Long-Term Care Updates

October 2022

Influenza Vaccine Recommendation Updates for 2022-2023

By Andrea Stafford, PharmD Candidate and Shana Castillo, PharmD, MBA

Updated recommendations by the Advisory Committee on Immunization Practices (ACIP) for the prevention of seasonal influenza were published in August 2022. Three major updates were noted: changes to the influenza vaccine composition, influenza vaccine availability, and a preferential recommendation for adults 65 years of age and older.[1]

Vaccine Composition

For the 2022-2023 season, changes to the influenza vaccine were made to both the A and B strain components. Every vaccine is quadrivalent, containing two A strains and two B strains.[1] Table 1 details the composition.

Table 1. Influenza vaccine composition - 2022-2023 season[1]

Component	Egg-based vaccines (IIV4 and LAIV4)	Cell cultured and re-combinant vaccines (ccIIV4 and RIV4)
A/Victoria/2570/2019 (H1N1)	X	
A/Wisconsin/588/2019 (H1N1)		X
A/Darwin/9/2021 (H3N2)*	X	
A/Darwin/6/2021 (H3N2)*		X
B/Austria/1359417/2021 (Victoria lineage)*	X	X
B/Phuket/3073/2013 (Yamagata lineage)	X	X

*Changed from the previous season

Abbreviations: IIV4 – quadrivalent inactivated influenza vaccine; LAIV4 – quadrivalent live attenuated influenza vaccine; ccIIV4 – quadrivalent cell cultured inactivated influenza vaccine; RIV4 – quadrivalent recombinant influenza vaccine

Vaccine Availability

Available influenza vaccine products for the 2022-2023 season can be found in Table 2. One labeling change has been updated for this season: Flucelvax (ccIIV4) is newly approved for ages 6 months and above.[1]

Table 2. Influenza vaccines for the 2022-2023 season[2]

Brand name	Formulation	Age indication
IIV4		
Afluria Quadrivalent	0.5mL prefilled syringe	≥3 years
	5mL multidose vial	≥6 months (dose is 0.25mL for ages 6 through 35 months) (jet injector only approved for 18 to 64 years)
Fluarix Quadrivalent	0.5mL prefilled syringe	≥6 months
FluLaval Quadrivalent	0.5mL prefilled syringe	≥6 months
Fluzone Quadrivalent	0.5mL prefilled syringe	≥6 months
	0.5mL prefilled syringe	≥6 months
	5mL multidose vial	≥6 months (dose is 0.25mL or 0.5mL for ages 6 through 35 months)
ccIIV4		
Flucelvax Quadrivalent	0.5mL prefilled syringe	≥6 months
	5mL multidose vial	≥6 months
HD-IIV4		
Fluzone High-Dose Quadrivalent	0.7mL prefilled syringe	≥65 years
aIIV4		
Fluad Quadrivalent	0.5mL prefilled syringe	≥65 years
RIV4		
Flublok Quadrivalent	0.5mL prefilled syringe	≥18 years
LAIV4		
FluMist Quadrivalent	0.2mL prefilled single-use intranasal sprayer	2 through 49 years

Abbreviations: IIV4 – quadrivalent inactivated influenza vaccine; ccIIV4 – quadrivalent cell cultured inactivated influenza vaccine; HD-IIV4 – quadrivalent high-dose inactivated influenza vaccine; aIIV4 – quadrivalent adjuvanted inactivated influenza vaccine; RIV4 – quadrivalent recombinant influenza vaccine; LAIV4 – quadrivalent live attenuated influenza vaccine

Preferential Recommendation for Adults ≥65 Years

Older adults, aged ≥65 years are at an increased risk for severe influenza illness, hospitalization, and death when compared to younger populations. The older population may also experience decreased efficacy from the influenza vaccine; therefore, adults ≥65 years should preferentially receive any one of the following higher dosed or adjuvanted influenza vaccines: quadrivalent high-dose inactivated influenza vaccine (HD-IIV4), quadrivalent recombinant influenza vaccine (RIV4), or quadrivalent adjuvanted inactivated influenza vaccine (aIIV4). If these are unavailable at the time of vaccination, ACIP recommends administration with any other appropriate influenza vaccine. Timing of vaccination is important due to the variation of influenza activity. Considerations for most adults, but particularly for those aged ≥65 years is that vaccination during July and August should be avoided unless there is concern that vaccination later in the season might not be possible.[1]

Efficacy, effectiveness, and safety of HD-IIV, RIV, and aIIV versus nonadjuvanted SD-IIVs and each of these three vaccines with one another was reviewed with a focus on published studies performed during non-pandemic influenza seasons. HD-IIV, RIV, and aIIV have shown relative benefit compared to nonadjuvanted SD-IIVs in certain studies, with the most evidence available for HD-IIV3. Studies directly comparing HD-IIV, RIV, and aIIV with one another are few and do not show support that one is superior.[1]

Randomized studies comparing HD-IIV, RIV, and aIIV with nonadjuvanted SD-IIVs found that HD-IIV3 was more effective than SD-IIV3 in the prevention of polymerase chain reaction (PCR) or culture-confirmed influenza-like illness (ILI) among 32,000 patients ≥ 65 years of age with 24% relative efficacy and a high certainty level. Two additional single-season randomized trials assessing RIV3 or RIV4 versus nonadjuvanted SD-IIV3 to determine prevention of culture-confirmed ILI or PCR-confirmed ILI, respectively, did not demonstrate relative benefit of RIV among those aged ≥65 years. A study did note a relative benefit of RIV4 over nonadjuvanted SD-IIV4 in prevention of PCR-confirmed influenza among the adult population aged ≥50 years and against culture-confirmed ILI among those aged ≥65 years.[1]

An additional randomized study was reviewed to compare HD-IIV, RIV, and aIIV with nonadjuvanted SD-IIVs in the prevention of influenza-associated hospitalizations and other serious events; however, no data was available with influenza-associated hospitalizations as a primary outcome. In the analysis of a two-season randomized trial of HD-IIV3 versus nonadjuvanted SD-IIV3 assessing serious adverse events and a post hoc analysis of pneumonia- and influenza-related hospitalizations comparing HD-IIV3 versus nonadjuvanted SD-IIV4, there was no difference in the risk for these events between both groups. However, an additional cluster-randomized study conducted among U.S. nursing homes noted a benefit of HD-IIV3 relative to nonadjuvanted SD-IIV3 in the prevention of pneumonia and influenza hospitalizations.[1]

Observational studies comparing HD-IIV, RIV, and aIIV with nonadjuvanted SD-IIVs in the prevention of influenza-associated deaths and hospitalizations, as well as the effectiveness of each vaccine with one another were reviewed, with many assessing diagnostic codes versus laboratory confirmed. Overall, they found modest relative benefit in the prevention of influenza-associated hospitalizations for HD-IIV3 and aIIV3 versus nonadjuvanted SD-IIV3s. A retrospective analysis of relative effectiveness of RIV4 versus SD-IIV4 against influenza-coded hospitalizations among Medicare beneficiaries during the 2019-20 season noted relative effectiveness. Two retrospective cohort studies over three seasons noted relative benefit of HD-IIV3 compared with nonadjuvanted SD-IIV3 for influenza-code defined deaths. A retrospective cohort analysis noted relative effectiveness of RIV4 compared with HD-IIV3 and with aIIV3. However, data does not point to a consistent relative benefit of one of these three influenza vaccines over another.[1]

Lastly, safety was studied through comparative studies. Certain injection site and systemic reactions were observed more frequently in older patients vaccinated with HD-IIV3 and aIIV3 when compared with nonadjuvanted SD-IIV3. When comparing RIV4 versus nonadjuvanted SD-IIV4 among people ≥50 years, frequencies of injection site reactions were similar or lower among RIV4 patients and frequency of fever and serious adverse events (SAE) were similar. A randomized trial that compared the safety of aIIV3 with HD-IIV3 in 757 adults aged ≥65 years reported moderate to severe injection site reactions that limited activity after aIIV3 (12 participants [3.2%]) and was noninferior to HD-IIV3 (22 participants [5.8%]). No patient sought medical care for a reaction, and none had a SAE related to vaccine within 43 days as determined by the study.[1]

Conclusion

Consistent with past years, changes were made to the influenza vaccine composition to match the anticipated circulating strains more closely, and the Centers for Disease Control and Prevention have provided updated vaccine availability for the current season. For persons ≥65 years of age, ACIP is now preferentially recommending vaccination with HD-IIV4, aIIV4, or RIV4. Evidence has shown a relative benefit with the use of these vaccines in the geriatric population versus nonadjuvanted SD-IIV vaccines. However, one study showed more injection site and systemic reactions with HD-IIV3 and aIIV3 when compared to nonadjuvanted SD-IIV3 in older patients. When compared to each other, data does not consistently point to a relative benefit of HD-IIV4, aIIV4, or RIV4 over one another. ACIP also notes that if these vaccines are unavailable at the time of vaccination, administration with any other appropriate influenza vaccine is recommended.

References

1. Grohskopf LA, Blanton LH, Ferdinands JM, et al. Prevention and control of seasonal influenza with vaccines: Recommendations of the Advisory Committee on Immunization Practices - United States, 2022-23 Influenza Season. *MMWR Recomm Rep*. 2022;71(1):1-28.
2. Centers for Disease Control and Prevention. Influenza Vaccines – United States, 2022-23 Season. https://www.cdc.gov/flu/professionals/acip/2022-2023/acip-table.htm. Updated August 24, 2022. Accessed September 28, 2022.