Standard for Influenza Immunization

Alberta Health Services
Communicable Disease Control

Section 15	Influenza Immunization Program Standard	**Standard # 15.100**	
Created and approved by	Provincial Immunization Program Standards and Quality		
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Preamble

Primary and Preventative Health Services (PPHS) and Primary Care Alberta (PCA) Provincial Immunization Clinical Support Team provide Public Health and other partners who administer provincially funded vaccines with ongoing and timely information relating to provincial immunization program standards and quality. These standards are based on currently available evidence-based information, Primary and Preventative Health Services (PPHS) policy, and provincial and national guidelines. Immunizers must be knowledgeable about the specific vaccines they administer.

Background

Influenza is a respiratory infection, primarily caused by influenza A and B viruses, that occurs in Canada each year in the late fall and winter months. Influenza occurs globally with annual epidemics resulting in approximately one billion cases of influenza, three to five million cases of severe illness and 290,000 to 650,000 deaths. Prior to the COVID-19 pandemic, influenza had an annual incidence rate estimated at 5-10% in adults and 20-30% in children. Although the burden of influenza can vary from year to year, it is estimated that in Canada there are an average of 12,200 hospitalizations related to influenza and approximately 3,500 deaths attributable to influenza occurring annually.

Annual influenza immunization is the most effective way to prevent or minimize influenza infection and its complications. The vaccine is safe and well-tolerated. It cannot cause influenza illness (ILI) because inactivated influenza vaccines do not contain live virus and live attenuated influenza vaccines contain weakened viruses.

In the fall of 2009, Alberta introduced a universal, provincially funded influenza immunization program for all Albertans six months of age and older. Service delivery is focused on increasing the immunization rates of populations who are at high risk of influenza-associated morbidity and mortality. The influenza immunization program is the largest immunization program provided by Primary and Preventative Health Services (PPHS) and Primary Care Alberta (PCA).

Purpose

The purpose of this standard is to provide principles and guidelines for the consistent administration of influenza vaccines.

Applicability

This standard applies to all AHS staff and community providers administering provincially funded influenza vaccines.

Definitions:

Annual Dose: The dose of influenza vaccine individuals 9 years of age and older receive each influenza season.

Community Providers: Physicians, acute care facilities, community pharmacists, senior congregate care settings, and private occupational health and safety companies.

Dose 1 of 2 Influenza Vaccine: The first dose of influenza vaccine given to children less than 9 years of age who require 2 doses if they have never received seasonal influenza vaccine in a previous year.

Dose 2 of 2 Influenza Vaccine: The second dose of influenza vaccine given to children less than 9 years of age who require 2 doses if they have never received seasonal influenza vaccine in a previous year.

National Advisory Committee on Immunization (NACI): An expert group that makes recommendations for the use of vaccines currently or newly approved for use in humans in Canada, including the identification of groups at risk for vaccine-preventable diseases for whom immunization should be targeted. NACI publishes the Statement on Seasonal Influenza Immunization annually.

The Alberta Immunization Outreach Program Policy: A Primary and Preventative Health Services (PPHS) document that outlines the roles and responsibilities for immunization providers participating in Alberta's Immunization Outreach Program.

Competency

The Public Health Agency of Canada published the Immunization Competencies for Health Professionals with the goal of promoting safe and competent practices for immunization providers. The following competencies outlined in that document are applicable to this standard:

- Communication: Communicates effectively about immunization, as relevant to the practice setting(s).
- Storage and handling of Immunization agents: Implements PCA and National Storage and Handling Guidelines when storing, handling, or transporting vaccines.
- Administration of Immunizing Agents: Prepares and administers immunization agents correctly.
- Adverse Events Following Immunization (AEFI): Anticipates, identifies, and manages adverse events following immunization, as appropriate to the practice setting.
- Documentation: Documents information relevant to each immunization encounter in accordance with national guidelines for immunization practices and jurisdictional health information processes.
- Populations Requiring Special Considerations: Recognizes and responds to the unique immunization needs of certain population groups.

Section 1: General considerations

Universal influenza immunization has the potential to protect healthy adults and children from disease, decrease community spread, and prevent serious complications and death from influenza in populations at high risk. This can result in potential economic benefits related to fewer lost workdays and decreased health care utilization. Providing immunizations early in the influenza season to all Albertans including those at highest risk, is best for reducing mortality and morbidity and health care services utilization.

Influenza immunization for all health care providers is an essential component of the standard of care for their own protection and that of their patients. Health care providers who have direct patient contact should consider annual influenza immunization as part of their responsibilities to provide the highest standard of care.

Immunization remains our primary tool for the prevention of influenza infection and illness. Antivirals do not replace annual influenza immunization.

Section 2: Eligibility for influenza immunization

All individuals six months of age and older who live, work, go to school or are visiting in Alberta are eligible to receive provincially funded influenza vaccine. Direct people without an Alberta unique lifetime identifier (ULI) to attend a PCA Public Health Influenza Clinic to access provincially funded influenza vaccine.

PPHS procures the influenza vaccines and determines eligibility and reporting requirements for the current season. PCA and community partners, provide influenza vaccine to Albertans. In some instances, specific influenza vaccines are targeted to certain populations, for example seniors or residents of continuing care homes.

Individuals at greatest risk of influenza-related complications are adults and children with chronic health conditions, residents of continuing care homes, adults 65 years of age and older, children 0 to 59 months of age, pregnant individuals, and individuals in or from First Nations, Inuit, or Métis communities.

Section 3: Influenza vaccine

Influenza vaccine(s) are manufactured annually to include standardized amounts of the hemagglutinin (HA) protein from representative seed strains of the two human influenza A subtypes (H3N2 and H1N1), and either one, or two of the influenza B lineages (Yamagata and/or Victoria), depending whether the vaccine is trivalent or quadrivalent.

As new influenza vaccines are developed, licensed and become available in Canada, they are incorporated into the provincial influenza immunization program based on PPHS purchasing decisions. PPHS makes recommendations on preferred vaccines for specific age groups based on efficacy, seroprotection and antibody response to influenza vaccines, and the burden of disease in that age group.

Refer to the Influenza Immunization Health Professionals for information on vaccine composition, indications, administration and dosage, contraindications and precautions, possible reactions, adverse reactions and reporting, vaccine storage and handling.

3.1 Inactivated vaccine

Immunization with inactivated influenza vaccines cannot cause influenza disease in the vaccine recipient because the vaccine does not contain live viruses.

Inactivated influenza vaccine is available in single dose prefilled syringe format or multi-dose vials. Multi-dose vial formulations contain minute quantities of thimerosal, which is used as a preservative to keep the product sterile. There is no association between childhood immunization with thimerosal containing vaccines and neurodevelopmental outcomes, including autism spectrum disorders, according to large retrospective studies.

3.2 Live vaccine

Immunization with live influenza vaccines does not cause influenza disease in vaccine recipients because the virus is attenuated or weakened. Live vaccines are not available in the provincially funded influenza program. For additional information related to live influenza vaccine refer to the NACI Statement and/or specific product monograph.

Section 4: Immunogenicity and efficacy

Annual influenza immunization is needed because the body's immune response from immunization diminishes within a year. Also, influenza viruses change often. Vaccines are reviewed each year and updated as necessary to keep up with the changing viruses.

Individual antibody production and persistence after immunization depends on several factors, including age, prior and subsequent exposure to influenza antigens, and the presence of immunodeficiency states. Humoral antibody levels, which correlate with vaccine protection, are generally achieved two weeks after immunization.

Influenza vaccines are safe and well tolerated in healthy children. Young children have a high burden of illness, and their vaccine-induced immune response is not as robust as older children. NACI recommends the use of a 0.5mL dose for all recipients of inactivated influenza, standard dose, unadjuvanted vaccine including young children, on the basis of studies that suggest a moderate improvement in antibody response in young children without an increase in reactogenicity.

Booster doses are not required in the same influenza season. However, children six months to less than nine years of age who have not previously received seasonal influenza vaccine, require two doses with a minimum of four weeks between doses. One dose of vaccine per season is recommended for everyone else.

Annual influenza immunization does not impair the immune response of the recipient to influenza virus. Even if the vaccine strains have not changed, re-immunization reinforces optimal protection for the coming influenza season. Influenza vaccine decreases the incidence of pneumonia, hospital admission and death in the elderly and reduces exacerbations in persons with chronic obstructive pulmonary disease. Immunization reduces physician visits, hospitalization and death in high-risk persons less than 65 years of age, reduces hospitalizations for cardiac disease and stroke in the elderly, and reduces hospitalization and deaths in persons with diabetes mellitus.

Section 5: Precautions

Detailed contraindications and precautions information can be found in the PCA Immunization Program Standards Manual (IPSM),

5.1 Guillain Barré Syndrome (GBS)

The absolute risk of vaccine-associated GBS in the period following influenza immunization is about one excess case per million vaccinations above the background GBS rate.

The potential benefits of influenza immunization in preventing serious illness, hospitalization and death substantially outweigh these estimates of risk for vaccine-associated GBS. In fact, influenza infection itself is associated with GBS; the risk of GBS following influenza infection is greater than the GBS risk after influenza immunization. In a self-controlled study that explored the risk of GBS after seasonal influenza vaccination and after influenza health care encounters (a proxy for influenza illness), the attributable risks were 1.03 GBS admissions per million vaccinations compared with 17.2 GBS admissions per million influenza-coded health care encounters.

GBS occurred in adults in association with the 1976 swine influenza vaccine. However, in an extensive review of studies between 1976 and 2005, the United States Institute of Medicine concluded that the evidence was inadequate to accept or reject a causal relation between GBS in adults and seasonal influenza vaccination.

Influenza vaccine should not be administered to individuals who have been diagnosed with GBS within 6 weeks of a previous dose of influenza vaccine.

5.2 Oculorespiratory syndrome (ORS)

Health Canada received an increased number of adverse event following immunization (AEFI) reports of vaccine-associated symptoms and signs that were subsequently described as oculorespiratory syndrome (ORS), during the 2000/2001 influenza season. Fewer cases of ORS have been reported to Health Canada subsequent to the 2000/2001 influenza season.

ORS is defined as:

- Bilateral red eyes, and
- One or more of the following respiratory symptoms (cough, wheeze, chest tightness, difficulty breathing, difficulty swallowing, hoarseness, sore throat) with or without facial swelling
- Starts within 24 hours of immunization

Recommendations for subsequent immunization following a report of ORS are based on a risk/benefit assessment and the severity of symptoms as perceived by the individual who experienced the symptoms. People who have an occurrence or recurrence of ORS upon vaccination do not necessarily experience further episodes with future vaccinations.

The following are recommendations regarding influenza immunization for individuals who have previously experienced ORS symptoms:

- Individuals who previously experienced ORS symptoms involving the upper respiratory tract may receive the influenza vaccine.
- For individuals who previously experienced ORS that included lower respiratory symptoms within 24 hours of receiving the influenza vaccine (for example, wheezing, chest tightness, difficulty breathing), consult with the Medical Officer of Health to review the risks and benefits of further influenza immunization.

Related resources

Supporting documents to implement a safe and effective influenza immunization program listed below are available for providers of influenza vaccine shortly before the relevant influenza season website at Influenza Immunization Health Professionals.

Immunizers must review these documents prior to administering influenza vaccine as part of their annual influenza orientation. Documents include:

- NACI Statements
- PCA Influenza Vaccine Biological Pages

- Product Monographs
- PCA Vaccine Storage and Handling Standard
- Influenza Client Immunization Record and Care After
- Influenza Vaccine Information Sheet
- Influenza Immunization Orientation PowerPoint
- PPHS Alberta Immunization Outreach Program document AIP - Alberta Outreach Immunization Program
- Adverse Event Following Immunization Reporting

References

National Advisory Committee on Immunization (2025, April 30) Statement on seasonal influenza vaccine for 2025-2026. Public Health Agency of Canada.

Public Health Agency of Canada. (2024, September 3). Influenza. In *Canadian Immunization Guide: Part 4. Immunizing Agents.* Government of Canada.