

Iowa Influenza Surveillance Annual Webinar 2021-22 Season

Iowa Department of Public Health and
the State Hygienic Laboratory at the University of Iowa



Webinar Information

- All participants will be muted during the presentation.
 - Questions can be submitted directly to the facilitator via the Q/A feature located on your control panel
 - All questions submitted will be answered at the end of the presentation
- This session will be recorded and made available for reviewing
 - When available, you will receive a follow-up-email on how to access this recording



Presentation Overview

- Influenza Surveillance Description and Summary
- Influenza and Other Respiratory Outbreaks
- Influenza Vaccination Update
- Laboratory Specimen Collection
- Antiviral Treatment and Prophylaxis



Presenters

- Andy Weigel, LMSW, Influenza Surveillance Coordinator, IDPH
- Nancy Wilde, BS HCM, HAI Coordinator
- Shelly Jensen, RN, BSN, Immunization Nurse Consultant, IDPH
- Jeff Benfer, MS, MB (ASCP)cm, Supervisor of Virology and Molecular Biology, SHL
- Caitlin Pedati, MD, MPH, FAAP Medical Director / State Epidemiologist, IDPH

Influenza Surveillance



IISN Weekly Report

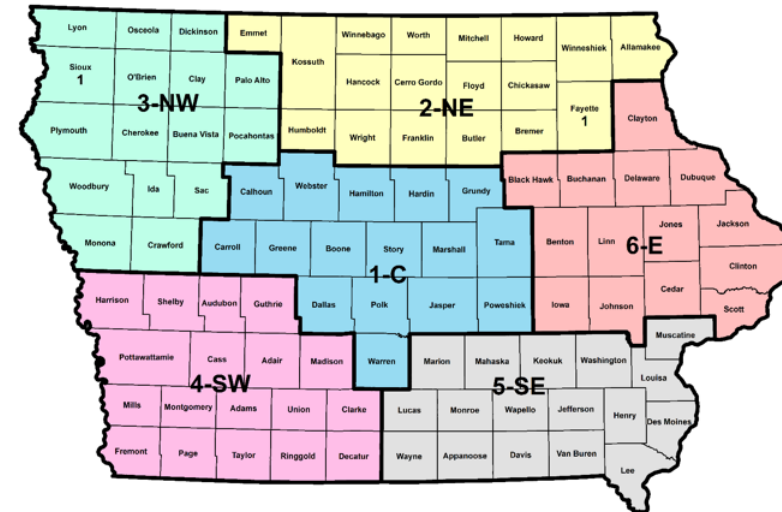


Iowa Influenza Surveillance Network (IISN)
 Influenza-like Illness (ILI) and Other Respiratory Viruses
Weekly Activity Report
 For the week ending May 8, 2021 - MMWR Week 18



All data presented in this report are provisional and may change as additional reports are received

Quick Stats for Week 18				
Predominant Flu at SHL	Lab Survey Flu Positive %	Hospitalization Rate per 10,000	Outpatient ILI %	Cumulative Flu Deaths All Ages
No flu detected	Antigen 4.8% PCR 0.1%	8.62	0.44%	5
Predominant Nonflu Virus	Schools Reporting 10% Illness	Weekly School Illness %	Long Term Care Outbreaks	Cumulative Pediatric Flu Deaths
Rhinovirus/ Enterovirus PCR	2	1.4%	0	0



IISN Program Components

- Outpatient illness-like illness (ILINet)
- Influenza-associated hospitalizations
- Public health and clinical laboratories
- Long-term care facility outbreaks
- Influenza-related mortality
- School absences due to illness

We always need more surveillance sites!

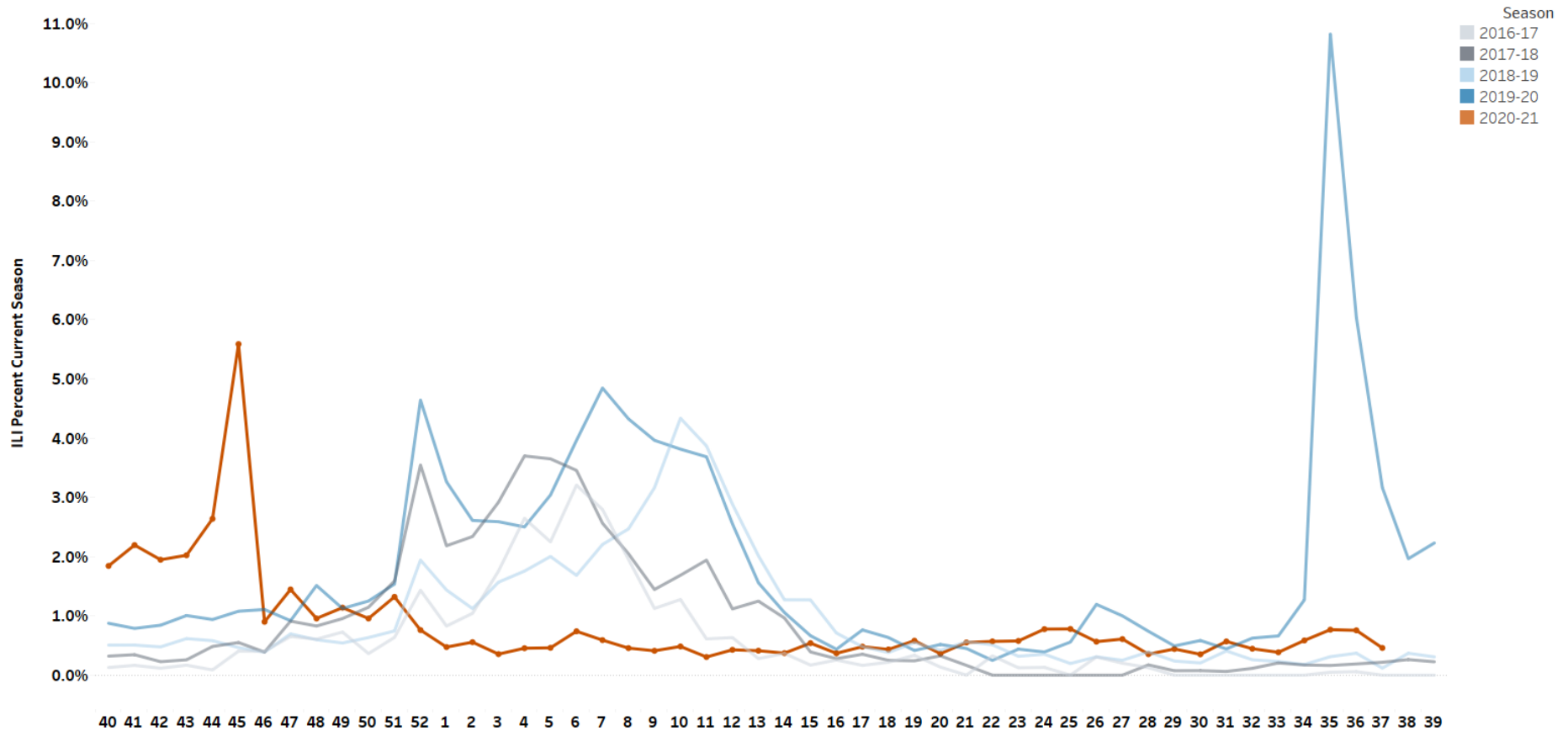
Contact Andy Weigel at 515-322-1937 or andy.weigel@idph.iowa.gov if you are interested.

How Does the 2020-21 Season Compare?

Season	Main Subtype*	Total Hospital	Flu Deaths	LTCF Outbreaks
15-16	A(H1N1)	352	44	7
16-17	A(H3)	1078	135	56
17-18	A(H3)	1889	272	90
18-19	A(H1N1) A H3	876	89	53
19-20	B(Vic) A(H1N1)	1157	103	33
20-21	Flu A?	20	5	0

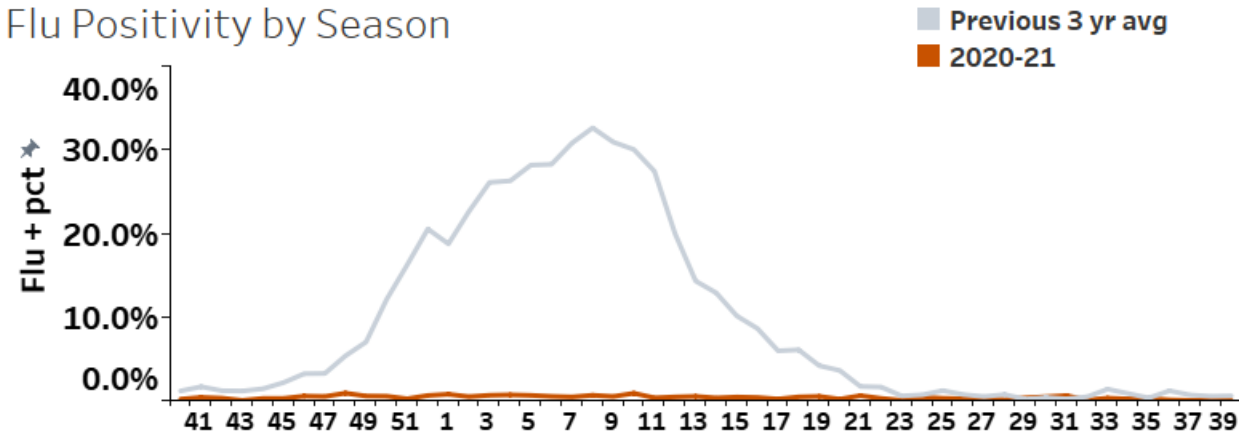
Subtypes/lineages are influenza A(H3) and A(H1N1)pdm09 and B(Victoria lineage)
Hospital totals are for MMWR weeks 40 -20 for each season

Outpatient Influenza-like Illness (ILINet) 2016-21

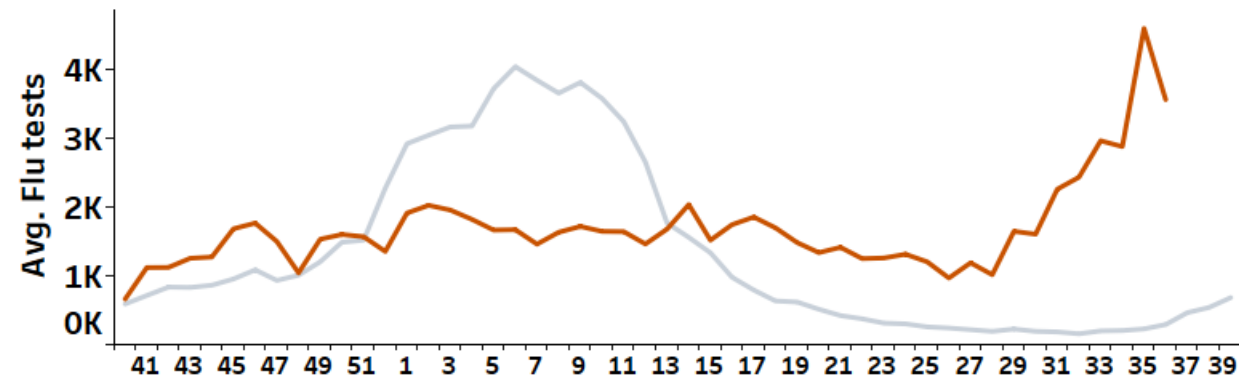


Iowa Lab Survey – Positive Percent by Season and Week 2017-21

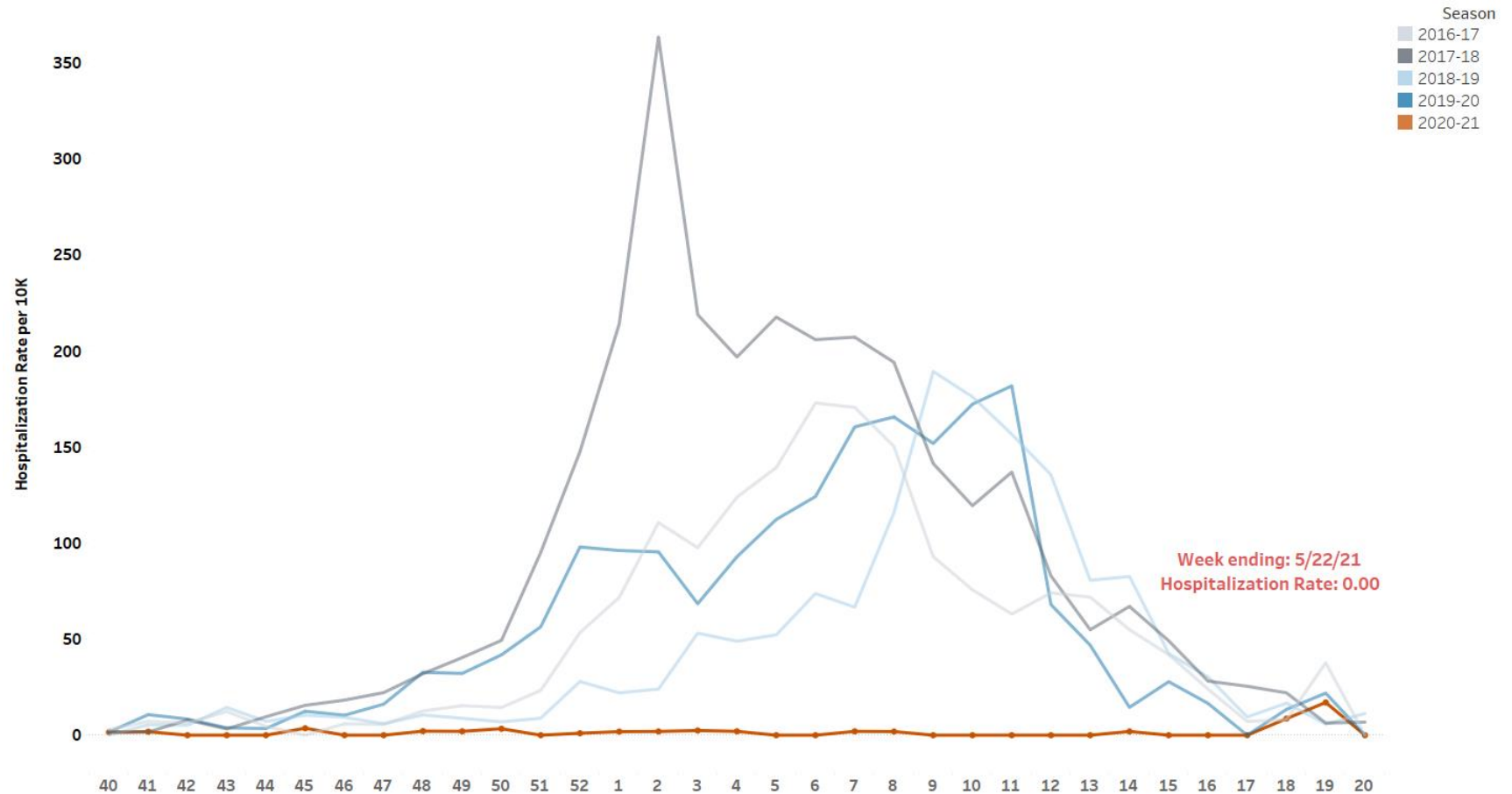
Flu Positivity by Season



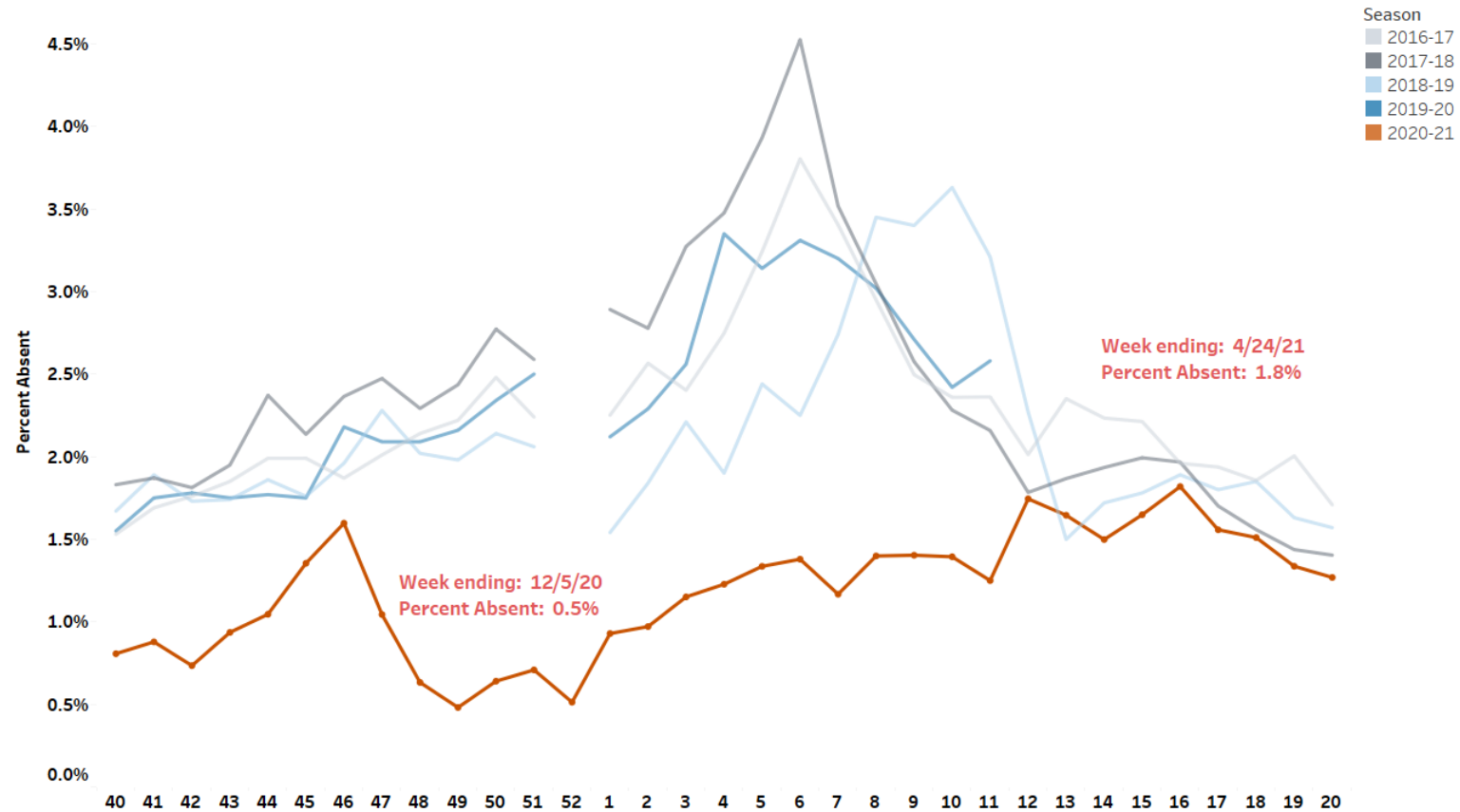
Flu Tests by Season



Influenza Hospitalization Rate per 10,000 by Season and Week 2016-21



Weekly School Illness by Season 2016-21





Survey of Respiratory Virus Test Results from Iowa Clinical Laboratories

- Contact Kris Eveland at (319) 335-4279 or Kristofer-eveland@uiowa.edu if you are interested
- SHL will send you a link to the public survey
 - Each week, we'll send you the combined results from the previous week
- Benefit
 - Situational awareness - what's circulating in your local area
 - Data is used by IDPH for the weekly flu report.
 - Positive predictive value of rapid influenza tests relies on prevalence in your local community

Iowa Respiratory Survey

May IDPH submit your survey data to the National Respiratory and Enteric Virus Surveillance System (NREVSS)?

Please consider giving permission to the Iowa Department of Public Health (IDPH) and the State Hygienic Laboratory at the University of Iowa (SHL) to submit your respiratory virus survey responses to the National Respiratory and Enteric Virus Surveillance System (NREVSS) if you haven't already. See the link below for more information

redcap.idph.state.ia.us/surveys/?s=49LDNXMYFC

Week for which you are reporting <small>* must provide value</small>	(09/27/20 - 10/03/20) ▼
Name of Person Reporting Data <small>* must provide value</small>	Joe Laboratorian <small>Please revise the name if you are not the person listed by default</small>
Email of the person reporting <small>* must provide value</small>	andy.weigel@idph.iowa.gov <small>Please revise the email if you are not the person listed by default</small>
Facility Name <small>* must provide value</small>	Generic Laboratory
County where your facility is located <small>* must provide value</small>	Adair ▼

[Next Page >>](#)

Please give IDPH permission to pass your weekly lab totals to NREVSS:

<https://redcap.idph.state.ia.us/surveys/?s=49LDNXMYFC>

Antigen Detection Filter Questions

Respiratory Viruses by Antigen Detection

Did you perform any of the following respiratory viruses antigen detection tests during the week for which you are reporting: RSV, parainfluenza, respiratory adenovirus, influenza, hMPV, bocavirus, SARS COV-2 / COVID-19?

- Yes
 No

* must provide value

List of rapid influenza antigen detection tests for influenza viruses
www.cdc.gov/flu/professionals/diagnosis/table-ridt.html

List of antigen diagnostic tests for SARS-CoV-2 / COVID-19
www.fda.gov/medical-devices/coronavirus-disease-2019-covid-19-emergency-use-authorizations-medical-devices/vitro-diagnostics-euas#individual-antigen

Which of the following antigen detection tests did you perform last week

* must provide value

- RSV
 Parainfluenza virus
 Respiratory adenovirus
 Influenza
 Human metapneumovirus
 Bocavirus
 SARS COV-2 / COVID-19

Reporting School Illness

Schools with at least 10 percent illness

- All Iowa schools are required to report to IDPH when percent of illness meets or exceeds 10 percent
- Report using survey
<https://redcap.idph.state.ia.us/surveys/?s=DRXJXY8X9X>
- Link also available at idph.iowa.gov/influenza/schools
- Illness reporting instructions included on form

Weekly illness reporting from sentinel sites

Sites volunteer to submit total illness numbers each week

Outbreak Control for Schools and Child Care Centers

- Work with local public health agencies to investigate and collect specimens as needed
- Utilize resources at IDPH and CDC
- Reinforce illness policies
- Increase cleaning and disinfecting of key areas
- Encourage and teach hand hygiene
- Notify and educate parents
- Many of the steps we are taking for COVID-19 will help prevent many other illnesses at school
- COVID-19 and K-12 School Update for Fall 2021:
https://idph.iowa.gov/Portals/1/userfiles/282/Updated_Guidance_1.pdf
- Iowa DHS Child Care Resources in Response to COVID-19
<https://dhs.iowa.gov/childcare-covid-19>

Survey Links

Influenza Hospitalizations – sentinel sites

<https://redcap.idph.state.ia.us/surveys/?s=JFW3HXKTH7>

Iowa Laboratory Survey

Contact Kris Eveland at (319) 335-4279 or

Kristofer-eveland@uiowa.edu

Schools – any day with at least 10% illness (in-person)

<https://redcap.idph.state.ia.us/surveys/?s=DRXJXY8X9X>

Schools – weekly sentinel sites

<https://redcap.idph.state.ia.us/surveys/?s=8T7CYHETEP>

Outpatient ILI

Contact Andy Weigel at 515-322-1937 or andy.weigel@idph.iowa.gov



Contact Information

To learn more about our influenza surveillance programs, to become a participant, or to sign up for the surveillance report email list, please contact

Andy Weigel, LMSW

Iowa Influenza Epidemiologist

Iowa Department of Public Health

Phone: 515-322-1937

andy.weigel@idph.iowa.gov

Long Term Care Outbreaks and COVID-19

- Influenza
 - Continue to report any suspected influenza outbreaks (one laboratory-confirmed influenza positive case along with other cases of respiratory illness in a unit of a LTC facility)
- COVID-19
 - Long-term care facilities (LTCFs) are required to report COVID-19 positive and negative cases to IDPH. A REDCap reporting system was developed to help facilitate the reporting process. LTCFs may also report testing results to NHSN
 - Long-term care facilities that reach the level of an outbreak must continue to notify IDPH. An outbreak is defined as three COVID-19 positive residents within the same 14 day period.

For suspect influenza, COVID-19 or other respiratory illness outbreaks call CADE at 1-800-362-2736

Influenza Outbreak Management Guidance for Long-term Care Facilities

- Changes to CDC guidance in 2021 based on 2018 IDSA influenza clinical practice guidelines update
- Antiviral prophylaxis still recommended for some residents but varies based on units affected
- Implement standard and transmission-based precautions
- Cohort and/or isolate ill residents as appropriate
- Restrict ill personnel from patient care
- Limit visitation and new admissions

<https://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm>

<https://doi.org/10.1093/cid/ciy866>

Influenza Vaccination 2021-2022

The Best Shot At Prevention

Influenza is the most frequent cause of death from a vaccine-preventable disease in the U.S.

The best way to **prevent** the flu is with annual vaccination

Recommended for **everyone** 6 months of age and older, unless a medical contraindication

Vaccine Composition

- ▶ **All seasonal influenza vaccines will be Quadrivalent:**
 - ▶ A/Victoria/2570/2019 (H1N1)pdm09-like virus (for egg-based vaccines) or a A/Wisconsin/588/2019 (H1N1)pdm09-like virus (for cell culture-based and recombinant vaccines)
 - ▶ A/Cambodia/e0826360/2020 (H3N2)-like virus
 - ▶ B/Washington/02/2019 (B/Victoria lineage)-like virus
 - ▶ B/Phuket/3073/2013-like (Yamagata lineage)-like virus

Predicted Vaccine Effectiveness

- ▶ Variable depending upon:
 - ▶ age and health status of vaccine recipient
 - ▶ the match between circulating virus strains and strains included in the vaccine

ACIP Recommendation

Routine annual influenza vaccination for all persons aged ≥ 6 months who do not have contraindications

No preferential recommendation is made for one influenza vaccine product over another for persons for whom more than one licensed, recommended, and appropriate product is available

Benefits of Flu Vaccination

- ▶ **Flu vaccination** can keep you from getting sick
- ▶ **Flu vaccination** has been shown in several studies to reduce severity of illness in people who get vaccinated, but still get sick
- ▶ **Flu vaccination** can reduce the risk of flu-associated hospitalizations
- ▶ **Flu vaccination** is an important preventative tool for people with chronic health conditions
- ▶ **Flu vaccination** helps protect pregnant people during and after pregnancy
- ▶ **Flu vaccination** can be lifesaving for children
- ▶ **Flu vaccination** can protect not only yourself, but may also protect people around you

2019-2020 Flu Season: Burden and Burden Averted by Vaccination

During the 2019-2020 season, CDC estimates flu caused:

38
million
flu illnesses

400,000
flu hospitalizations

22,000
flu deaths

It could have been even worse without flu vaccines.

Nearly 52% of the U.S. population 6 months and older got a flu vaccine during the 2019-2020 flu season, and this prevented an estimated:

7.5
million
flu illnesses



More than the combined
population of Kentucky and
Kansas

105,000
hospitalizations



Enough people to fill
Michigan Stadium at the
University of Michigan

6,300
deaths



Equivalent to saving about
17 lives per day over the
course of a year

Imagine the impact if more Americans chose to get a flu vaccine.
Many more flu illnesses, flu hospitalizations, and flu deaths could be prevented.

The estimates for the 2019-2020 influenza season are preliminary pending additional data from the season.

<https://www.cdc.gov/flu/about/burden/index.html>



get vaccinated
www.cdc.gov/flu

September 2020

Timing

Optimally, vaccination should occur prior to flu circulating in the community; ideally by the end of October

BUT- getting vaccinated later is still beneficial (throughout the entire flu season)

It is never too late to vaccinate!

Timing continued

- ▶ **Children aged 6 months-8 years** who require 2 doses should receive their 1st dose as soon as vaccine becomes available to allow 2nd dose to be received by the end of October
- ▶ Vaccination soon after vaccine becomes available may be considered for **pregnant women during the 3rd trimester**
- ▶ For **non-pregnant adults**, influenza vaccination during July and August should be avoided unless there is a concern that later vaccination may not be possible. Early vaccination might be associated with decreased vaccine effectiveness before the end of flu season, particularly among older adults
- ▶ NO recommendation is made for revaccination (i.e., booster dose) later in the season of persons who have already been fully vaccinated for the season regardless of when in the current season vaccine was received

Communication Tips for Promoting Flu Vaccination

- ▶ Keep it simple: “flu vaccine helps reduce the risk of illness, hospitalizations and death”
- ▶ “Flu vaccination not only protects you, but others around you”
- ▶ Use a presumptive approach: “Today we will administer your annual flu vaccine”
- ▶ Stress importance of protection against influenza amid COVID-19 pandemic

Importance of Flu Vaccination During the COVID-19 Pandemic

Reducing the overall burden of respiratory illnesses is especially important to protect vulnerable populations at risk for severe illness, the healthcare system, and other critical infrastructure

Use every opportunity during the influenza vaccination season to administer flu vaccines to all eligible persons

Co-Administration of Flu Vaccine and Other Vaccines

- ▶ COVID-19 vaccines may be administered at the same time or any interval before or after vaccines, including flu vaccine
- ▶ IIV4s and RIV4 may be administered simultaneously or at any interval before or after other inactivated or live vaccines
- ▶ LAIV4 can be administered with other live or inactivated vaccines at the same visit. However, if 2 live vaccines are not given simultaneously, they must be separated by at least 4 weeks

Considerations for Co-Administration

- ▶ Be mindful of potential for increased reactogenicity of COVID-19 vaccines and flu vaccines. If administered simultaneously, COVID-19 vaccines and flu vaccines that might be more likely to cause a local reaction (e.g., high dose flu or adjuvant flu vaccine-Fluad) should be administered in different limbs if possible
- ▶ **Best Practices for Multiple Injections:**
 - ▶ Label each syringe with the name and dosage of the vaccine, lot number, initials of preparer, and the exact beyond-use time, if applicable
 - ▶ Separate injection sites by 1 inch or more if possible
 - ▶ Administer vaccines that are more likely to cause a local reaction (adjuvanted vaccines and tetanus-toxoid containing vaccines) in different limbs, if possible

Children 6 months - 8 years

- ▶ If a child received at least 2 doses of influenza vaccine before July 1, 2021, only 1 dose is needed for 2021-2022. Doses do not need to be in the same flu season or consecutive seasons
- ▶ If a child is receiving influenza vaccine for the first time or if they have not received at least 2 doses before July 1, 2021, 2 doses are needed for optimal protection
- ▶ Separate doses by at least 4 weeks

For children aged 8 years who require 2 doses of vaccine, both doses should be administered even if the child turns 9 years between receipt of dose 1 and dose 2

Persons With Egg Allergy

- ▶ Hives only: may administer any licensed, recommended, flu vaccine appropriate for age and health status
- ▶ Symptoms other than hives: may administer any licensed, recommended flu vaccine that is otherwise appropriate. If a vaccine other than cclIV4 or RIV4 is used, vaccines should be administered in an inpatient or outpatient medical setting. A health care provider who is able to recognize and manage severe allergic conditions should supervise.

A previous severe allergic reaction to flu vaccine, regardless of the component suspected of being responsible for the reaction, is a contraindication to future receipt of the vaccine

Contraindications and Precautions Related to Previous Severe Allergic Reaction to Influenza Vaccines

- ▶ For egg-based IIV4s and LAIV4: Severe allergic reaction to a previous dose of any influenza vaccine is a contraindication
- ▶ For cclIV4: Severe allergic reaction to any cclIV is a contraindication; to any other influenza vaccine (any egg-based IIV, RIV, or LAIV) is a precaution
- ▶ For RIV4: Severe allergic reaction to any RIV is a contraindication; to any other influenza vaccine (any egg-based IIV, cclIV, or LAIV) is a precaution
- ▶ Where a precaution is present, if potential benefit of vaccination is thought to outweigh potential risk of a severe allergic reaction
 - ▶ Vaccination should occur in a medical setting supervised by a provider who can recognize and manage a severe allergic reaction
 - ▶ Providers can also consider consulting an allergist to help identify the vaccine component responsible for the previous reaction

Flu Vaccine Contraindications and Precautions for Persons With a History of Severe Allergic Reaction to a Previous Dose of Flu Vaccine

Iowa Department of Public Health
Immunization Program

**Influenza Vaccine Contraindications and Precautions for Persons
With a History of Severe Allergic Reaction to a Previous Dose of an Influenza Vaccine***
Advisory Committee on Immunization Practices, United States, 2021-22 Influenza Season

Vaccine (of any valency) associated with previous severe allergic reaction (e.g., anaphylaxis)	Available 2021–22 influenza vaccines		
	Egg-based IIV4s and LAIV4	cclIV4	RIV4
Any egg-based IIV or LAIV	Contraindication [†]	Precaution [§]	Precaution [§]
Any cclIV	Contraindication [†]	Contraindication [†]	Precaution [§]
Any RIV	Contraindication [†]	Precaution [§]	Contraindication [†]
Unknown influenza vaccine	Allergist consultation recommended		

<https://idph.iowa.gov/immtb/immunization/influenza/recommendations>

Contraindications and Precautions to Use of Flu Vaccine (ACIP)

Iowa Department of Public Health
Immunization Program

Contraindications and Precautions to the Use of Influenza Vaccines Advisory Committee on Immunization Practices, United States, 2021-22 Influenza Season

Vaccine type	Contraindications	Precautions
Egg-based IIV4s	<ul style="list-style-type: none"> History of severe allergic reaction (e.g., anaphylaxis) to any component of the vaccine¹ or to a previous dose of any influenza vaccine (i.e., any egg-based IIV, cclIV, RIV, or LAIV)³ 	<ul style="list-style-type: none"> Moderate or severe acute illness with or without fever History of Guillain-Barré syndrome within 6 weeks of receipt of influenza vaccine
cclIV4	<ul style="list-style-type: none"> History of severe allergic reaction (e.g., anaphylaxis) to a previous dose of any cclIV or any component of cclIV³ 	<ul style="list-style-type: none"> Moderate or severe acute illness with or without fever History of Guillain-Barré syndrome within 6 weeks of receipt of influenza vaccine History of severe allergic reaction to a previous dose of any other influenza vaccine (i.e., any egg-based IIV, RIV, or LAIV)⁴
RIV4	<ul style="list-style-type: none"> History of severe allergic reaction (e.g., anaphylaxis) to a previous dose of any RIV or any component of RIV⁴ 	<ul style="list-style-type: none"> Moderate or severe acute illness with or without fever History of Guillain-Barré syndrome within 6 weeks of receipt of influenza vaccine History of severe allergic reaction to a previous dose of any other influenza vaccine (i.e., any egg-based IIV, cclIV, or LAIV)⁴
LAIV4	<ul style="list-style-type: none"> History of severe allergic reaction (e.g., anaphylaxis) to any component of the vaccine¹ or to a previous dose of any influenza vaccine (i.e., any egg-based IIV, cclIV, RIV, or LAIV)³ Concomitant aspirin or salicylate-containing therapy in children and adolescents⁵ Children aged 2 through 4 years who have received a diagnosis of asthma or 	<ul style="list-style-type: none"> Moderate or severe acute illness with or without fever History of Guillain-Barré syndrome within 6 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 (e.g., chronic

Available Vaccine Products

Iowa Department of Public Health
Immunization Program

Influenza Vaccine Information by Age Group 2021-22 Influenza Season

Trade Name	Manufacturer	Presentation	Mercury from Thimerosal (µg per 0.5 mL)	Age Group	Route
Inactivated quadrivalent (IIV4s), standard-dose-egg based					
Afluria Quadrivalent	Seqirus	0.25 mL PFS+	0.0	6-35 months	IM [§]
		0.5 mL PFS+	0.0	≥ 3 years	IM [§]
		5.0 mL MDV+	24.5	≥ 6 months (needle/syringe) 18 - 64 years (jet injector)	IM [§]
Fluarix Quadrivalent	GlaxoSmithKline	0.5 mL PFS	0.0	≥ 6 months	IM [§]
FluLaval Quadrivalent	GlaxoSmithKline	0.5 mL PFS	0.0	≥ 6 months	IM [§]
Fluzone Quadrivalent	Sanofi Pasteur	0.5 mL PFS**	0.0	≥ 6 months	IM [§]
		0.5 mL SDV	0.0	≥ 6 months	IM [§]
		5.0 mL MDV	25	≥ 6 months	IM [§]
Inactivated quadrivalent (cIIV4), standard-dose-cell culture based					
Flucelvax Quadrivalent	Seqirus	0.5 mL PFS	0.0	≥ 2 years	IM [§]
		5.0 mL MDV	25		
Inactivated quadrivalent high-dose, egg based (HD-IIV4)					
Fluzone High-Dose Quadrivalent	Sanofi Pasteur	0.7 mL PFS	0.0	≥ 65 years	IM [§]
Inactivated quadrivalent standard-dose, egg based with MF59 adjuvant (aIIV4)					
Flud Quadrivalent	Seqirus	0.5 mL PFS	0.0	≥ 65 years	IM [§]
Recombinant influenza vaccine, quadrivalent (RIV4)					
Flublock Quadrivalent	Sanofi Pasteur	0.5 mL PFS	0.0	≥ 18 years	IM [§]
Live, attenuated influenza vaccine, quadrivalent (LAIV4)- egg based					
FluMist Quadrivalent	AstraZeneca	0.2mL prefilled single-use intranasal sprayer	0.0	2- 49 years	NAS

- Abbreviations: PFS=prefilled syringe; MDV=multi-dose vial; SDV=single dose vial; IM = intramuscular; NAS=intranasal
- * Vaccination providers should consult FDA-approved prescribing information for 2021-22 influenza vaccines for the most complete and updated information, including (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/approved-products/vaccines-licensed-use-united-states>
- § 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.
- + The dose volume for Afluria Quadrivalent is 0.25mL for children 6 through 35 months and 0.5mL for persons ≥ 3 years.
- ** Fluzone Quadrivalent is currently licensed for ages 6 through 35 months at either 0.25 mL or 0.5 mL per dose; however, 0.25 mL prefilled syringes are not expected to be available for the 2021-22 influenza season. If a prefilled syringe of Fluzone Quadrivalent is used for a child in the age group, the dose volume will be 0.5 mL per dose.

Adapted from *Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices - United States, 2021-22 Influenza Season*. The full article is available [here](#).

In eligible populations, COVID-19 vaccines and other vaccines may now be administered without regard to timing. This includes simultaneous administration of COVID-19 vaccine and influenza vaccine on the same day, as well as coadministration within 14 days.

Immunization Program - 1-800-831-6293

<https://idph.iowa.gov/immtdb/immunization/influenza/recommendations>

Updates to Flu Vaccines for 2021-2022

- ▶ The approved age indication for the cell culture based inactivated influenza vaccine, **Flucelvax Quadrivalent** (ccIIV4) has been expanded from ages ≥ 4 years to ages ≥ 2 years
- ▶ All vaccines will be Quadrivalent

Vaccination During Pandemic

Interim Guidance for Routine and Influenza Immunization Services During the COVID-19 Pandemic

4/6/2021:

- Updates made to reflect the 2021-2022 influenza season.
- Updates made throughout to clarify guidance related to fully vaccinated people and quarantine guidelines.

The COVID-19 pandemic has caused healthcare personnel to change how they operate to continue providing essential services to patients. Ensuring immunization services are maintained or reinitiated is essential for protecting individuals and communities from

COVID-19 Vaccination
Provider Requirements and
Support



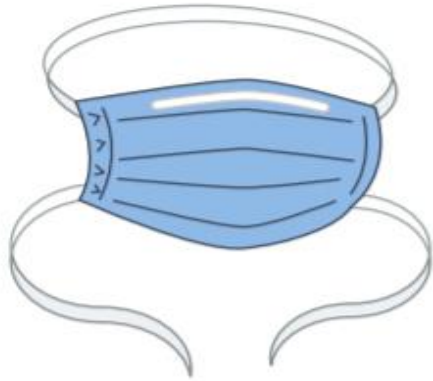
[Additional Considerations for Influenza Vaccination](#)

Annual influenza vaccination is recommended for all persons aged 6 months and older to decrease morbidity and mortality caused by influenza. Healthcare personnel should consult current [influenza vaccine recommendations](#) for guidance around the timing of administration and use of specific vaccines.

During the COVID-19 pandemic, reducing the overall burden of respiratory illnesses is important to protect vulnerable populations at risk for severe illness, the healthcare system, and other critical infrastructure. Thus, healthcare personnel should use every opportunity during the influenza season to administer influenza vaccines to all eligible persons, including:

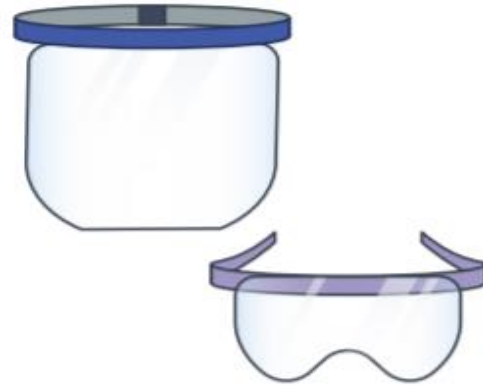
<https://www.cdc.gov/vaccines/pandemic-guidance/index.html>

Vaccine Administration: COVID-19 Personal Protective Equipment



Face mask

- **Recommended:** All healthcare providers (N95 masks not recommended)



Eye protection

- **Recommended:** Areas of moderate/substantial community transmission
- **Optional:** Areas of minimal/no community transmission unless otherwise indicated as a part of standard precautions



Gloves

- **Recommended:** Intranasal or oral vaccines
- **Optional:** Intramuscular or subcutaneous vaccines

Vaccination of Persons with Suspected or Confirmed COVID-19

- Persons in quarantine or isolation should not be brought into vaccination setting if doing so could expose others to COVID-19
- For those who have moderate or severe COVID-19, vaccination should be deferred until they have recovered
- Persons who are mildly ill may be vaccinated. Further deferral might be considered to avoid confusing COVID-19 illness symptoms with post vaccination reactions

Vaccination and Influenza Antiviral Medications

- ▶ IIV4 and RIV may be administered to persons receiving antiviral medications
- ▶ Influenza antivirals may reduce the effectiveness of LAIV4 if given before or after LAIV4. Persons who receive flu influenza antivirals during the following periods should be revaccinated with an age appropriate IIV4 or RIV4

Influenza Antiviral	Estimated window for potential LAIV interference (based upon half-life reported in package insert)
Oseltamivir and Zanamivir	48 hours before to 2 weeks after LAIV4
Peramivir	5 days before to 2 weeks after LAIV4
Baloxavir	17 days before to 2 weeks after LAIV4

Tips and Reminders

- ▶ Flu vaccines should be refrigerated between 2 °C to 8 °C (36 °F to 46 °F). Do not freeze. Protect from light
- ▶ When using multi-dose vials, only withdraw the number of doses indicated in the manufacturer's package insert
- ▶ Single dose vials should not be accessed for more than 1 dose
- ▶ Prefilling syringes is discouraged. Consider using manufacturer-supplied prefilled syringes
- ▶ Vaccines in multi-dose vials that do not require reconstitution may be used through the expiration date printed on the label as long as the vaccine is not contaminated **unless otherwise indicated by the manufacturer**

Tips and Reminders

- ▶ Live vaccines, including LAIV, must be administered on the same day or separated by at least 4 weeks
- ▶ Administer the appropriate vaccine and dosage based on the patient's current age at the time of the visit
- ▶ Observe all patients for at least 15 minutes following vaccination
- ▶ Current Influenza VIS date: **8/6/21**. Separate VIS for live flu vaccine and inactivated or recombinant flu vaccine
- ▶ Injectable flu vaccine presentations available for 6-35 months of age. Note dosages
 - ▶ Afluria **0.25mL**
 - ▶ Fluzone **0.25mL OR 0.5mL**
 - ▶ Fluarix **0.5mL**
 - ▶ Flulaval **0.5mL**
 - ▶ Flucelvax **0.5 mL** for persons ≥ 2 years of age


Resources

- ▶ CDC: <https://www.cdc.gov/flu/index.htm>
- ▶ CDC Guidance for Planning Vaccination Clinics: <https://www.cdc.gov/vaccines/hcp/admin/mass-clinic-activities/index.html>
- ▶ CDC Vaccination Guidance During a Pandemic: <https://www.cdc.gov/vaccines/pandemic-guidance/index.html>
- ▶ CDC Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Authorized in the United States: https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fvaccines%2Fcovid-19%2Finfo-by-product%2Fclinical-considerations.html
- ▶ Prevention and Control of Seasonal Influenza with Vaccines-Recommendations of the Advisory Committee on Immunization Practices, United States, 2021-22 Influenza Season: <https://www.cdc.gov/mmwr/volumes/70/rr/rr7005a1.htm>
- ▶ Immunization Action Coalition (IAC): <http://www.immunize.org/>
- ▶ IDPH: <https://idph.iowa.gov/immtb/immunization/vaccine>
- ▶ Vaccine Information Statements (VIS):
 - <http://www.immunize.org/vis/>
 - <https://www.cdc.gov/vaccines/hcp/vis/vis-statements/flu.html>
 - <https://www.cdc.gov/vaccines/hcp/vis/vis-statements/flulive.html>

Influenza (Flu)




About the Flu

- [Influenza Immunization Brochure](#) 
- [Flu Symptoms \(CDC\)](#)
- [How is flu different from a cold \(CDC\)](#)
- [What if I think I have the flu \(CDC\)](#)

Key Facts About Flu Vaccine (CDC)

- [Flu Vaccination](#)
- [Who Needs a Flu Vaccine and When](#)
- [Vaccine Benefits](#)
- [Types of Flu Vaccines](#)
- [Misconceptions about Flu Vaccine](#)
- [Healthy Habits to Prevent Flu](#)

Flu Prevention

- [People at High Risk for Flu Complications \(CDC\)](#)
- [Guide for Parents \(CDC\)](#) 

[Flu Vaccine Recommendations](#)

[Communication Tools and Resources for Healthcare Professionals](#)

Influenza Vaccine for Health Professionals

🏠 Bureau of Immunization & TB > Immunization Program > Influenza (Flu) > Flu Vaccine Recommendations

Adolescent Immunization Program

Adult Immunization Program

Data & Reports

Free Immunization Products

HPV Vaccine Information

Iowa Immunization Requirements

Influenza (Flu)

> **Flu Vaccine Recommendations**







Communication Tools and
Resources for Health Care
Professionals

International Travel

IRIS

Influenza (Flu) - Flu Vaccine Recommendations

Flu Vaccine Information for Health Professionals

- [2021-2022 Influenza Dosing Algorithm for Children](#) 
- [2021-2022 Influenza Vaccine Products](#) 
- [2021-2022 Contraindications and Precautions to the Use of Influenza Vaccines](#) 
- [2021-2022 Contraindications and Precautions for Persons with Severe Allergic Reaction](#) 
- [How to administer intramuscular, intradermal, and intranasal influenza vaccine](#) 
- [Influenza Immunization Brochure](#) 
- [Flu Vaccine Label Examples](#)
- [Standing Orders Templates \(Immunization Action Coalition\)](#)

Resources

- [2021-2022 Influenza Recommendations](#)
- [MMWR: Prevention and Control of Seasonal Influenza](#)
- [Vaccine Information Statement - Inactivated Influenza](#)
- [Vaccine Information Statement - Live, Intranasal Influenza](#)
- [Screening Checklists](#)

We are Here to Support You

Iowa Department of Public Health
Immunization Program

<https://idph.iowa.gov/immtb/immunization>

1-800-831-6293

Thank You

Shelly Jensen RN BSN

Immunization Nurse Consultant

1-800-831-6293 or

515-423-3341

Shelly.Jensen@idph.iowa.gov

State Hygienic Laboratory and Iowa Department of Public Health Influenza Surveillance Testing Guidance 2021/2022

Contact IDPH or SHL for guidance in the event of an ILI outbreak.

- This season there will be selected ILINet sites that will be contacted to submit specimens from symptomatic patients with Influenza like illness, regardless of previous testing or results. These sites will submit up to 5 specimens per week.
- Additionally, select hospitals will be contacted to submit up to 5 positive specimens (Flu or SARS-CoV-2) per week as part of a hospital surveillance project funded by a CSTE/CDC cooperative agreement to estimate hospitalization rates.

If contacted your site will be given specific instructions for collection, transport, Test Request Form and Results Reporting information

SHL will be doing a very limited amount of Influenza PCR testing for the select sites only, subtyping results reported for symptomatic patients only

SHL influenza/ SARS-CoV-2 surveillance testing and sequencing serves the following purposes:

- Demonstrates predictive value and accuracy of other tests
- Novel virus detection and monitor for variants of interest or concern
- Contribute samples to CDC and WHO- antiviral resistance, vaccine strain selection and match to current vaccine
- Surveillance testing is provided at no cost and is partially supported by the Centers for Disease Control and Prevention **Thank you for your support of this program!**

For Flu Surveillance this year SHL will use

CDC Flu/SC2 combination aka multiplex PCR test

Specimens submitted for Influenza PCR testing will also receive a COVID PCR result

If positive for Flu A they will be reflexed to Flu A subtyping (2009 H1N1, H3 or possible variants)

If positive for Flu B they will be reflexed to Flu B genotyping (Victoria, Yamagata)

Laboratory Contact Information

Jeff Benfer, M.S., MB (ASCP)cm, Supervisor of Molecular Biology and Virology

jeff-benfer@uiowa.edu

P:319-335-4500

F:319-335-4555

COVID-19 Testing Hotline: (855) 374-4692

THANK YOU FOR PARTICIPATING!!!

Antiviral Treatment and Prophylaxis



www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm

Updated May 2021

Antiviral Agents for Flu

- Neuraminidase inhibitors
 - Oseltamivir (Tamiflu[®]) oral
 - Zanamivir (Relenza[®]) inhaled
 - Peramivir (Rapivab[®]) intravenous
- Baloxavir marboxil (Xofluza[®]) oral
- Adamantanes (Amantadine, Rimantadine)

Antiviral Agents for Flu

- Neuraminidase inhibitors
 - Oseltamivir (Tamiflu[®]) oral
 - Zanamivir (Relenza[®]) inhaled
 - Peramivir (Rapivab[®]) intravenous

- Baloxavir marboxil (Xofluza[®]) oral

- ~~Adamantanes (Amantadine, Rimantadine)~~

Neuraminidase inhibitors

- Neuraminidase inhibitors** (primary agents for A and B influenza)
 - Oseltamivir (generic or Tamiflu[®]) oral
 - Zanamivir (Relenza[®]) inhaled
 - Peramivir (Rapivab[®]) intravenous

Oseltamivir Evidence

- Early treatment of hospitalized adult influenza patients with oseltamivir has been reported to reduce death in some observational studies
- In hospitalized children, early antiviral treatment with oseltamivir has been reported to shorten the duration of hospitalization in observational studies
- Preferred treatment for pregnant women

Baloxavir (Xofluza[®])

- Newly approved by the FDA for treatment of acute uncomplicated influenza within 2 days of illness onset in people 12 years and older
- A cap-dependent endonuclease inhibitor that interferes with viral RNA transcription and blocks virus replication
- Active against both influenza A and B viruses
- No available data in hospitalized patients; not recommended in pregnant or breastfeeding women

Treatment Timing Recommendations

- Early antiviral treatment can shorten duration of fever and illness symptoms, and may reduce the risk of some complications from influenza
- Clinical benefit is greatest when antiviral treatment is administered early, especially within 48 hours of influenza illness onset in clinical trials and observational studies

Priority Groups for Antiviral Influenza Treatment

- Antiviral treatment is recommended as early as possible for any patient with confirmed or suspected influenza who:
 - is hospitalized;
 - has severe, complicated, or progressive illness; or is at higher risk for influenza complications
- Oral oseltamivir is the recommended antiviral for patients with severe, complicated, or progressive illness who are not hospitalized, and for hospitalized influenza patients

People at Higher Risk for Influenza Complications

- Patients under 2 or over 65 years of age
- Those with chronic conditions, pregnant (through 2 weeks post-partum), children on aspirin therapy, immunosuppressed patients, residents of long term care, extremely obese (BMI \geq 40), American Indian / Alaska Native
- Should be started as soon as possible after illness onset (not waiting for lab results), ideally within 48 hours but there might still benefit for severe, complicated, or hospitalized patients when started after 48 hours

Outpatient Treatment Recommendations

- Antiviral treatment also can be considered for any previously healthy, symptomatic outpatient not at high risk for influenza complications, who is diagnosed with confirmed or suspected influenza, on the basis of clinical judgment, if treatment can be initiated within 48 hours of illness onset
- For outpatients with acute uncomplicated influenza, oral oseltamivir, inhaled zanamivir, intravenous peramivir, or oral baloxavir may be used for treatment

Long Term Care Recommendations

- If possible, all residents should receive inactivated influenza vaccine (IIV) annually before influenza season. For persons aged ≥ 65 years, any age-appropriate IIV formulation (standard-dose or high-dose, trivalent or quadrivalent, unadjuvanted or adjuvanted) or quadrivalent recombinant influenza vaccine are acceptable [options](#).
- Implement Standard and Droplet Precautions for all residents with suspected or confirmed influenza.
- Administer influenza antiviral treatment and chemoprophylaxis to residents and healthcare personnel according to current recommendations.

Long Term Care Recommendations

- All long-term care facility residents who have confirmed or suspected influenza should receive antiviral treatment immediately.
- Initiation of antiviral treatment should not wait for laboratory confirmation of influenza.
- Be aware of the possibility of an antiviral drug-resistant virus.
- Residents receiving antiviral medications who do not respond to treatment or who become sick with influenza after starting chemoprophylaxis might have an infection with an antiviral-resistant influenza virus. Persons receiving chemoprophylaxis who become sick should be switched to treatment dosing.

Table 2. Recommended Dosage and Duration of Influenza Antiviral Medications for Treatment or Chemoprophylaxis

Antiviral Agent	Use	Children	Adults
Oral Oseltamivir	Treatment (5 days) ¹	<p>If younger than 1 yr old²: 3 mg/kg/dose twice daily^{3,4} If 1 yr or older, dose varies by child's weight: 15 kg or less, the dose is 30 mg twice a day >15 to 23 kg, the dose is 45 mg twice a day >23 to 40 kg, the dose is 60 mg twice a day >40 kg, the dose is 75 mg twice a day</p>	75 mg twice daily
	Chemo-prophylaxis (7 days) ⁵	<p>If child is younger than 3 months old, use of oseltamivir for chemoprophylaxis is not recommended unless situation is judged critical due to limited data in this age group. If child is 3 months or older and younger than 1 yr old² 3 mg/kg/dose once daily³ If 1 yr or older, dose varies by child's weight: 15 kg or less, the dose is 30 mg once a day >15 to 23 kg, the dose is 45 mg once a day >23 to 40 kg, the dose is 60 mg once a day >40 kg, the dose is 75 mg once a day</p>	75 mg once daily

Inhaled Zanamivir ⁶	Treatment (5 days)	10 mg (two 5-mg inhalations) twice daily (FDA approved and recommended for use in children 7 yrs or older)	10 mg (two 5-mg inhalations) twice daily
	Chemo- prophylaxis (7 days) ⁵	10 mg (two 5-mg inhalations) once daily (FDA approved for and recommended for use in children 5 yrs or older)	10 mg (two 5-mg inhalations) once daily
Intravenous Peramivir ⁷	Treatment (1 day) ¹	(2 to 12 yrs of age) One 12 mg/kg dose, up to 600 mg maximum, via intravenous infusion for a minimum of 15 minutes (FDA approved and recommended for use in children 2 yrs or older)	(13 yrs and older) One 600 mg dose, via intravenous infusion for a minimum of 15 minutes
	Chemo- prophylaxis ⁸	Not recommended	N/A

Oral
Baloxavir⁹

Treatment
(1 day)¹

FDA approved and recommended
for use in children 12 yrs or older.
See adult dosage.

(12 yrs and
older) weight
<80 kg: One 40
mg dose;
weight \geq 80 kg:
One 80 mg
dose⁹

Chemo-
prophylaxis⁸

FDA-approved for post-exposure
prophylaxis for persons aged 12
years and older. See adult dosage.”

(12 yrs and
older) weight
<80 kg: One 40
mg dose;
weight \geq 80 kg:
One 80 mg
dose⁸



Co-circulation of Influenza and COVID-19

- Co-infection with influenza A or B viruses and COVID-19 should be considered, particularly in hospitalized patients.
- Use of multiplex assays can distinguish between influenza and COVID-19.
- Do not wait for results of influenza testing to initiate empiric antiviral treatment among priority groups (e.g., hospitalized with respiratory illness; outpatients with severe, complicated, progressive illness or at higher risk for complications).