Tony Evers
Governor

Kirsten L. Johnson
Secretary

DIVISION OF PUBLIC HEALTH

1 WEST WILSON STREET
PO BOX 2659
MADISON WI 53701-2659

Telephone: 608-266-1251
Fax: 608-267-2832
TTY: 711 or 800-947-3529

State of Wisconsin
Department of Health Services

Date: September 1, 2023

To: Physicians, Pharmacists, Infection Preventionists, Long-Term Care Facilities, Local Health Departments, Tribal Health Clinics, Federally Qualified Health Centers, Visiting Nurse Agencies, and other immunization providers

From: James H. Conway, MD, FAAP
Wisconsin Chapter of the American Academy of Pediatrics

Jonathan L. Temte, MD, PhD
Chair, Wisconsin Council on Immunization Practices

Ryan Westergaard, MD, PhD, MPH
State Epidemiologist for Communicable Diseases

Re: The 2023–2024 Advisory Committee on Immunization Practices (ACIP) recommendations for the prevention and control of seasonal influenza with vaccines

Promote Influenza Vaccination

Influenza and SARS-CoV-2 viruses are expected to circulate at the same time during the upcoming 2023–2024 influenza season. In this context, vaccination against influenza will continue to be important to decrease the overall impact of respiratory illnesses by reducing influenza-associated illnesses, hospitalizations, and deaths, and reducing the burden on the health care system.

Health care providers should promote and offer influenza vaccine during September or October, using every opportunity during the influenza vaccination season to administer influenza vaccines to all persons aged 6 months and older. Co-administration of influenza, COVID-19, and RSV vaccines may be considered in order to avoid missed opportunities.

Seasonal influenza vaccine should be offered as long as influenza viruses are circulating. Influenza was detected among Wisconsin residents all 52 weeks of 2022 (the most current year for which we have complete data). Immunization clinics should therefore be scheduled throughout the influenza season into 2024.

Updated ACIP Recommendations

The 2023–2024 ACIP recommendations for the prevention and control of seasonal influenza with vaccines were formally issued on August 25, 2023. This document can be downloaded from the MMWR website.

Updated ACIP information regarding recommendations or vaccine supply and timing of distribution of influenza vaccine that affect the target groups will be made available, as needed. The 2023–2024 Vaccine Information Statements are also available.

It is important to be aware of the current recommendations and to periodically visit the CDC website for additional information and updates. Access to updated or supplemental information is often necessary throughout the influenza season and the months leading up to it. The CDC and other public health agencies will assess the vaccine supply on a continuing basis throughout the manufacturing period and will inform both providers and the general public in the event of substantial delays or inadequate supply.

Vaccines available during the 2023–2024 season are (Table 1):

- Quadrivalent inactivated influenza vaccine (IIV4).
  - Sanofi Pasteur (Fluzone Quadrivalent)
  - GlaxoSmithKline (Fluarix Quadrivalent)
  - GlaxoSmithKline (FluLaval Quadrivalent)
  - Seqirus (Afluria Quadrivalent)
  - Sanofi Pasteur (Fluzone High-Dose Quadrivalent)
- Quadrivalent cell-culture based influenza vaccine (ccIIV4): Seqirus (Flucelvax Quadrivalent).
- Live-attenuated influenza vaccine, quadrivalent (LAIV4): AstraZeneca (FluMist Quadrivalent).
- Adjuvanted inactivated influenza vaccine, quadrivalent (aIIV4): Sequirus (Fluad Quadrivalent).
- Recombinant hemagglutinin (HA) influenza vaccine (RIV4): Sanofi Pasteur (FluBlok Quadrivalent).

Vaccination of all persons aged ≥6 months is recommended. Not all influenza vaccines are uniformly available in any given practice setting or geographic locality. ACIP recommends that adults aged ≥65 years preferentially receive an enhanced influenza vaccine (EIV) to improve their immunity. Any one of the following enhanced vaccines are preferred for this group: quadrivalent high-dose inactivated influenza vaccine (HD-IIV4), RIV4, or aIIV4. If none of these three vaccines is available at an opportunity for vaccine administration, then any other age-appropriate influenza vaccine can be used. Vaccination should not be delayed to obtain a specific product when an appropriate one is already available. To avoid missed opportunities for vaccination, providers should offer vaccination during routine health care visits and hospitalizations when vaccine is available. See Table 2 for a list of contraindications and precautions to receipt of influenza vaccine.

We are not aware of any supply issues. In the event of a shortfall in production or a delay in the delivery of an adequate supply of vaccine, you will be notified of any official prioritization of high-risk groups. If such an event should occur, a Prioritization Plan will be distributed. If needed, this plan will provide a sequence of prioritization for you to follow to assure that high-risk individuals receive their influenza vaccinations first. Because the annual supply and timing of distribution of influenza vaccine cannot be guaranteed, we continue to stress the importance of local partnerships. The recent history of vaccine delivery delays and shortages emphasizes the need for local coalitions to help coordinate redistribution and administration of influenza vaccine. Vaccines.gov may be used to identify a location (for example, clinic or community pharmacy) to receive influenza vaccine.

The 2023–2024 ACIP Recommendations include two principal updates:

1. The compositions of the 2023–2024 U.S. seasonal influenza vaccines includes updates to the influenza A(H1N1)pdm09 components.

Quadrivalent egg-based vaccine will contain:

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

Cell culture-based or recombinant vaccine will contain:

- A/Wisconsin/67/2022 (H1N1)pdm09-like virus (updated).
- A/Darwin/6/2021 (H3N2)-like virus.

- B/Austria/1359417/2021 (Victoria lineage)-like virus.
- B/Phuket/3073/2013 (Yamagata lineage)-like virus.

2. Regarding influenza vaccination of persons with egg allergy, ACIP recommends that all persons aged ≥6 months with egg allergy should receive influenza vaccine. Any influenza vaccine (egg based or nonegg based) that is otherwise appropriate for the recipient's age and health status can be used. It is no longer recommended that persons who have had an allergic reaction to egg involving symptoms other than urticaria should be vaccinated in an inpatient or outpatient medical setting supervised by a health care provider who is able to recognize and manage severe allergic reactions if an egg-based vaccine is used. Egg allergy along necessitates no additional safety measures for influenza vaccination beyond those recommended for any recipient of any vaccine, regardless of severity of previous reaction to egg. All vaccines should be administered in settings in which personnel and equipment needed for rapid recognition and treatment of acute hypersensitivity reactions are available.

Influenza vaccination of children aged 6 months through 8 years
All children aged 6 months through 8 years who are recommended to receive two doses this season should receive their first dose as soon as possible after vaccine becomes available; these children should receive the second dose ≥4 weeks later (Figure 1). This practice increases the opportunity for both doses to be administered during the same influenza season and before the onset of influenza activity.

Influenza vaccination of pregnant women

- Vaccination during pregnancy has been demonstrated to protect infants from influenza, including infants aged <6 months for whom no influenza vaccines are currently licensed. Specifically, infants born to vaccinated women had a 63% reduction in laboratory-confirmed influenza illness during the first six months of life (2,3).
- The ACIP, the American College of Obstetricians and Gynecologists (ACOG), and the American Academy of Family Physicians (AAFP) recommend that all women who are pregnant or who might be pregnant during the upcoming influenza season receive IIV because of an increased risk of serious illness and complications from influenza. LAIV is not recommended for use during pregnancy.
- Information about influenza vaccination during pregnancy and guidance on how to address concerns that patients may have about influenza vaccination is available at: https://www.cdc.gov/flu/professionals/vaccination/vaccination-possible-safety-signal.html

Influenza vaccination of persons with a history of egg allergy
For the 2023–2024 influenza season, ACIP recommends the following:
1. ACIP recommends that all persons aged ≥6 months with egg allergy should receive influenza vaccine. Any influenza vaccine (egg based or nonegg based) that is otherwise appropriate for the recipient's age and health status can be used.2. It is no longer recommended that persons who have had an allergic reaction to egg involving symptoms other than urticaria should be vaccinated in an inpatient or outpatient medical setting supervised by a health care provider who is able to recognize and manage severe allergic reactions if an egg-based vaccine is used. Egg allergy alone necessitates no additional safety measures for influenza vaccination beyond those recommended for any recipient of any vaccine, regardless of severity of previous reaction to egg. All vaccines should be administered in settings in which personnel and equipment needed for rapid recognition and treatment of acute hypersensitivity reactions are available.

If you have questions, please contact your Regional Immunization Program Representative:

Shayna Nickell	Eau Claire Regional Office	608-692-3541
Susan Nelson	Green Bay Regional Office	920-448-5231
Wilmot Valhmu	Madison Central Office	608-266-0008

Monica Thakur	Milwaukee Regional Office	414-227-3995
Christie Larmie	Rhinelander Regional Office	715-365-2709

References

1. Kroger A, Bahta L, Long S, Sanchez P. General Best Practice Guidelines for Immunization. Best Practices Guidance of the Advisory Committee on Immunization Practices (ACIP). [www.cdc.gov/vaccines/hcp/acip-recs/general-recs/downloads/general-recs.pdf]. Accessed on August 25, 2023.

2. Zaman K, Roy E, Arifeen SE, et al. Effectiveness of maternal influenza immunization in mothers and infants. N Engl J Med 2008;359:1555–64.

3. Tapia MD, Sow SO, Tamboura B, et al. Maternal immunisation with trivalent inactivated influenza vaccine for prevention of influenza in infants in Mali: a prospective, active-controlled, observer-blind, randomised phase 4 trial. Lancet Infect Dis. 2016;16(9):1026-1035.

4. Buchan SA, Booth S, Scott AN, et al. Effectiveness of live attenuated vs inactivated influenza vaccines in children during the 2012-2013 through 2015-206 influenza seasons in Alberta, Canada. JAMA Pediatr. 2018;172(9):e181514.doi:10.1001/jamapediatrics.2018.1514

TABLE 1. Influenza vaccines, by formulation—United States, 2023–2024 influenza season*

Trade name	Manufacturer	Presentation	Mercury (from thimerosal) (μg/0.5 mL)	Age indication	Route	HA (IIVs and RIV4) or virus count (LAIV4) for each vaccine virus (per dose)
Inactivated influenza vaccine, quadrivalent (IIV4), standard dose, egg based†						
Afluria Quadrivalent	Seqirus	0.5 mL PFS§	--**	≥3 yrs§	IM¶	15 μg/0.5 mL
		5.0 mL MDV§	24.5	≥6 mos§ (needle/ syringe)	IM¶	7.5 μg/0.25 mL
				18-64 yrs (jet injector)		15 μg/0.5 mL
Fluarix Quadrivalent	GlaxoSmithKline	0.5 mL PFS	--	≥6 mos	IM¶	15 μg/0.5 mL
FluLaval Quadrivalent	GlaxoSmithKline	0.5 mL PFS	--	≥6 mos	IM¶	15 μg/0.5 mL
Fluzone Quadrivalent	Sanofi Pasteur	0.5 mL PFS††	--	≥6 mos††	IM¶	15 μg/0.5 mL
		0.5 mL SDV††	--	≥6 mos††	IM¶	15 μg/0.5 mL
		5.0 mL MDV††	25	≥6 mos††	IM¶	7.5 μg/0.25 mL
						15 μg/0.5 mL
Inactivated influenza vaccine, cell culture-based quadrivalent (ccIIV4), standard dose						
Flucelvax Quadrivalent	Seqirus	0.5 mL PFS	--	≥6 mos	IM¶	15 μg/0.5 mL
		5.0 mL MDV	25	≥6 mos	IM¶	15 μg/0.5 mL
Adjuvanted inactivated influenza vaccine, quadrivalent (aIIV4), standard dose, egg based†						
Fluad	Seqirus	0.5 mL PFS	--	≥65 yrs	IM¶	15 μg/0.5 mL
Inactivated influenza vaccine, quadrivalent (HD-IIV4), high dose, egg based†						
Fluzone High-Dose	Sanofi Pasteur	0.7 mL PFS	--	≥65 yrs	IM¶	60 μg/0.7 mL
Recombinant influenza vaccine, quadrivalent (RIV4)						
FluBlok Quadrivalent	Sanofi Pasteur	0.5 mL PFS	--	≥18 yrs	IM¶	45 μg/0.5 mL
Live attenuated influenza vaccine, quadrivalent (LAIV4), egg based†						
FluMist Quadrivalent	AstraZeneca	0.2 mL prefilled single-use intranasal sprayer	--	2–49 yrs	NAS	$10^{6.5\text{-}7.5}$ fluorescent focus units/0.2 mL

Abbreviations: ACIP = Advisory Committee on Immunization Practices; FDA = Food and Drug Administration; HA = hemagglutinin; IIV4 = inactivated influenza vaccine, quadrivalent; IM = intramuscular; LAIV4 = live attenuated influenza vaccine, quadrivalent; MDV = multidose vial; NAS = intranasal; PFS = prefilled syringe; RIV4 = recombinant influenza vaccine, quadrivalent; SDV = single-dose vial.

* Manufacturer package inserts and updated CDC and ACIP guidance should be consulted for additional information concerning, but not limited to, indications, contraindications, warnings, and precautions. Package inserts for U.S.-licensed vaccines are available at https://www.fda.gov/vaccines-blood-biologics/vaccines/vaccines-licensed-use-united-states. Availability and characteristics of specific products and presentations might change or differ from what is described in this table and in the text of this report.

† Although a history of severe allergic reaction (for example, anaphylaxis) to egg is a labeled contraindication to the use of

egg-based IIV4s and LAIV4, ACIP recommends that persons with a history of egg allergy may receive any licensed, recommended influenza vaccine that is otherwise appropriate for their age and health status. [§] The approved dose volume for Afluria Quadrivalent is 0.25 mL for children aged 6 through 35 months and 0.5 mL for persons aged ≥3 years. However, 0.25-mL prefilled syringes are not expected to be available. For children aged 6 through 35 months, a 0.25-mL dose must be obtained from a multidose vial.

[¶] IM-administered influenza vaccines should be given by needle and syringe only, with the exception of the MDV presentation of Afluria Quadrivalent, which may alternatively be given by the PharmaJet Stratis jet injector for persons aged 18 through 64 years only. For adults and older children, the recommended site for intramuscular influenza vaccination is the deltoid muscle. The preferred site for infants and young children is the anterolateral aspect of the thigh. Additional specific guidance regarding site selection and needle length for intramuscular administration is available in the ACIP General Best Practice Guidelines for Immunization.

** Not applicable.

[††] Fluzone Quadrivalent is currently approved for ages 6 through 35 months at either 0.25 mL or 0.5 mL per dose; however, 0.25-mL prefilled syringes are no longer available. If a prefilled syringe of Fluzone Quadrivalent is used for a child in this age group, the dose volume will be 0.5 mL per dose.

TABLE 2. Contraindications and precautions to the use of influenza vaccines—United States, 2023–2024 influenza season*

Vaccine	Contraindications	Precautions
Egg-based IIV4s	History of severe allergic reaction (for example, anaphylaxis) to any component of the vaccine[†] or to a previous dose of any influenza vaccine (that is, any egg-based IIV, ccIIV, RIV, or LAIV)[§]	Moderate or severe acute illness with or without fever History of Guillain-Barré syndrome within six weeks of receipt of influenza vaccine
ccIIV4	History of severe allergic reaction (for example, anaphylaxis) to a previous dose of any ccIIV or any component of ccIIV4[§]	Moderate or severe acute illness with or without fever History of Guillain-Barré syndrome within six weeks of receipt of influenza vaccine History of severe allergic reaction to a previous dose of any other influenza vaccine (that is, any egg-based IIV, RIV, or LAIV)[¶]
RIV4	History of severe allergic reaction (for example, anaphylaxis) to a previous dose of any RIV or any component of RIV4[§]	Moderate or severe acute illness with or without fever History of Guillain-Barré syndrome within six weeks of receipt of influenza vaccine History of severe allergic reaction to a previous dose of any other influenza vaccine (that is, any egg-based IIV, ccIIV, or LAIV)[¶]
LAIV	History of severe allergic reaction (for example, anaphylaxis) to any component of the vaccine[†] or to a previous dose of any influenza vaccine (that is, any egg-based IIV, ccIIV, RIV, or LAIV)[§] Concomitant aspirin or salicylate-containing therapy in children and adolescents[§] Children aged 2 through 4 years who have received a diagnosis of asthma or whose parents or caregivers report that a health care provider has told them during the preceding 12 months that their child had wheezing or asthma or whose medical record indicates a wheezing episode has occurred during the preceding 12 months Children and adults who are immunocompromised due to any cause, including but not limited to immunosuppression caused by medications, congenital or acquired immunodeficiency states, HIV infection, anatomic asplenia, or functional asplenia (for example, due to sickle-cell anemia)	Moderate or severe acute illness with or without fever History of Guillain-Barré syndrome within six weeks of receipt of influenza vaccine Asthma in persons aged ≥5 years Other underlying medical conditions that might predispose to complications after wild-type influenza infection (for example, chronic pulmonary, cardiovascular [except isolated hypertension], renal, hepatic, neurologic, hematologic, or metabolic disorders [including diabetes mellitus])

	Close contacts and caregivers of severely immunosuppressed persons who require a protected environment Pregnancy Persons with active communication between the CSF and the oropharynx, nasopharynx, nose, or ear or any other cranial CSF leak Persons with cochlear implants** Receipt of influenza antiviral medication within the previous 48 hours for oseltamivir and zanamivir, previous 5 days for peramivir, and previous 17 days for baloxavir††	

Abbreviations: ACIP = Advisory Committee on Immunization Practices; ccIIV = cell culture–based inactivated influenza vaccine (any valency); ccIIV4 = cell culture–based inactivated influenza vaccine, quadrivalent; CSF = cerebrospinal fluid; FDA = Food and Drug Administration; IIV = inactivated influenza vaccine (any valency); IIV4 = inactivated influenza vaccine, quadrivalent; LAIV = live attenuated influenza vaccine (any valency); LAIV4 = live attenuated influenza vaccine, quadrivalent; RIV = recombinant influenza vaccine (any valency); RIV4 = recombinant influenza vaccine, quadrivalent.

* Manufacturer package inserts and updated CDC and ACIP guidance should be consulted for additional information concerning, but not limited to, indications, contraindications, warnings, and precautions. When a contraindication is present, a vaccine should not be administered. When a precaution is present, vaccination should generally be deferred but might be indicated if the benefit of protection from the vaccine outweighs the risk for an adverse reaction (see the General Best Practice Guidelines for Immunization, available at https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html). Package inserts for U.S.-licensed vaccines are available at https://www.fda.gov/vaccines-blood-biologics/vaccines/vaccines-licensed-use-united-states.

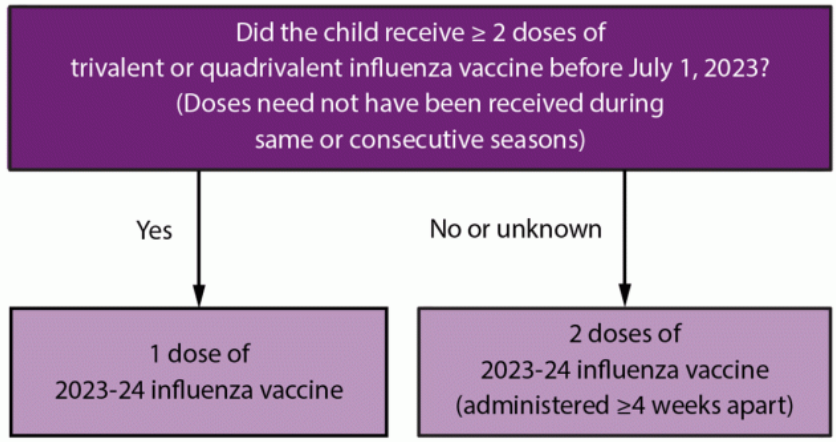
† Although a history of severe allergic reaction (for example, anaphylaxis) to egg is a labeled contraindication to the use of egg-based IIV4s and LAIV4, ACIP recommends that persons with a history of egg allergy may receive any licensed, recommended influenza vaccine that is otherwise appropriate for their age and health status. § Labeled contraindication noted in package insert.

¶ If administered, vaccination should occur in a medical setting and should be supervised by a health care provider who can recognize and manage severe allergic reactions. Providers can consider consultation with an allergist in such cases, to assist in identification of the component responsible for the allergic reaction.

** Age-appropriate injectable vaccines are recommended for persons with cochlear implant due to the potential for CSF leak, which might exist for a period after implantation. Providers might consider consultation with a specialist concerning risk for persistent CSF leak if an age-appropriate inactivated or recombinant vaccine cannot be used.

†† Use of LAIV4 in context of influenza antivirals has not been studied; however, interference with activity of LAIV4 is biologically plausible, and this possibility is noted in the package insert for LAIV4. In the absence of data supporting an adequate minimum interval between influenza antiviral use and LAIV4 administration, the intervals provided are based on the half-life of each antiviral. The interval between influenza antiviral receipt and LAIV4 for which interference might potentially occur might be further prolonged in the presence of medical conditions that delay medication clearance (for example, renal insufficiency). Influenza antivirals might also interfere with LAIV4 if initiated within two weeks after vaccination. Persons who receive antivirals during the period starting with the specified time before receipt of LAIV4 through two weeks after receipt of LAIV4 should be revaccinated with an age-appropriate IIV or RIV4.

FIGURE 1. Influenza vaccine dosing algorithm for children aged 6 months through 8 years[*]—Advisory Committee on Immunization Practices, United States, 2023–2024 influenza season



* Children aged 6 months through 8 years who require two doses of influenza vaccine should receive their first dose as soon as possible (including during July and August, if vaccine is available) to allow the second dose (which must be administered greater than or equal to four weeks later) to be received, ideally, by the end of October. For children aged 8 years who require two doses of vaccine, both doses should be administered even if the child turns age 9 years between receipt of dose 1 and dose 2.