the wave has already moved through specific jurisdictions and community transmission is no longer being observed.
	Public Health Measures	<ul style="list-style-type: none"> May be similar to Pandemic Alert Period (Phase 3) - that is focus on public and health care provider education as opposed to high levels of activity at airports Support recommended surveillance activities as per the surveillance annex of the Plan

Source Canadian Pandemic Influenza Plan

Travel and Boarder Related Measures - Domestic origin

Canadian Pandemic Phase	Actions	Comments
Pandemic Phase 3 Human infection(s) with a novel virus subtype in the Canadian population, but little immediate pandemic risk (no spread, or at most rare instances of spread to a close contact only)	Advisories	Collaboratively, the Council of Chief Medical Officers of Health (CCMOH) and the PHAC could post on the PHAC website, a Travel Health Advisory aimed at informing Canadians about the occurrence of human infections in a specific domestic geographic area. This advisory would provide up to date and comprehensive information regarding any health risks and indicate whether or not there are recommendations not to travel to the affected geographic area (e.g., the area defined by the local or P/T public health authority where the case(s) occurred). Dissemination of the Travel Health Advisory beyond its posting on the PHAC web site would be dictated by the CCMOH and PHAC. This could involve direct messaging to specific audiences (e.g., CMA) or to media.

Canadian Pandemic Phase	Actions	Comments
	Public Health Measure	<ul style="list-style-type: none"> • Be prepared to respond to news releases and public health website (PHAC and WHO) postings informing international travelers to Canada and the general Canadian public of the occurrence of human infection with a novel influenza virus in a specific geographic region of Canada. • Provide updates to health care professionals in order to: <ul style="list-style-type: none"> ➢ Raise awareness among Canadian health care professionals who may be required to respond to their clients requests for information regarding their risks, should they be traveling to the affected geographic area in Canada ➢ Increase awareness of the “travel” risk factors for infection with the novel virus among health care professionals assessing persons with influenza-like-illness in Canadians who may have visited or recently left the affected geographic area. ➢ Ensure that the recommended surveillance measures, infrastructure and links are in place (refer to surveillance section of CPIP for specific recommendations). • Manage any cases from a public health perspective (see Management of Cases)
Canadian Pandemic Phases 4 & 5 Cluster(s) occurring in Canada with “limited (phase 4) or “substantial” (phase 5) pandemic risk based on various factors (e.g., rate of transmission, geographic localization and spread, severity of illness, impact of control measures, presence of genes	Advisories	CCMOH and PHAC collaboratively may recommend postponement of all non-essential travel to the affected geographic area within Canada. This recommendation can be targeted at readily identified groups of travelers potentially at very high risk or at all travelers depending on the epidemiological data available from the affected area. Health Alert Notices can be distributed at points of entry to the affected area(s) by P/T’s. These notices will contain (i) outbreak information consistent with information provided in Travel Advisories and other formal communications, (ii) guidelines or a questionnaire for self-screening, and (iii) guidelines for reporting specified symptoms (e.g., fever) that start during the interval consistent with the observed/known incubation period, to health care professionals or other officials. P/Ts might consider dissemination of similar public messages at mass transit facilities serving domestic travelers.

Canadian Pandemic Phase	Actions	Comments
<p>from human strains {if derived from an animal strain}, other information from the viral genome, and/or scientific information)</p>	<p>Public Health Measures</p>	<ul style="list-style-type: none"> • Affected area – manage cases as specified in Management of Cases (also see “Screening logistics below). • Affected area – manage any contacts of cases as specified in Management of Contacts of Cases (also see “contact management logistics” below) • P/Ts in collaboration with local health authorities can implement exit screening at domestic airports serving affected areas within Canada in collaboration with PHAC under delegated provincial authority or Emergency Act. <ul style="list-style-type: none"> ➤ Increase public messaging regarding staying at home and specifically, not traveling when ill. ➤ Ensure directives for symptomatic individuals identified through the health declaration process at airports are clear and consistent with the local response to the pandemic activity. • Unaffected areas – see “Contact management logistics” and “Screening logistics” below • P/T and local public health authorities not in an area experiencing a cluster(s) need to consider how to manage travelers from the affected area(s) who have not been specifically identified as contacts of a case. <ul style="list-style-type: none"> ➤ May involve active or passive surveillance or designated phone line for self-reporting by symptomatic travelers. ➤ May involve designating assessment sites which would be linked to public health surveillance activities. ➤ All areas – ongoing appropriate and timely dissemination of Travel Advisory/Travel Warning updates and latest outbreak information. <p>Contact management logistics: Although it is not expected that cases will be circulating in public, contact tracing for any individuals arriving in an unaffected area on domestic conveyances (e.g., plane, bus, train) with a confirmed case (or suspect case, as deemed necessary) can be initiated. If initiated, P/T will formerly request traveler contact information from domestic air carrier flights and forward all contact information for Canadian travelers to appropriate jurisdictional domestic public health authorities for follow-up contact tracing</p>

Canadian Pandemic Phase	Actions	Comments
		<p>activities. At the discretion of the provincial authority, PHAC may be asked to contact the air carrier and forward the appropriate information to all involved Canadian jurisdictions. P/T will need to forward all contact information for international travelers to PHAC who will forward on to appropriate international public health authorities.</p> <p>In the unlikely event that short term detention (1-3 days) of arriving travelers from a Canadian geographic area of risk proves necessary, P/Ts in collaboration with local public health authorities will take the lead in managing the event. At the discretion of the provincial authority, they may ask PHAC to provide this service.</p> <p>As the occurrence of clusters of cases continues or increases, contact tracing/notification will likely be conducted passively through public messaging rather than actively attempting to contact individual travelers. This transition may occur before the declaration of a pandemic if increasing notifications make it non-sustainable.</p> <p>Screening logistics: P/Ts could implement health assessments of ill travelers arriving on domestic flights originating from the affected area within Canada. Alternatively, the P/T could request assistance from PHAC to implement these health assessments under delegated provincial authority.</p> <p>Exit screening for all travelers from the affected areas within Canada (i.e., those experiencing clusters of human infection) would likely be implemented during this phase in the form of health declaration questionnaires¹. This would likely be limited to those exiting the area by air travel.</p> <p>At exit points (i.e., airports, sea ports, land border crossings) from the affected area(s) within Canada, modified versions of Health Alert Notices (or “health declarations”) containing: (i) information about the outbreak consistent with information provided in Travel Advisories and other formal communications, (ii) a questionnaire for self-screening, and (iii) guidance for reporting specified signs of illness, would likely be distributed. Additional screening methods aimed at detecting potentially infected individuals might also be considered at the directive of the CMOH and PHAC.</p>

Canadian Pandemic Phase	Actions	Comments
Pandemic Period – Canadian Pandemic Phase 6 Amplification and sustained transmission in the population	Advisories	<p>During this phase the wording of travel advisories may be strengthened to specifically recommend not traveling (i.e., under any circumstances), to affected areas. This, however, may not be necessary if the public demand decreases and airline companies cancel service to certain areas.</p> <p>When pandemic activity is increasing in Canada actions implemented during Pandemic Alert Period (Phases 4 & 5) will quickly become unsustainable. Once there is widespread community transmission in Canada, the allocation of resources targeted at keeping the virus out will become unnecessary and resources should be re-allocated.</p>
	Public Health Measures	<ul style="list-style-type: none"> • Similar to Pandemic Alert Period (Phases 4 & 5), until no longer feasible or deemed to be ineffective due to widespread activity • Public health measures aimed at travelers will likely be discontinued or scaled back at different times in different jurisdictions as the local epidemiology dictates. • In subsequent waves of the pandemic, messaging and wording on health declarations and screening activities may need to be revised to take into consideration persons who were ill during the first wave and are now probably immune.
Post Pandemic Period in Canada <i>Reports of cases counts and other broad indicators of pandemic activity in Canada suggest that the pandemic virus is no longer causing significant illness in the population.</i>	Advisories	<p>Travel advisories would be revised as pandemic activity declines in various geographical areas. Public messaging may once again focus on travelers as sources of infection if the wave has already moved through specific jurisdictions and community transmission is no longer being observed.</p>
	Public Health Measure	<ul style="list-style-type: none"> • May be similar to Pandemic Alert Period (Phase 3) - that is focus on public and health care provider education as opposed to high levels of activity at airports. • Support recommended surveillance activities as per the surveillance annex of the Plan.

Source Canadian Pandemic Influenza Plan

Chapter 9 Vaccine and Antiviral Medications

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Chapter 9 Vaccine & Antiviral Medications

1.0 Introduction

The World Health Organization, the Public Health Agency of Canada, and the Ontario Ministry of Health and Long-Term Care all agree that a monovalent influenza vaccine will be a powerful tool for reducing disease, death and societal disruption during an influenza pandemic. Antiviral medications will also play an important role in preventing and treating influenza illness during a pandemic.

During a pandemic, Toronto Public Health will serve as the primary coordinator for the distribution and administration of vaccine and distribution of antiviral medications in the City of Toronto. Toronto Public Health currently vaccinates over 40,000 Toronto residents annually during the fall universal influenza immunization program, a Ministry Of Health and Long-Term Care program that provides no cost influenza vaccine to all eligible Ontario residents. Through the universal immunization program, Toronto Public Health has built a foundation for the development of pandemic vaccine and antiviral medication distribution plan. As it is likely that the supply of both antiviral medications and vaccine will be limited during a pandemic, the distribution of both will be controlled by the Ontario government. Establishing priority groups to guide the use of these limited resources during a pandemic is therefore necessary. The priority groups may change depending on pandemic epidemiology.

Recommendations for priority groups for vaccination and antiviral medications for both treatment and prophylaxis have been established in the Canadian Pandemic Plan and are further elaborated on in the Ontario Pandemic Plan. Implementation of the vaccine and antiviral medication plan will require the assessment of the availability of the products and the epidemiology of the disease. These recommendations will be used by Toronto Public Health to direct the distribution of stockpiled antiviral medications and distribution and administration of vaccine once it becomes available for Toronto residents.

2.0 Mass Vaccination Clinic Plan

Vaccination is the most effective intervention against influenza in humans. Inactivated influenza vaccine reduces illness and death associated with influenza in both the general population and those at high risk for influenza complications. The Government of Canada has secured a contract with a Canadian supplier for pandemic influenza vaccine. Once the pandemic influenza strain is identified, the Pandemic Influenza Committee (PIC) will ask Canada's vaccine supplier to initiate vaccine development, testing and production. This process is estimated to take approximately 4 to 6 months. The manufacturer is under contract to produce and distribute 8 million doses of vaccine per month once production is in full swing.

Once available, vaccine that is allotted to Ontario will be sent to the Ministry of Health and Long-Term Care (MOHLTC) and stored at the Ontario Government Pharmaceutical and Medical Supply Service (OGPMSS) and distributed to local public health units. Toronto Public Health (TPH) will receive a portion of the total doses of vaccine available in Canada per month based on population and the number of high risk individuals in Toronto. TPH will be responsible for distribution and coordination of vaccine administration during all phases of the pandemic. Vaccine supply may be limited and as a result, vaccination of the population may occur in stages, with provincially designated priority groups receiving vaccine sooner than others.

Several frameworks inform TPH's plan for safe and efficient mass vaccine clinics (MVC):

1. The Incident Management System (IMS) model informs the centralized MVC hierarchy, where central headquarters will provide direction to distribution centres which in turn supply and support a cluster of clinics.
2. A pull model for interacting with the community whereby target populations are invited to attend vaccination clinics that will be spread throughout Toronto.
3. A continuous flow model, in which individuals move through clinic stations continually rather than in groups, will enable efficient patient flow through each MVC.
4. TPH will integrate the ethical framework for decision-making described in Chapter 1.

The plan for distribution and administration of pandemic vaccine is divided into 2 parts:

- **Part I:** Vaccine distribution and/or administration to Priority Groups 1, 2 and 3 as identified by the MOHLTC.
- **Part II:** Vaccine distribution and administration to the general public, Priority Groups 4, 5 and 6 as identified by the MOHLTC.

Ministry of Health and Long-Term Care Priority Definition Table – For Allocating Vaccines and Antivirals				
Group Number	Priority Groups	Applicable Categories	Working Definitions	Examples
Group 1	Prophylaxis of front-line health care providers and key health decision makers	a) Front-line Health Care Provider	Persons who provide or assist in the provision of direct health care (within 1 meter) to potential or known influenza cases with or without personal protective equipment.	doctors/nurses/NPs/receptionists (in hospitals, CHCs, walk-in clinics, LTCHs and family practice settings), home care therapists, ambulance attendants/paramedics/firefighters performing paramedic functions, vaccinators, public health staff anticipating patient contact (clinic staff), laboratory workers, x-ray techs, respiratory therapists, physiotherapists, occupational therapists, porters, dedicated housekeeping, HCAs/PSWs (in hospitals, LTCHs and community settings), CCAC case workers in hospital settings.
		b) Key Health Decision Maker	Persons whose decision making authority is necessary for implementing and maintaining the health sector response to pandemic influenza.	local MOH, AMOHs and other senior health administrators.
Group 2	Prophylaxis of remaining health care providers	a) Essential Health Care Provider	Persons who are trained to provide direct, essential (non-elective) health care to patients for diagnostic, and/or treatment purposes in a hospital, medical office or homecare setting including provision of essential supportive care in a chronic care facility.	doctors/nurses/ NPs/receptionists (in hospitals, CHCs, walk-in clinics, LTCHs, family practice settings, and workplaces), home care therapists, laboratory workers, x-ray techs, respiratory therapists, physiotherapists, occupational therapists, porters, HCAs/PSWs, CCAC case workers.
		b) Public Health Responder	Persons who are essential to the implementation and maintenance of the public health response to Pandemic influenza.	public health unit staff and managers, clinic admin staff, security, vaccine transporters.
		c) Essential Health Support Services	Persons who (at a minimum) are essential for maintaining baseline function of a health care facility, assisting the frontline health care providers or assisting key health decision makers.	dispatchers (911 and police), managers, housekeeping staff, kitchen staff, pharmacy staff (in hospital), facility administration, support clerks, shipping & receiving, hospital/LTCH directors, building maintenance, environmental clean up officers, laboratory techs.
Group 3	Prophylaxis of emergency/ essential service providers	a) Pandemic Societal Responder	Persons who are trained or primarily involved in the provision of an essential service which if not sustained at a minimal level would threaten public health, safety or security.	i) fire fighters, police officers "on the street", provincial correctional service officers, fire chiefs, police chiefs, ii) public works and maintenance labourers, traffic controllers, telecommunications, public transport, iii) religious leaders, embalmers, Group 3 funeral directors.
		b) Key Societal Decision Maker	Persons whose decision making authority will be necessary at the time of the pandemic to minimize societal disruption.	judges, mayors, municipal councillors, MPPs.

NB: Priority groups could change based on the epidemiology of the pandemic influenza virus outbreak.

Adapted from the Ontario Health Plan for Influenza Pandemic June 2005 with permission from the Ministry of Health and Long-Term Care

Toronto Pandemic Influenza Plan November 2005

Chapter 9 Vaccine and Antiviral Medications

2.1 Part I (Priority Groups 1, 2 and 3)

TPH will provide support to and/or conduct MVC's for priority groups 1, 2 and 3. It is assumed that organizations employing medical and nursing staff will vaccinate their own priority staff with assistance and support from TPH as needed. These organizations can do so as MDs can provide medical directives for their facility (e.g. hospitals, LTCH, CHC). For organizations without MDs that employ members of priority groups (e.g. nurses, physiotherapists) such as nursing agencies and Community Care Access Centres, TPH will provide clinics where staff of these organizations will be offered vaccine.

Once a pandemic influenza vaccine is available, TPH will initiate Part I of the MVC Plan. In order to anticipate the potential amounts of antiviral medication and vaccine required to protect priority groups 1, 2 and 3, TPH is conducting an enumeration process as directed by the MOHLTC to count the number of individuals in each priority group. The use of antiviral medication for prevention purposes can not be guaranteed at this time, the Priority Groups may change based on age and risk groups most affected by the pandemic. The list below identifies the organizations and individuals that are currently being enumerated by TPH.

Acute Care Hospitals

Hospitals are an important component of the health care system that will be under enormous stress during a pandemic. Through linkages with the Toronto Pandemic Influenza Planning Steering Committee, hospitals have initiated drafting of their own pandemic plans including prioritization of individuals working at the hospital to receive influenza vaccine once it becomes available. These plans, in conjunction with the information gathered from the enumeration process, will ensure that the appropriate individuals are vaccinated within the priority groups established by the provincial pandemic plan to maintain critical hospital functions. Hospitals are expected to hold and staff influenza vaccination clinics for individuals working at their facility. Hospitals will also be responsible for providing security, vaccination supplies (excluding vaccine) and space to conduct vaccination of individuals working at the hospital while TPH will assist hospitals by providing TPH staff and resources as needed.

Long Term Care Homes (LTCH)/Chronic Care Hospitals

LTCH residents are a vulnerable population. It will be critical to maintain the health of staff caring for these individuals to avoid transmitting influenza to this high risk population. It is expected that LTCHs will provide vaccination clinics onsite for their staff and residents as vaccine becomes available. TPH will assist LTCH's by providing TPH staff and resources to assist LTCHs as needed.

Community Care Access Centers

TPH will coordinate (manage vaccine inventory, assist with vaccination clinics as needed) the administration of vaccinations to this group. TPH will attempt to provide immunization clinics as close to the location of the offices as possible, such as community health centers, schools, civic centers. Planning has begun to determine these locations.

Community Care Settings (Physicians, Community Health Centres, Nursing Agencies etc.)

Physicians and other health care workers in the community will require vaccination. TPH will provide coordination (manage vaccine inventory, assist with vaccination clinics as needed) of vaccination clinics for physicians/ other health care workers and their support staff who are essential to the operation of the facility. TPH will attempt to provide immunization clinics close to the location of physician/ health care workers offices in locations such as civic centers, schools, hospitals. Planning has begun to determine these locations.

Emergency Responders (Emergency Medical Services, Toronto Fire Services)

The vaccination of employees working for Toronto Emergency Medical Services and Toronto Fire Services will also be a priority during a pandemic. Toronto EMS has sufficient staff with the expertise to conduct vaccination clinics for their staff with TPH staff providing oversight to ensure vaccine security. TPH will work closely with Toronto EMS to ensure that all necessary EMS staff are vaccinated within the priority groups established by the provincial plan. TPH will provide support for immunization clinics at TFS to ensure appropriate oversight of vaccination distribution and administration.

Critical Infrastructure/Municipality (Telecommunications, Public Transportation, Public Works, Religious Leaders, Traffic Controllers, Police, Funeral Directors, Municipal Councillors etc.)

Vaccination of these persons is important to maintain essential services in the City of Toronto. TPH will attempt to provide vaccination clinics close to the work place for these organizations within this priority group. Vaccination clinics will also be offered to persons in this priority group at Civic Centers and other community locations.

Public Health

The vaccination of public health staff will be essential to implement and maintain public health measures in response to an influenza pandemic. TPH has sufficient staff with expertise in running vaccination clinics to ensure that TPH employees who are in the MOHLTC priority groups are immunized.

●NEXT STEPS:

Once the Enumeration Tools from priority groups 1, 2 and 3 are returned to TPH, the total number of persons who are in the priority groups will be known and we will be able to calculate the number of clinics/locations/staff required for each facility/priority group. Also, TPH will send the enumeration information to the MOHLTC as per their request.

NOTE: Planning for the locations where vaccination clinics will be held for the above groups has begun. Locations that are being considered for vaccination clinics for priority groups include: Civic Centers throughout the City of Toronto, elementary and secondary schools with the Toronto District School Board and the Toronto District Catholic School Board.

2.2 PART II (Priority Groups 4, 5 and 6)

TPH will conduct the MVC's for priority groups 4, 5 and 6 i.e. members of the general population at the highest risk of severe illness and death from influenza infection (including infants, the elderly and those with serious underlying medical illness), healthy adults and children from 24 months to 18 years of age.

2.3 Mass Vaccination Clinic Logistics

PART I

The MVC plan for Part I (priority groups 1, 2 and 3) is in development. Once the enumeration tools have been completed and returned to TPH, we will be able to calculate the number of clinics and the amount of time required to vaccinate this population. A tracking system to identify which organization has received their vaccine needs to be developed (see section on IT). However, the details listed below are applicable to both Part I and Part II of the MVC.

PART II

TPH aims to vaccinate all Torontonians in Priority Groups 4, 5 and 6 over a maximum period of nine weeks. However, vaccine supply during an influenza pandemic may require modification of the proposed timelines.

In order to match vaccine supply with a continuous, manageable patient flow through the MVCs over the course of two months, TPH may instruct specific groups to report to selected MVCs on assigned dates. With everyone's cooperation, this will maximize the efficiency and safety of MVCs.

Various means may be used to facilitate the efficient vaccination of Toronto residents. Staging of clinics may be organized by age, population density or geographically. However, staging should be done consistently across Ontario as much as possible but will also be tailored to meet the unique needs of Toronto's communities.

Both the Federal and Provincial Governments will monitor the global epidemiology of the pandemic influenza virus, and, if staging MVCs by age is used, TPH will use the epidemiological information, with direction from the MOHLTC to prioritize the population by age based on risk of illness.

Planning for vaccinating the population in priority groups 4, 5 and 6 will also need to accommodate populations in unique environments such as groups in confined spaces and shared ventilation situations. Shelters, prisons and dormitories deserve special consideration when identifying priority groups for mass vaccination.

TPH will also consider alternative staging options in order to maximize the convenience and accessibility of MVCs for families who represent multiple priority groups. MVCs may service residents grouped by postal code; MVC staging by postal code could be organized in systematic geographic progression, or via a postal code lottery. TPH will consult with Geographical Information Systems experts to explore other possibilities.

●NEXT STEPS:

Look at further clinic logistics to address the possibility of a two dose vaccine.

Clinic Locations

MVC must be equitably distributed, by population, throughout Toronto. Minimum facilities for each clinic include:

- TTC access;
- wheelchair accessible;
- adequate air circulation and lighting;
- accessible washrooms;
- covered or indoor space for queues, and
- each facility must have sufficient floor space to accommodate a floor plan that directs the safe flow of patients through various stations at the clinic such as greeting, registration, immunization and after-care areas.

1. Toronto Public Health Offices

TPH Civic Centers (Etobicoke, North York, East York, Scarborough) and 277 Victoria Street will be used for Part I and Part II of the MVC plan. Utilizing these sites is ideal as they have established security and have large refrigerators that currently store vaccines and they meet all of the requirements above. These locations can also be used as distribution sites.

Having vaccination clinics located in TPH Office locations will:

- eliminate the need to transport vaccine to clinic locations,
- efficiently use the available staff time by decreasing travel time,
- facility security measures at the clinics will be readily available,
- decrease the staff time required to set up and tear down the clinic set up (i.e. tables, chairs),
- TPH staff have operated vaccination clinics at each of the above locations which will facilitate efficient and organized vaccination clinics.

2. Schools

Toronto schools have useful infrastructure including gymnasias, auditoria, washrooms, cafeterias, parking lots and classrooms, most schools are easily accessible by public transit. Larger schools may serve as distribution centres, supply depots and staff training locations. Operating vaccination clinics in schools may necessitate temporary school closures; however, schools may be closed during an influenza pandemic. (Rotating school sites may prevent extended closure of any one school)

TPH is currently building a pandemic influenza planning partnership with the Toronto District School Board, the Toronto Catholic District School Board, and representatives from Toronto independent schools. Through these partnerships, TPH and school board representatives will facilitate agreement on such issues as liability, access to facilities, surge capacity, custodial staff support, and school closure policy.

3. Other

In addition to schools, TPH will evaluate other potential vaccination clinics and distribution centre sites. Sites to consider include Toronto Parks and Recreation community centres and places of worship. Larger possible sites include warehouses, malls, the Air Canada Centre, the SkyDome, other stadiums and event venues, Department of National Defense facilities, and the mass reception centre for nuclear disasters

Barriers to integrating the aforementioned larger sites into the clinic hierarchy include private ownership, and the increased safety and security risks involved in managing the large volumes that these sites could accommodate. Unlike neighbourhood schools, these sites are not easily accessible to all Torontonians, nor are they equitably distributed throughout the city.

Please see Appendix 2 for Vaccination Clinic Base Requirements.

Vaccine Clinic Requirements

Ample space and staff will be required to effectively and safely run and manage vaccination clinics. Please see Appendix 20 for Clinic Staffing Structure.

The current staffing model operates 13 clinics per day with 20 nurses providing immunizations. The total number of staff required per clinic to facilitate this model would be 57. In order to immunize 2.5 million people over a nine week span, we would require 13 clinics to operate per day. Therefore, we would need approximately 1,482 staff, 520 of those would be nurses providing immunizations. Please see Appendix 21, 22 and 23 for further detail.

In order to meet staffing requirements, as TPH may not be able to support all staffing needs, alternative immunizers other than nurses will need to be considered i.e. retired health care workers.

Vaccine Storage and Transportation

Proper vaccine storage and secure transportation are key issues. Designated TPH staff will coordinate the transportation of vaccine to distribution centres and to designated priority group locations with OGPMS. TPH is working with OGPMS to finalize the movement of vaccine between Toronto locations including several TPH offices and other facilities such as acute care hospitals and Community Health Centers and schools. Advanced contracting with courier companies for vaccine transportation will also be required.

Influenza vaccine must be refrigerated to maintain potency. TPH will need to enhance its capacity to store vaccine including additional refrigerators and augment the power supply to its facilities. TPH owns 8 refrigerators that store up to 10,000 doses each, or 80,000 total doses, these sites will serve as headquarters for vaccine distribution, for further details please see Appendix 18. TPH should determine target refrigeration capacity, and purchase more fridges and/or contract other fridges (e.g. from businesses, hospitals) in the event of pandemic influenza. Vaccine will be transported to vaccination clinics via refrigerated trucks, insulated vaccine cooler bags and battery operated coolers. Back-up generators to power refrigerated trucks, and battery operated coolers will be needed on site to maintain the vaccine at clinic sites.

NEXT STEPS:

Continue to work with OGPMS to develop a concrete vaccine delivery plan for Toronto. Discuss funding options with the MOHLTC regarding vaccine refrigerators, vaccine clinic supplies. Work with Toronto Police Services regarding security options.

Human Resources

Implementing MVC for the City of Toronto will require a large number of staff (see Table 2: Staffing Requirements for a MVC).

Vaccine Preventable Disease program staff will play lead roles as Clinical Supervisors and Clinic Managers for vaccination clinics. Other TPH staff will be re-deployed to the mass vaccination clinics, as required. TPH is exploring possible external pools of MVC staff, including students in the health professions and allied health professions, retired health care and EMS workers, and City of Toronto administrative staff with training in medicine or nursing. TPH is also working with EMS to plan for their support at clinics where other priority groups are being vaccinated.

An up-to-date pre-pandemic inventory of assets and skills– based on competencies, rather than professional designations – will facilitate rapid mobilization of TPH human resources for MVCs during an influenza pandemic. This could include CPR training, languages, counseling, etc.

In addition to medical staff and qualified immunizers, MVC will require a variety of support services. These include (but are not limited to):

- Multi-lingual staff and/or translators
- Food and drink coordinators for clinic staff
- Advanced supplies coordinators (ordering, purchasing, distribution, storage and tracking)

- Trained crisis counselors
- EMS on-call to respond to adverse vaccine events and other medical emergencies
- Custodial staff, with additional responsibility for biohazard waste disposal
- Security staff; 1 security personnel per 4 – 5 core staff, as per the *Community-Based Mass Prophylaxis Guide* (19)
- Staff for TPH information and adverse vaccine event-tracking hotlines
- Use of volunteers.

● **NEXT STEPS:**

Work with MOHLTC to determine if they will assist with additional staff to manage MVC. Develop additional resources for the existing Vaccine Preventable Disease information line (Hotline).

Training

TPH is working to ensure that public health staff who do not routinely administer vaccines are trained and able to vaccinate during the pandemic. This includes providing opportunity for staff to participate in TPH's yearly influenza vaccine campaign.

There are several training modules TPH will consider. Several factors need to be considered/reviewed:

- Availability of personnel such as retired nurses, physicians, lab technicians and paramedics who have experience providing vaccinations.
- Understanding the critical components to vaccine administration: screening for contraindications, illness and anxiety and response to adverse vaccine associated events.
- There will be time for training to occur, however there will be time constraints on TPH staff who will be responsible for this activity. Therefore, training will need to be specific, timely and ongoing as updated information is received.
- Specific training will need to be developed for each clinic location so that staff are familiar with the environment of their clinic and where to seek assistance.
- Infection control, anaphylaxis protocol, injection techniques and influenza information will have to be standardized and easy to understand.
- Security procedures will need to be consistent and well understood by all staff.

TPH is developing a global training plan, which may mandate regular training in vaccination technique for TPH nurses, and rotations for all TPH nurses through the Universal Influenza Immunization Program. TPH must then enumerate trained potential immunizers. The training plan may also integrate an annual re-certification program for key skills, such as CPR, giving injections, and obtaining consent.

● **NEXT STEPS:**

Develop orientation/training manual (training package can be adapted from the Vaccine Preventable Disease, Influenza Orientation Package)

Authenticating Vaccine Recipients

Vaccinating Torontonians in stages and/or by priority group demands effective authentication policies and procedures. In collaboration with the MOHLTC, TPH's approach to identification authentication must clearly delineate acceptable forms of identification for each priority group (e.g. employee ID, current pay stubs, health cards, utility bills).

Certain populations merit special consideration, including (but not limited to): refugees, recent and illegal immigrants, persons living with mental illness in the community, the homeless and under housed, persons with multiple residences or workplaces in different municipal jurisdictions, visitors, foreign students and those under federal jurisdiction (including First Nations populations, the military, and persons in federal prisons).

Relying on Ontario health cards alone for authentication will simply not work for many members of the aforementioned groups, as well as members of the general population who do not possess current health cards. Achieving herd immunity – and respecting human rights – will require alternative means of authentication. TPH will also work with the City of Toronto's legal department to explore the privacy legislation as it relates to authentication for MVC.

TPH's authentication plan must also outline strategies for documenting influenza-like-illness and recovery, and the impact on need for vaccination. A clinical algorithm should be developed and tested, to determine who has experienced immunogenic influenza-related-illness, if or when these people should be vaccinated, and how clinics will direct the acutely ill who present for vaccination.

Authentication strategies put in place must indicate how to avoid giving duplicate vaccinations, for those vaccinated through their workplaces and at other MVC. Please see Appendix 26 for further detail.

NEXT STEPS:

Discuss with MOHLTC as to how this should be developed.

Informed Consent for Immunizations

This section of the MVC plan is currently under development. Meetings to discuss the legal requirements for obtaining informed consent in the mass clinic setting are to be scheduled with TPH legal department.

NEXT STEPS:

Meet with TPH Legal Department to discuss consent issues and connect with MOHLTC for direction.

Information Technology

An efficient information technology (IT) infrastructure will be integral to timely management of high patient volumes in MVCs. TPH will use the iPHIS or CERTS database. TPH must select a database and train staff to use it. TPH must also anticipate IT difficulties specific to patients without proper identification, and minimize barriers to equitable MVC access.

An IT system will also need to be developed to monitor vaccine inventory as vaccine is delivered to TPH and then distributed to clinics throughout the community.

Equipment that may be needed includes:

- Scanners for health cards or other identification
- Laptops for registration clerks and clerical staff to enter data on-site
- Wireless connections
- Staff support for IT problem-solving, as it arises
- Phone lines
- Staff training on database use
- Paper copies in case of power failure or IT problem

● **NEXT STEPS:**

Assess IT requirements (number of laptops, scanners, connections, training etc.) and discuss with TPH IT management.

Psychosocial Support

Planning for MVC clinics must anticipate considerable psychosocial distress in the event of pandemic influenza, and consider evidence-based interventions accordingly.

● **NEXT STEPS:**

Meet with TPH staff to develop this section.

Communications

The MVC communications plan is an integral part of the pandemic influenza preparedness communications strategy. This will involve regular updates in multiple media in multiple languages, including paper and online fact sheets, an information hotline, an adverse vaccine event hotline, and television, radio and web broadcasts. This information will be available in the community, and at each MVC site. The MVC dimension of pandemic influenza communications at TPH should identify immunization needs of specific groups (e.g. physicians, other health care workers, parents, religious groups), and tailor public and medical education to address fears, ideas, and expectations that may help or hinder the mass vaccination campaign.

TPH must also develop a clear internal communication system that effectively employs the MVC hierarchy.

Safety/Security

The primacy of safety in MVC planning must be underscored. Safe management of large volumes of people, vaccines, injections, hazardous waste – and increased risk of adverse vaccine events - demand ample security, staff and medical support, as well as extra EMS capacity dedicated to MVCs. TPH must develop and test an Adverse Vaccine Event tracking system.

Security for staff, vaccine storage, transportation and clinic locations is of great importance. Toronto Police Services have agreed to support TPH security needs.

● **Next Steps**

Develop a tracking system to monitor adverse vaccine reactions, iPHIS may be a viable option. Further develop security plans with TPH security and Toronto Police Services to ensure staff safety and security of vaccine and supplies.

3.0 Antiviral Medication

Antiviral medications work by disrupting the replication of the influenza virus. They can be used to treat individuals showing early signs and symptoms of influenza and have been shown to reduce the length and severity of influenza-related illness. Antiviral medication can also be used to prevent illness when given to those exposed to influenza. Since vaccine production requires up to 4 to 6 months from the identification of a novel influenza virus, antiviral medication may be used to prevent influenza illness early in the pandemic. Antiviral medication will be used throughout the pandemic to treat individuals with influenza illness. Both the Canadian and Ontario governments have begun stockpiling antiviral medications for use during a pandemic.

There are two types of antiviral medication used to prevent influenza A infection and treat influenza illness. The two types are: M2 ion channel inhibitors (amantadine and rimantadine) and neuraminidase inhibitors [oseltamivir (Tamiflu) and zanamivir (Relenza)]. Amantadine and rimantadine blocks the functioning of the influenza M2 protein in influenza A viruses. It is taken orally but has some limitations. Some influenza viruses are resistant to Amantadine and those that are not can become resistant quickly once infected individuals begin to take this medication. The neuraminidase inhibitors such as oseltamivir (Tamiflu®) and zanamivir (Relenza®) are the other antiviral medications that will be useful in a pandemic. They work by blocking a key protein that helps both influenza A and B viruses replicate. The main limitation of zanamivir (Relenza®) is the inhaled route of administration and rare side effects observed in people with asthma and COPD. If resistance to oseltamivir is observed, it will be imperative to have a backup option. Zanamivir could be this option.

Antiviral medications are effective in reducing duration of influenza illness if administered within two days (48 hours) of onset of symptoms. The neuraminidase inhibitors also reduce the complications of influenza infection such as secondary bacterial pneumonia and hospitalization. Antiviral medication will most likely be used to treat those with severe influenza illness during a pandemic, those sick enough to require hospital care. Although, the effectiveness of antiviral medications against a novel pandemic virus is unknown it is likely that the neuraminidase inhibitors will reduce the severity of influenza illness caused by a pandemic.

Early in a pandemic, stockpiled antiviral medication will be used to prevent the spread of the new influenza virus from cases that arrive with the infection from elsewhere. This will require rapid identification of contacts of these initial cases and prompt distribution of antiviral medication to these contacts. Since SARS, TPH has substantially strengthened its relationship with hospitals and put into place a surveillance system for febrile respiratory illness (FRI). This system will be valuable in detecting initial cases of influenza once a novel pandemic virus has been identified with the capability to be transmitted from human to human.

While the provision of antiviral medication to the contacts of initial pandemic cases will slow the viruses' introduction into Toronto, the characteristics of influenza make it unlikely that this will be completely successful. Unlike SARS, influenza has a short incubation period and can be transmitted to others before illness occurs, thus making it difficult to completely eliminate transmission. However, a substantial attempt will be made to quickly respond to initial cases with antiviral medication for contacts. This will increase the time available to begin vaccine development before widespread illness from the pandemic virus occurs.

If the provision of antiviral medication to prevent illness in contacts of initial pandemic cases fails to prevent the viruses' introduction into Toronto, as is likely, eventually the strategy for stockpiled medication will shift to protecting essential roles in the community. Using the MOHLTC priority system, much like that described above for vaccine distribution, certain populations will be given antiviral medications to prevent illness during the first pandemic wave before the vaccine is available. The MOHLTC is continuing to work with the federal government to determine the best use of stockpiled antiviral medication for long term prevention of influenza illness. Models based on previous pandemics have shown that long term preventive use of antiviral medications may reduce the number of deaths and illness due to the pandemic.

Corporations and businesses have also begun to stockpile antiviral medications for their employees and their families. Discussions with area physicians also suggest that some are writing antiviral prescriptions for individuals to be stockpiled for their use in a pandemic. It will be important, early in a pandemic for TPH to provide appropriate guidance to individuals and corporations with stockpiles of antiviral medication to ensure that they are used appropriately to complement public stockpiles .

The enumeration of roles in the MOHLTC priority groups 1, 2 and 3 now underway, will also support the identification of roles who most likely receive antiviral medication for treatment and prophylaxis.

However, there are many issues that must be clarified before plans for the use of antiviral medication are complete:

1. province wide criteria for the use of antiviral medication for treatment (e.g. illness severity criteria, course of treatment, co-treatment with other drugs)
2. procedures for the distribution of antiviral medication to TPH for preventive use and to health care facilities for treatment
3. direction on methods of antiviral medication distribution/dispensing for prevention to contacts of cases and priority individuals for longer term prevention
4. drafting of medical directives and guidelines for the use of antivirals by the province or TPH
5. some of the same issues described in the plan for the mass vaccination of Toronto residents are also present in plans to provide antiviral medication to groups to prevent influenza illness

Next Steps

Development of the antiviral clinic logistics to include, but not limited to: antiviral storage, distribution, dispensing, record keeping, monitoring of antiviral uptake and adverse reactions. Some of the logistics for the antiviral medication plan will be the same or similar to, the MVC plan e.g. security, storage and transportation, training, communication, IT systems for adverse events. Further discussion and consideration regarding antiviral stockpiling needs to be addressed.

The MOHLTC has identified priority groups for the use of antiviral medications for both treatment and prophylaxis. Please see the tables on pg. 131 and 132.

Priority groups for treatment have been defined as:

Group 1 – persons hospitalized for influenza

Group 2 – ill health care workers and first responders/emergency service providers

Group 3 – ill high risk persons in the community

Group 4 – ill high risk residents in institutions

Priority groups for prophylaxis have been defined as:

Group 1 – front line health workers and key decision makers

Group 2 – remaining health care workers

Group 3 – emergency/essential services workers

Group 4 – high risk residents of institutions

Group 5 – persons at high risk of being hospitalized for illness other than influenza

Group 6 – persons at high risk in the community

Definitions Applied to Priority Groups – Treatment*

Priority	Antivirals	Applicable Categories/Groups	Rationale
Group 1	Treatment of persons hospitalized for influenza (within 48 hours of symptoms)	N/A	To be consistent with the goal of reducing morbidity and mortality and considering the optimal use of these drugs in relation to onset of illness, those who are hospitalized within the first 48 hours of onset of illness should be the highest priority for treatment.
Group 2	Treatment of ill health care providers and first responders/emergency service providers	Front-line Health Care Provider	Considering the essential role that health care providers and emergency service workers will have in the pandemic response, influenza cases in these groups that are identified within the first 48 hours of onset of illness should be high priority for treatment.
		Essential Health Care Provider	
		Public Health Responder	
		Pandemic Societal Responder	
Group 3	Treatment of ill high risk persons in the community (within 48 hours of symptoms)	N/A	Persons with underlying heart and lung conditions or those who are immunocompromised, who present to ambulatory settings within 48 hours of onset of symptoms (before they get sick enough to be hospitalized) will also be considered high priority for treatment since they are at high risk for complications.
Group 4	Treatment to control outbreaks in high risk residents of institutions	N/A	Reducing the impact of influenza outbreaks in institutions where the most vulnerable persons will contribute to the objectives of reducing morbidity and mortality and reduce health care demands.

* Priorities subject to change depending on epidemiology of influenza virus.

Adapted from the Ontario Health Plan for Influenza Pandemic June 2005 with permission from the Ministry of Health and Long-Term Care

Definitions Applied to Priority Groups – Prophylaxis*

Priority	Antivirals	Applicable Categories/Groups	Rationale
Group 1	Prophylaxis of front-line health care providers and key health decision makers	a) Front-line Health Care Provider	Until an effective vaccine becomes available or during the interval between administration of an effective vaccine (or vaccine series) and induction of immunity, antivirals should be provided for health care workers (HCWs), including public health staff, since their continuing functions are essential to the pandemic response plan and to care of patients with other conditions.
		b) Key Health Decision Maker	
Group 2	Prophylaxis of remaining health care providers	a) Essential Health Care Provider	
		b) Public Health Responder	
		c) Essential Health Support Services	
Group 3	Prophylaxis of emergency/essential service providers	a) Pandemic Societal Responder	
		b) Key Societal Decision Makers	
Group 4	Prophylaxis to control outbreaks in high risk residents of institutions	N/A	Reducing the impact of influenza outbreaks in institutions where the most vulnerable persons will contribute to the objectives of reducing morbidity and mortality and reduce health care demands.
Group 5	Prophylaxis of high risk persons hospitalized for illness other than influenza	N/A	High-risk persons hospitalized for conditions other than influenza related complications will be at risk for acquiring influenza while in hospital, given the large numbers of patients and hospital staff who may be infected during a pandemic. Influenza may result in influenza-related complications in such patients, an increase in severity of their underlying illness, prolonged hospital stay and death. Prophylaxis of this group will contribute to the objectives of reducing morbidity and mortality and reduce health care demands.
Group 6	Prophylaxis of high risk persons in the community	N/A	Prophylaxis of high-risk persons who have not received influenza vaccine or for whom the effectiveness of the vaccine may be reduced is a current recommendation of NACI. This group is likely to experience severe illness during a pandemic and prophylaxis with anti-influenza drugs would be considered if an effective vaccine is not available. Prophylaxis of this group will contribute to the objectives of reducing morbidity and mortality and reduce health care demands.

* Priorities subject to change depending on epidemiology of influenza virus.

Adapted from the Ontario Health Plan for Influenza Pandemic June 2005 with permission from the Ministry of Health and Long-Term Care

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Chapter 10 Infection Control

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Chapter 10 Infection Control

1.0 Introduction

This chapter outlines the basic principles of infection control related to influenza. General information on influenza is presented, including modes of transmission, communicability, incubation period and symptoms. Infection control practices are outlined for the general public. In addition, infection control references for health care and community settings are provided. Adherence to infection control practices is essential to minimize the transmission of influenza. Frequent and careful hand washing is emphasized as a key infection control strategy and may be the only significant preventive measure available, particularly early in a pandemic. If the pandemic virus behaves differently (e.g., different routes of transmission, longer incubation period or period of communicability) infection control practices will be adjusted accordingly.

2.0 General Information on Influenza

2.1 Influenza

Influenza, the flu, is a highly contagious and common respiratory illness caused by a virus. Understanding how influenza is spread can help people take precautions to prevent or minimize its transmission. See Chapter 2 for more information about influenza.

2.2 Modes of Transmission

Influenza spreads when the infected respiratory secretions from the mouth or nose of one person come into contact with the mucous membranes (eyes, mouth or nose) of another person. The vast majority of influenza is spread from person to person by droplet spread or direct contact. Outside the body the influenza virus may persist for sometime, especially in conditions of low relative humidity and cooler temperatures. Specifically, the influenza virus can survive for 1-2 days on hard surfaces, 8-12 hours on soft surfaces, and 5 minutes on hands, resulting in some spread by indirect contact.

- **Droplet spread** refers to spray with relatively large, short range droplets produced by sneezing, coughing, talking or singing. These droplets may spray a distance of up to one meter (about three feet) before dropping to the ground.
- **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 hand and then shake hands with another person who may then rub his/her eyes.
- **Indirect contact** occurs when the virus is transmitted from an infected person on to an inanimate object and then on to another person. For example, an infected person may blow their nose, then touch an elevator button and then another person touches the same elevator button and touches his/her eyes.

There is controversy over the role of airborne transmission in spreading influenza.

- **Airborne transmission** occurs when aerosolized, infected droplets of a small size (< 5 µm in diameter) remain suspended in air for long periods of times.

2.3 Communicability

Communicability refers to the time period during which the influenza virus can be spread from an infected person to another person. Most adults infected with influenza can transmit the virus from 1 day before and up to 3-5 days after the onset of symptoms. This period may be longer (7 or more days) in children and some adults.

2.4 Incubation Period

The incubation period for influenza is 1-3 days. This means that a person may develop symptoms of influenza 1-3 days after coming into contact with a person with the influenza virus.

2.5 Symptoms

Infection with influenza can result in a wide range of illness. Some people might not have any symptoms. About half infected people will experience some symptoms. These include:

- Sudden onset of fever, headache, chills, muscle aches, physical exhaustion, and a dry cough.
- Subsequent onset of sore throat, stuffy or runny nose, and worsening cough.
- Children may also feel sick to their stomach, vomit or have diarrhea.
- Elderly and immune compromised people may not develop a fever.
- Most people recover in 7-10 days.

3.0 Infection Control Practices for the General Public

There are a number of things people can do to prevent or reduce the risk of getting influenza. These are called "Infection Control Practices":

3.1 Hand Hygiene

Wash your hands frequently with soap and water, especially after you cough, sneeze, or blow your nose. Ideally, if your hands are visibly soiled you should wash them with soap and water. If you are not near water, use a 60% to 90% alcohol-based hand sanitizer. The influenza virus is easily killed by soap, hand wash or hand sanitizer products, and household cleaning 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 before a vaccine becomes available. See Appendices 28 and 29.

Hand Washing Procedure

1. Wet hands and wrists.
2. Apply soap.
3. Lather for 15 seconds. Rub in between fingers, the back of your hands, wrists, and fingertips.
4. Rinse thoroughly.
5. Dry with paper towel or hot air blower.
6. Turn taps off with paper towel, if available.
7. Open bathroom door using paper towel.
8. Discard paper towel in waste basket.

Hand Sanitizing Procedure

1. Follow the manufacturer's recommendations on the amount of hand sanitizer to use.
2. Apply the alcohol-based sanitizer to the palm of one hand.
3. Rub hands together.
4. Work the sanitizer in between fingers, the back of your hands, wrists and fingertips (covering all parts of the hands and fingers).
5. Keep rubbing your hands until dry.

3.2 Respiratory Etiquette

Cover your mouth and nose when you cough or sneeze. This will help stop the spread of germs that can make people sick. It is important to keep your distance from people who are coughing or sneezing. See Appendix 30.

Cover Your Cough Procedure

1. Cover your mouth and nose with a tissue when you cough or sneeze, or if no tissues are available, cough or sneeze into your upper sleeve, not your hands.
2. Put your used tissue into the waste basket.
3. Wash your hands with soap and water or clean with alcohol-based hand sanitizer.

3.3 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. pushing an elevator button). If you go on to touch your mouth, nose or eyes, the influenza virus may gain entry into your body causing infection.

3.4 Stay Home if You are Ill to Avoid Infecting Others

Most adults infected with influenza can transmit the virus from 1 day before and up to 3 to 5 days after the onset of symptoms. This period may last for 7 or more days in young children and some adults. Some experts believe that the highest concentration of viral shedding occurs early on and decreases quite a bit after 3 days of illness. However there is no clear data on how long a person should wait before returning to their usual activities (e.g. school, work) in order to minimize the risk of infecting others. The best advice at this time is that adults should return to their usual activities at least 5 days after the onset of symptoms (7 days for young children) or when they feel well enough to return to their duties, whichever is longer.

Please see Chapter 11 for information regarding self-care.

3.5 Use of Masks

The use of masks is a difficult and unresolved issue. There is no evidence that the use of masks in general public settings will be protective when the influenza virus is circulating widely in the community. However it is acknowledged that individual people who are wearing a surgical mask properly at the time of an exposure to influenza may benefit from the barrier that a mask provides. At this time the Canadian and provincial plans recommend the use of surgical masks and eye protection for health care workers providing direct care (face-to-face contact) to patients with influenza-like illness. As well, the plans recommend that people who are ill with influenza-like illness who must leave their home to receive medical attention should wear a mask. The plans do not recommend masks as a community-based disease control strategy. However the federal plan states that members of the public may wish to purchase and use masks for individual protection.

At this time the World Health Organization does not have a formal position on the issue of masks but will likely be recommending evaluation of the effectiveness of mask use (and respiratory etiquette) with respect to prevention of cases, costs and alleviation of public concern.

Although masks may provide some reassurance to people, the effectiveness of this measure in preventing infection in the general community is unknown. If masks are used, they should only be used once and must be changed if wet (because they become ineffective when wet). As well, people who use masks should be trained on how to use them properly to avoid contaminating themselves when removing the mask. In addition, there may be issues of access to masks due to cost or supply shortages and other feasibility concerns.

Further consideration should be given to the wearing of masks in community situations where potential exposure to infectious individuals is likely and unavoidable e.g. care of an ill family member, large public gatherings. Additional research needs to be done on this on an urgent basis.

3.6 Get Vaccinated

The best way to protect your self from seasonal influenza is to get vaccinated every fall. The influenza vaccine (flu shot) is made from particles of killed flu viruses. It contains three different types of influenza viruses (two types of influenza A and one type of influenza B). Doctors and scientists around the world determine the strains of influenza virus that are circulating, and the vaccine is then prepared to protect against the types that are most likely to occur each year. A person who receives the flu shot develops immunity for the types of influenza in the vaccine. The body needs about two weeks to build up protection to the virus, and this protection may last for about four to six months. The influenza virus changes each year, so a different vaccine has to be used each year.

The influenza vaccine is available free of charge to anyone aged 6 months or older who lives, works or goes to school in Ontario.

In the event of a pandemic strain of influenza, it is estimated that it will take approximately four to six months to produce a suitable vaccine. Initially, there will not be enough vaccine for everyone. The government has developed “priority groups” to determine the order in which people will receive the pandemic influenza vaccine. Currently the priority groups, listed in order of highest to lowest priority, are: health care workers, essential service workers, persons at high risk of serious illness, healthy adults, and healthy children. Toronto Public Health will work with hospitals and other organizations to ensure that vaccine priority groups receive vaccine. When enough vaccine becomes available, TPH will organize mass vaccination clinics in order to vaccinate the general public. TPH will make public announcements about the time and location of these clinics.

3.7 Environmental Cleaning When Caring for a Person with Known or Suspected Influenza at Home

People sick with influenza may contaminate their surroundings with respiratory secretions from their mouth and nose. As mentioned earlier in this chapter, the influenza virus can live for up to 5 minutes on hands, 8 to 12 hours on soft surfaces, and up to 2 days on hard surfaces. Therefore, some additional cleaning measures should be taken if there is someone in your household with suspected or confirmed influenza. **Remember that frequent and careful hand washing/sanitizing is the single most important method to prevent the spread of pandemic influenza before a vaccine becomes available.**

Housekeeping

- Environmental surfaces (e.g. bathroom counters) and objects (e.g. door knobs) that have been touched by a person with known or suspected influenza should be cleaned every day with your regular household cleaning agent.

Laundry

- Special handling of clothes and linens used by a person with known or suspected influenza is not needed.
- If an item is heavily soiled it should be rolled or folded to contain the heaviest soil in the centre of the bundle. Large amounts of solid soil, which may include feces (poo) or blood clots, should be removed from the item with a gloved hand and toilet tissue, and then placed in a bed pan or toilet for flushing. In order to prevent splashing, solid soil should not be removed by spraying with water.
- Use of commercial laundry detergent with household bleach (according to product instructions and where suitable for fabrics) and a normal machine wash are enough to clean soiled clothing and linens in the home.
- Following machine washing, machine drying or hanging clothing and linens on a clothes line at home are suitable methods for drying.

Garbage

- Garbage created by a person with known or suspect influenza does not need any special handling and may be placed with your regular household waste for disposal.
- Medical sharps, which may include used syringes and needles, may be used in the care of someone with known or suspected influenza. It is a City of Toronto policy that medical sharps cannot be picked up as part of your regular garbage collection as they pose a serious hazard to the collector. Therefore, all medical sharps must be placed in a

tightly sealed and labeled, hard, shelled container. Examples of containers include plastic pop bottles or plastic bleach bottles that have been rinsed out. Once the sharps have been put inside the bottle, screw the cap on tightly. Do not forget to put a label on the bottle which clearly states what is inside (e.g. used syringes and needles). Drop these containers off at a City of Toronto Household Hazardous Waste Depot. For information on Household Hazardous Waste Depots (HHW) call the HHW Hotline at 416-392-4330 or go online at <http://www.toronto.ca/garbage/depots.htm>

4.0 Infection Control Practices for Community Settings

Community settings (e.g. emergency responders, child care settings, mortuary care workers, schools and student residences, and workplaces) must develop infection control and occupational health plans for managing pandemic influenza. These groups are referred to Annex F: Infection Control and Occupational Health Guidelines during Pandemic Influenza in Traditional and Non-Traditional Health Care Settings, Part B of the Canadian Pandemic Influenza Plan (2004) for specific guidelines by each setting. This document can be accessed online at <http://www.phac-aspc.gc.ca/cpip-pclcpi/>

5.0 Infection Control Practices for Health Care Settings

1. Health care settings (e.g., acute care, long-term care, ambulatory care, and home care) must develop infection control and occupational health plans for managing pandemic influenza. These groups are referred to Annex F: Infection Control and Occupational Health Guidelines during Pandemic Influenza in Traditional and Non-Traditional Health Care Settings, Part B of the Canadian Pandemic Influenza Plan (2004) for specific guidelines by each setting. This document can be accessed online at <http://www.phac-aspc.gc.ca/cpip-pclcpi/>
2. **All Ontario Health Care Settings should refer to:**
 - The Provincial Infectious Disease Advisory Committee's (PIDAC) document "Preventing Febrile Respiratory Illness" (2005) available online at http://www.health.gov.on.ca/english/providers/program/infectious/diseases/ic_fri.html.

This document reflects the best expert opinion on the prevention and control of droplet spread febrile respiratory illness. Components of these best practices include: influenza immunization, case finding and surveillance, preventive practice, reporting, and evaluation.

All health care settings need to routinely undertake febrile respiratory illness (FRI) screening according to the PIDAC guidelines. See Appendix 31 for the Case Finding/Surveillance Protocol for Febrile Respiratory Illness.

Febrile Respiratory Illness Screening and Reporting

1. At initial contact, each patient should be asked two questions:

- Do you have a new or worse cough or shortness of breath?
- Are you feeling feverish?

2. If the answer is yes to both questions the patient should be:

- Offered alcohol-based hand sanitizer.
- Provided with a surgical mask to wear.
- Asked to remain in a separate waiting area or keep at least one metre away from other people.

3. Health care providers who assess the patient should:

- Take droplet/contact precautions (hand hygiene, mask, eye protection).

Health care providers should ask the patient:

- Have you travelled in the last 14 days? Where?
- Have you had contact with a sick person who has travelled in the last 14 days?
- Where did that person travel?

For a current list of countries with health alerts, see

<http://www.phac-aspc.gc.ca/tmp-pmv/index.html>

4. Report immediately to Toronto Public Health by phone at 416-392-7411 when there is:

- A positive travel history in a case or contact of a case.
- A positive FRI cluster.

3. In addition, a number of specific documents have been prepared for health care professionals and facilities regarding routine infection control practices:

Physicians in office practice should refer to:

- The College of Physician and Surgeons of Ontario "Infection Control in the Physicians Office" (2004) guidelines. This document is available online at <http://www.cpso.on.ca/> under "*Publications*".

Health care facilities should refer to the Public Health Agency of Canada's:

- "Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care" (1999) available online at <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/99vol25/25s4/index.html>;

- "Hand Washing, Cleaning, Disinfection and Sterilization in Health Care"(1998) available online at <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/98vol24/index.html> ***scroll down to the heading "Advisory Committee Statements and Supplements to the CCDR"***; and "Prevention and Control of Occupational Health Infections in Health Care" (2002) available online at <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/02vol28/index.html> ***scroll down to the heading "Advisory Committee Statements and Supplements to the CCDR"***.

Long-term care homes should refer to:

- The Ministry of Health and Long-Term Care document entitled "A Guide to the Control of Respiratory Outbreaks in Long-Term Care Homes" (2004) available online at http://www.health.gov.on.ca/english/providers/pub/pubhealth/ltc_respoutbreak/ltc_resp_outbreak.html.

Chapter 11 Self Care

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Chapter 11 Self Care

1.0 Introduction

Torontonians will need to have access to basic information for caring for individuals with influenza. This information may support caring for a family member or providing self care. The information provided in chapter 11 outlines how people will know if they have influenza and basic advice on care.

2.0 Background Information

An influenza pandemic occurs when a new influenza virus appears for which the human population has little or no immunity. As a result, large numbers of people will likely become sick. In Toronto alone, it is predicted that 392,000 to 914,000 will become sick. As a result, the health care system will face huge demands for services. The system will be under additional strain due to a reduction in the number of health care workers who are themselves sick or off work in order to care for sick family members.

It has been estimated that

- about 45% of people who get sick with influenza will not require medical care, but will need health information and advice;
- about 53% will require outpatient or primary care (e.g. treatment by a family doctor);
- 1.5 to 2% will need to be hospitalized.

The purpose of this chapter is to provide some basic health information and advice for people who are sick at home with influenza or are caring for a sick person in their home.

3.0 How Do I Know if I Have Influenza?

Symptoms

Infection with influenza can result in a wide range of illness. Half of the infected people will experience symptoms and the other half may not have any symptoms. Symptoms may include:

- Sudden onset of fever, headache, chills, muscle aches, physical exhaustion, and a dry cough.
- Subsequent onset of sore throat, stuffy or runny nose, and worsening cough.
- Children may also feel sick to their stomach, vomit or have diarrhea.
- Elderly and immune compromised people may not develop a fever.
- Most people recover in 7-10 days.

It is likely that you or a family member have influenza if Toronto Public Health has announced that pandemic influenza is circulating in our community and you have the following symptoms:

- A sudden onset
 - Fever (> 38° C) **AND**
 - Cough **AND**
 - One or more of the following: sore throat, muscle aches, or fatigue and physical exhaustion

4.0 How do I Know if I Have a Fever?

Fever related to an illness is a sign that the body is fighting an infection. Sometimes we think someone has a fever by simply touching their forehead or neck but it is important to confirm a fever by checking their temperature. We can measure a person's temperature by using a thermometer placed in the mouth (oral), the ear (tympanic), under the armpit (axillary), or in the bum (rectal). The use of glass mercury thermometers is not recommended as mercury is a toxic substance and there is a risk that glass may be easily broken. Ideally, a digital thermometer should be used for taking oral, axillary or rectal temperatures; and a special ear thermometer should be used for taking a tympanic temperature. You can buy a thermometer at your drug store.

You or your child has a fever if:

- The rectal temperature is 38.5°C (101.3°F) or higher.
- The oral/tympanic temperature is 38°C (100.4°F) or higher.
- The axillary temperature is 38°C (100.4°F) or higher.

5.0 What Can I Do at Home to Treat a Fever?

- Dress in lightweight clothing and keep the room temperature around 20°C
- Drink plenty of cool fluids in order to replace fluids lost in sweat. If the person who is sick has urine (pee) that is darker than usual, they need to drink more.
- As people sick with flu may not be very hungry, offer small, nutritious meals.
- Take acetaminophen (e.g. Tylenol™, Tempra™). Use the dose and schedule recommended on the package or by your doctor or pharmacist. Ibuprofen (e.g. Advil™, Motrin™) may be used for children older than six months and for adults. Do not give acetylsalicylic acid, also known as ASA, (e.g. Aspirin™) to anyone under 18 years of age with the flu because it can lead to brain and liver damage (Reye's Syndrome).

6.0 How Can I Treat Other Symptoms of Influenza?

- There are many over-the-counter cough and cold medicines sold in drug stores and other stores that do not require a doctor's prescription. These include things like decongestants, cough syrups, nasal drops, and antihistamines. These medicines do not necessarily work and may not be safe in some cases. They should not be given to children under three years of age unless prescribed by a doctor. Check with your pharmacist or doctor before giving these medicines to anyone else or taking them yourself. This is especially important for anyone under 12 years of age, or on medications, or with a chronic medical condition.
- Get plenty of rest.
- Gargle with salt water if you have a sore throat.
- Use a cool mist humidifier to help with a stuffy nose.
- If a baby is having problems breathing because of a stuffy nose, use a rubber suction bulb to clear the mucous. These are available at drug stores. You may also use saline nose drops or spray if the mucous is very thick.

7.0 When Should I See a Doctor?

- The decision on when to seek medical attention can be complicated by many factors which may include things like age, existing health problems, or current medications, to name a few. Below are some points to think about when you are trying to decide whether or not you need to seek medical advice. You may get advice from your family doctor/general practitioner, Toronto Public Health's

Health Connection telephone line at (416) 338-7600 or Telehealth Ontario's confidential telephone service (available 24 hours per day, 7 days per week) at 1-866-797-0000. If your symptoms are severe and you think you need immediate attention, go to the closest hospital emergency department or call 911.

Adults

If you are a **normal healthy person** and have been suffering with the flu, it is time to call your doctor, health line or 911 if:

- You become short of breath while resting or doing very little.
- Your breathing is difficult or painful.
- You are coughing up bloody sputum.
- You are wheezing.
- You have had a fever for three or four days and you are not getting better – or you may be getting worse.
- You have started to feel better, and suddenly you get a high fever and start to feel sick again.
- You or others note that you are extremely drowsy and difficult to wake up or that you are disoriented and confused.
- You have extreme pain in your ear.

Seek medical attention as soon as possible, in order to prevent your condition from worsening. Bacteria may have infected your damaged tissues. At this point your doctor may consider giving you an antibiotic.

If you have heart or lung disease or any other chronic condition that requires regular medical attention, if you are frail, if you have an illness, or if you are on treatments or medications that affect your immune system and you get the flu, call your doctor. If you are living with a long-term illness, your doctor may suggest changes to your usual management routine and/or provide you with extra help in treating the flu and preventing complications, such as prescribing an antiviral medication. Antiviral medications must be taken within 48 hours of the first symptoms to be effective so call your doctor right away.

Children

The Canadian Paediatric Society recommends that you should contact your doctor or take your child to the emergency department if your child has symptoms of influenza and:

- Has lung or heart disease, has an illness or is taking treatment that affects the immune system, takes acetylsalicylic acid (ASA or Aspirin) regularly for a medical condition or has any other chronic illness requiring regular medical care.
- Is less than 3 months old and has a rectal temperature over 38.5°C.
- Has trouble breathing when resting, is wheezing, has chest pain when breathing or is coughing up bloody sputum (phlegm).
- Drinks very little fluid and has not urinated at least every 6 hours when awake.
- Has vomiting or has severe diarrhea.
- Is constantly irritable and will not calm down.
- Is listless, not interested in playing with toys or unusually sleepy.
- Still has a fever and is not feeling better after 5 days or was feeling better and suddenly develops a new fever.

Take your child immediately to a hospital emergency department or call 911 if your child:

- Has severe breathing trouble or blue lips.
- Is limp or unable to move.
- Is hard to wake up or does not respond.
- Has a stiff neck.
- Seems confused.
- Has a seizure (convulsion/fit).