

## **Chapter 9: Vaccine**

Influenza vaccination is the best way to prevent disease and death during a pandemic. However, a vaccine will likely not be available until 4-6 months after the pandemic virus is identified. While vaccine may not be available in time for the first wave of illness in the Region of Peel, it should be available in time to provide protection during the second wave (for those who have not yet been ill).

The vaccine strategy describes the role of Peel Public Health, and other health sector stakeholders, in the distribution of influenza vaccine during the pandemic. The strategy addresses all activities from the time Peel Public Health receives vaccine, until Peel residents have been vaccinated. The mass vaccination plan is generic and can be adapted for any public health emergency, including pandemic influenza.

### **Objectives of the Vaccine Strategy**

The objectives of the pandemic vaccine strategy are:

- To vaccinate the susceptible population of the Region of Peel with pandemic vaccine, as soon as it becomes available, with a target of 90% uptake; and
- To monitor uptake and safety of the pandemic vaccine.

### **Seasonal Influenza Vaccination**

Influenza vaccination is a key disease prevention strategy for seasonal influenza during non-pandemic periods. Seasonal influenza vaccination is provided each fall by Peel Public Health, family doctors, and other providers. Although the seasonal influenza vaccination does not provide protection against pandemic influenza, strong annual programs improve Canada's capacity to manufacture and administer large quantities of vaccine, while protecting individuals against a serious winter disease.

Peel Public Health also encourages the use of pneumococcal polysaccharide vaccine in the inter-pandemic period. This vaccine is publicly funded for seniors, and for persons over two years of age who have chronic heart, lung disease, or other chronic conditions. It protects against invasive infections caused by pneumococcal bacteria, which frequently complicate influenza infections. During a pandemic, there will not likely be time to provide pneumococcal vaccine to those who could benefit from it; thus, it should be given in advance.

### **Description of the Pandemic Vaccine Strategy**

Canada has a contract with the domestic influenza vaccine manufacturer, GlaxoSmithKline, to manufacture enough pandemic vaccine for all Canadians over a four month period. At this time, it is not known if the manufacturer has the ability to decrease

the time for vaccine development and distribution. Peel Public Health has a responsibility to deliver vaccines to the population as soon as a vaccine is made available.

The exact nature of the vaccine to be used for the next influenza pandemic is unknown, as it must be developed in response to the pandemic virus. It is expected to be a monovalent inactivated vaccine, possibly with an adjuvant to improve its immunogenicity. It is also likely that the vaccine will be administered in two doses, separated by at least 21 days, and given by intramuscular injection.

## Distribution and Administration

The goal of the *Ontario Health Pandemic Influenza Plan* (OHPIP) is to obtain enough vaccine in order to vaccinate the entire population. However, vaccine may be in short supply, especially during the initial phases of the pandemic; thus certain groups may receive the vaccine before other groups. The *Canadian Pandemic Influenza Plan* (CPIP) provides interim priorities (see Table 9.1). These priorities will be reviewed, and modified as necessary, at the time of the pandemic. Peel Public Health will follow the national recommendations for priority groups, as adapted to meet provincial needs.

**Table 9. 1: Interim Priority Groups for Pandemic Influenza Vaccination**

| Priority   | Priority Group*   | Estimated Numbers in Peel |
|--|---|---------------------------|
| 1  | Health care workers, paramedics, public health responders, key health decision-makers, and public health workers.                             | 23,000                    |
| 2  | Pandemic societal responders and key societal decision-makers   | 7,000                     |
| 3  | Persons at high-risk of severe or fatal outcomes following influenza infection (including children < 24 months old and adults >65 years old). | 230,000                   |
| 4  | Healthy adults (excluding those in priority group 1, 2, and 3).   | 650,000                   |
| 5  | Children 24 months to 18 years of age.  | 300,000                   |
| * For detailed description and rationale for priority groups, see CPIP, Annex D (December 2006). |   |                           |

Initial supplies will likely be directed to those persons essential to the pandemic response (e.g. health care providers and first responders) and persons most at risk of severe disease or death. To assist in planning, Peel Public Health conducted an enumeration of the first two priority groups in 2006.

It is expected that, as vaccine becomes available, the Ontario Government Pharmacy and Medical Supplies Services (OGPMSS) will transport equitable quantities to Peel Public Health, which is responsible for vaccine storage and distribution within the Region of Peel.

Peel Public Health will maintain an inventory for all vaccine stored and distributed in the Region of Peel.

The plan for distribution within the Region of Peel is as follows:

- Peel Public Health will release vaccine to health care facilities and agencies that can administer the vaccine to their patients/clients and their own employees (hospitals, long term care, CCACs, etc);
- Peel Public Health will release vaccine to employers of societal responders (essential service workers) that can administer the vaccine to their own employees;
- Peel Public Health will hold mass vaccination clinics for health care workers or essential service workers whose employers cannot conduct their own vaccination programs; and
- Peel Public Health will hold mass vaccination clinics for the general public (priority groups 3, 4 and 5) according to provincial priorities and direction.

It is not expected that vaccine will be released to individual family doctors, as they will be occupied with other pandemic response activities.

### **Mass Vaccination Clinics**

Mass vaccination clinics will be organized and run by Peel Public Health for the general public and for others as outlined above. When vaccine receipt is being prioritized, priority group members will be required to prove their eligibility for the vaccination. The MOHLTC will provide guidelines for eligibility criteria and proof required. Clinics for the general public are expected to be open to anyone who lives or works in the Region of Peel.

It is anticipated that Peel Public Health will receive 300,000 doses of pandemic influenza vaccine per month over a four month period for a one-dose program and may receive 600,000 doses per month for a two dose program.

Peel Public Health has designed a four-month clinic schedule that is to include the following:

- Six simultaneous clinics, operating five-hours per day, six days per week;
- Each five-hour clinic is to deliver 2,000 shots; and
- Each clinic is to be staffed by 24 nurses, plus support staff and volunteers.

Based on the above schedule, a total of 576 clinics will be required to provide one dose of vaccine to the entire population of the Region of Peel in a four-month period.

Peel Public Health will advertise the locations and hours of mass vaccination clinics on the Region of Peel website, through public service announcements on local cable television channels, paid advertisements and articles in local newspapers, and posters and flyers in community centres and medical offices.

In coordination with Peel Region Emergency Program (PREP), Peel Public Health will enter into agreement with local municipalities for locations suitable for mass vaccination clinics. Peel Public Health is currently in the process of identifying these sites, some of which are currently utilized for the annual fall flu clinics. The decision about which sites are appropriate will be based on pre-determined criteria, including (but not limited to) the size of the site and accessibility (e.g. parking, public transport access, wheelchair access). All clinics will require security, especially during periods when the vaccine is only available to certain priority groups. Appropriate security arrangements will be made by Peel Public Health in coordination with PREP.

All clinics will have Febrile Respiratory Illness (FRI) screening for clients upon entry. This screening process will identify clients who may already be ill and should be directed to a community Flu Centre for treatment rather than vaccination.

Clinic staffing will be a major challenge for Peel Public Health due to the number of simultaneously operating clinics, possible illness of clinic staff, and the unavailability of casual employees who may be needed in hospitals. Peel Public Health will train all of its nursing employees to administer vaccines in mass vaccination clinics. Peel Public Health will also train extra administrative employees in clinic procedures (such as packing supplies, managing vaccine and supply inventory, data entry for vaccine records and adverse events), to assist in documentation and clerical duties at mass vaccination clinics. Other options include the expanded use of volunteers, and the use of allied health professional groups (e.g. dentists, veterinarians), either as support or administering vaccines.

Peel Public Health anticipates that the federal or provincial government will supply consent form templates to public health departments, which can be modified for local use and made available to other health providers.

If two doses of the pandemic vaccine are needed, it will be up to individuals to return to the clinic for the second dose. Although second dose uptake will be tracked, Peel Public Health will not actively recall clients for the second visit.

### **Storage and Transport of Vaccines**

It is the responsibility of the health department to provide safe and adequate storage for the influenza vaccine once delivered from the OPGMSS. To maintain efficacy and safety, vaccines must be stored between +2 to +8 degrees Celsius. Cold chain maintenance is expected of all providers during transportation and storage, including at the clinic site.

Transporting vaccines and antiviral medications to other organizations or community clinics will be the responsibility of Peel Public Health. Coolers, ice packs, and thermometers will be used to transport vaccines to ensure the cold chain is monitored and maintained. Due to scarcity, and anticipated high demand for vaccine, Peel Public Health will ensure security, in coordination with PREP, during storage and transportation. The

organization receiving the vaccine must be prepared to provide a secure storage location and to maintain the cold chain.

### **Clinic Supplies**

Medical supplies will be in short supply during an influenza pandemic. The MOHLTC recommends that one month worth of certain equipment and supplies be stockpiled by local agencies. Peel Public Health will stockpile essential supplies (e.g. needles, syringes) for one month requirements for mass vaccination clinics. It is anticipated that further supplies will come from the province. Other supplies required at a mass vaccination clinic include consent forms, fact sheets, signage, and stationary supplies. Most documents are electronic in nature, and can be printed as required in the event of an influenza pandemic.

### **Tracking and Surveillance**

All organizations, to which Peel Public Health releases vaccine, will be expected to administer the vaccine in accordance with provincial priorities, including the documentation and reporting of vaccine use and wastage. Peel Public Health will also maintain a tracking system for distribution, administration, and uptake of vaccines in the Region of Peel. Requirements for reporting, in particular timelines, will be identified in future editions of this plan.

Adverse reactions to the vaccine may occur, as the pandemic influenza vaccine will be a novel vaccine given to many people. Hospitals, physicians, and other health care agencies will be expected to report any adverse vaccine reactions to Peel Public Health by using the MOHLTC *Adverse Event Following Immunization* form.

### **Next Steps**

Peel Public Health will:

- Finalize sites for mass vaccination clinics, and storage and security arrangements for vaccines;
- Train all Peel Public Health nursing staff in mass vaccination procedures;
- Train additional clinic support staff; and
- Use seasonal influenza vaccination clinics to gain experience with mass vaccination clinic procedures.