

## Influenza Vaccine Update 2016-2017

### Vaccines funded by the Saskatchewan Ministry of Health for the 2016-17 Seasonal Influenza Program<sup>1</sup>:

- Fluzone® Quadrivalent
- Flulaval® Tetra

Both of these vaccines are quadrivalent, that is, contain two influenza A and two influenza B strains. Specifically: A/California/7/2009 (H1N1)pdm09-like strain, A/Hong Kong/4801/2014 X-263B (H3N2)-like strain, B/Phuket/3073/2013-like strain and B/Brisbane/60/2008-like strain. They are suitable for use in all individuals over the age of 6 months and are safe for use in all stages of pregnancy.<sup>2</sup>

An updated screening/consent tool and guideline for influenza injection is available on the [PAS website](#).

### Other influenza vaccines:

Pharmacists should still be aware of the other influenza vaccine options. (See Tables 1 and 2 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.<sup>3</sup> If a non-funded influenza vaccine is requested, pharmacies may purchase and charge the patient for it as a private sale and service.

### Changes to the Canadian 2016-2017 influenza vaccine guidelines:

**1. FluMist®:** Saskatchewan Public Health clinics will not be providing the option of the intranasal spray influenza vaccine for the 2016-2017 season for any patient.<sup>4</sup> There have been conflicting studies about the effectiveness of FluMist®. The current evidence does not support a recommendation for the preferential use of live attenuated influenza vaccine (LAIV) in children and adolescents 2-17 years of age.<sup>5</sup>

The National Advisory Committee on Immunization (NACI) now recommends: in children without contraindications to the vaccine, any of the following vaccines can be used: quadrivalent LAIV (FluMist®), quadrivalent inactivated influenza vaccine (QIV) or trivalent inactivated influenza vaccine (TIV).<sup>5</sup>

**2. Fluzone® High-Dose** influenza vaccine has been approved for use in Canada in adults ≥65 years of age. Fluzone® High-Dose is an inactivated trivalent influenza vaccine containing 60 µg of haemagglutinin (HA) per strain as compared to 15 µg HA per strain in a standard dose. Individuals 65 years and older are at higher risk of

mortality and morbidity if they become sick with influenza and their immune response to influenza vaccines is lower than that of younger people. The most common type of influenza in this population is Influenza A.<sup>5</sup>

The available evidence suggests that HD-TIV should provide superior protection in this age group compared with standard dose TIV. However, there are some limitations with these studies and more research is needed to determine if HD-TIV in fact does decrease the incidence of influenza compared to the standard dose vaccines.<sup>5,6</sup> Neither NACI nor the US Centers for Disease Control and Prevention (CDC) have given preference to use of HD-TIV in adults 65 years and older.<sup>5,6</sup>

**3. Egg allergy:** NACI has indicated that LAIV is safe for use in individuals with an egg allergy. The full dose of LAIV may be used without prior vaccine skin test. As in the past, all inactivated influenza vaccines can be given to those with an egg allergy.<sup>5</sup>

**Table 1: Influenza Vaccines Available in Canada<sup>5</sup>**

Vaccine*	Brand Names
<b>Quadrivalent Inactivated Influenza Vaccines (QIV)</b>	Flulaval® Tetra Fluzone® Quadrivalent
<b>Trivalent Inactivated Influenza Vaccines (TIV)</b>	Agriflu® Fluviral® Fluzone® Influvac® Vaxigrip®
<b>Trivalent Inactivated Influenza Vaccines with Adjuvant (aTIV)</b>	Fluad® Fluad® Ped
<b>Live Attenuated Influenza Vaccine (LAIV) Quadrivalent</b>	FluMist®
<b>High-Dose Trivalent Inactivated Influenza Vaccine (HD-TIV)</b>	Fluzone® High-Dose
<b>Thimerosal-free influenza vaccines</b>	Fluad® Fluad® Pediatric FluMist® Fluzone® High-Dose Influvac® <b>Prefilled syringes only:</b> Agriflu®, Fluzone® Quadrivalent, Vaxigrip®

\*Please note: these may not be available in Saskatchewan. Check with your wholesaler for availability.

**Table 2: Alternatives to Quadrivalent Influenza Vaccine<sup>5,6</sup>**

*QIV is appropriate and indicated for use in everyone over the age of 6 months.*

Patient Factors		Vaccine	Rationale	Comments
<b>Age</b>	6-23 months	TIV	May be used if QIV unavailable	QIV preferred as higher prevalence of influenza B in this population
		aTIV	Adjuvanted TIV may confer greater immune response in this population	Available as Fludax <sup>®</sup> Pediatric
2-17 years	LAIV	Can be used if an IM injection not desirable/appropriate	Available as FluMist <sup>®</sup>	
	TIV	If QIV unavailable	QIV preferred as higher prevalence of influenza B in this population	
18-59 years	TIV	As above		
	LAIV	Can be used if an IM injection not desirable/appropriate	Available as FluMist <sup>®</sup>	
60-64 years	TIV	If QIV unavailable	Insufficient evidence to support the use of LAIV in this population	
≥65 years	HD-TIV	Higher prevalence of Influenza A in this population. Some evidence of better efficacy in this age group	Available as Fluzone <sup>®</sup> High-Dose	
	TIV	If QIV and HD-TIV unavailable		
	aTIV	Clinical trials have shown higher immunogenicity and broader cross-reactivity compared to standard TIV. However, it is not yet known how immunogenicity and vaccine effectiveness compare between adjuvanted TIV and high dose TIV.	Available as Fludax <sup>®</sup>	
<b>Pregnancy</b>	TIV	If QIV unavailable	Insufficient safety data to support the use of LAIV. Theoretical fetal risk with live virus vaccine	
<b>Lactation</b>	TIV	If QIV unavailable		
	LAIV	If IM injection not desirable/appropriate		
<b>Chronic Disease</b>	2-17 years	TIV	If QIV unavailable	LAIV contraindicated in immunocompromised, severe asthma but can be used in other chronic conditions
	18-59 years	TIV	If QIV unavailable	Insufficient evidence to support use of LAIV

## References:

1. Pharmacy Association of Saskatchewan PAS IT ON #81 Special Edition - Influenza Immunization Program
2. Government of Saskatchewan. Seasonal influenza (flu) immunization program. [accessed 15 Nov 2016] Available at [http://www.saskatchewan.ca/flu#utm\\_campaign=q2\\_2015&utm\\_medium=short&utm\\_source=%2Fflu](http://www.saskatchewan.ca/flu#utm_campaign=q2_2015&utm_medium=short&utm_source=%2Fflu)
3. Saskatchewan College of Pharmacy Professionals. Administration of Drugs by Injection and Other Routes - Policies, Standards and Guidelines for Pharmacists. Available at: [http://scp.in1touch.org/uploaded/web/refmanual/REF\\_Injection\\_Admin\\_Policy\\_Current.pdf](http://scp.in1touch.org/uploaded/web/refmanual/REF_Injection_Admin_Policy_Current.pdf) [updated Nov 2016; accessed 14 Nov 2016]
4. Influenza program: Protect yourself and those close to you! [accessed 20 Oct 2016] Available at [https://www.saskatoonhealthregion.ca/locations\\_services/Services/Influenza-Program/Pages/Home.aspx](https://www.saskatoonhealthregion.ca/locations_services/Services/Influenza-Program/Pages/Home.aspx)
5. Canadian Immunization Guide Chapter on Influenza and Statement on Seasonal Influenza Vaccine for 2016-2017. Available at <http://www.phac-aspc.gc.ca/naci-ccni/flu-2016-grippe-eng.php>. [updated 18 Oct 2016; accessed 21 Oct 2016]
6. Centers for Disease Control and Prevention. Fluzone high-dose seasonal influenza vaccine. [updated 01 Aug 2016; accessed 18 Oct 2016] Available at [http://www.cdc.gov/flu/protect/vaccine/qa\\_fluzone.htm](http://www.cdc.gov/flu/protect/vaccine/qa_fluzone.htm).