Chapter 9 – Mass Vaccination Clinics

1.0 Introduction

Objectives

- To provide vaccine for all people in Toronto as quickly as possible.
- To store, distribute, allocate and administer vaccine supplies during the pandemic efficiently and appropriately.
- To monitor uptake and safety of the pandemic vaccine.

The World Health Organization (WHO), the Public Health Agency of Canada (PHAC) and the Ontario Ministry of Health and Long-Term Care (MOHLTC) agree that influenza vaccine will be a powerful tool for reducing disease, death and societal disruption during an influenza pandemic. Canada has arranged for enough pandemic influenza vaccine to be produced for the entire population, though it will take four to six months for it to become available from the time the pandemic virus has been identified.

Because it is likely that vaccine will not be supplied all at once, the Canadian Pandemic Influenza Plan (CPIP) has established national priority groups to guide the sequence of vaccination during a pandemic. The priority groups may change depending on the epidemiology of the pandemic. The national and provincial recommendations for priority groups will be used by Toronto Public Health (TPH) to direct the distribution and administration of the vaccine in Toronto when the pandemic vaccine becomes available. TPH will operate Mass Vaccination Clinics (MVCs) to administer the vaccine.

Ontario Health Plan for an Influenza Pandemic 2007, Chapter 9**,** Accessing Antiviral Drugs and Vaccine.
http://www.health.gov.on.ca/english/providers/program/emu/pan_flu/ohpip2/ch_09.pdf

2.0 Vaccine Development and Supply

The Government of Canada has contracted with a Canadian supplier for pandemic influenza vaccine. Once the pandemic influenza strain is identified, the supplier will begin vaccine development, testing and production. The manufacturer is under contract to produce and distribute eight million (+/- 10%) monovalent doses of vaccine per month once production begins. The possibility of expanding vaccine production capacity is being explored at the national level. Although the pandemic vaccine is likely to include an adjuvant to improve its immunogenicity, two doses of the vaccine may still be necessary.

Once available, vaccine that is allotted to Ontario will be sent to the MOHLTC and stored at the Ontario Government Pharmaceutical and Medical Supply Service (OGPMSS). The MOHLTC will then distribute vaccine to local public health units based on information on population and age distribution they have provided. TPH will distribute its allotment of the vaccine according to the national and provincial recommendations at the time. To immunize the entire city, Toronto would require over five million monovalent doses (based on two doses per person over approximately four months).

3.0 Vaccination Priority Groups

Vaccine supply may be limited and as a result vaccination of the population may occur in stages, with designated priority groups receiving vaccine sooner than others. The priority groups may change based on age and groups most affected by the pandemic influenza virus.

The CPIP 2006 describes the priority groups as follows (see Table 1 for details):

- **Group 1**: Health care workers, public health responders and key health decision makers.
- **Group 2**: Pandemic societal responders and key societal decision makers.
- **Group 3**: Persons at high risk of severe or fatal outcomes following influenza infection.
- **Group 4**: Healthy adults (i.e. all individuals, 18–64 years of age, who do not have a medical condition that would qualify them for inclusion in the "high risk" group and who do not fall into one of the other occupation-based priority groups).
- **Group 5**: Children, 24 months to 17 years of age.

Table 1 – Priority Groups for Pandemic Vaccination

Group 1	Group 2	Group 3	Group 4	Group 5
Health care workers, public health responders and key health decision makers ▪ Acute care hospitals ▪ Long-term care facilities and nursing homes ▪ Private physician offices ▪ Home care and other community care facilities ▪ Public health offices ▪ Ambulance and paramedic services ▪ Pharmacies ▪ Laboratories ▪ Government offices	**Pandemic societal responders and key societal decision makers** ▪ Police ▪ Fire fighters ▪ Armed forces ▪ Key emergency response decision makers (e.g. elected officials, essential government workers, disaster services personnel) ▪ Utility workers (e.g. water, gas, electricity, nuclear power, essential communications systems) ▪ Funeral service and mortuary personnel ▪ People who work with institutionalized populations (e.g. corrections) ▪ Persons who are employed in public transportation and the transportation of essential goods (e.g. food) ▪ Key government employees/elected officials (e.g. ministers, mayors)	**Persons at high risk of severe or fatal outcomes following influenza infection** If necessary, prioritization of the following subgroups would depend on the epidemiology of influenza disease at the time of a pandemic A. Persons living in chronic care facilities, long-term care facilities, homes for the elderly (e.g. lodges) B. Persons with high-risk medical conditions living independently in the community C. Persons over 65 years of age living independently D. Children, 6 to 23 months of age E. Pregnant women	**Healthy adults** Adults, 18–64 years of age	**Children, 24 months to 17 years of age**

Source: Canadian Pandemic Influenza Plan 2006

4.0 Toronto's Vaccination Strategy

Through the Universal Influenza Immunization Program (UIIP), TPH has built a foundation for the distribution and administration of the pandemic vaccine. During the annual UIIP, TPH operates public influenza vaccination clinics across the city and immunizes over 40,000 people. Through this program, community physicians and other health organization are able to order the vaccine directly from the MOHLTC to vaccinate their patients in their offices.

During the pandemic, Toronto Public Health will serve as the primary coordinator for the distribution and administration of vaccine in the City of Toronto. Vaccination will be offered to everyone in Toronto through the use of MVCs. Community physicians will not be involved in the distribution and administration of vaccine.

Vaccination would likely take place in two stages and could take eight weeks or longer to complete depending on vaccine availability. People in Priority Group 1 and 2 will be vaccinated during the first two to three weeks of the campaign. As soon as vaccination of these groups is completed, TPH will offer vaccination to Priority Groups 3, 4 and 5, a process which will likely take a minimum of six weeks to complete. The vaccine will be offered free of charge.

If a second dose of the pandemic vaccine is required, MVCs for the second dose could be started while administration of the first dose is still being completed. The logistics for providing the second dose will be similar to those for the first and will depend on the availability of vaccines and how long it takes to administer the first doses. It could take between four to eight months to vaccinate everyone with two doses of the vaccine.

It is anticipated that the uptake for the pandemic vaccine would be much higher than the annual UIIP and would depend on the public perception of the risk and severity of the disease.

5.0 Mass Vaccination Plan—Part I (Priority Groups 1 and 2)

It is expected that health organizations employing medical and/or nursing staff or other staff with immunization experience will be expected to vaccinate their own staff. These organizations have physicians on staff who will be able to provide medical directives for their facility. For health agencies with no physician on staff, TPH could provide the medical directive. These facilities will also be responsible for providing security, staffing and space to conduct the vaccinations. TPH will provide the vaccines and supplies.

Toronto Public Health will organize vaccination clinics likely in civic centres, community centres and/or schools for members of Priority Groups 1 and 2 who do not work in organizations that employ medical personnel or other staff with immunization experience.

6.0 Mass Vaccination Plan—Part II (Priority Groups 3, 4 and 5)

As more vaccine becomes available, TPH has plans in place to vaccinate all consenting Torontonians in Priority Groups 3, 4 and 5 over a period six weeks. (Contingency plans have also been developed to cover periods from two weeks to four months). However, the availability of vaccine during an influenza pandemic may require modification of the proposed timelines. TPH will organize vaccination clinics for Priority Groups 3, 4 and 5 at selected schools in Toronto.

Vaccination planning for Priority Groups 3, 4 and 5 will also need to accommodate vulnerable groups and populations in unique environments such as shelters, group homes and people who are housebound.

7.0 Clinic Locations

MVC locations will be distributed equitably throughout Toronto based on population. Minimum requirements for each clinic include:

- TTC access
- Wheelchair accessible
- Adequate air circulation and lighting
- Accessible washrooms
- Covered or indoor space for queues
- Sufficient floor space to enable the safe flow of patients

Schools

Toronto schools have facilities that are well suited for vaccination clinic use such as gymnasiums and cafeterias. Consequently, schools will be used for the mass vaccination of Priority Groups 3, 4 and 5. Most schools are easily accessible by public transit. Larger schools may serve as staff training locations. Operating vaccination clinics in schools may necessitate temporary school closures.

TPH and the Toronto District School Board are negotiating a memorandum of understanding for the use of 30 Toronto schools as MVCs. Negotiation with the Toronto Catholic District School Board is also underway.

Other Sites/Strategies

In addition to schools, TPH will evaluate other potential sites and strategies to vaccinate groups that may require special considerations such as the homeless, people living in shelters, people with mental illness and frail adults and seniors.

8.0 Vaccine Storage Capacity

Influenza vaccine must be refrigerated at a temperature between two and eight degrees Celsius to maintain potency and effectiveness. Toronto Public Health currently owns eight vaccine refrigerators located in TPH offices. Assuming that the pandemic vaccine will be supplied in 10-dose vials, TPH's vaccine refrigerators have a capacity of 584,000 doses in total. Depending on vaccine availability during the pandemic, TPH may require up to 180,000 doses of the vaccine daily. Therefore TPH vaccine storage capability is more than adequate.

9.0 Supplies and Stockpiling

The MOHLTC will be stockpiling basic supplies such as needles and syringes and personal protective equipment (PPE) for the province-wide mass vaccination campaign. TPH, in collaboration with the City of Toronto, will procure and stockpile the other supporting supplies. See Appendix 9.1 for the list of supplies that will be procured and stockpiled by TPH for the MVCs. TPH is now seeking to identify facilities in which to store stockpiled supplies.

A large number of chairs, tables, mats and garbage bins will be needed at each MVC. TPH will be able to secure some of these items from within its own resources but may need to use an external provider to augment the supply. TPH will develop a plan for acquiring furnishings for MVCs.

10.0 Supply Storage and Transportation

Proper storage and transportation of vaccines and supplies are key issues. City facilities will be used as Supply Distribution Centres (SDCs) to store vaccines and other MVC supplies. For security reasons these locations will not be made public. Designated TPH staff are working with OGPMSS to coordinate the transportation of vaccines and supplies to SDCs and finalize the movement of vaccines between Toronto locations.

Supplies stockpiled by TPH for MVCs will be transported to SDCs during the mass vaccination campaign. Vaccine will be transported to vaccination clinics in insulated vaccine cooler bags. These will be procured and stockpiled for use at MVCs. Other clinic supplies will be stored in boxes during transportation to vaccination clinics.

Couriers will be needed to transport clinic supplies to MVCs and return waste material to SDCs for disposal. TPH is exploring various means to ensure efficient delivery. Advance contracting with courier companies may be required for vaccine and supply transportation.

11.0 Human Resources

Vaccinating Toronto's population will be a major undertaking. TPH is planning to vaccinate everyone with one dose of the vaccine within eight weeks of receiving the vaccine. It is hoped that Priority Groups 1 and 2 can be vaccinated in the first two weeks and Priority Groups 3, 4 and 5 in the subsequent six weeks. However, because it is uncertain how quickly the vaccine will become available, contingency plans have been developed for vaccination periods ranging from two weeks to four months. Depending on the availability of supplies and staff, between 5 and 87 MVCs daily and between 890 and 12,354 staff will be required to vaccinate 2.5 million people with one dose of vaccine.

TPH Vaccine Preventable Disease (VPD) program staff will play lead roles as clinic coordinators and clinic site managers for MVCs. TPH is also exploring external sources of personnel such as students in the health and allied professions, retired health care workers and volunteers.

TPH maintains and regularly updates an inventory of staff assets and skills, based on competencies rather than professional designations. Languages spoken and vaccination experience are among the skill sets being tracked among TPH staff. This will enable rapid mobilization of TPH human resources for MVCs during an influenza pandemic.

In addition to medical staff and qualified immunizers, MVCs will require a variety of support services. These include (but are not limited to): a management team, multilingual staff and/or translators, SDC staff, custodial staff with additional responsibility for biohazard waste disposal, IT support staff, security staff and volunteer staff.

12.0 Security and Safety

Safety is a primary concern in the planning of MVCs. Safe management of large volumes of people, vaccines, injection equipment and hazardous waste demand ample security and staff dedicated to MVCs and SDCs. TPH is exploring how these security requirements can best be addressed.

13.0 Authenticating Vaccine Recipients

In collaboration with the MOHLTC, and City of Toronto Legal Services, TPH will determine acceptable forms of identification for each priority group. For example, employee ID or current pay stub may be used to authenticate Priority Groups 1 and 2, while health cards, birth certificates, student cards or utility bills may be used to authenticate Priority Groups 3, 4 and 5.

Certain populations such as refugees, recent and undocumented immigrants, persons living with mental illness in the community, people who are homeless and under-housed, and visitors merit special consideration. Relying on one or two types of documentation for authentication will not work for many members of these groups or others who do not possess current health cards or utility bills, etc. Maximizing access to vaccine and respecting human rights will require an alternative means of authentication.

Many people come into Toronto each day to work. TPH will also continue to discuss vaccine allocation with the MOHLTC to determine if residents of Ontario will be able to get their vaccine anywhere in the province or if there will be some restrictions such as place of residence or place of work.

14.0 Training

TPH will need to develop a comprehensive training plan for manager and staff who do not have experience working in vaccinations clinics. Training will take place prior to the launch of the vaccination campaign.

The factors that will be taken into account for the training plan include:

- Immunizers may include personnel with background in health care such as retired nurses, physicians, lab technicians and paramedics who have vaccination skills and experience.
- People with no medical background may also be considered and trained to immunize.
- Understanding the critical components to vaccine administration, e.g. screening for contraindications, illness and anxiety and response to adverse vaccine events (AVEs).
- Training will need to be specific and ongoing as pertinent information is received.
- Security procedures will need to be consistent and well understood by all staff.

The UIIP training package will be adapted to train managers and staff for MVCs. It will include various modules such as pandemic influenza, vaccination technique, inform consent, documentation, roles and responsibilities, policy and procedures of the MVCs and occupational health and safety issues. A training module on vaccination technique has been developed to ensure that staff who do not routinely administer vaccines are able to vaccinate during the pandemic. Staff are also being given the opportunity during the interpandemic phase to participate in the annual UIIP to develop vaccination skills or keep their skills current.

15.0 Information Management

Currently, the information collected during the UIIP is managed manually. The health assessment and consent forms are filed alphabetically by clinic date and location. Information on children six months to 14 years of age is filed separately. All the UIIP forms from the current year and the two previous years are stored where staff working on the Adverse Vaccine Reporting Hotline can have easy access. TPH will expand this information system or develop a new system when the pandemic is declared if a replacement for the current provincial communicable disease data management system is not yet operational.

16.0 Documentation

Due to the extensive nature of this campaign, a streamlined documentation process is required. Managers and supervisors will have to ensure that staff understand how and when to use each form. Random audits may be necessary to ensure that staff are documenting correctly.

Documentation from the UIIP such as the consent form, the assessment form, the registration form and the vaccination receipt will be adapted. Forms now being developed include a supply ordering form, a vaccine delivery form (to external organization) and a clinic staffing form.

Proper record management will be necessary to ensure easy retrieval of documentation. A consistent system will be developed for filing and storing documentation.

17.0 Policies and Procedures

The policies and procedures for the operation of the MVCs and SDCs will be adapted from those used in the UIIP. Policies and procedures will be included in the training modules for MVCs and SDCs managers, supervisors and staff.

18.0 Next Steps

Within next 12 months

Clinic locations

- Secure floor plans of Toronto Catholic District School Board schools to help identify additional clinic locations.
- Finalize memoranda of understanding with Toronto District School Board and Toronto Catholic District School Board.
- Evaluate other potential sites for vulnerable populations.

Communication

- Inform Priority Groups 1 and 2 about TPH vaccination plan.

Storage and Transportation

- Work with the City of Toronto Purchasing and Material Management Division to explore facilities in which to store MVC supplies for stockpiling.
- Explore facilities in which to store bulk MVC supplies deliveries from MOHLTC during the campaign.
- Finalize with OGPMSS plans for the movement of vaccine.
- Consider advance contracts with courier companies for vaccine transportation.

Vaccine Recipients

- Finalize authentication requirements in collaboration with City of Toronto Legal Services.
- Further develop vaccination plan for Priority Groups 1 and 2.
- Further develop vaccination plan for Priority Groups 3, 4 and 5.
- Further develop vaccination plans for vulnerable populations.

Policies and procedures

- Finalize policies and procedures.
- Develop a template for medical directives.

Documentation

- Finalize informed consent form.
- Finalize the list of documentation forms required at MVCs.
- Develop a list of documentation forms required at SDCs.
- Adapt UIIP forms for MVCs.

Human Resources

- Finalize skill sets requirement for alternative immunizers.
- Explore the possibility with City of Toronto Human Resources of redeploying other city staff for MVCs.
- Explore various means of acquiring security staff for MVCs and SDCs.

Training

- Expand training materials for use in the orientation and training of alternative immunizers.
- Develop training module for managers.
- Develop a training plan for Infection Control Officers.

Longer term

Human Resources

- Develop a registry of other immunizers, e.g. retired health care workers and volunteers.

Security

- Explore options for transportation of vaccine and supplies to and from MVCs.

Supplies

- Develop a plan for the acquisition of clinic furnishings e.g. tables and chairs.
- Procure supplies for stockpiling.
- Continue discussions with the MOHLTC regarding vaccine allocation.

Information Management

- Adapt the current paper-based system for monitoring and tracking information.
- Assess information technology (IT) requirements (number of laptops, scanners, connections, training etc.).
- Continue work with MOHLTC and PHAC on the development of a new communicable disease data management system.

Appendix

Appendix 9.1 – Supplies to be Procured and Stockpiled