



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

