



Influenza Immunization Program 2023-2024 Update

Pharmacists are authorized to vaccinate persons 5 years of age and older who have a valid Saskatchewan Health Card with a publicly funded influenza vaccine.¹

The program officially starts October 10, 2023, however, if vaccine is available, pharmacists may vaccinate high-risk individuals (i.e., children six months to five years old, LTC and PCH residents, immunocompromised individuals, and those 65+ who have significant risk factors) beginning October 2, 2023. The program ends March 31, 2024. Children younger than age nine requiring a second dose of vaccine can receive immunization until April 30, 2024.² For full details on the Saskatchewan Influenza Immunization Policy (SIIP) see [here](#).

Highlights of this year's Saskatchewan Influenza Immunization Policy (SIIP)^{2,3}:

- **Fluzone® High-Dose** Quadrivalent will be publicly funded for **all residents ≥65 years of age** with a valid Saskatchewan Health Services Card.
- **Afluria® Tetra** will be the primary standard-dose influenza vaccine supplied to pharmacies for use this season; Flulaval Tetra and Fluzone® Quadrivalent are secondary supply.
- The maximum daily order limits for influenza vaccine are: 70 doses for standard-dose quadrivalent influenza vaccine (QIV) and 50 doses for high-dose QIV. Order quantities are subject to change based on flu vaccine availability at the wholesalers. Requests for exceptions to the ordering thresholds may be considered by contacting the Saskatchewan Ministry of Health DPEBB at DPEBimmunizations@health.gov.sk.ca.
- To register a pharmacy to participate in the 2023-2024 Influenza Immunization Program, contact the DPEBB directly at: DPEBimmunizations@health.gov.sk.ca
- Pharmacies are NOT required to input licensed Personal Care Home (PCH) residents into the Vaccine Risk Factor Portal (VRFP) this season. DPEBB will provide the list to Public Health. However, if required, a list of PCH residents who received influenza vaccine for the current influenza season must be provided to the Ministry of Health within two business days. Any newly acquired PCHs should be reported to Public Health.
- Pharmacies are NOT required to register "Alternate Locations" this season. Please ensure no other clinics are already booked for these locations.
- Influenza immunization records are available in patients' MySaskHealthRecord accounts but wallet cards from previous years can continue to be used upon request. Wallet cards can be ordered free of charge from <https://publications.saskatchewan.ca/#/products/82513>

2023-2024 Publicly Funded Influenza Vaccine Information:

Vaccines funded by the Saskatchewan Ministry of Health for use in the 2023-2024 influenza season²:

- **Fluzone® High-Dose Quadrivalent**
 - available through all immunizers
 - for use in individuals 65 years and older
- **Afluria® Tetra** (standard-dose)
 - primary supply for pharmacies
 - for use in individuals 5 years and older
- **Flulaval Tetra** (standard-dose)
 - available through Public Health (Saskatchewan Health Authority (SHA), First Nations Jurisdictions (FNJ), Athabasca Health Authority (AHA))
 - secondary supply for pharmacies
 - for use in individuals 6 months and older
- **Fluzone® Quadrivalent** (standard-dose)
 - for use in individuals 6 months and older
 - multidose vials
 - available through Public Health (SHA, FJN, AHA) and other (i.e. physician, NP) immunizers
 - secondary supply for pharmacies
 - prefilled syringes
 - available through Public Health (SHA, FJN, AHA)

Afluria® Tetra, Flulaval Tetra, and Fluzone® Quadrivalent are quadrivalent inactivated influenza vaccines containing 15 mcg of hemagglutinin (HA) protein for each of the two influenza A and two influenza B strains. This season the strains in use are⁴:

- A/Victoria/4897/2022 (H1N1)pdm09-like virus;
- A/Darwin/9/2021 (H3N2)-like virus;
- B/Austria/1359417/2021 (B/Victoria lineage)-like virus;
- B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

These vaccines are safe for use in all stages of pregnancy and during lactation.⁵

Fluzone® High-Dose Quadrivalent is a quadrivalent inactivated influenza vaccine containing 60 mcg (HA) protein of the same strains in the standard-dose vaccines. It is indicated for use in individuals 65 years and older.⁵ This population is at higher risk of mortality and morbidity from influenza (particularly influenza A) and their immune response to influenza vaccines is lower than that of younger people. The available evidence suggests that the high-dose vaccine should provide superior protection in this population, compared with standard-dose influenza and, therefore, is the preferred vaccine in this population.⁵

Thimerosal-containing vaccines: all multidose vials of publicly funded influenza vaccine contain thimerosal.² People preferring thimerosal-free vaccine need to be referred to Public Health where Fluzone® Quadrivalent (standard-dose) prefilled syringes will be available.² Note that thimerosal is considered safe in pregnancy.⁵

Non-publicly funded influenza vaccines:

Pharmacists should be aware of all influenza vaccine options. (See Tables 1, 2, and 3 below.) In accordance with the requirements in the [Administration of Drugs by Injection and Other Routes - Policies, Standards and Guidelines for Pharmacists](#), pharmacists may need to inform patients of influenza vaccine options in case of vaccine shortage, patient preference, contraindication, or constituent allergy.¹ If a non-funded influenza vaccine is requested, pharmacies may purchase and charge the patient for it as a private sale and service. Please note that vaccines in SK are Schedule 1 unless they are part of a publicly-funded program, therefore, **a prescription is required for non-publicly funded influenza vaccines.**¹ Pharmacists can prescribe these within the framework of Travel Health and Vaccine Preventable Diseases.⁶

Two influenza vaccines have recently been developed using new manufacturing processes:

In 1995, the World Health Organization (WHO) recommended alternatives to egg-based influenza virus cultivation systems be developed. This is due to⁷:

- Necessity of large number of eggs - all from specific pathogen-free flocks or at least certified as 'clean'
- Potential for allergic reaction
- Some virus strains don't grow well in eggs
- Egg-adaptive mutations can occur. Newer technology results in a more reliable product.
- Other manufacturing processes have been proven to be much faster and have reduced risk of microbial or chemical contamination. This would be very important in a pandemic.

1. **Flucelvax® Quad** (IIV4-cc) is Canada's first mammalian cell culture-based influenza vaccine. It was approved for use in Canada on November 22, 2019. The manufacturing process uses animal cells (Madin-Darby Canine Kidney, or MDCK cells) rather than fertilized chicken eggs as a host for growing the influenza viruses. The cells used to manufacture Flucelvax® Quad are kept frozen and "banked" ensuring an adequate supply is always available for vaccine production. This process is much faster and in larger volume than egg-based production and occurs in a closed environment reducing potential for contamination. Cell-culture-based influenza vaccines have been available in Europe since 2007 and the United States since 2012.^{7,8}

Flucelvax® Quad is administered as a 0.5 mL dose by IM injection – preferably into the deltoid. NACI has determined that it has comparable efficacy and safety profile to IIV4-SD and recommends that it **may be considered among the quadrivalent influenza vaccines offered to adults and children 6 months of age and older.**^{5,8}

- Disadvantages^{7,8}:
 - More expensive than other influenza vaccinations
 - No experience with this product in Canada, although it has been used for years in other countries
 - **Not funded for use in Saskatchewan this influenza season**²

2. **Supemtek™** (RIV4) is Canada's first licensed recombinant quadrivalent influenza vaccine. It was approved in Canada on January 14, 2021. The recombinant method uses influenza virus proteins that are combined with a portion of another virus that grows in insect cells. The resulting virus is then mixed with insect cells and allowed to replicate. The flu surface protein (hemagglutinin) is then harvested from these cells and purified. This technology allows an exact match to the WHO's recommended influenza

Financial contribution:

strains. Supemtek™ contains 45 µg of antigen per strain – 3 times that of other standard-dose influenza vaccines.⁹

Supemtek™ is administered as a 0.5 mL dose by IM injection – preferably into the deltoid. NACI has determined that it has comparable efficacy and safety profile to IIV4-SD and that it **may be included in the list of quadrivalent influenza vaccines offered to adults 18 years of age and older.**⁵

- Disadvantages⁹
 - At this time, in Canada, the infrastructure required for manufacturing recombinant vaccines is limited compared to that for producing egg-based vaccines
 - More expensive than other influenza vaccinations
 - No experience with this product in Canada, although it has been used in the USA since 2013
 - **Not funded for use in Saskatchewan this influenza season**²

WHO recommends a slightly different combination of influenza strains for cell-based and recombinant vaccines. For the 2023-24 season those are⁴:

- A/Wisconsin/67/2022 (H1N1)pdm09-like virus;
- A/Darwin/6/2021 (H3N2)-like virus;
- B/Austria/1359417/2021 (B/Victoria lineage)-like virus;
- B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

Table 1: Influenza Vaccines Authorized for use in Canada^{5,10,a}

Vaccine Type	Brand Names	How Supplied	
		Multidose Vial	Prefilled Syringe (Thimerosal-free)
Quadrivalent Standard-Dose Inactivated Influenza Vaccine (IIV4-SD)	Afluria® Tetra ^b	√	√
	Flulaval Tetra ^c	√	×
	Fluzone® Quadrivalent ^c	√	√ (Public Health only)
	Influvac® Tetra	×	√
Quadrivalent Live Attenuated Influenza Vaccine (LAIV4)	Flumist® Quadrivalent	×	√ (single use pre-filled glass sprayer)
Cell-Culture Based Quadrivalent Inactivated Influenza Vaccine (IIV4-cc)	Flucelvax® Quad	√	√
Recombinant quadrivalent influenza vaccine (RIV4)	Supemtek™	×	√
High-Dose Quadrivalent Inactivated Influenza Vaccine (IIV4-HD)	Fluzone® High-Dose Quadrivalent ^d	×	√
Adjuvanted Inactivated Influenza Vaccine (IIV3-Adj)	Fluad®	×	√

a. not all may be available in Canada this season
b. Publicly funded in SK for the 2023-24 influenza season; primary supply for pharmacies.²
c. Publicly funded in SK for the 2023-24 influenza season and available through Public Health and other immunizers (e.g. physicians, nurse practitioners); secondary supply for pharmacies.²
d. Publicly funded in SK for the 2023-24 influenza season for residents 65 years and older and available through all immunizers.²

Table 2: Non-Publicly Funded Influenza Vaccines⁵

See Table 1 for vaccine abbreviation definitions.

Vaccine: Abbreviation & Brand name	Approved Age	Comment
IIV4-cc Flucelvax® Quad	6 months and over	May be used non-preferentially up to age 65 years. It is an option for those ≥ 65 years if Fluzone® High-Dose not available or inappropriate.
LAIV4 Flumist® Quadrivalent	≥2 years to <18 years	LAIV4 is suitable for use in this age group with these exceptions: <ul style="list-style-type: none"> • severe asthma (defined as currently on oral or high-dose inhaled corticosteroids or active wheezing) • having experienced medically attended wheezing in the 7 days prior to vaccination • immune compromising conditions, due to underlying disease, therapy or both excluding those with stable HIV infection on HAART and with adequate immune function^a • currently receiving ASA • pregnancy • receipt of an influenza antiviral medication in the previous 48 hours
	≥18 years to <60 years	There is some evidence that IIV may provide better efficacy than LAIV in healthy adults, however, NACI has authorized it's use in this age group with these exceptions : <ul style="list-style-type: none"> • severe asthma (defined as currently on oral or high-dose inhaled corticosteroids or active wheezing) • having experienced medically attended wheezing in the 7 days prior to vaccination • specific chronic health conditions that increase risk of influenza-related complications/ hospitalizations^b – including HIV regardless of treatment and immune status • pregnancy • health care workers • receipt of an anti-influenza antiviral medication in the previous 48 hours
RIV4 Supemtek™	18 years and over	May be used non-preferentially up to age 65 yrs. It is an option for those ≥ 65 years if Fluzone® High-Dose not available or inappropriate.
IIV3-Adj Fluad®	65 years and over	The adjuvant may provide more immunogenicity, however, Fluad® is only trivalent and will not offer as much B strain coverage as the quadrivalent vaccines. May cause more injection-site reactions than other influenza vaccines.

a. Stable HIV infection defined as: **receiving HAART ≥ 4 months; and CD4 count ≥ 500/μL if 2–5 years of age, or ≥200/μL if 6–17 years of age (measured within 100 days before administration of LAIV); and HIV plasma RNA <10,000 copies/mL (measured within 100 days before administration of LAIV).**

b. Includes: **cardiac or pulmonary disorders** (includes bronchopulmonary dysplasia, cystic fibrosis, and asthma); **diabetes mellitus and other metabolic diseases; cancer, immune compromising conditions** (due to underlying disease, therapy, or both, such as solid organ transplant or hematopoietic stem cell transplant recipients); **renal disease; anemia or hemoglobinopathy; neurologic or neurodevelopment conditions** (includes neuromuscular, neurovascular, neurodegenerative, neuro-developmental conditions, and

Financial contribution:

seizure disorders [and, for children, includes febrile seizures and isolated developmental delay], but excludes migraines and psychiatric conditions without neurological conditions); **morbid obesity** (BMI of 40 and over)
HAART= highly active antiretroviral therapy

Table 3: Age Indications for Influenza Vaccine Types⁵

See Table 1 for vaccine abbreviation definitions.

Age	Approved Influenza Vaccines
≥ 6 months to < 2 years	IIV4-SD ^a , IIV4-cc
≥ 2 years to < 18 years	IIV4-SD ^a , IIV4-cc, LAIV4
≥ 18 years to < 60 years	IIV4-SD, IIV4-cc, LAIV4, RIV4
≥ 60 years to < 65 years	IIV4-SD, IIV4-cc, RIV4
≥ 65 years	IIV4-HD, IIV4-SD, IIV4-cc, RIV4, IIV3-Adj
a. Not all brands are approved for these ages; check product monographs	

FAQs

Q: *Can influenza vaccines be given to someone with COVID-19?*

A: Yes. However, unless the influenza vaccine can be administered at their home, vaccination should be deferred until the resolution of symptoms to prevent transmission to others. See PHAC's [Guidance on the use of influenza vaccine in the presence of COVID-19](#) for more information.

Q: *Can community pharmacists administer the influenza vaccine to someone without an HSN?*

A: Persons without a valid HSN, from out of province, or from out of country, should be directed to a Public Health office for publicly funded flu vaccine.²

Q: *If a standard-dose QIV vaccine was given to someone > 65 years of age, should they also get the High-Dose influenza vaccine?*

A: No. Seniors who received standard-dose QIV are not to be further immunized with the high-dose vaccine.²

Q: *Can influenza vaccines be given at the same time as COVID-19 and RSV vaccines?*

A: Yes. All influenza vaccines may be given at the same time as, or at any time before or after administration of other live or inactivated vaccines.⁵ Keep in mind that side effects are typically greater if more than 1 vaccine is administered at a time and this may be particularly true if any of the vaccines contain an adjuvant (such as the RSV vaccine).¹¹ Discuss this with the client before deciding to administer all 3 at the same visit (preferably use two different limbs but if there is a need to inject >1 vaccine into the same limb, separate the two injection sites by at least 2.5 cm [1 inch]).¹²

Q: *Why would anyone want a non-publicly funded influenza vaccine?*

A: Flumist® Quadrivalent nasal spray is an option for those who prefer not to have an injection and may be particularly useful in children. Flumist® Quadrivalent, Flucelvax® Quad and Supemtek™ can be options for those with allergies to other influenza vaccines. Flud® contains an adjuvant which may increase the efficacy in those over 65 years of age. Although Fluzone® High-Dose is preferred in this age group, Flud® could be an option if Fluzone® High-Dose is in short supply.⁵

Prepared by

Dorothy Sanderson, BSP, Medication Information Consultant, medSask

Reviewed by

Carmen Bell, BSP, Medication Information Consultant, medSask

Kerrie Bjarnarson, BSP, Medication Information Consultant, medSask

References

1. Administration of drugs by injection and other routes. Saskatchewan College of Pharmacy Professionals. Updated June 27, 2023. Accessed September 27, 2023. https://scp.in1touch.org/document/3614/REF_Injection_Admin_Gdlns
2. Saskatchewan Influenza Immunization Policy 2023-2024. Saskatchewan Ministry of Health. Updated September 2023. Accessed September 27, 2023. <https://www.ehealthsask.ca/services/resources/Resources/2023-24%20Saskatchewan%20Influenza%20Immunization%20Policy.pdf>
3. Drug Plan and Extended Benefits. Pharmacy Information Bulletin No. 858. Saskatchewan Ministry of Health. September 28, 2023. Accessed October 2, 2023. https://formulary.drugplan.ehealthsask.ca/PDFs/858%20Influenza%20Immunization%20FAQs%2023_24.pdf
4. Recommended composition of influenza virus vaccines for use in the 2023-2024 northern hemisphere influenza season. World Health Organization. Updated February 24, 2023. Accessed September 7, 2023. <https://www.who.int/publications/m/item/recommended-composition-of-influenza-virus-vaccines-for-use-in-the-2023-2024-northern-hemisphere-influenza-season>
5. An Advisory Committee Statement (ACS); National Advisory Committee on Immunization (NACI) Statement on seasonal influenza vaccine for 2023-2024. Public Health Agency of Canada. Updated May 31, 2023. Accessed September 7, 2023. <https://www.canada.ca/en/public-health/services/publications/vaccines-immunization/national-advisory-committee-immunization-statement-seasonal-influenza-vaccine-2023-2024.html#a9>
6. Prescriptive authority — pharmacist. Saskatchewan College of Pharmacy Professionals. Updated August 8, 2023. Accessed September 27, 2023. https://www.saskpharm.ca/document/6106/REF_Prescriptive_Authority_Pharmacist.pdf
7. Rubio AP, Eiros JM. Cell culture-derived flu vaccine: present and future. *Hum Vaccin Immunother*. 2018;14(8):1874-1882. doi: 10.1080/21645515.2018.1460297.
8. Public Health Agency of Canada. Supplemental statement – mammalian cell culture-based influenza vaccines. Government of Canada. Updated September 9, 2020. Accessed September 27, 2023. <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/mammalian-cell-culture-based-influenza-vaccines.html>
9. Public Health Agency of Canada. Recombinant influenza vaccines: a supplemental statement of the Canadian Immunization Guide chapter on influenza and statement on influenza vaccine for 2022-2023. Government of Canada. Updated September 12, 2022. Accessed September 27, 2023. <https://www.canada.ca/en/public-health/services/publications/vaccines-immunization/recombinant-influenza-vaccines-supplemental-statement-canadian-immunization-guide-seasonal-influenza-vaccine-2022-2023.html>
10. Drug product database online query. Health Canada. 2023. Accessed September 14, 2023. <https://health-products.canada.ca/dpd-bdpp/>
11. Respiratory syncytial virus (RSV) vaccine prescribing guideline. medSask. Updated September 2023. Accessed September 27, 2023. <https://medsask.usask.ca/respiratory-syncytial-virus-vaccine-prescribing-guideline>
12. Guide for the Vaccine Screening and Consent Form. medSask. Updated September 28, 2023. Accessed October 2, 2023. <https://medsask.usask.ca/professional-practice/guide-for-the-vaccine-screening-and-consent-form>

medSask provides this document for informational purposes only. The information contained herein represents the research of medSask and not that of the University of Saskatchewan. While reasonable efforts have been made to ensure the accuracy of information at the time of preparation, users of this document are cautioned that the information may contain errors. In addition, more recent information may have become available, which may make the information contained in this document incomplete, inaccurate or potentially misleading. In no event will medSask be liable for any damages of any kind resulting from the use of this document or the information contained therein, including any errors, omissions or inaccuracies of the information contained in or omitted from this document.