



Recommendations for Influenza Prevention and Treatment in Children: An Update for Pediatric Providers

Clinician Outreach and Communication Activity (COCA) Webinar

Thursday, October 8, 2020

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- Planners have reviewed content to ensure there is no bias.

Continuing Education Disclaimer

- The presentation will not include any discussion of the unlabeled use of a product or a product under investigational use, with the exception of Drs. Dawood and Munoz who may discuss Neuraminidase inhibitor medications (antivirals) which are FDA approved only for the treatment of uncomplicated influenza; however, they will discuss off-label use such as for hospitalized patients and ages not FDA-approved. They may also discuss the investigational use of other influenza antiviral agents such as baloxavir.
- Dr. Munoz would like to disclosure that she will discuss how antivirals for influenza are not licensed specifically for high risk, hospitalized patients; however, CDC and AAP recommend them for this population. Influenza vaccine is not licensed specifically for pregnant women; however, CDC, ACOG and AAP recommend it.
- CDC did not accept commercial support for this continuing education activity.

Objectives

- Review data from the 2019-2020 U.S. influenza season to inform preparations for the 2020–2021 U.S. influenza season.
- Highlight key recommendations in the AAP influenza policy statement, “Recommendations for Prevention and Control of Influenza in Children, 2020–2021” and in CDC’s Advisory Committee on Immunization Practices’ document, “Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices—United States, 2020–21 Influenza Season.”
- Discuss the importance of vaccinating, testing, and treating influenza during the COVID-19 pandemic.
- Review recommendations about influenza antiviral use in children.

To Ask a Question

- All participants joining us today are in listen-only mode.
- Using the Webinar System
 - Click the “Q&A” button.
 - Type your question in the “Q&A” box.
 - Submit your question.
- The video recording of this COCA Call will be posted at https://emergency.cdc.gov/coca/calls/2020/callinfo_100820.asp and available to view on-demand a few hours after the call ends.
- If you are a patient, please refer your questions to your healthcare provider.
- For media questions, please contact CDC Media Relations at 404-639-3286, or send an email to media@cdc.gov.

Today's Presenters

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- **Anne Kimball, MD, MPH**
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2020-2021 Recommendations for Influenza Prevention and Treatment in Children: An Update for Pediatric Providers

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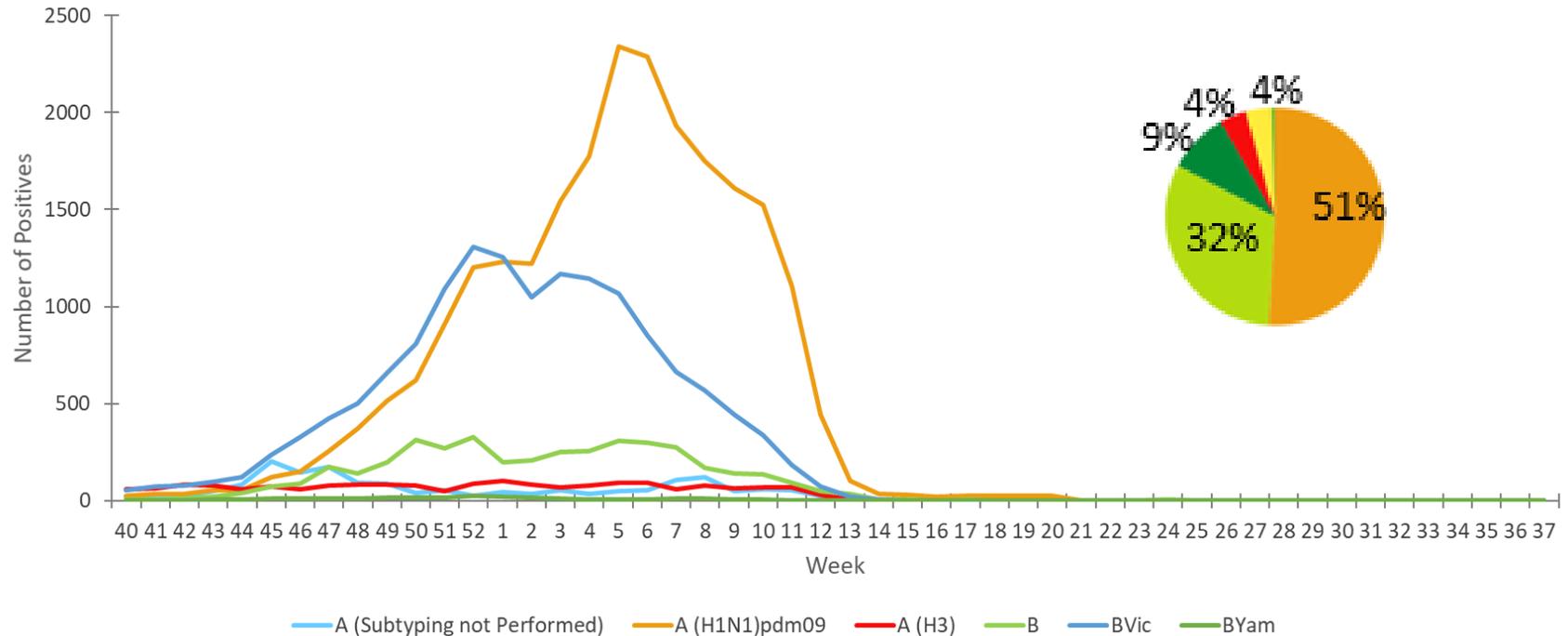
Clinician Outreach and Communication Activity (COCA) Call/Webinar

October 8, 2020

A Review of Last Season

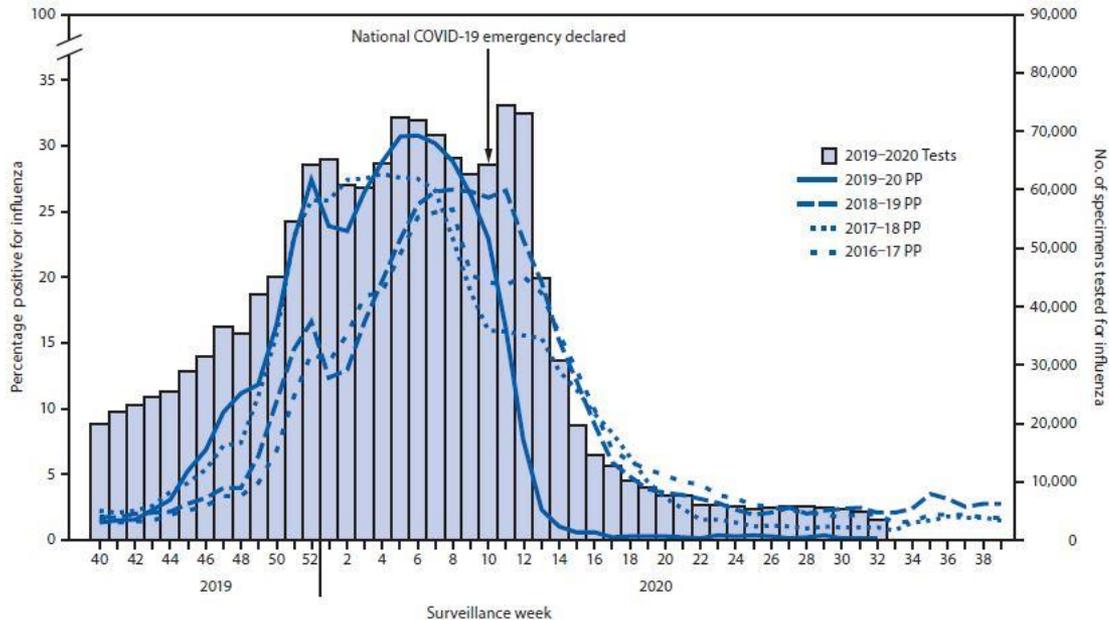
- Two waves of activity
 - Began early in some regions of the country
 - Initial B/Victoria peak, followed by A(H1N1)pdm09
 - Very little circulation of A(H3N2) viruses and B/Yamagata viruses
- The overall preliminary estimated effectiveness of seasonal influenza vaccine was 39% for preventing medically attended, laboratory-confirmed influenza virus infection (as of June 9, 2020)

Influenza Positive Tests Reported to CDC by U.S. Public Health Laboratories, 2019-20 Season



Source: FluView Interactive. <https://www.cdc.gov/flu/weekly/fluviewinteractive.htm>

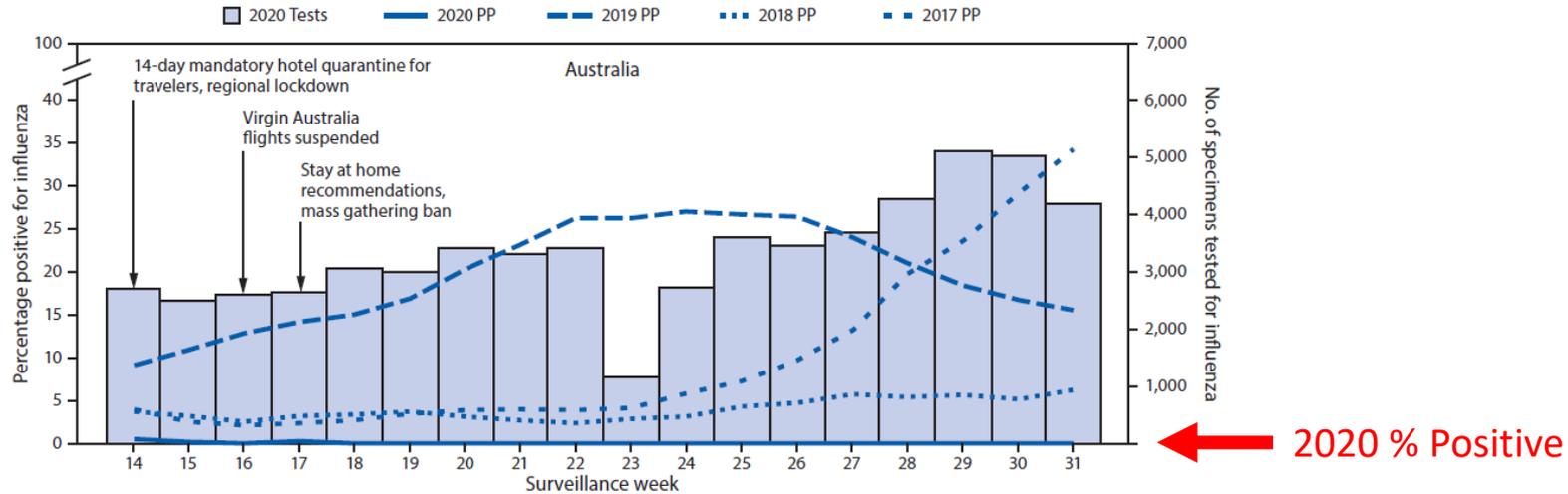
U.S. Influenza Activity Declined Sharply from late February to March 2020



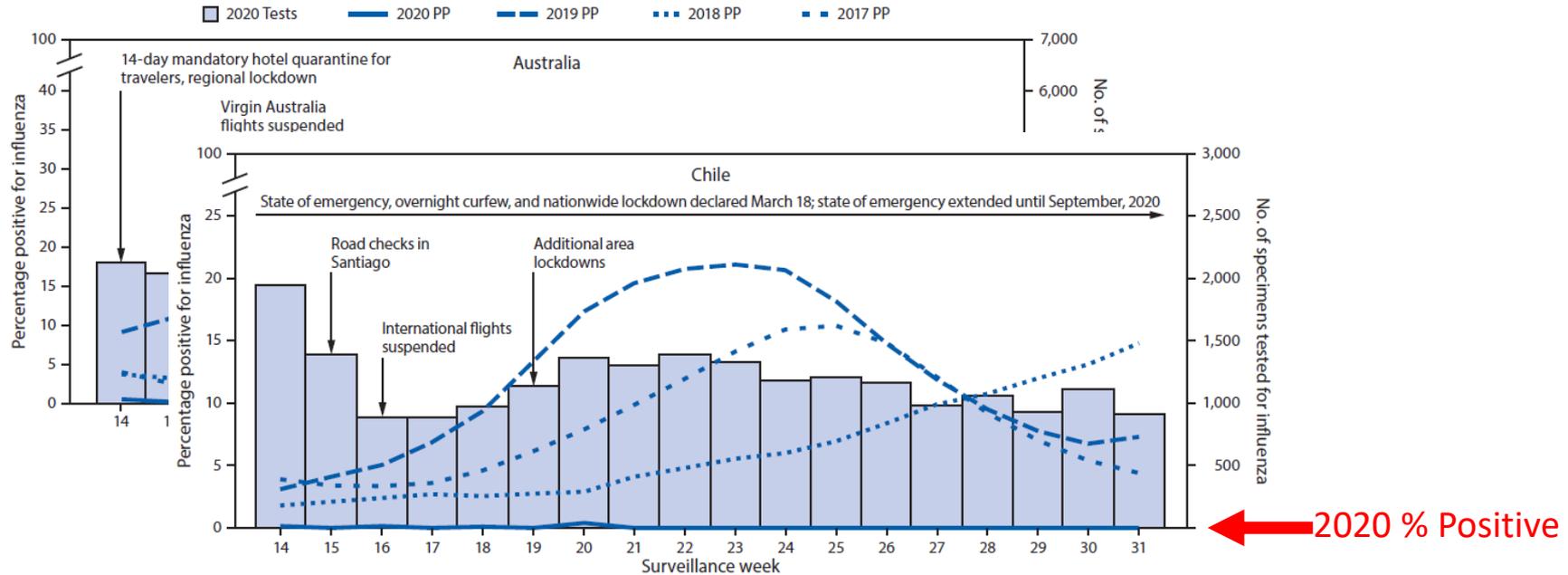
Source: FluView Interactive. <https://www.cdc.gov/flu/weekly/fluviewinteractive.htm>.
Abbreviation: PP = percentage positive.

- 61% decrease in number of specimens tested for influenza, but a 98% decrease in the number testing positive
- Declines attributed to:
 - Fewer people left home to seek medical care
 - COVID-19 mitigation measures
- Inter-seasonal circulation is now at historical low

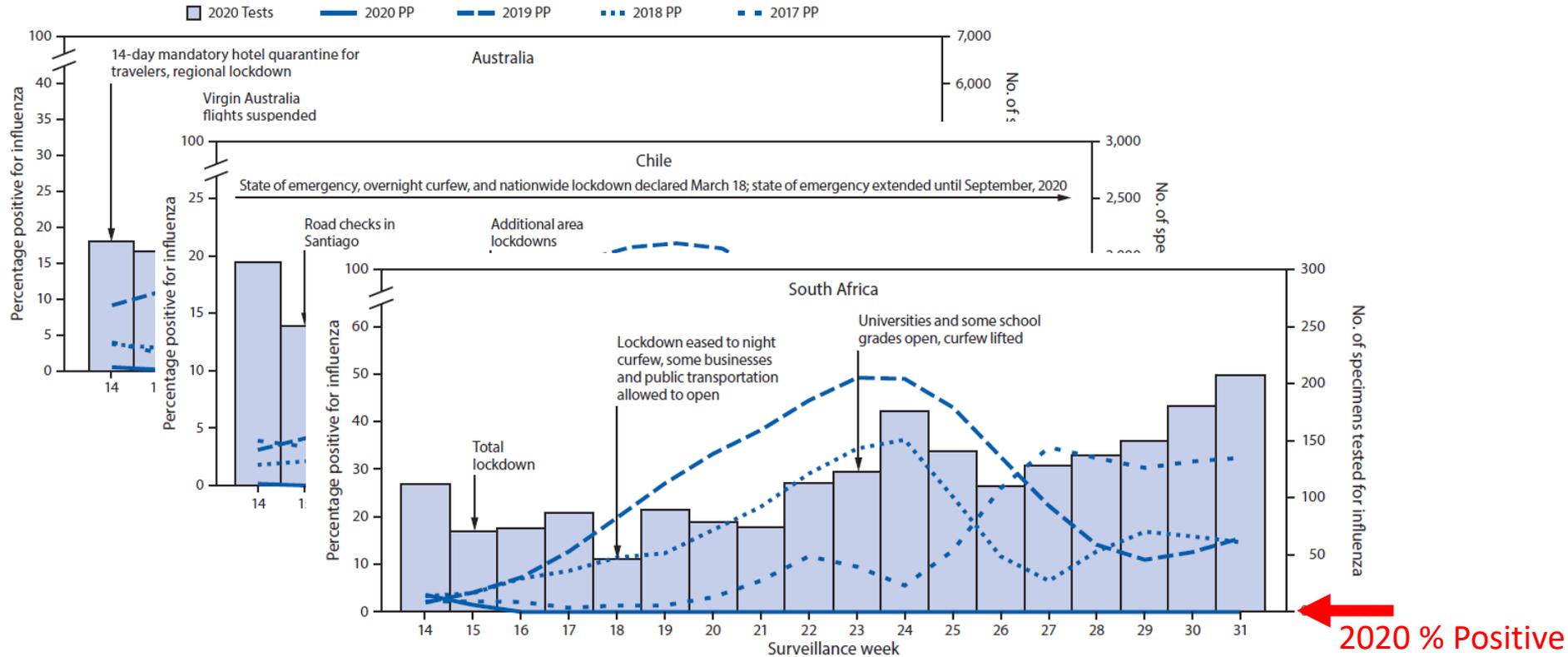
Southern Hemisphere: Australia, Chile, and South Africa with Absence of Influenza Circulation



Southern Hemisphere: Australia, Chile, and South Africa with Absence of Influenza Circulation



Southern Hemisphere: Australia, Chile, and South Africa with Absence of Influenza Circulation



Sources of 2020-2021 Influenza Season Data

- Updated surveillance information is available each Friday
 - FluView, static report: <https://www.cdc.gov/flu/weekly/>
 - FluView Interactive, online application: <https://www.cdc.gov/flu/weekly/fluviewinteractive.htm>
- Vaccine effectiveness estimates
 - Morbidity and Mortality Week Report (MMWR) updates: <https://www.cdc.gov/mmwr/index.html>
 - Advisory Committee on Immunization Practices (ACIP) meetings: <https://www.cdc.gov/vaccines/acip/meetings/index.html>

2020-2021 CDC Antiviral Treatment Recommendations

CDC Antiviral Treatment Recommendations

- 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
 - Is at high risk for influenza complications
- Antiviral treatment can be considered for any previously healthy, symptomatic outpatient not at high risk with confirmed or suspected influenza, if treatment can be initiated within 48 hours of illness onset
- Clinical benefit is greatest when antiviral treatment is given early

People at High Risk for Influenza Complications for whom Antiviral Treatment is Recommended

- Children <2 years old (although all children <5 years old are considered at high risk for complications, highest risk is for children <2 years old)
- Adults age 65 years and over
- Pregnant/postpartum women
- Children <18 years old receiving long-term aspirin therapy
- American Indians/Alaska Natives
- People with underlying medical conditions (e.g., pulmonary, cardiac, immunosuppression, neurologic and neurodevelopment conditions)
- Residents of nursing homes/chronic care facilities

Influenza Antiviral Medications, Route and Age Indications

Drug	Route	Age Indication
Oseltamivir	Oral	Any age
Zanamivir	Inhaled	≥ 7 years
Peramivir	Intravenous	≥ 2 years
Baloxavir	Oral	≥ 12 years

*Oral baloxavir marboxil is approved by the FDA for treatment of acute uncomplicated influenza within 2 days of illness onset in people 12 years and older. The safety and efficacy of baloxavir for the treatment of influenza have been established in pediatric patients 12 years and older weighing at least 40 kg.

2020-2021 ACIP Influenza Vaccination Recommendations Update

Groups Recommended for Vaccination

- Routine annual influenza vaccination is recommended for **all persons ≥ 6 months of age** who do not have contraindications
- Influenza vaccination is particularly important for certain groups
 - People aged ≥ 6 months who are at increased risk of influenza complications and severe illness
 - Contacts and caregivers of persons
 - < 5 years of age
 - ≥ 50 years of age
 - with medical conditions that put them at higher risk for severe complications from influenza

Groups at Increased Risk for Influenza Complications and Severe Illness

- **Children aged 6 through 59 months and adults aged ≥ 50 years** (children under 6 months of age are also at high risk, but cannot be vaccinated)
- **Persons with chronic medical conditions**, including pulmonary (including asthma) or cardiovascular (excluding isolated hypertension), renal, hepatic, neurologic, hematologic, or metabolic disorders (including diabetes mellitus)
- **Immunosuppressed persons**
- Women who are or will be **pregnant** during the influenza season
- **Children and adolescents** (aged 6 months–18 years) who are **receiving aspirin- or salicylate-containing medications** (who might be at risk for Reye syndrome after influenza virus infection)
- **Residents of nursing homes and other long-term care facilities**
- **American Indians/Alaska Natives**
- **Persons with severe obesity (BMI ≥ 40)**

2019-2020 ACIP Influenza Statement– Updates

- Principal changes and updates for the 2020-2021 influenza season:
 - Influenza vaccine composition for 2020-2021
 - Contraindications/precautions for use of live-attenuated influenza vaccine (LAIV4)
 - Recommendations for persons with severe egg allergy

2020-2021 Influenza Vaccine Composition

- Egg-based IIVs and LAIV4:
 - An A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus (*updated*)
 - An A/Hong Kong/2671/2019 (H3N2)-like virus (*updated*)
 - A B/Washington/02/2019 (Victoria lineage)-like virus (*updated*)
 - (IIV4s and LAIV4) a B/Phuket/3073/2013 (Yamagata lineage)-like virus.
- Cell-culture-based IIV4 and RIV4:
 - An A/Hawaii/70/2019 (H1N1)pdm09-like virus (*updated*)
 - An A/Hong Kong/45/2019 (H3N2)-like virus (*updated*)
 - A B/Washington/02/2019 (Victoria lineage)-like virus (*updated*)
 - A B/Phuket/3073/2013 (Yamagata lineage)-like virus.

Influenza Antivirals and LAIV4

- Previous guidance: antivirals from 48 hours before to 2 weeks after administration of LAIV4 may interfere with vaccine
- Newer antivirals peramivir and baloxavir have longer half-lives than oseltamivir and zanamivir
- Insufficient data available on use of LAIV4 in setting of antiviral use
- Based on half-lives and assuming normal clearance, reasonable to assume interference possible if antivirals are administered within these intervals:

Antiviral	Interval
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

LAIV4 Use for Persons with Asplenia, Cochlear Implant, and Active Cranial Cerebrospinal Fluid (CSF) Leak

- Insufficient data for LAIV4 use in these populations
- Alternative vaccines are available (IIVs)
- Persons with these conditions were added to list of contraindications for LAIV4 in ACIP recommendations for the 2020-2021 season
 - For cochlear implant, consultation with expert regarding risk for persistent CSF leak is recommended, if an injectable vaccine cannot be used

Vaccination of Persons with Egg Allergy

- Two egg free vaccines available:
 - Cell-culture-based inactivated vaccine (ccIIV4)
 - Recombinant influenza vaccine (RIV4) (licensed for adults 18 years or older)
- For persons with severe egg allergy (any reaction not limited to hives)
 - any licensed, recommended, age-appropriate influenza vaccine may be given
 - if a vaccine other than ccIIV4 or RIV4 is selected, vaccine should be administered in an inpatient or outpatient medical setting, supervised by a health care provider who is able to recognize and manage severe allergic reactions
- Severe allergic reactions to vaccines can occur at any time, even without a history of previous reaction so all vaccine providers should be familiar with office emergency plans and be certified in cardiopulmonary resuscitation

Influenza Vaccines for Children 6 through 35 months

- Four IIVs licensed for this age group
- Licensed dose volumes for this age group differ
 - *FluLaval Quadrivalent* (IIV4, GSK) 0.5 mL
 - *Fluarix Quadrivalent* (IIV4, GSK) 0.5mL
 - *Afluria Quadrivalent* (IIV4, Seqirus) 0.25 mL
 - *Fluzone Quadrivalent* (IIV4, Sanofi Pasteur) 0.25 mL **or** 0.5 mL
- Some potential for confusion regarding doses
- Fluzone Quadrivalent 0.25 mL prefilled syringes will not be available for 2020–21

Influenza Vaccines Can Protect Children from Severe Influenza

- A new CDC study of the 2018-2019 influenza season published in the journal *Pediatrics** found
 - flu vaccination reduced influenza-related hospitalization by 41% and emergency department visits by half among children
 - significant protection against these serious complications despite a suboptimal match for one vaccine component (A/H3N2)
- Prior studies have demonstrated that influenza vaccination can reduce influenza-related illnesses, doctor's visits, missed work and school days, hospitalizations and deaths**

*Campbell et al. *Pediatrics*. Vaccine Effectiveness Against Pediatric Influenza Hospitalizations and Emergency Visits. DOI: 10.1542/peds.2020-1368

**<https://www.cdc.gov/flu/prevent/vaccine-benefits.htm>

Upcoming 2020-2021 U.S. Influenza Season

- It is unclear what impact the ongoing COVID-19 pandemic will have on the upcoming influenza season in the U.S.
 - Influenza viruses and SARS-CoV-2 may co-circulate.
 - People may be co-infected with influenza and SARS-CoV-2.
 - There may be less influenza than usual because of social distancing and other measures to reduce COVID-19.
- SARS-CoV-2 and influenza co-circulation could place tremendous burden on the health care system and cause many illnesses, hospitalizations, and deaths.
- **Annual influenza vaccination is the most effective way to prevent influenza**

Additional CDC Resources

- CDC Influenza homepage: <https://www.cdc.gov/flu/>
- Influenza surveillance: <https://www.cdc.gov/flu/weekly/fluactivitysurv.htm>
- Influenza vaccination coverage: <https://www.cdc.gov/flu/fluview/index.htm>
- For Professionals: <https://www.cdc.gov/flu/professionals/index.htm>
 - Vaccination homepage:
<https://www.cdc.gov/flu/professionals/vaccination/index.htm>
 - 2020-21 ACIP Influenza Recommendations:
<https://www.cdc.gov/mmwr/volumes/68/rr/rr6803a1.htm>
 - Antiviral homepage:
<https://www.cdc.gov/flu/professionals/antivirals/index.htm>
- For Children (created by CDC and endorsed by the AAP): activity book
 - https://www.cdc.gov/phpr/readywrigley/documents/ready_wrigley_flu.pdf



Thank You

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

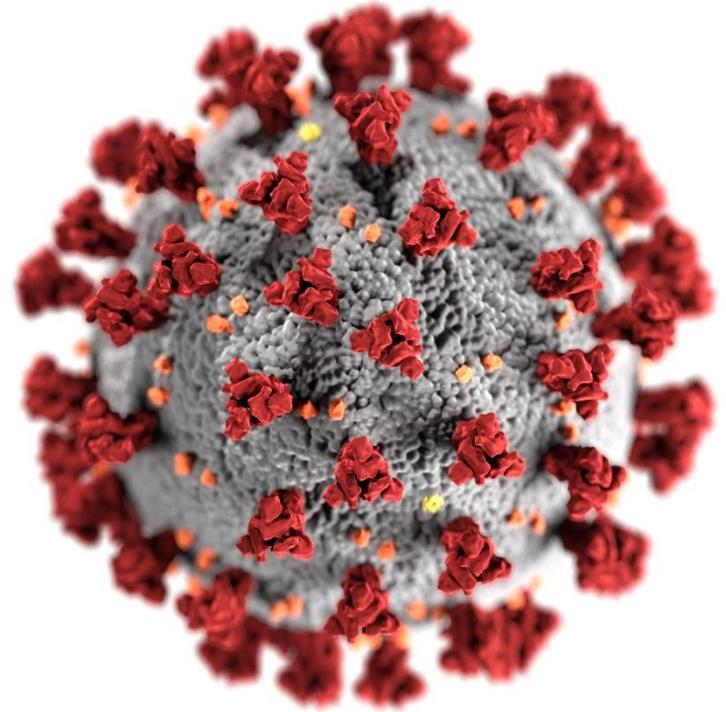


COVID-19 in Children

Anne Kimball, MD, MPH

Epidemic Intelligence Service Officer

CDC's COVID-19 Response



cdc.gov/coronavirus

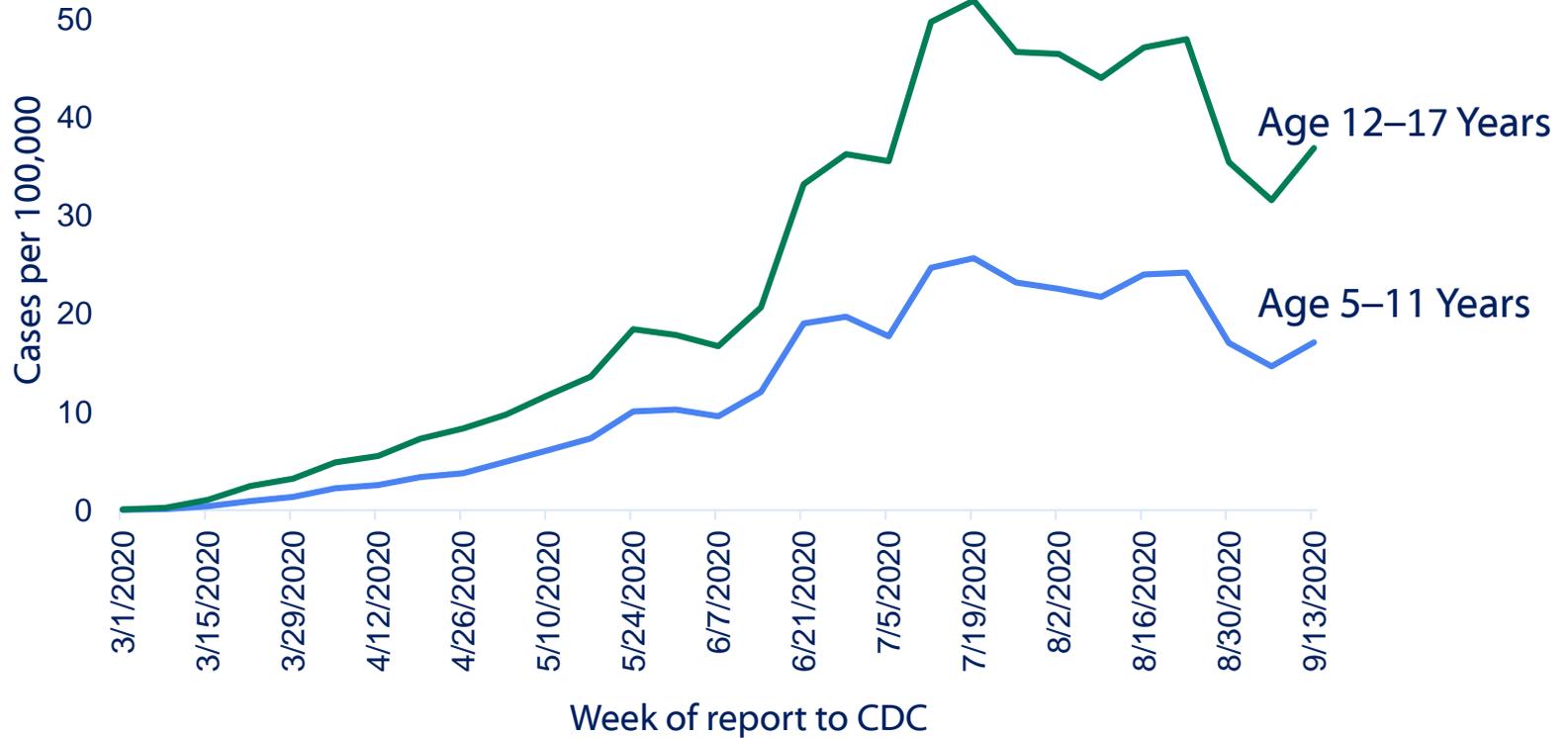
Epidemiology of COVID-19 in Children



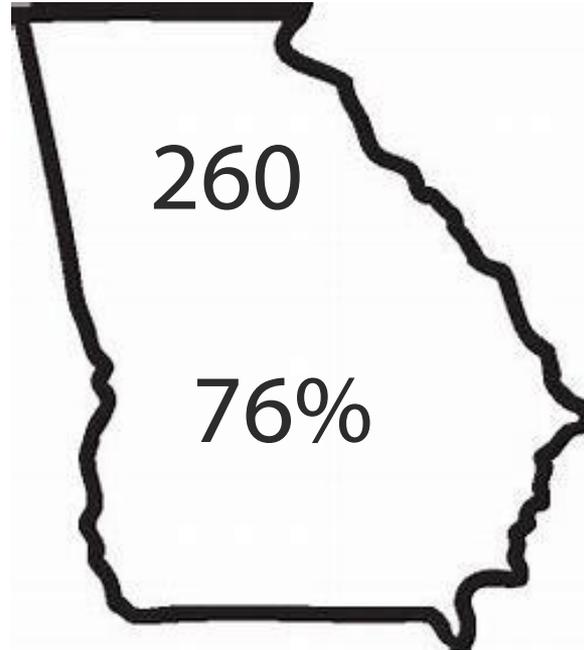


While 22% of the US population are children, only 8.6% of all cases of COVID-19 and <0.1% of all deaths from COVID-19 in the US reported to CDC were in children aged <18 years as of October 4, 2020.

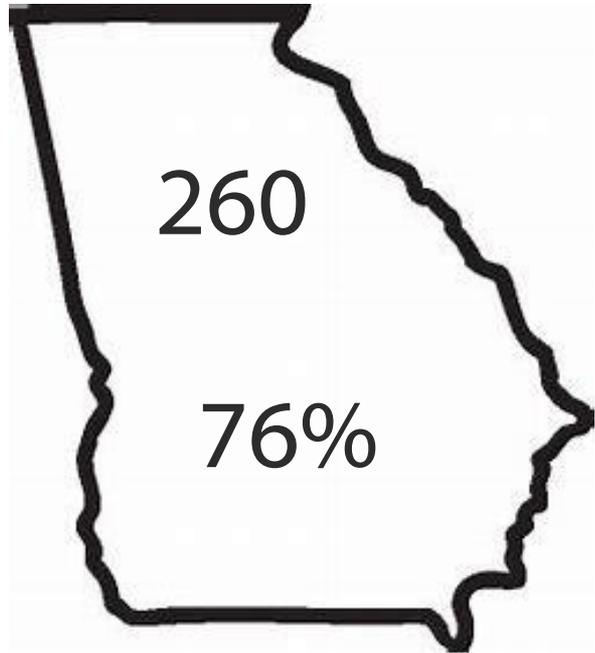
Weekly Incidence of COVID-19 Among US School-Aged Children Increased from March to September 2020



Outbreak in Overnight Summer Camp in Georgia

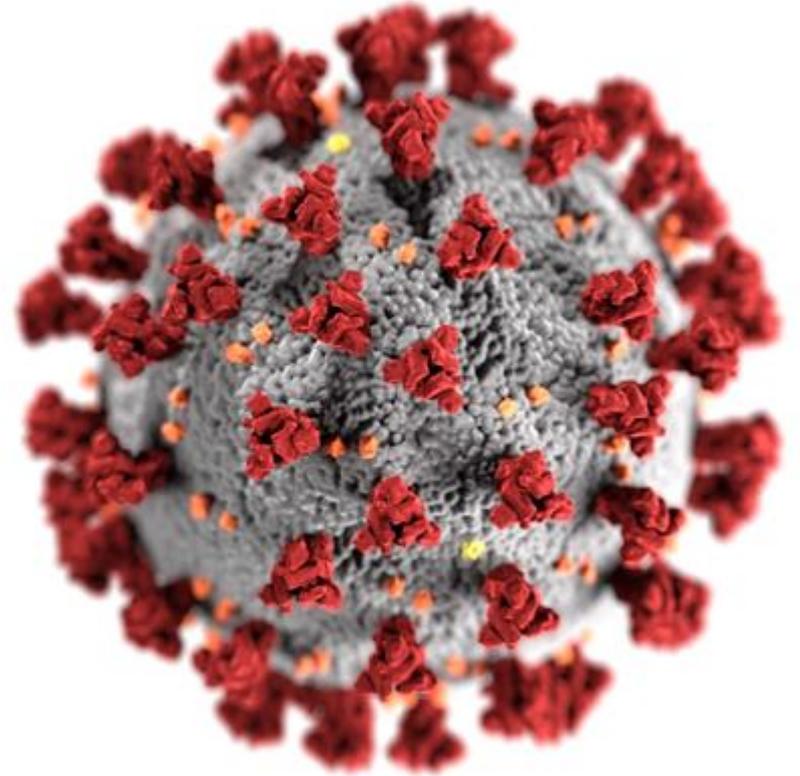


Outbreak in Overnight Summer Camp in Georgia



Age Group	Attack Rate
6-10 years	51%
11-17 years	44%
18-21 years	33%
22-59 years	29%

Recent evidence suggests that children can transmit SARS-CoV-2 effectively.

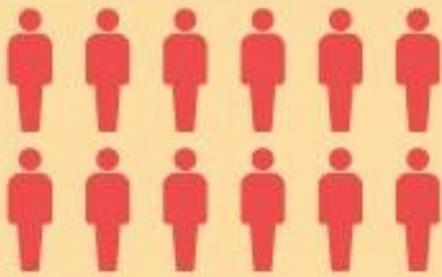


Yonker LM, et al. Pediatric SARS-CoV-2: Clinical Presentation, Infectivity, and Immune Responses. *Journal of Pediatrics*.
L'Huillier AG. Culture-Competent SARS-CoV-2 in Nasopharynx of Symptomatic Neonates, Children, and Adolescents. *Emerging Infectious Diseases*.
Teherani MF, et al. Burden of Illness in Households with SARS-CoV-2-Infected Children. *Journal of Pediatric Infectious Diseases Society*.

Children who likely got COVID-19 at two Utah child care centers spread it to household members



12 kids likely got COVID-19 in 2 child care centers; 3 didn't have symptoms



12 people who had contact with the children outside the child care centers got infected* including some parents and siblings



1 parent required hospitalization

SLOW THE SPREAD OF COVID-19 IN CHILD CARE CENTERS

*confirmed or probable

Symptoms and Severity of COVID-19 in Children



Signs and Symptoms in Children Include:

- Fever
- Cough
- Fatigue
- Headache
- Myalgia
- Nasal congestion or rhinorrhea
- New loss of taste or smell
- Sore throat
- Shortness of breath or difficulty breathing
- Abdominal pain
- Diarrhea
- Nausea or vomiting
- Poor appetite or poor feeding
- No symptoms

Signs and Symptoms in Children Include:

■ Fever

■ Cough

- Fatigue
- Headache
- Myalgia
- Nasal congestion or rhinorrhea
- New loss of taste or smell

- Sore throat
- Shortness of breath or difficulty breathing
- Abdominal pain
- Diarrhea
- Nausea or vomiting
- Poor appetite or poor feeding
- No symptoms

Signs and Symptoms in Children Include:

- Fever
- Cough
- Fatigue
- Headache
- Myalgia
- Nasal congestion or rhinorrhea
- *New loss of taste or smell*
- Sore throat
- Shortness of breath or difficulty breathing
- Abdominal pain
- Diarrhea
- Nausea or vomiting
- Poor appetite or poor feeding
- No symptoms

Asymptomatic Infections in Children

- Meta-analysis of 28 articles estimated that 16% of children with SARS-CoV-2 infection are asymptomatic.
- A recent study from Korea found that 22% of children were asymptomatic.
 - Tested due to symptoms, close contact, or epi link
 - Followed children through negative PCR testing

Outcomes

- Children with SARS-CoV-2 are less likely to develop severe illness compared with adults.
 - Lower rates of hospitalization, mechanical ventilation, and death
- Children can develop severe illness and complications from COVID-19.



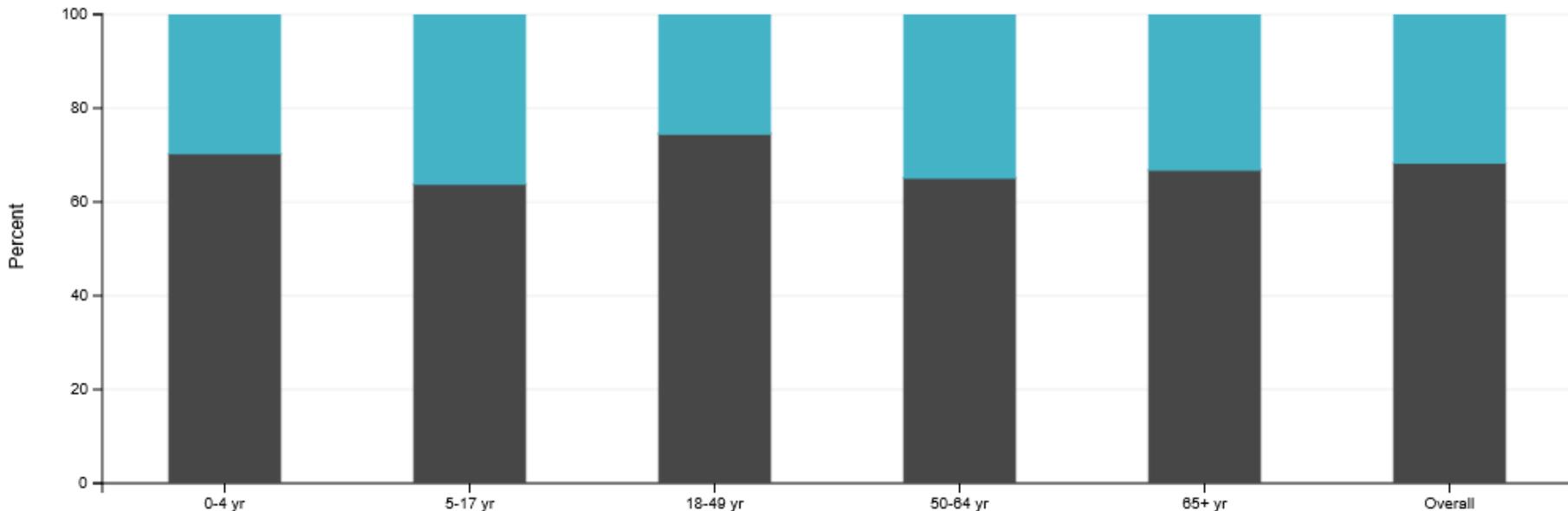
COVID-19 Laboratory-Confirmed Hospitalizations

Preliminary data as of Sep 26, 2020

Characteristics Of Covid-19-associated Hospitalizations

Intensive care unit by Age

Yes No



N = 58,088 hospitalizations. COVID-NET: COVID-19 Associated Hospitalization Surveillance Network.

Complications of COVID-19 and SARS-CoV-2 in Children

- Respiratory failure
- Myocarditis
- Shock
- Acute renal failure
- Multi-organ system failure
- Coagulopathy



Complications of COVID-19 and SARS-CoV-2 in Children

- Respiratory failure
 - Myocarditis
 - Shock
 - Acute renal failure
 - Multi-organ system failure
 - Coagulopathy
-
- Multisystem inflammatory syndrome in children (MIS-C)



Risk for Severe Illness

- Children with underlying medical conditions are at increased risk for severe illness from SARS-CoV-2 infection.
 - Obesity, medical complexity, severe genetic disorders, severe neurologic disorders, inherited metabolic disorders, congenital heart disease, diabetes, asthma and other chronic lung disease, and immunosuppression due to malignancy or medications.
- Infants (age <1 year) might be at increased risk for severe illness.

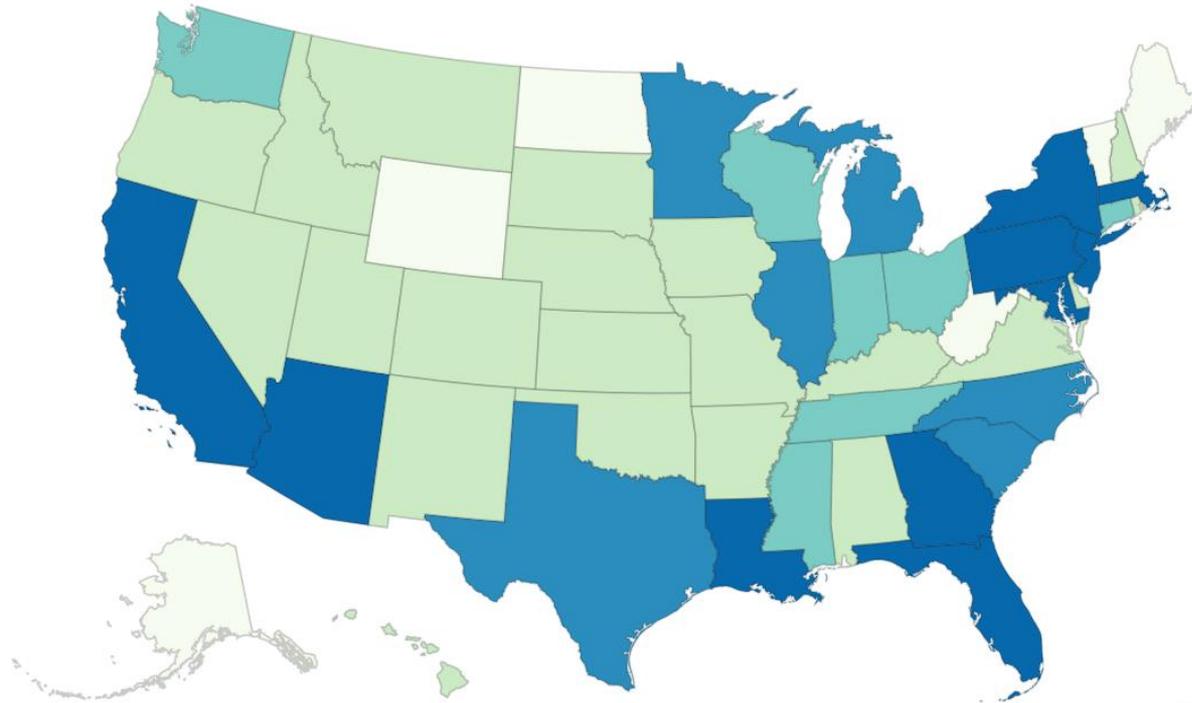
121 Children (Age <21 Years) Died with SARS-CoV-2

- 63% were male
- 70% aged 10–20 years
- 45% Hispanic or Latino, 29% Black or African American
- 75% had an underlying medical conditions

Multi-System Inflammatory Syndrome in Children (MIS-C)

- MIS-C is a rare but serious inflammatory syndrome that develops 2-4 weeks after infection with SARS-CoV-2.
- Risk factors for development of MIS-C are not known.
 - 73% of 186 cases were previously healthy.
- Consider MIS-C in a child with fever, inflammation, clinically severe illness, and evidence of multisystem organ dysfunction.
- Evaluation:
 - Laboratory testing: markers of inflammation, SARS-CoV-2 RT-PCR or antigen, SARS-CoV-2 serology, cardiac enzymes, BNP
 - Other evaluations: ECHO, EKG

As of October 1st, 1,027 cases of MIS-C have been reported to CDC, with 20 deaths.



Reported MIS-C Cases

- No cases reported
- 1-10
- 11-20
- 21-30
- 31+

Territories

AS GU MH FM MP PW PR VI



Testing for SARS-CoV-2 and Isolation Guidance for Children



Children Should Be Tested for SARS-CoV-2 If:

- Have signs or symptoms of COVID-19 **AND** increased likelihood for exposure
 - Living in or traveling to a community with substantial transmission
- Had close contact with a person with SARS-CoV-2, regardless of symptoms
 - Within 6 feet for a total of 15 minutes or more
- 24-72 hours prior to elective surgery

Recommendations for Testing and Return to School

- **Symptoms AND either close contact (6 feet, 15 minutes) or increased likelihood for exposure (substantial community transmission) → Test for SARS-CoV-2 by PCR**



Recommendations for Testing and Return to School

- **Symptoms AND either close contact (6 feet, 15 minutes) or increased likelihood for exposure (substantial community transmission) → Test for SARS-CoV-2 via PCR**
 - If positive → 10 days isolation from symptom onset
 - If negative and increased likelihood → Return per non-COVID policies (afebrile for 24 hours)
 - If negative and close contact → Quarantine for 14 days
 - If no testing, presume to be COVID-19 → 10 days isolation from symptom onset

Recommendations for Testing and Return to School

- **Symptoms** but **NO** close contact or increased likelihood for exposure → Clinically evaluate for other etiologies
 - If likely NOT COVID-19 → Return per non-COVID policies
- **Close contact** with someone with SARS-CoV-2 → Test
 - Must remain in **quarantine** for the 14-day incubation period even if test is negative, in accordance with CDC's quarantine guidance

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/pediatric-hcp.html>



COVID-19 vs. Influenza in Children

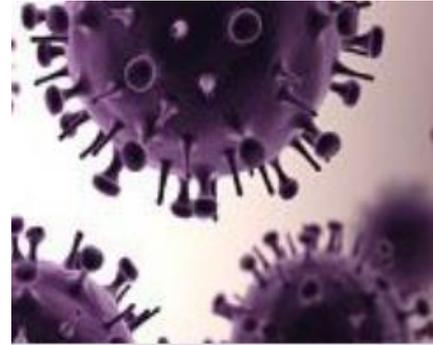
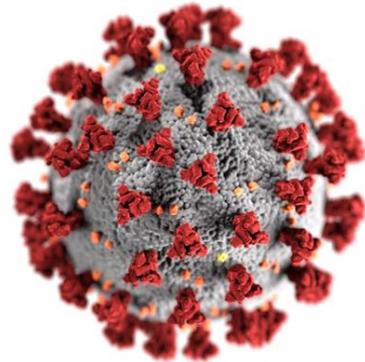


Outcomes of US Children with COVID-19 and Seasonal Influenza Are Similar

	COVID-19	Influenza A & B
Number tested +	315	1402
Proportion hospitalized	17%	21%
Proportion required ICU	6%	7%
Proportion required mechanical ventilation	3%	2%
Proportion required ICU among hospitalized	33%	34%
Age among hospitalized, median (range)	10 (0-23)	4 (0-23)
Proportion with underlying medical condition among hospitalized	65%	42%

Co-Infection

- Co-infection with influenza A or B viruses and SARS-CoV-2 can occur and should be considered, particularly with severe illness and when there is community co-circulation.
 - A positive test result for either influenza virus or SARS-CoV-2 does not exclude infection with the other.



<https://www.cdc.gov/flu/professionals/diagnosis/table-flu-covid19-detection.html>

<https://www.fda.gov/medical-devices/coronavirus-disease-2019-covid-19-emergency-use-authorizations-medical-devices>

Co-Circulation

As symptoms are similar, understanding of community epidemiology and testing will be your main tools.

- Monitor levels of influenza and SARS-CoV-2 in your community from your local health department and local hospital laboratory
- Test to distinguish between influenza virus infection and SARS-CoV-2 infection and to inform local epidemiology.

Management Considerations with Co-Circulation

- Do not wait for the results of influenza and SARS-CoV-2 testing to initiate empiric antiviral treatment for influenza if indicated and suspected.
- Obtaining viral testing will be very important for public health, clinical decision making, and infection prevention and control recommendations.
- If you have suspicion for SARS-CoV-2 based on symptoms, community prevalence, and individual exposures, recommend 10 days of isolation.
- Remind families about the importance of prevention!

References for Management of COVID-19 in Children

- Evaluation and Management of Neonates at risk for COVID-19:
<https://www.cdc.gov/coronavirus/2019-ncov/hcp/caring-for-newborns.html>
- AAP COVID-19 Clinical Guidance: <https://services.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/clinical-guidance/>
- NIH COVID-19 Treatment Guidelines — Special Considerations for Children:
<https://www.covid19treatmentguidelines.nih.gov/special-populations/children/>
- Infectious Diseases Society of America guidelines:
<https://www.idsociety.org/practice-guideline/covid-19-guideline-treatment-and-management/>

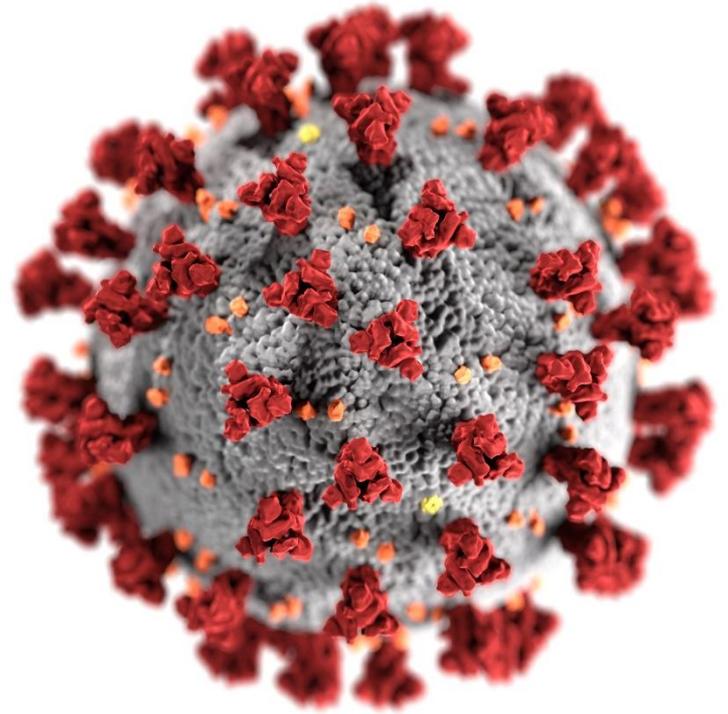
Thank you.

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Shana Godfred Cato, Fatimah Dawood, Angie
Campbell, Tim Uyeki

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



2020-2021 Influenza Recommendations for Children from the American Academy of Pediatrics

COCA call, 08 OCT 2020

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LEARNING OBJECTIVES

- Share the AAP recommendations for influenza immunization during the 2020-21 season
- Discuss and learn about upcoming considerations for influenza and COVID-19 during the upcoming flu season, including planning for vaccine administration



2020-2021 AAP RECOMMENDATIONS

POLICY STATEMENT Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children

American Academy
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN®

Recommendations for Prevention and Control of Influenza in Children, 2020–2021

Committee on Infectious Diseases

Early release:
September 8, 2020

Publication:
October issue of Pediatrics
Pediatrics. 2020;146(4):e2020024588

This statement updates the recommendations of the American Academy of Pediatrics for the routine use of influenza vaccine and antiviral medications in the prevention and treatment of influenza in children during the 2020–2021 season.

The American Academy of Pediatrics (AAP) recommends routine influenza immunization of all children without medical contraindications, starting at 6 months of age. Influenza vaccination is an important intervention to protect vulnerable populations and reduce the burden of respiratory illnesses during the severe acute respiratory syndrome-coronavirus 2 (SARS-CoV-2) pandemic. Any licensed, recommended, age-appropriate vaccine available can be administered, without preference for one product or formulation over another.

abstract

Policy statements from the American Academy of Pediatrics benefit from expertise and resources of liaisons and internal (AAP) and external reviewers. However, policy statements from the American Academy of Pediatrics may not reflect the views of the liaisons or the organizations or government agencies that they represent.

The guidance in this statement does not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

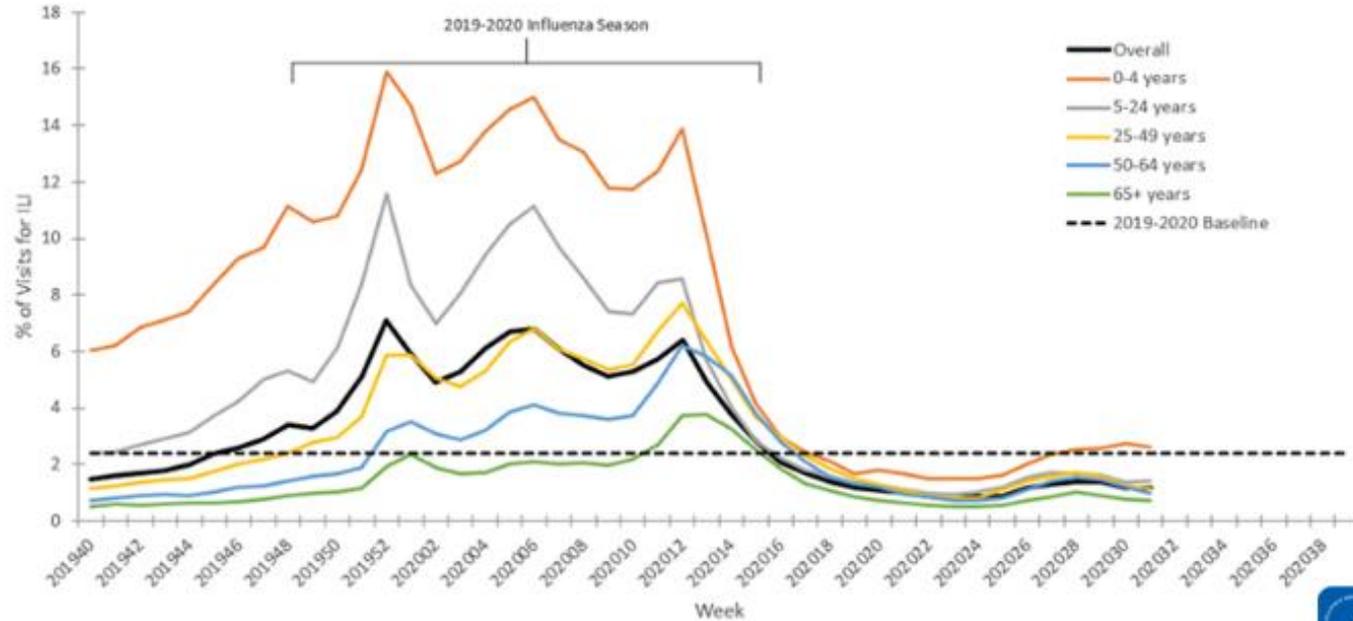
All policy statements from the American Academy of Pediatrics

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2019-2020 INFLUENZA SEASON

Percentage of Visits for Influenza-Like Illness (ILI)
Reported by the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet),
Weekly National Summary, September 29, 2019 – August 1, 2020



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FLU AND COVID-19

- It is likely that flu viruses and the virus that causes COVID-19 will both be spreading this fall.
- It is possible to have flu and COVID-19 at the same time.
- Because some of the symptoms of flu and COVID-19 are similar, it may be difficult to tell the difference between them based on symptoms alone and testing may be needed to help confirm a diagnosis.



Influenza and COVID-19 Similarities and Differences in Children

Influenza

- Similar clinical presentation in respiratory and systemic symptoms, including fever or no fever
- Incubation period: 1-4 days (average 2 days)
- Virus shedding: 1 day before to ~ 7 days after onset of symptoms
- Transmission: Person to person mainly by droplets, contact and nearby aerosols
- People at risk for complications: Youngest children < 5 years of age.
- Effective Treatment is available
- Effective vaccine is available

COVID-19

- COVID-19 may present with change in or loss of taste or smell.
- Incubation period: 2-14 days (average 5 days)
- Virus shedding: 2 days before and at least 10 days or more after onset of symptoms
- Transmission mechanisms are similar, but COVID-19 is more contagious among certain populations and than the flu
- School aged children and adolescents are at greater risk for MIS-C, a rare but serious complication of COVID-19; and acutely for cardiovascular disease
- No approved treatments or vaccines



Impact of influenza in children



✓ *10-40% of healthy children can be infected with influenza each year.*

During the influenza season, children

- Have the highest attack rates, particularly school-aged children
- Play a crucial role in influenza transmission
- Experience elevated morbidity and complications
- Are at increased risk of hospitalization (< 5 yr)
- Have a higher chance of seeking influenza-related medical care

GROUPS AT RISK FOR SEVERE FLU AND COVID-19 ILLNESS

- Healthy children have complications from influenza, likely more than from COVID-19.
 - Young children are at higher risk of severe illness from flu
 - School-aged children infected with COVID-19 are at higher risk of Multisystem Inflammatory Syndrome in Children (MIS-C)
- Children with underlying medical conditions are at increased risk for both flu and COVID-19 complications.

<https://www.cdc.gov/flu/symptoms/flu-vs-covid19.htm#table>



SIMILAR RISK FACTORS FOR COMPLICATIONS COVID-19 AND FLU

- **Primary or acquired immune deficiency**
 - Bone marrow or solid organ transplant recipient, GVHD, chemotherapy for a malignancy (active or within the previous 6 months), HIV with CD4 <30% for ≤12 months old; <25% for 12–35 months; <20% for 36–59 months; or <350 for all other ages; receiving immunosuppressive or immunomodulatory treatments (e.g., high-dose steroids [≥2 mg/kg/day of systemic prednisone or equivalent for ≥14 days],
- **Cardiac disease** particularly if hemodynamically significant (e.g. congenital heart disease, heart failure, etc)
- **Chronic lung disease** (e.g. asthma, cystic fibrosis, bronchiectasis, chronic lung disease of prematurity, tracheostomy / ventilator dependency, restrictive lung disease, neuromuscular disease...)
- **Chronic kidney disease** (e.g. ESRD, dialysis, etc)
- **Obesity** (BMI > 30 or age based)
- **Type 2 diabetes mellitus**
- **Sickle cell disease**
- **Children < 1 year of age**



FLU AND COVID-19: TESTING

- Testing for both influenza and COVID-19 is appropriate during the respiratory virus season for **patients with symptoms**.
- Testing for COVID is also recommended for:
 - Close contact with a person with confirmed COVID-19 infection
 - Screening for elective surgery, admission, etc. – based on local policies
- **PCR testing** is recommended for diagnosis of both flu and COVID.
- Various PCR tests are available, including tests for influenza A/B and SARS-CoV-2.
- Rapid antigen testing may be useful if possible.
- Be aware of your local prevalence for both viruses

<https://services.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/clinical-guidance/covid-19-testing-guidance/>



ANNUAL INFLUENZA VACCINE RECOMMENDATIONS AAP

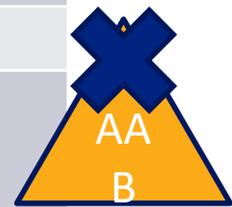
- AAP recommends annual influenza vaccination for all children and 6 months of age and older and adults.
- For the 2020-2021 season any licensed influenza vaccine appropriate by age and health status can be used for influenza vaccination in children.
- The AAP does not have a preference for any influenza vaccine product over another for children with no contraindications to influenza vaccination and for whom more than one licensed, aged appropriate product is available.



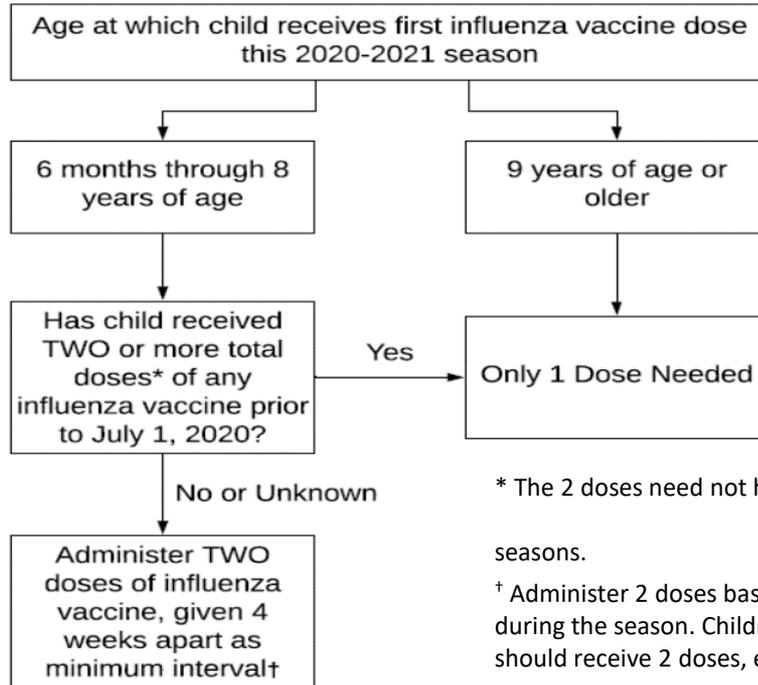
PEDIATRIC VACCINES 2020-2021

Vaccine	Presentation	Indication	Antigen content
IIV4 Egg based			
Afluria (Seqirus)	0.25 ml PFS	6-35 mo	7.5 ug/0.25 ml
	0.5 ml PFS	≥ 36 mo	15 ug/0.5 ml
	5 ml MDV	≥ 6 mo	
Fluarix (GSK)	0.5 ml PFS	≥ 6 mo	15 ug/0.5 ml
FluLaval (GSK)	0.5 ml PFS	≥ 6 mo	15 ug/0.5 ml
Fluzone (Sanofi Pasteur)	0.5 ml PFS	≥ 6 mo	15 ug/0.5 ml
	0.5 ml SDV	≥ 6 mo	
	5 ml MDV	≥ 6 mo	
cIIIV4 Cell culture based			
Flucelvax (Seqirus)	0.5 ml PFS	≥ 4 yr	15 ug/0.5 ml
	5 ml MDV	≥ 4 yr	
LAIV4 - Live attenuated influenza vaccine – Egg based			
FluMist (AztraZeneca)	0.2 ml PF Sprayer	≥ 2 yr	10 ^{6.5-7.5} fluorescent focus units

AA/BB



NUMBER OF 2020–2021 SEASONAL INFLUENZA VACCINE DOSES FOR CHILDREN



**GOAL:
COMPLETE
IMMUNIZATION
BY END OF
OCTOBER**

* The 2 doses need not have been received during the same season or consecutive seasons.

† Administer 2 doses based on age at receipt of the first dose of influenza vaccine during the season. Children who receive the first dose prior to their ninth birthday should receive 2 doses, even if they turn 9 years old during the same season.

COMPOSITION OF 2020-2021 INFLUENZA VACCINES

- Both influenza A(H1N1) and A(H3N2) and the B/Victoria components are **NEW** in this season's vaccine.
- The B/Yamagata component is unchanged.
- All are matched to the strains expected to circulate in the 2020–2021 season.
 - **A(H1N1)**: A/Guangdong-Maonan/SWL1536/2019 (H1N1) pdm09-like virus
 - **A(H3N2)**: A/Hong Kong/2671/2019 (H3N2)-like virus (new this season)
 - B/Washington/02/2019-like virus (**B/Victoria**/2/87 lineage)
 - B/Phuket/3073/2013-like virus (B/Yamagata/16/88 lineage)



UPDATES FOR THE 2020-2021 INFLUENZA SEASON

- The contraindications for live attenuated influenza vaccine (LAIV) have been updated to harmonize with recommendations of the CDC Advisory Committee on Immunization Practices (ACIP)
- The importance of influenza vaccination during the SARS-CoV-2 pandemic is emphasized
- No issues with influenza vaccine supply are anticipated



EGG ALLERGY AND FLU VACCINES

- Egg allergy **does not increase risk** of anaphylactic reaction to vaccination with inactivated influenza vaccines*
- Children with egg allergies can receive any licensed, recommended vaccine that is age appropriate, with **no special precautions than those recommended for other routine vaccines.**
- Children with a history of allergic reaction to previous influenza vaccination
 - Should be evaluated by allergist to determine if influenza vaccination could be administered
 - Vaccine administration should be supervised by a health care provider who is able to recognize and manage allergic conditions.

*Based on 28 studies evaluating 4,315 egg-allergic subjects (656 with severe allergies)



AAP RECOMMENDATIONS FOR TREATMENT OF INFLUENZA IN CHILDREN

- Does not require laboratory confirmation
- **Offer antiviral treatment *** to children:
 - Hospitalized for suspected or confirmed influenza illness
 - Hospitalized with severe, complicated, or progressive illness attributable to influenza
 - At high risk for complications of influenza with suspected or confirmed influenza of any severity
- **Consider treatment**
 - In any healthy child with suspected or confirmed influenza when treatment can be administered within 48 hrs of onset of symptoms
 - Healthy children with suspected or confirmed influenza who live with high risk persons at home

* Regardless of duration of symptoms



ANTIVIRALS FOR INFLUENZA

Drug (Trade Name)	Virus	Route	Treatment ^{a,b}	Chemoprophylaxis ^d	Adverse Effects
Oseltamivir (Tamiflu)	A and B	PO	Birth or older ^c	≥ 3 mo	Nausea, vomiting
Zanamivir (Relenza)	A and B	Inhalation	≥ 7 y	≥ 5 y	Bronchospasm
Peramivir (Rapivab)	A and B	IV	≥ 2 y	NA	Diarrhea; some reports of skin reactions. Neuropsychiatric events
Baloxavir (Zoflaxa)	A and B	PO	≥ 12 yr	NA	Resistance

- a. Treatment within 48 hr of onset of illness has greatest effect in reduction of symptoms and duration of illness
- b. No antiviral is specifically approved for severe influenza, but observational studies support effect on reduction of complications, and most experts support use
- c. FDA approved for children 2 wk of age and older but AAP supports use from birth in term and preterm infants
- d. Chemoprophylaxis: High risk children who cannot get vaccinated or may not respond to vaccine; within 2 weeks after vaccination if circulation of influenza, contacts of HR patients, control of outbreaks



2020-21 INFLUENZA SEASON CHALLENGES

- Unknown impact of co-infection on morbidity/mortality
- Impact of the pandemic on immunizing patients
 - Patients accessing care
 - Access to vaccines (VFC, private)
 - Implementation of enhanced infection control measures and pandemic control strategies
- Need to defer vaccination for COVID positive or suspected positive patients



2020-2021 INFLUENZA VACCINE ADMINISTRATION: CONSIDERATIONS DURING THE PANDEMIC

- Vaccination in the medical home is ideal
- Routine care, routine immunizations, and catch up vaccinations in addition to influenza vaccination!
- Maintain infection prevention measures: screening for symptoms, physical distancing, respiratory and hand hygiene.
- AAP recommends following the CDC [Interim Guidance for Immunization Services During the COVID-19 Pandemic](#).
 - IIV: Surgical face mask + eye protection
 - LAIV: Surgical face mask + eye protection + gloves



PLANNING FOR FALL 2020 INFLUENZA VACCINATION

- Interest from patients in flu vaccination may be higher this season
- Plan for communication with patients around:
 - Importance of influenza vaccination
 - Ability to vaccinate safely in the office setting
 - Messaging to vaccine-hesitant parents
- Innovative ideas for vaccination
 - Adapting to current infection prevention practices while ensuring timely vaccination (drive through vaccination, mobile units, vaccine appointments and outreach, etc.)



SUMMARY

- Co-circulation of influenza viruses and SARS-CoV-2 is expected this winter
- Influenza and COVID-19 may be clinically similar and affect similar pediatric populations who are at risk for complications
- Testing for influenza and SARS-CoV-2 is recommended in symptomatic patients and high-risk patients
- Flu vaccination and treatment will help reduce the overall impact of respiratory illnesses on the population and thus lessen the resulting burden on the healthcare system during the COVID-19 pandemic



ADDITIONAL RESOURCES

- CDC [Fight Flu Toolkit](#)
- AAP: [Critical Updates on COVID-19](#)
- AAP: [Immunizations](#)
- AAP Red Book: <http://redbook.solutions.aap.org/redbook.aspx>
- Email: covid-19@aap.org



The screenshot shows the American Academy of Pediatrics (AAP) website. The header includes the AAP logo and tagline "DEDICATED TO THE HEALTH OF ALL CHILDREN®". Navigation links include "My Collaboration Sites", "Early Career", "Pediatric Training", "International", and "HealthyChildren.org". A search bar is present with the text "Search...". The main content area is titled "Immunizations" and features a large image of a healthcare professional wearing gloves examining a child's arm. Text on the page includes "CDC Resources for Encouraging Vaccinations During COVID-19 Pandemic" with a "View Here" button. A sidebar on the left lists various resources like "Immunizations Homepage", "Influenza Implementation Guidance", and "Policy and Advocacy". A "RESOURCES" section on the right highlights "The Immunization Schedule Now for 2020" and "Information for Parents".

To Ask a Question

- Using the Zoom Webinar System
 - Click on the “Q&A” button.
 - Type your question in the “Q&A” box.
 - Submit your question.
- For media questions, please contact CDC Media Relations at 404-639-3286 or email media@cdc.gov.

Continuing Education

All continuing education for COCA Calls is issued online through the CDC Training & Continuing Education Online system at <https://tceols.cdc.gov/>

Those who participate in today's COCA Call and wish to receive continuing education please complete the online evaluation by **November 9, 2020**, with the course code **WC2922-100820**. The access code is **COCA100820**. Those who will participate in the on-demand activity and wish to receive continuing education should complete the online evaluation between **November 10, 2020**, and **November 10, 2022**, and use course code **WD2922-100820**. The access code is **COCA100820**.

Continuing education certificates can be printed immediately upon completion of your online evaluation. A cumulative transcript of all CDC/ATSDR CEs obtained through the CDC Training & Continuing Education Online System will be maintained for each user.

Today's COCA Call Will Be Available On-Demand

- **When:** A few hours after the live call
- **What:** Video recording
- **Where:** On the COCA Call webpage at https://emergency.cdc.gov/coca/calls/2020/callinfo_100820.asp

Upcoming COCA Calls

- **When:** Thursday, October 22 at 2:00 PM EDT
- **Topic:** Leveraging Existing Resources to Meet the Challenges Faced by People Who Use Drugs or Who Have Substance Use Disorders During the COVID-19 Pandemic
- Visit our COCA Call page at emergency.cdc.gov/coca.
- Subscribe to receive notifications about upcoming COCA calls.
emergency.cdc.gov/coca/subscribe.asp
- Share call announcements with colleagues.

COCA Products & Services



The logo for COCA Call features a blue horizontal bar with the text "COCA Call" in white. To the left of the bar are four icons: a white speech bubble on a blue square, a white stethoscope on a red square, a white syringe on a green square, and a white biohazard symbol on an orange square.

COCA Call
CDC Clinician Outreach
and Communication Activity

COCA Call Announcements contain all information subscribers need to participate in COCA Calls. COCA Calls are held as needed.



The logo for COCA Learn features a green horizontal bar with the text "COCA Learn" in white. To the left of the bar are four icons: a white speech bubble on a blue square, a white stethoscope on a red square, a white syringe on a green square, and a white biohazard symbol on an orange square.

COCA Learn
CDC Clinician Outreach
and Communication Activity

Monthly newsletter that provides information on CDC training opportunities, conference and training resources, the COCA Partner Spotlight, and the Clinician Corner.



The logo for Clinical Action features a red horizontal bar with the text "Clinical Action" in white. To the left of the bar are four icons: a white speech bubble on a blue square, a white stethoscope on a red square, a white syringe on a green square, and a white biohazard symbol on an orange square.

Clinical Action
CDC Clinician Outreach
and Communication Activity

As-needed messages that provide specific, immediate action clinicians should take. Contains comprehensive CDC guidance so clinicians can easily follow recommended actions.

COCA Products & Services



Monthly newsletter providing updates on emergency preparedness and response topics, emerging public health threat literature, resources for health professionals, and additional information important during public health emergencies and disasters.



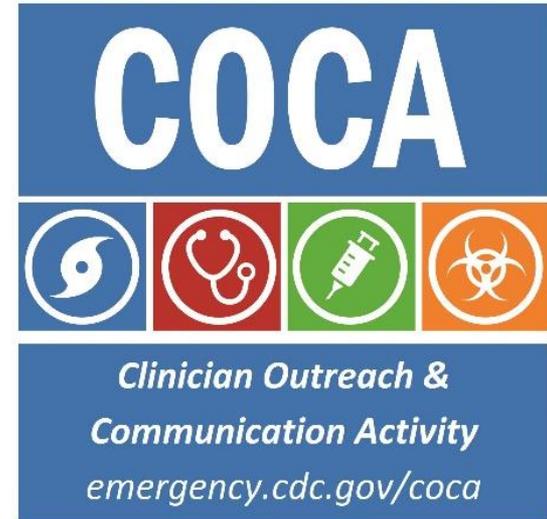
Informs clinicians of new CDC resources and guidance related to emergency preparedness and response. This email is sent as soon as possible after CDC publishes new content.



CDC's primary method of sharing information about urgent public health incidents with public information officers; federal, state, territorial, and local public health practitioners; clinicians; and public health laboratories.

Join COCA's Mailing List

- **Receive information about:**
 - Upcoming COCA Calls
 - Health Alert Network (HAN) messages
 - CDC emergency response activations
 - Emerging public health threats
 - Emergency preparedness and response conferences
 - Training opportunities



emergency.cdc.gov/coca/subscribe.asp

Join Us On Facebook!



The screenshot shows the Facebook profile for COCA (CDC Clinician Outreach and Communication Activity). The profile picture features a group of six diverse healthcare professionals. The cover photo shows a group of healthcare workers, including a woman in a white lab coat holding a clipboard. The page name is "CDC Clinician Outreach and Communication Activity - COCA" with a verified badge and the handle "@CDCClinicianOutreachAndCommunicationActivity". The page is categorized as a "Government Organization in Atlanta, Georgia" and has 21,420 likes and 21,217 followers. A recent post from October 31, 2017, at 1:18pm, announces a free CE event for a COCA Call on November 7, 2017, at 2:00PM. The page also includes navigation tabs for Home, About, Posts, Photos, Events, and Community, and a "Create a Page" button.

COCA

CDC Clinician Outreach and Communication Activity - COCA ✓
@CDCClinicianOutreachAndCommunicationActivity

Home
About
Posts
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Sign Up

Government Organization in Atlanta, Georgia

Community See All

21,420 people like this

21,217 people follow this

About See All

COCA CDC Clinician Outreach and Communication Activity - COCA shared their event.
October 31 at 1:18pm

Clinicians, you can earn FREE CE with this COCA Call! Join us for this COCA Call November 7, 2017 at 2:00PM.

Thank you for joining us today!



emergency.cdc.gov/coca