



What Happened to Influenza Last Season?

What Will Happen This Season?

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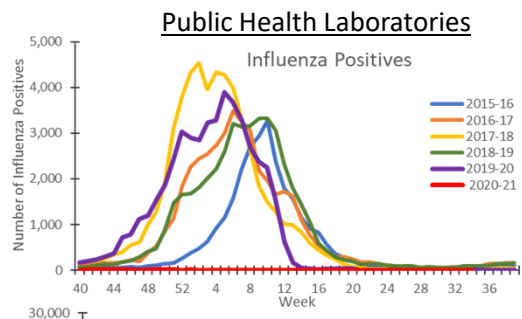
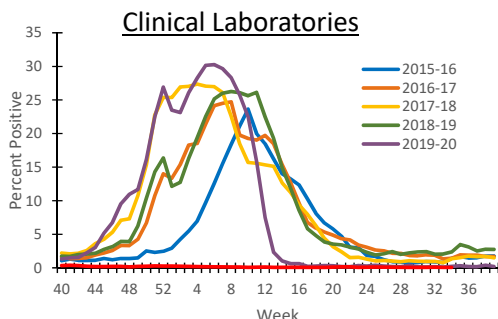
Outline

- Influenza Activity 2020-2021
 - U.S. influenza activity
 - International influenza activity

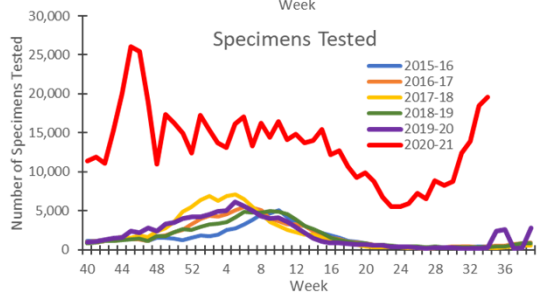
- Looking ahead to 2021-2022
 - What can we expect?
 - Two important preparations

Influenza Activity: 2020-2021

Virologic Surveillance: Influenza Tests Reported to CDC National Summary, 2015-2016 through 2020-2021*

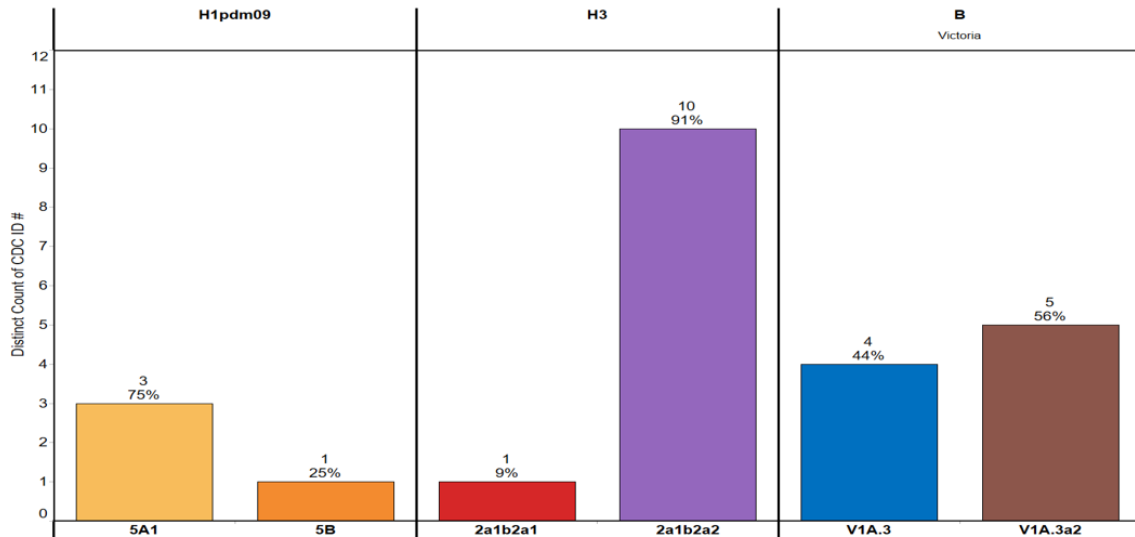


	Specimens Tested	Influenza Positives	Peak % Positive	Total % Positive
2015-16	770,455	70,291	23.6	9.1
2016-17	1,028,886	133,497	24.7	13.0
2017-18	1,373,123	238,063	27.4	17.3
2018-19	1,294,800	181,531	26.2	14.0
2019-20	1,491,430	250,396	30.3	16.8
Average	1,191,739	174,756	26.4	14.0
Median	1,294,800	181,531	26.2	14.0
2020-21	1,476,485	2,261	0.4	0.2

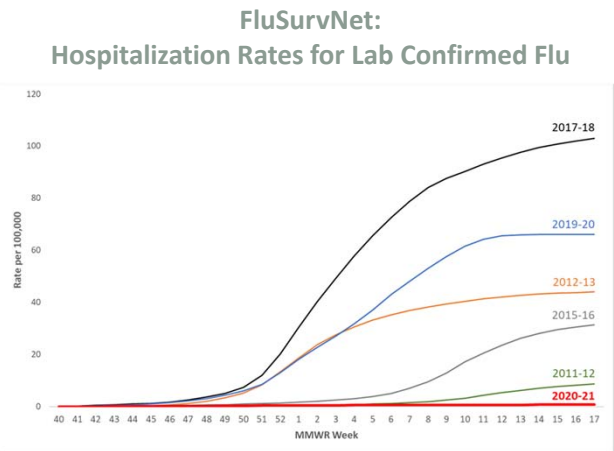
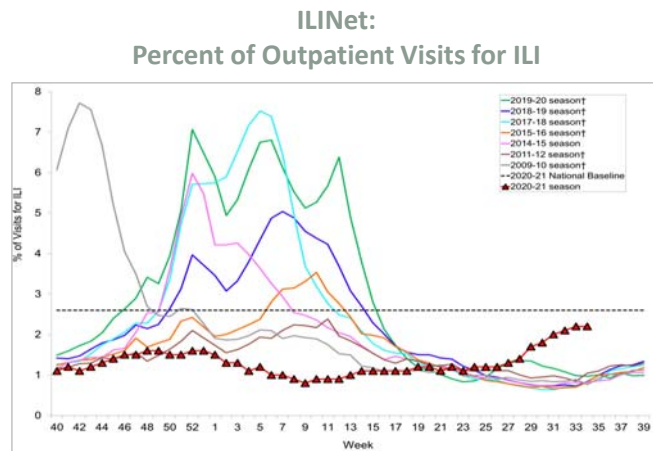


* Data through August 28, 2021; reported to CDC as of September 1, 2021.

Seasonal Influenza Virus Genetic Characterization US viruses collected since September 27, 2020



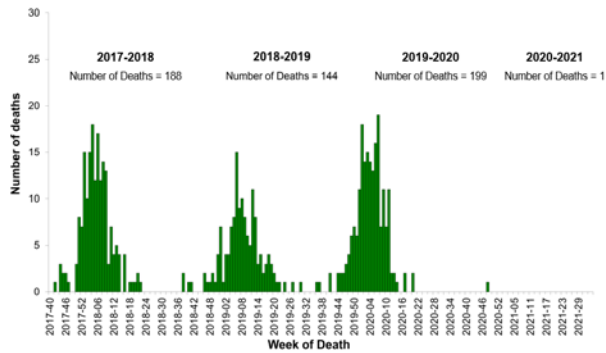
Morbidity Surveillance: Outpatient Illness and Hospitalization National Summary, 2020-2021* and Select Previous Seasons



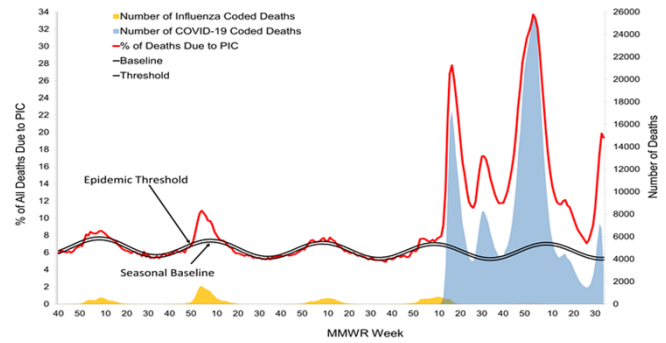
* Data through August 28, 2021; reported to CDC as of September 1, 2021.

Mortality Surveillance: Influenza-Associated Pediatric Deaths and NCHS Mortality Surveillance System; 2017-2018 through 2020-2021* Seasons

Influenza-Associated Pediatric Deaths

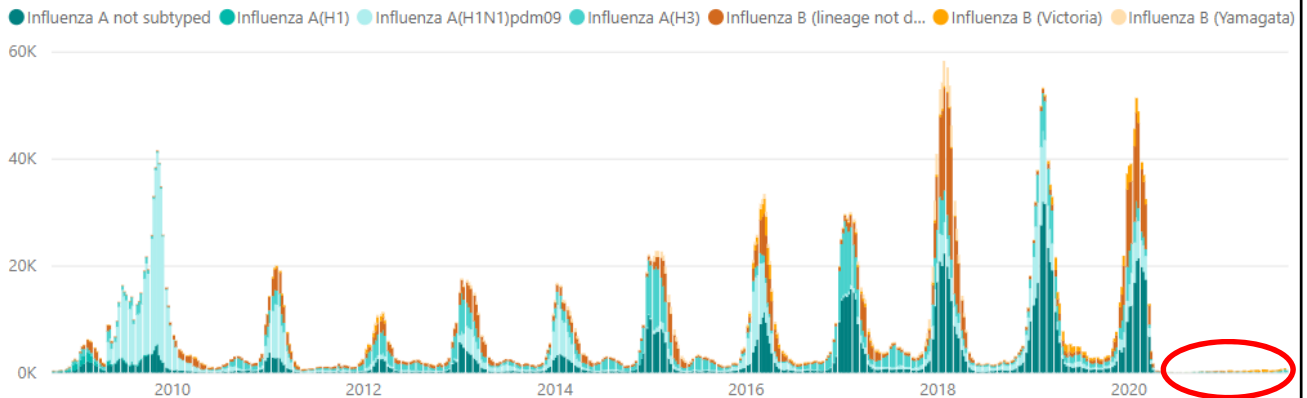


NCHS Mortality Surveillance System



* Data through August 28, 2021; reported to CDC as of September 1, 2021.

Global Influenza Surveillance and Response System (GISRS) Influenza Positives Worldwide October 2008 through August 2021

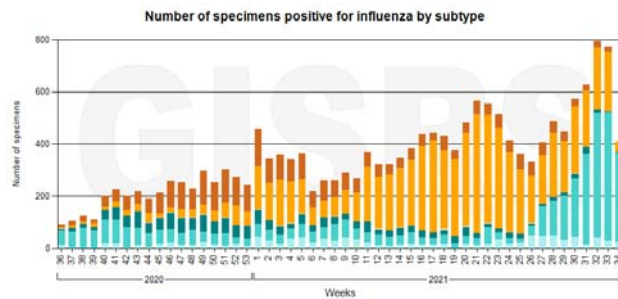


<https://www.who.int/teams/global-influenza-programme/surveillance-and-monitoring/influenza-surveillance-outputs>

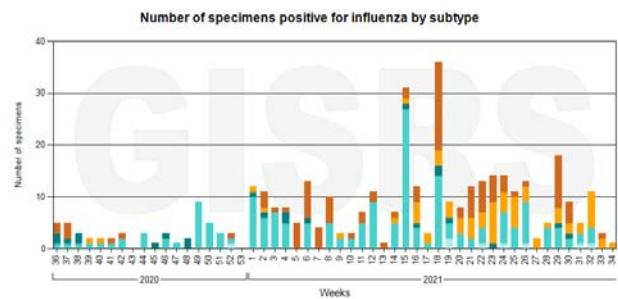
Global Influenza Surveillance and Response System (GISRS) Influenza Positives, by Hemisphere September 2020 - August 2021



Northern Hemisphere



Southern Hemisphere



<https://www.who.int/tools/flunet>

What Happened to Influenza?

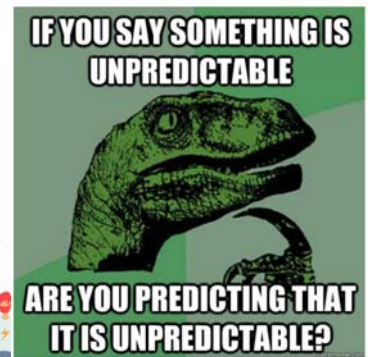
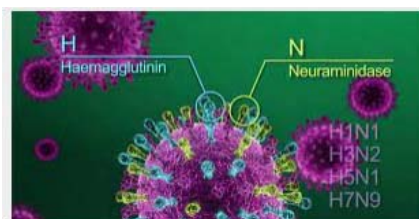
- Influenza activity was at an unusually low level
 - U.S. and worldwide
- COVID-19 mitigation measures played a significant role.
 - Decreased travel domestically and internationally
 - Remote learning and telework
 - Social distancing, mask wearing, hand washing
 - Staying home while ill
- Influenza vaccination also provided another layer of protection.
- Viral interference may have played a role.



What's next?



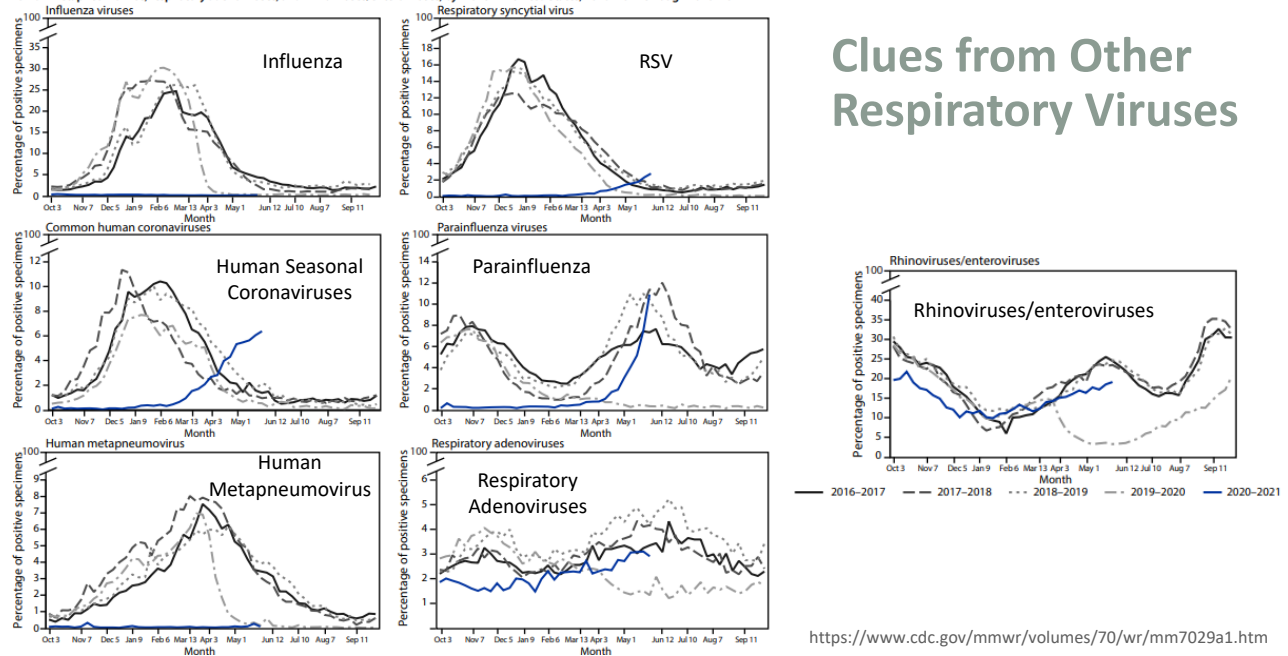
Influenza is unpredictable!



Changing Landscape of COVID-19 Mitigation Measures

- Compared to last year
 - More travel - domestically and internationally
 - More mass/congregate settings
 - Sporting events, concerts, church etc.
 - More in person work and school
 - Less mask use
 - On the plus side - COVID-19 vaccine

FIGURE 2. Percentage of specimens testing positive for influenza viruses, respiratory syncytial virus, common human coronaviruses, parainfluenza viruses, human metapneumovirus, respiratory adenoviruses, and rhinoviruses/enteroviruses, by month — United States, 2016–2017 through 2020–2021

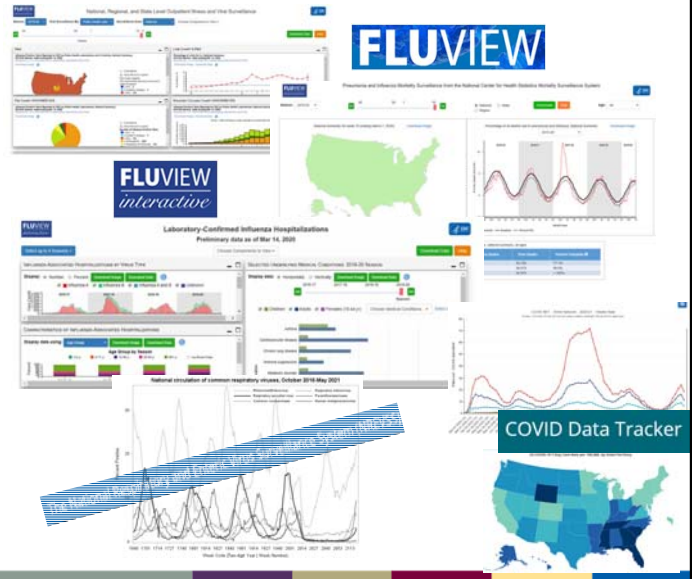


Clues from Other Respiratory Viruses

What We Don't Have



What We Do Have

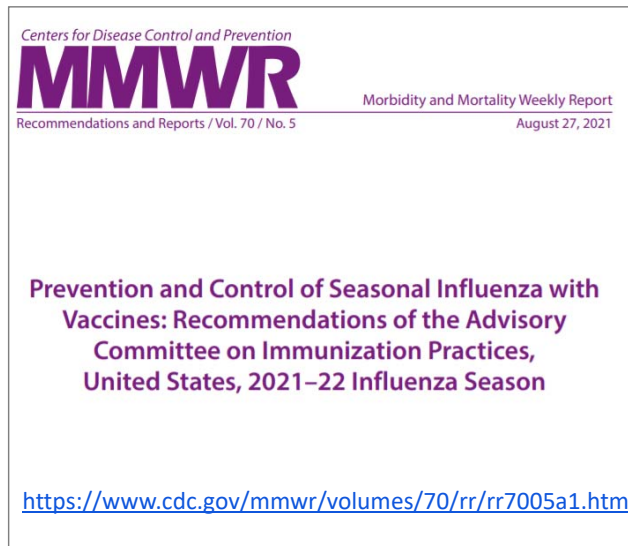


2021-2022 Preparations

Two important fall/winter preparations

- Make sure surveillance systems are running efficiently.
 - We need to know what is going on so we can respond appropriately.
- Influenza vaccination
 - Primary method of preventing influenza infection and illness
 - Even more important this season

Advisory Committee on Immunization Practices (ACIP): Influenza Vaccine Recommendations



ACIP Influenza Recommendations: Key Updates (1)

- Importance of influenza vaccination this season
 - Reducing the prevalence of illness caused by influenza will reduce symptoms that might be confused with those of COVID-19.
 - Prevention of influenza illness and reduction in its severity could alleviate stress on the U.S. health care system.

- Guidance for vaccine planning during the pandemic
 - <https://www.cdc.gov/vaccines/pandemic-guidance/index.html>

ACIP Influenza Recommendations: Key Updates (2)

- Vaccine Strains
 - **A/H1pdm09** - *Updated*
 - A/Victoria/2570/2019 (H1N1)pdm09-like virus (egg)
 - A/Wisconsin/588/2019 (H1N1)pdm09-like virus (cell or recombinant)
 - **A/H3N2** – *Updated*
 - A/Cambodia/e0826360/2020 (H3N2)-like virus (egg, cell or recombinant)
 - **B/Victoria** – No change
 - B/Washington/02/2019 (B/Victoria lineage)-like virus (egg, cell, recombinant)
 - **B/Yamagata** – No change
 - B/Phuket/3073/2013 (B/Yamagata lineage)-like virus (egg, cell, recombinant)

ACIP Influenza Recommendations: Key Updates (3)

- All influenza vaccines available in the U.S. this season are quadrivalent.
- Age indication for Flucelvax Quadrivalent (the cell culture-based inactivated flu vaccine [ccIV4]) expanded from ≥ 4 years to ≥ 2 years.

TABLE 1. Influenza vaccines — United States, 2021–22 influenza season*

Trade name (manufacturer)	Presentations	Age indication	μg HA (IIV4s and RIV4) or virus count (LAIV4) for each vaccine virus (per dose)	Route	Mercury (from thimerosal, if present), $\mu\text{g}/0.5\text{ mL}$
IIV4 (standard-dose, egg-based vaccines[†])					
Afluria Quadrivalent (Seqirus)	0.25-mL PFS [§]	6 through 35 mos [§]	7.5 $\mu\text{g}/0.25\text{ mL}$	IM [¶]	—
	0.5-mL PFS [§]	$\geq 3\text{ yrs}$ [§]	15 $\mu\text{g}/0.5\text{ mL}$	IM [¶]	—
	5.0-mL MDV [§]	$\geq 6\text{ mos}$ [§] (needle/syringe)	15 $\mu\text{g}/0.5\text{ mL}$	IM [¶]	24.5
		18 through 64 yrs (jet injector)			
Fluarix Quadrivalent (GlaxoSmithKline)	0.5-mL PFS	$\geq 6\text{ mos}$	15 $\mu\text{g}/0.5\text{ mL}$	IM [¶]	—
FluLaval Quadrivalent (GlaxoSmithKline)	0.5-mL PFS	$\geq 6\text{ mos}$	15 $\mu\text{g}/0.5\text{ mL}$	IM [¶]	—
Fluzone Quadrivalent (Sanofi Pasteur)	0.5-mL PFS**	$\geq 6\text{ mos}$ **	15 $\mu\text{g}/0.5\text{ mL}$	IM [¶]	—
	0.5-mL SDV**	$\geq 6\text{ mos}$ **	15 $\mu\text{g}/0.5\text{ mL}$	IM [¶]	—
	5.0-mL MDV**	$\geq 6\text{ mos}$ **	15 $\mu\text{g}/0.5\text{ mL}$	IM [¶]	25
			7.5 $\mu\text{g}/0.25\text{ mL}$		
ccIV4 (standard-dose, cell culture–based vaccine)					
Flucelvax Quadrivalent (Seqirus)	0.5-mL PFS	$\geq 2\text{ yrs}$	15 $\mu\text{g}/0.5\text{ mL}$	IM [¶]	—
	5.0-mL MDV	$\geq 2\text{ yrs}$	15 $\mu\text{g}/0.5\text{ mL}$	IM [¶]	25
HD-IIV4 (high-dose, egg-based vaccine[†])					
Fluzone High-Dose Quadrivalent (Sanofi Pasteur)	0.7-mL PFS	$\geq 65\text{ yrs}$	60 $\mu\text{g}/0.7\text{ mL}$	IM [¶]	—
allIV4 (standard-dose, egg-based[†] vaccine with MF59 adjuvant)					
Fluad Quadrivalent (Seqirus)	0.5-mL PFS	$\geq 65\text{ yrs}$	15 $\mu\text{g}/0.5\text{ mL}$	IM [¶]	—
RIV4 (recombinant HA vaccine)					
Flublok Quadrivalent (Sanofi Pasteur)	0.5-mL PFS	$\geq 18\text{ yrs}$	45 $\mu\text{g}/0.5\text{ mL}$	IM [¶]	—
LAIV4 (egg-based vaccine[†])					
FluMist Quadrivalent (AstraZeneca)	0.2-mL prefilled single-use intranasal sprayer	2 through 49 yrs	$10^{6.5-7.5}$ fluorescent focus units/0.2 mL	NAS	—

ACIP Influenza Recommendations: Key Updates (4)

Table 4: Contraindications and Precautions for Persons with a History of Severe Allergic Reaction to an Influenza Vaccine

Vaccine (of any valency) associated with previous severe allergic reaction (e.g., anaphylaxis)	Available 2021–22 influenza vaccines		
	Egg-based IIV4s and LAIV4	ccIV4	RIV4
Any egg-based IIV or LAIV	Contraindication*	Precaution [†]	Precaution [†]
Any ccIV	Contraindication*	Contraindication*	Precaution [†]
Any RIV	Contraindication*	Precaution [†]	Contraindication*
Unknown influenza vaccine	Allergist consultation recommended		

*When a contraindication is present, a vaccine should not be administered. In addition to the contraindications based on history of severe allergic reaction to influenza vaccines noted in the Table, each individual influenza vaccine is contraindicated for persons who have had a severe allergic reaction (e.g., anaphylaxis) to any component of that vaccine. Vaccine components can be found in package inserts. Although a history of severe allergic reaction (e.g., anaphylaxis) to egg is a labeled contraindication to the use of egg-based IIV4s and LAIV4, ACIP makes an exception for allergy to egg (see *Persons with Egg Allergy*, page 2).

[†]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. Providers can consider using the following vaccines in these instances; however, vaccination should occur in an inpatient or outpatient medical setting with supervision by a health care provider who is able to recognize and manage severe allergic reactions: 1) for persons with a history of severe allergic reaction (e.g., anaphylaxis) to any egg-based IIV or LAIV of any valency, the provider can consider administering ccIV4 or RIV4; 2) for persons with a history of severe allergic reaction (e.g., anaphylaxis) to any ccIV of any valency, the provider can consider administering RIV4; and 3) for persons with a history of severe allergic reaction (e.g., anaphylaxis) to any RIV of any valency, the provider can consider administering ccIV4. Providers can also consider consulting with an allergist to help determine which vaccine component is responsible for the allergic reaction.

- Receipt of ccIV4
 - Precaution – history of severe allergic reaction to previous dose of egg-based IIV, LAIV or RIV
 - Contraindication – history of severe allergic reaction to any previous dose or component of ccIV4

- Receipt of RIV4
 - Precaution – history of severe allergic reaction to previous dose of egg-based IIV, ccIV or LAIV
 - Contraindication – history of severe allergic reaction to any previous dose or component of RIV4

ACIP Influenza Recommendations: Key Updates (5)

- Timing of influenza vaccination
 - Ideally – by the end of October
 - Continue as long as influenza viruses are circulating locally and unexpired vaccine is available.
 - When to start varies
 - Soon after vaccine becomes available
 - Children, especially those 6 months to 8 years requiring 2 doses
 - Pregnant women in their third trimester
 - September or later
 - Non-pregnant adults unless there is concern later vaccination might not be possible

ACIP Influenza Recommendations: Key Updates (6)

- COVID-19 and influenza vaccine considerations
 - No restrictions on administration of COVID-19 and influenza vaccines
 - May be administered simultaneously
 - Avoid using the same anatomical site if injected
 - May be administered with any number of days in between
 - Moderate/severe COVID-19 illness - defer influenza vaccination until recovery
 - Mild COVID-19 illness - may receive influenza vaccine
 - Alternatively, vaccination may be deferred until recover to avoid confusing COVID illness symptoms and post-vaccine reactions.

Summary

Summary

- There were unprecedentedly low levels of flu activity during 2020-2021.
- As always at this time of year, it is not possible to know what the upcoming flu season will look like. But...
 - Social interactions/behaviors are trending more toward pre-pandemic ways.
 - Some other respiratory viruses are returning to more normal circulation levels and/or patterns.
- Flu prevention and monitoring activities will be more important than ever before.

Thank you!

Any questions?

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For more information, contact CDC
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TTY: 1-888-232-6348 www.cdc.gov

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