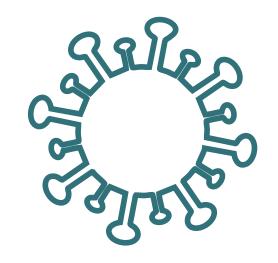




Influenza Immunization Program 2025-2026





Objectives

- 1. Upon completion of this presentation the learner will understand the clinical information for the fall 2025 Influenza Immunization Program.
- 2. Operational questions will not be addressed during this presentation (e.g., vaccine distribution specifics).
- 3. Always use the online resources for the most up to date information.



Resources

For more detailed information providers should refer to the program resources found on the <u>Influenza Immunization Health Professionals</u> website:

- Vaccine Biological pages and/or Vaccine Product Monographs
- Vaccine Storage and Handling e-learning modules and Standard
- Guidelines for the reporting of Adverse Events Following Immunization (AEFI)
- Vaccine Administration
- Reporting requirements and data collection guidelines
- Alberta immunization policy: Alberta Outreach Immunization Program

What is influenza?

Influenza, commonly known as "the flu", is a highly contagious infection of the airways caused by influenza viruses. It is often referred to as "seasonal" influenza because these viruses circulate annually in the winter season in the northern hemisphere.

The timing and duration of influenza season varies – in Canada influenza activity begins to increase over the fall and peaks in the winter months. Outbreaks can happen as early as September but typically start in October with most activity peaking in January or later. Late season outbreaks occurring in April and even May have also been reported. The influenza season in Canada can last from a few weeks to many months, and more than one influenza strain typically circulates each season.



Influenza Virus Types

- Influenza A and B viruses cause seasonal epidemics, while type C viruses cause mild respiratory illness. D viruses affect cattle and may spillover to other animals.
- Influenza A viruses are classified into different strains or subtypes based on two proteins or antigens on the virus surface: hemagglutinin (H) and neuraminidase (N)
 - e.g., H1N1 and H3N2
- Influenza B viruses can be classified into two antigenically distinct lineages: Yamagata and Victoria like viruses.
- The influenza vaccine does not protect against influenza C and D viruses.



How Strains Change Each Year

- Small changes in influenza viruses occur continually
 - New virus strains may not be recognized by the body's existing influenza antibodies within the immune system
- A person infected with a specific influenza virus strain develops antibodies against that specific strain
- In most years, some or all the virus strains in the influenza vaccine are updated based on a review by the World Health Organization (WHO) to align with the changes in the circulating influenza viruses
- Although 1 strain often predominates, more than 1 influenza strain typically circulates each season. There are differences in the timing of influenza activity observed across regions in Canada.



Influenza Disease Frequency

Global:

Each year there are approximately 3 to 5 million cases of severe influenza illness and 290,000 to 650,000 deaths from influenza worldwide.

National:

Together, influenza and pneumonia are ranked among the top 10 leading causes of death in Canada. Prior to the COVID-19 pandemic (2010-2011 to 2018-2019 seasons), influenza caused an estimated 15,000 hospitalizations annually. In the 2023- 2024 season, a total of 103,173 laboratory-confirmed influenza detections were reported from 1,358,268 tests.*

Provincially:

In Alberta for the 2024-2025 influenza season there were:

13, 271 Influenza A and 1434 Influenza B lab confirmed cases

3731 hospital admissions (313 ICU) and 239 deaths

^{*}However, a large proportion of influenza infections are not laboratory- confirmed; therefore, the number of detections reported is a significant underestimate of the true number of infections.



How serious is influenza?

The burden of influenza associated illness and death varies every year, depending on various factors like the type of circulating viruses in the season and the populations affected.

Some individuals are at higher risk of developing complications from influenza, including:

- Residents of Continuing Care and Supportive Living facilities
- Seniors
- Infants and young children
- Adults and children with existing chronic health conditions
- Pregnant women
- Indigenous peoples

Complications can include pneumonia (bacterial and viral), ear and sinus infections, dehydration, and worsening of chronic medical conditions, such as congestive heart failure, asthma, or diabetes.



Influenza Infectivity

- The virus is spread mainly from person to person when those with influenza cough or sneeze (droplet spread)
- People may also become infected by touching an object or a surface that has the influenza virus on it and then touching their mouth, eyes or nose
- Individuals with influenza are infectious 1 day before symptoms develop and up to 5 days after becoming ill
- The period when an infected person is contagious depends on the age and health of the person
 - Young children and people with weakened immune systems may be contagious for longer than a week
 - The period from exposure to development of symptoms is about 1 to 4 days, with an average of about 2 days



Signs and Symptoms of Influenza

Influenza can cause a range of symptoms, from asymptomatic infection through mild acute respiratory illness to severe influenza pneumonia.

The most common symptoms include:

- Sudden onset of headache, chills and cough, followed rapidly by fever, loss of appetite, muscle aches and fatigue, runny nose, sneezing, watery eyes and throat irritation
- Nausea, vomiting and diarrhea may also occur, especially in children
- Fever may not be prominent in children under 5 years of age and adults 65 years of age and older

Note: Influenza is a respiratory disease. "Stomach Flu" can be caused by many different viruses, bacteria, or even parasites.



Illness Comparison Chart

Access AHS Comparison of COVID-19, influenza, common cold, and gastrointestinal (GI) illness poster at:

https://www.albertahealthservices.ca/asset s/info/ppih/if-ppih-covid-19-flu-cold.pdf

Illness Comparison Chart

COVID-19, influenza, common cold and gastrointestinal (GI) illness

You may not have all the symptoms listed below. Symptoms may be different for everyone.

		COVID-19	Influenza (Flu)	Common Cold	GI Illness
Disease	Virus	SARS-CoV-2	Influenza virus A or B	Many viruses	Norovirus (most common)
	Immunization	COVID-19 vaccine	Influenza vaccine	No vaccine	No vaccine
	Onset	Gradual	Sudden	Gradual	Sudden
	Fever	~	~	~	~
	Chills	~	~	~	~
	Fatigue	~	~	~	~
	Cough	~	~	~	
	Sneezing	~	~	~	
us	Aches and pains	~	~	~	~
Symptoms	Runny or stuffy nose	~	~	~	
Syl	Sore throat	~	~	~	
	Diarrhea	~	Children only		~
	Nausea / vomiting	~	Children only		~
	Headache	~	~	~	~
	Shortness of breath	~	~		
	Loss of taste or smell	~			

For more information

Visit ahs.ca/influenza



Health Care Workers

- Health care workers (HCWs) who have direct patient or client contact should consider it an
 essential component of the standard of care to receive influenza immunization to protect
 themselves and their patients.
 - Annual influenza immunization should be considered part of their responsibility to provide the highest standard of care.
- Four cluster randomized controlled trials done in long-term care settings demonstrated that influenza immunization of HCWs is associated with substantial decreases in influenza like illness and all cause mortality in the residents.



Influenza Vaccine Development

- Each February, the World Health Organization (WHO) provides a recommendation on the strains to be included in the influenza vaccine for the northern hemisphere
- Two influenza "A" viruses and one (trivalent vaccine) or two (quadrivalent vaccine) influenza "B" viruses are selected based on the characteristics of the current circulating influenza virus strains
- A new vaccine is reformulated each year to protect against new influenza infections
- Each vaccine lot is tested on healthy individuals to ensure the vaccine is safe and effective



Influenza Vaccines for use in the 2025-2026 Program

For the 2025-2026 influenza immunization program:

- Trivalent inactivated influenza vaccine is the provincially funded vaccine available to Albertans 6
 months of age and older (operationally, this vaccine will be offered to individuals up to and
 including 64 years of age):
 - Fluzone or Fluviral or Flucelyax
- Adjuvanted trivalent inactivated vaccine will be available to individuals who are 65 years of age and older
 - Fluad
- High dose trivalent inactivated vaccine will be available for adults 18 years of age and older who
 are hematopoietic stem cell transplant (HSCT) recipients, CAR-T-cell therapy recipients or solid
 organ transplant (SOT) candidates or recipients:
 - Fluzone High-Dose



Transition from Quadrivalent to Trivalent Influenza Vaccines

Epidemiology:

As of March 2020, following the onset of the COVID-19 pandemic and implementation of measures to reduce transmission, there have been no confirmed detections of naturally circulating B/Yamagata lineage viruses worldwide, including Canada.

Public Health Implications:

Currently there is no risk from B/Yamagata viruses, but continued surveillance of viral circulation is crucial to inform influenza prevention policies.



Transition from Quadrivalent to Trivalent Influenza Vaccines

Background:

September 2023 - the World Health Organization (WHO) released recommendations for the 2024 Southern Hemisphere influenza strains, endorsing the exclusion of the B/Yamagata lineage antigen from influenza vaccines due to the global absence of circulating B/Yamagata viruses since March 2020.

March 2024 - the US and Europe decided to exclude B/Yamagata in their strain recommendations for the 2024/25 season.

February 2025 – transition to trivalent composition for all other influenza vaccines.



Vaccine Strains for 2025-2026

The strains that will be included in the 2025-2026 influenza vaccine for the northern hemisphere are:

Egg-based influenza
vaccines (Fluzone, Fluviral
and Fluzone High-Dose and
Fluad)

Cell-cultured influenza vaccine (Flucelvax)

- A/Victoria/4897/2022 (H1N1)pdm09
- A/Croatia/10136RV/2023 (H3N2)
- B/Austria/1359417/2021 (B/Victoria lineage)

- A/Wisconsin/67/2022 (H1N1)pdm09
- A/District of Columbia/27/2023 (H3N2)
- B/Austria/1359417/2021 (B/Victoria lineage)

Vaccine producers may use antigenically equivalent strains because of their growth properties. The strains recommended for egg-based products may differ somewhat from the strains chosen for cell-culture based products to account for differences in the production platforms



Facts About Inactivated Influenza Vaccine

- An inactivated (killed) vaccine cannot cause influenza disease in the vaccine recipient
- The virus is grown in hens' eggs (egg-based) or mammalian cells (cell-cultured), inactivated, broken apart and highly purified
- In addition to the antigen, the Fluzone, Fluviral, Flucelvax, Fluzone High Dose and Fluad vaccine may contain:
 - Thimerosal (preservative in multi-dose vials)
 - Trace residual amounts of egg proteins, formaldehyde, sodium phosphate-buffered isotonic sodium chloride solution, Triton X-100, sodium deoxycholate, ethanol, sucrose, α-tocopheryl hydrogen succinate and polysorbate 80
- Check the product monograph as ingredients vary with specific inactivated influenza vaccines



Universal Influenza Immunization Program in Alberta

The 2025-2026 Influenza Immunization Program will:

- Continue to be offered universally in Alberta to all people 6 months of age and older who live, work, go to school or are visiting in Alberta at no charge.
- Focus on increasing influenza immunization rates for the following groups, many of whom are most at risk for increased morbidity and mortality due to influenza disease:
 - o Residents and staff in continuing care facilities and supportive living facilities
 - Homebound clients
 - o Individuals with unstable housing or who are marginalized
 - Health Care Workers

Individuals with booked public health immunization appointments will be offered influenza vaccine starting in early October.

Program will begin in October.



Provincially Funded Influenza Vaccines for 2025-2026

	Fluzone (Sanofi Pasteur Inc.)	Fluviral (GlaxoSmithKline Inc.)	Flucelvax (Seqirus UK Limited)
Dosage/Route	0.5 mL/IM	0.5 mL/IM	0.5mL/IM
Packaging	Single dose pre-filled syringe (needle not included)	Multi-dose vial: 5 mL	Single dose pre-filled syringe (needle not included)
Eligibility	Individuals who live, work, go to school or are visiting in Alberta	Individuals who live, work, go to school or are visiting in Alberta	Individuals who live, work, go to school or are visiting in Alberta
Indication	6 months ¹ of age and older	6 months ¹ of age and older	6 months ¹ of age and older
Non- Medicinal Ingredients ²	phosphate buffered saline, Triton X-100 NMT, propagated in embryonated chicken eggs.	egg proteins, ethanol, formaldehyde, phosphate buffered saline, polysorbate 80, sodium deoxycholate, α-tocopheryl hydrogen succinate, sucrose	disodium phosphate dihydrate, magnesium chloride hexahydrate, potassium chloride, potassium dihydrogen phosphate, sodium chloride, beta-propiolactone, cetyltrimethylammonium bromide, polysorbate 80
Schedule	1 or 2 doses ³	1 or 2 doses ³	1 or 2 doses ³

¹Children must be 6 calendar months of age; do not compress this age by using 28-day months

²Refer to vaccine product monograph for a complete listing of the ingredients

³Children less than 9 years of age require 2 doses given at a minimum of 4 weeks apart if they have never received seasonal influenza vaccine.



Provincially Funded Influenza Vaccines for 2025-2026

	Fluzone High-Dose (Sanofi Pasteur)	Fluad Adjuvanted (Seqirus Canada Inc.)
Dosage/Route	0.5 mL/IM	0.5mL/IM
Packaging	Single dose pre-filled syringe (needles not included)	Single dose pre-filled syringe (needles not included)
Eligibility	Individuals who live, work, go to school or are visiting in Alberta	Individuals who live, work, go to school or are visiting in Alberta
Indication	Adults 18 years of age and older, including pregnant individuals, who are hematopoietic stem cell transplant (HSCT) recipients, CAR T-call therapy recipients or solid organ transplant (SOT) candidates or recipients	Adults 65 years of age and older
Non- Medicinal Ingredients ¹	formaldehyde, egg protein, sodium phosphate buffered isotonic sodium chloride solution, Triton X-100	Adjuvant MF59C.1 (citric acid, polysorbate 80, sodium citrate, sorbitan trioleate, Squalene, water for injection), calcium chloride dehydrate, disodium phosphate dehydrate, magnesium chloride hexahydrate, potassium chloride, potassium dihydrogen phosphate, sodium chloride
Schedule	1 dose	1 dose

¹Refer to vaccine product monograph for a complete listing of the ingredients



Influenza Vaccine Dosing

6 months up to & including 8 years of age

- 2 doses if never previously immunized with seasonal influenza vaccine (spaced 4 weeks apart minimum interval)
- 1 dose if previously immunized with seasonal influenza vaccine

9 years of age and older

1 dose

Note:

CAR T-cell therapy recipients without a prior history of HSCT who received influenza vaccine pre-CAR T-cell therapy or HSCT recipients who had their post-HSCT vaccine series interrupted by CAR T-cell therapy, see the following HSCT guidance: Principles of Immunization in Hematopoietic Stem Cell Transplant Recipients and Solid Organ Transplant Recipients

- Immunization for Adult HSCT Transplant Recipients
- Immunization for Child HSCT Transplant Recipients



Second Dose for Eligible Children

- Indicate date to return for second dose of vaccine on the Influenza Client Immunization Record and Care After Immunization form and provide to the parent or guardian of the client
- Refer to zone process for indicating location for second dose of vaccine



Thimerosal

- Multi-dose vials of vaccine contain a preservative called thimerosal (ethylmercury)
- Ethylmercury is not the same compound as methylmercury
 - Methylmercury is a known neurotoxin in high concentrations or with prolonged exposure (e.g., ingesting some types of fish)
- Ethylmercury is eliminated much more quickly and is less likely to reach toxic levels in the blood than methylmercury
- Studies have found there is no association between immunization with thimerosal-containing vaccines and neurodevelopmental outcomes, including autism-spectrum disorders
- Additional information regarding thimerosal is available at http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/07vol33/acs-06/index-eng.php

This statement has been archived by NACI, as it is not being updated. The information remains relevant.



Pregnancy and Breastfeeding

NACI recommends the inclusion of all pregnant individuals, at any stage of pregnancy... [among high priority recipients of influenza vaccine] due to:

- the risk of influenza associated morbidity in pregnant individuals
- evidence of adverse neonatal outcomes associated with maternal respiratory hospitalization or influenza during pregnancy
- evidence that vaccination of pregnant individuals protects their newborns from influenza and influenza-related hospitalization, and
- evidence that infants born during influenza season to vaccinated individuals are less likely to be premature, small for gestational age, and low birth weight.





Pregnancy and Breastfeeding

Despite a lack of available evidence for use in pregnant individuals, Alberta transplant experts recommend that high-dose influenza vaccine be offered to pregnant individuals who are:

- Hematopoietic stem cell transplant (HSCT) recipients;
- CAR T-cell therapy recipients; or
- Solid organ transplant (SOT) candidates or recipients.

Pregnant SOT, HSCT and/or CAR T-cell candidates or recipients may wish to discuss the risks and benefits with their specialist.





Pregnancy and Breastfeeding

- Inactivated influenza vaccines are safe for pregnant individuals at <u>all</u> stages of pregnancy
- Inactivated influenza vaccines are safe for breastfeeding individuals





Influenza Burden in Pediatric Population

- Influenza is a leading cause of respiratory infection among children under 1 year of age and causes approximately 280,000 respiratory hospitalizations globally in those under 6 months old.
- In Canada, a national active surveillance study of pediatric influenza admissions revealed that infants under 6 months old accounted for 13.5% of children under 16 years of age admitted for influenza during 2010-2011 to 2020-2021, emphasizing the significant burden of influenza and its associated complications for this age group
- In recent seasons of B/Victoria predominance in Canada, individuals under 19 years of age accounted for approximately half (48 to 54%) of influenza B cases.
- Children under 5 years of age had the second-highest cumulative influenza-associated hospitalization rate (139 per 100,000 population).



Reactions to Standard Dose Influenza Vaccine

	Fluzone, Flucelvax, Fluviral
Common	 Pain, redness, bruising, induration and swelling at the injection site Fever, chills, sweating Cough, runny nose, influenza-like symptoms Fatigue, drowsiness, malaise Irritability, crying Headache, arthralgia, myalgia Loss of appetite Gastrointestinal symptoms (nausea, vomiting, diarrhea)
Uncommon	 Hematoma, warmth, rash at the injection site Upper abdominal pain Rash (general)
Rare	 Anaphylaxis, allergic reaction Guillain-Barré Syndrome (GBS) Oculorespiratory Syndrome (ORS)



Reactions to High-Dose/Adjuvanted Influenza Vaccine

	Fluzone High Dose and Fluad
Common	 Pain, warmth, redness, bruising and swelling at the injection site Fever, chills/shivering, sweating, fatigue, malaise, headache Nausea Arthralgia, myalgia
Uncommon	 Induration and pruritis at the injection site Muscular weakness Rash (general), pruritis (general) Diarrhea, dyspepsia Cough
Rare	 Anaphylaxis, allergic and urticarial rash reaction Neuralgia, parasthesia, convulsions, thrombocytopenia, lymphadenopathy Guillain-Barré Syndrome (GBS) Oculorespiratory Syndrome (ORS)



Contraindications to Influenza Vaccine

Inactivated influenza vaccine SHOULD NOT be administered to individuals who:

- Are less than 6 calendar months of age
- Have had an anaphylactic reaction to a previous dose of influenza vaccine
- Have a known hypersensitivity to any component of the vaccine with the exception of egg
- Have been diagnosed with GBS within 6 weeks of a previous dose of influenza vaccine
- Have experienced ORS involving lower respiratory tract symptoms within 24 hours of receiving influenza immunization



Guillain-Barré Syndrome (GBS)

- GBS is an illness that affects the nervous system
 - It is rare; general risk is about 2 cases per 100,000 people per year
 - It is characterized by loss of reflexes and symmetric paralysis usually beginning in the legs
 - It results in complete or near complete recovery in most cases
- It is thought that GBS may be triggered by an infection
 - The infection that most commonly precedes GBS is caused by Campylobacter jejuni bacteria
 - Other respiratory or intestinal illnesses and other triggers may also precede an episode of GBS, including Cytomegalovirus, Epstein-Barr virus and Mycoplasma pneumoniae



Guillain-Barré Syndrome (GBS)

Risk of GBS associated with <u>influenza infection</u> is much greater than that associated with immunization.

It is recommended that, as a precaution, you DO NOT provide influenza immunization to people who have been diagnosed with GBS <u>within 6 weeks of previous influenza</u> immunization.



Oculorespiratory Syndrome (ORS)

Oculorespiratory Syndrome (ORS) may occur after influenza immunization

Case definition of ORS:

- onset within 24 hours of immunization
- 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



Oculorespiratory Syndrome (ORS)

Individuals who have experienced ORS without lower respiratory tract symptoms can be reimmunized with influenza vaccine.

Individuals who experienced ORS with lower respiratory tract symptoms (wheeze, chest tightness, difficulty breathing) should be assessed by a MOH/MOH designate before proceeding with immunization.



Egg-allergic Individuals

- Egg allergy is not considered a contraindication for influenza vaccine.
- Egg-allergic individuals may be immunized without a prior influenza vaccine skin test and with the full dose of vaccine, irrespective of a past severe reaction to egg.



Vaccine Deferral

Vaccine may be deferred until later in the following situations:

- Individuals presenting with a serious acute febrile illness
 - Recommendations should be provided for these individuals to be immunized when their symptoms have resolved.

Vaccine does not require deferral and can safely be given to the following individuals:

- Those with mild acute illness, with or without fever
- Individuals who are recovering from illness or are taking antibiotics



Commitment to Comfort

Needle Fears

This can affect people to a degree that they avoid immunization

<u>Alberta Health Services Commitment to Comfort</u> outlines five principles to improve the immunization experience, health outcomes and satisfaction and encourage repeat attendance to healthcare encounters:

- Make a comfort plan
- Use positive language
- Use comfort positions
- Shift attention
- Use numbing cream



Adverse Events Following Immunization (AEFI)

- An adverse event following immunization (AEFI) is defined as a serious or unexpected event temporally associated with immunization.
- Adverse Events Following Immunization (AEFI) policy for Alberta immunization providers
 may be found in the IPSM and on the Alberta Health website. The policy includes a list of
 reportable AEFI.
- Severe reactions such as anaphylaxis, death and other serious events, should be reported within 24 hours and all other reactions within 3 days to the AEFI Team.
- "Reportable AEFIs" are reported to Alberta Health, and in turn to the National Surveillance Program.



AEFI Reporting

- AHS Public Health AEFI reporting will continue to follow the procedure outlined in the <u>AEFI</u>
 <u>Standard</u> in the <u>Immunization Program Standards Manual (IPSM)</u>
- Non-AHS Practitioners report AEFI through the AEFI report form found at: <u>Adverse Event Following Immunization Reporting</u>
- Consult with AHS Adverse Event Following Immunization (AEFI) Team at <u>AEFI@primarycarealberta.ca</u> or 1-855-444-2324 as soon as possible for any case where there is uncertainty as to whether a symptom following immunization is related to the immunization



Anaphylaxis Management Resources

Alberta Health Services employees need to ensure they have completed the <u>Anaphylaxis</u> <u>Management</u> learning module on Insite.

Covenant Health employees need to ensure they have completed Covenant Health Anaphylaxis Learning Module found on CLiC.

All other providers must have Anaphylaxis Management Guidelines in place.

Additional information available in the <u>Canadian Immunization Guide – Vaccine Safety</u>



Infection Prevention and Control (IPC)

IPC's mandate is to reduce the incidence of healthcare associated infections in patients, residents, and clients by:

- process and outcome surveillance
- outbreak identification and management
- consultation and education
- policy and procedure development
- Research

For more information go to the AHS IPC website



Email: CDCIMM@primarycarealberta.ca

Ph: 1-855-444-2324







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