

Pandemic Influenza

Section 7: Vaccines

7. Vaccines

Following their development more than 50 years ago, influenza vaccines have become the cornerstone of influenza prevention and control. Influenza vaccine is effective in reducing influenza illness, hospital admissions and deaths during annual influenza outbreaks.

Vaccination will be the primary measure for prevention and control of influenza and its complications during the pandemic. Since the pandemic vaccine cannot be manufactured until the pandemic strain of the influenza virus is identified it is unlikely that the vaccine will be ready before the first wave of illness in Canada.

Canada's capacity to manufacture influenza vaccine has been increased to a level that will ensure a domestic supply of the pandemic vaccine. The vaccine will be produced in batches necessitating a prioritization of the groups to be vaccinated. Newfoundland and Labrador participates in the national annual influenza vaccine procurement process and this will continue for the procurement of the pandemic vaccine.

While production will be a national initiative, the Department of Health and Community Services, with the Regional Health Authorities, must be prepared for the challenges of secure storage, distribution and safe administration of the vaccine as rapidly as possible.

7.1 Objectives of Vaccination Program

Objectives for an effective vaccine program include to:

- Prevent illness, hospitalization and death
- Provide a secure supply of safe, effective vaccine for residents of Newfoundland and Labrador
- Allocate, distribute, and administer vaccine as rapidly as possible to the appropriate groups of people
- Monitor the safety and effectiveness of the vaccine program

7.2 Interpandemic Period

The Department of Health and Community Services provides an annual influenza vaccination program for persons at risk of complications due to influenza.¹¹ The mandate of this program is to reduce influenza related illness and death.

During the interpandemic period, the Regional Health Authorities should identify the resources required to deliver a two-dose mass vaccination program for the total population. The Regional Health Authorities should also consider the site locations and supplementary vaccination staff that may be required.

7.3 Pandemic Alert Period

During this period the Department should continue to work with Federal/Provincial/Territorial partners to ensure an adequate and timely supply of effective and safe vaccine. The purchase of immunization supplies should be included in the business continuity plans of RHAs. Secure storage and distribution plans for vaccines and related supplies should be established.

Plans for mass immunization should be reviewed with more attention to operational details including supplies, staffing requirements and mass immunization sites.¹² Any required training programs for non traditional vaccinators and support staff should be developed.

7.4 Pandemic Period

Distribution and Administration – When pandemic vaccine becomes available it will be distributed throughout the province. The Department of Health and Community Services will provide secure storage and transportation for vaccines held by the province. The provincial depot will distribute vaccines to RHA vaccine depots or designated locations according to established distribution procedures.

On receipt of vaccine, each of the Regional Health Authorities must provide secure storage, transportation, and distribution to the mass immunization sites. RHAs are responsible for administration of vaccine throughout their regions. The cold chain must be maintained at all times for influenza vaccine as per the Newfoundland and Labrador Immunization Policy Manual.

Vaccine Dosage – During interpandemic periods, one dose of vaccine is generally sufficient to provide protection against influenza. In contrast, children without any previous exposure to the influenza virus require two doses to produce an immune response. In a pandemic situation, the population's immunity is similar to that of unexposed children. Two doses of vaccine spaced at least three weeks apart will likely be required to confer adequate levels of immunity. The Regional Health Authorities must consider the possibility of this dosing schedule in their mass vaccination plans.

Vaccine Access During Limited Supply Period

– Because the production of vaccine will take place over several months, vaccine will not be available for everyone in Canada at the same time. During a period of limited supply vaccine will be provided on a priority basis as established in the Canadian Pandemic Plan and according to the goal of minimizing serious illness, overall deaths and societal disruption. It is important to keep in mind that these priorities may change as more information on the epidemiology of the pandemic becomes available.

The Regional Health Authorities will identify members of these priority groups in their jurisdictions and develop procedures to vaccinate them. The Department, with the Regional Health Authorities, will develop a communication plan to inform the public of the immunization strategy.

Surveillance for Adverse Events – The province and Regional Health Authorities should plan for enhanced surveillance for severe or unexpected

adverse events following immunization. Enhanced surveillance is essential when a new vaccine is introduced and more so during a pandemic when larger numbers of people are being vaccinated. Vaccine recipients and health care providers will receive information on reporting of severe or unexpected events. If a significant adverse event is identified, appropriate responses will be recommended.

7.5 Post-Pandemic Period

Regions should report their vaccination program data during this period according to the national protocol provided. The Department will facilitate the collection and epidemiologic analysis of this data.

Table 7.1: Vaccination Roles and Responsibilities by Pandemic Phase

Vaccines Interpandemic Period Phase 1 - No new influenza subtypes have been detected in humans. A new influenza virus subtype may be present in animals, but the risk for human infection is low Phase 2 - New influenza subtype in animals posing a substantial risk of human disease		
National	Provincial	Regional
<ul style="list-style-type: none"> • Maintain up-to-date plans to acquire, store and distribute vaccine • Facilitate the bulk purchase of vaccine administration supplies 	<ul style="list-style-type: none"> • Promote annual influenza and pneumococcal immunization programs • Increase coverage rates among high risk and health care workers (HCW) • Develop records systems for influenza immunization • Develop inventory systems for vaccine management and control 	<ul style="list-style-type: none"> • Promote annual influenza and pneumococcal immunization programs • Increase influenza vaccine coverage rates among high risk and HCW • Plan to implement records systems for influenza immunization • Plan to implement inventory systems for vaccine management and control

Vaccines Pandemic Alert Period Phase 3 – New influenza subtype identified in at least one human case. No human transmission or rare cases of spread through very close contact only		
National	Provincial	Regional
<ul style="list-style-type: none"> • Continue activities of previous phase(s) • Assess vaccine requirements • Review pandemic vaccine infrastructure readiness with domestic manufacture 	<ul style="list-style-type: none"> • Continue activities of previous phase(s) • Assess vaccine requirements • Confirm security of supply of vaccine • Work with RHAs to identify a strategy to stockpile vaccine related supplies • Develop and maintain up-to-date plans to acquire, store, secure and distribute vaccine • Arrange for security of vaccine stocks and transport • Work with Regional Health 	<ul style="list-style-type: none"> • Continue activities of previous phase(s) • Assess vaccine requirements • Identify persons who meet the priority definitions if vaccine supply is limited • Identify and pre-arrange for alternate vaccine administration sites • Identify numbers of doses and related supplies needed • Work with the DHCS to identify a strategy to stockpile vaccine related supplies

Table 7.1 – Continued.

National	Provincial	Regional
	<p>Authorities and stakeholders (e.g. professional organizations, labour associations) for human resource requirements to administer vaccine</p>	<ul style="list-style-type: none"> • Acquire vaccine supplies • Identify and arrange secure storage facilities for vaccine • Identify required human resources and training to administer vaccine • Work with DHCS and stakeholders for human resource requirements to administer vaccine

<p style="text-align: center;">Vaccines Pandemic Alert Period Phase 4 – Localized small clusters of limited human-to-human transmission</p>		
National	Provincial	Regional
<ul style="list-style-type: none"> • Continue activities of previous phase(s) • Confirm distribution points, shipping requirements and security for vaccines • Review, update and distribute educational materials on administering vaccine 	<ul style="list-style-type: none"> • Continue activities of previous phase(s) • Confirm distribution points, shipping requirements and security for vaccines • Review, update and distribute educational materials on administering vaccine 	<ul style="list-style-type: none"> • Continue activities of previous phase(s) • Confirm distribution points, shipping requirements and security for vaccines, note isolated communities • Review regional mass immunization plans and ensure list of qualified vaccinators is up to date

Table 7.1 – Continued.

Vaccines Pandemic Alert Period Phase 5 – Localized larger clusters of human-to-human transmission in Canada		
National	Provincial	Regional
<ul style="list-style-type: none"> • Continue activities of previous phase(s) • Review estimates of the number of people within the P/Ts who fall within each of the priority groups for vaccination 	<ul style="list-style-type: none"> • Continue activities of previous phase(s) • Work with regions to ensure all aspects of mass vaccination plans are completed • Review estimates of the number of people within the province who fall within each of the priority groups for vaccination 	<ul style="list-style-type: none"> • Continue activities of previous phase(s) • Confirm persons who meet the priority definitions if vaccine supply is limited • Finalize mass vaccination plan • Develop training program for mass vaccination • Ensure staff are trained and infrastructure is in place

Vaccines Pandemic Period Phase 6 – Increased and sustained transmission in general population		
National	Provincial	Regional
<ul style="list-style-type: none"> • Continue activities of previous phase(s) • Continue involvement in vaccine development, testing and production initiatives • Review and if necessary revise recommended priority groups based on available epidemiological data • Coordinate vaccine purchase • Distribute vaccine once available • Monitor vaccine coverage and adverse event activities; compile and report outcomes 	<ul style="list-style-type: none"> • Continue activities of previous phase(s) • Refine nationally defined priority target groups depending on provincial circumstances • Confirm and communicate priority group definitions and update estimates from RHAs • Refine other aspects of the national guidelines (protocols, report forms, etc.) as needed for provincial and local application • Confirm security for vaccine storage and transportation • Receive, store and distribute vaccine when available • Monitor vaccine coverage and adverse events; compile and report results 	<ul style="list-style-type: none"> • Continue activities of previous phase(s) • Confirm and communicate priority groups and update estimates • Establish secure storage facilities and transportation for vaccine • Confirm security for vaccine storage and transportation • Receive, store and distribute vaccines • Implement mass immunization plan • Monitor vaccine supply, demand, distribution, uptake and adverse events • Monitor vaccine coverage and adverse events; compile and report results

Table 7.1 – Continued.

Vaccines Post-Pandemic Period Recovery		
National	Provincial	Regional
<ul style="list-style-type: none"> • Review activities; compile and analyze data and report • Evaluate response • Debrief with relevant partners • Revise pandemic plans based on review, evaluation and analysis • Return to Phase 1 	<ul style="list-style-type: none"> • Review activities; compile and analyze data and report • Evaluate response • Debrief with relevant partners • Revise pandemic plans based on review, evaluation and analysis • Return to Phase 1 	<ul style="list-style-type: none"> • Review activities; compile and analyze data and report • Evaluate response • Debrief with relevant partners • Revise pandemic plans based on review, evaluation and analysis • Return to Phase1