Influenza Prevention and Control Strategies in Early Education and Child Care Settings

September 21, 2022
ACKNOWLEDGMENTS

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**HOUSEKEEPING**

- This event will be recorded for educational purposes. The recording will be available within a couple of days on the AAP influenza care page.

- The information or content and conclusions are those of the faculty and should not be constructed as the official position or policy of the AAP, CDC, HHS, or the faculty’s academic institutions.
**HOUSEKEEPING**

- All audio lines are muted.
- Submit your questions in the WebEx Q&A Box.
- Share your experiences, chat with your peers, or report technical difficulties using the WebEx Chat Box.
- **Please participate!**
Dr Renuka Verma has no relevant financial relationships to disclose.

Dr Hilda Loria has no relevant financial relationships to disclose.
Speakers

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OBJECTIVES

• Review influenza as a critical issue for early education and child care providers.
• Review AAP recommendations for the 2022-23 season.
• Emphasize influenza immunization in early education and child care programs.
• Highlight influenza mitigation strategies for use in early education and child care settings.
• Learn ways to be prepared for seasonal influenza during the COVID-19 pandemic.
WHAT IS INFLUENZA (THE FLU)?

- Caused by the following influenza A and B viruses:
  - A(H1N1)
  - A(H3N2)
  - B(Victoria)
  - B(Yamagata)

- Viral infection of respiratory system (nose, throat, lungs) with systemic (whole body) symptoms
- More serious than a common cold
- Signs or symptoms include:
  - Sudden fever
  - Headache
  - Body aches
  - Chills
  - Sore throat
  - Stuffy, runny nose
  - Stomach pain
  - Nausea/vomiting
  - Diarrhea
  - Pink eye
**INFLUENZA COMPLICATIONS IN CHILDREN**

- Pneumonia
- Invasive **bacterial infections: MRSA**
- **Myocarditis** (heart inflammation)
- Encephalopathy, Guillain Barré syndrome
- **Sepsis-like syndrome** in neonates
- **Exacerbation of asthma or heart disease**
- If aspirin is used for symptoms it may trigger Reye syndrome
- **Death**

https://www.cdc.gov/flu/highrisk/children.htm
**Spread of Influenza**

- Influenza spreads by droplets projected into the air from coughing and sneezing.
- Droplets travel 3-6 feet then fall to the ground.
- To a lesser extent, influenza also spreads by droplets falling onto surfaces which are touched by others.

[https://pixabay.com/photos/cold-headaches-health-influence-3861935/](https://pixabay.com/photos/cold-headaches-health-influence-3861935/)
IMPACT OF INFLUENZA IN CHILDREN

During the influenza season, children:

- Have one of the highest rates of influenza
- Have increased risk of hospitalization and fatal complications (<5yr)
- Have a higher likelihood of seeking influenza-related medical care

20-30% of healthy children can be infected with influenza yearly

https://www.cdc.gov/flu/highrisk/children.htm
GROUPS AT RISK FOR SEVERE FLU ILLNESS

• Healthy children have complications from influenza, likely more than from COVID-19.
  – Young children (<5) are at higher risk of severe illness from influenza
  – Young children (<5) have a higher hospitalization rate from influenza than COVID-19
    \[\text{Children (0-4 years of age): influenza-associated hospitalization rate (70.9-91.5), COVID-19-associated hospitalization rate (66.8)}\]

• Children with underlying medical conditions are at increased risk for both influenza and COVID-19 complications.

• Unvaccinated children and adolescents

https://www.cdc.gov/flu/symptoms/flu-vs-covid19.htm#table
https://www.cdc.gov/flu/highrisk/index.htm
https://www.medrxiv.org/content/10.1101/2022.03.09.22277188v1
**INFLUENZA DISPARITIES IN CHILDREN**

- In one cross-sectional study spanning 10 influenza seasons, Black, Hispanic, and American Indian/Alaska Native people had higher rates of influenza-associated hospitalizations and ICU admissions, and disparities were highest in children ≤4 years of age.

- The rate of in-hospital death was 3- to 4-fold higher in Black, Hispanic, and Asian/Pacific Islander children compared with white children.

Why is Vaccination Important?

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
- **105,000** hospitalizations
- **6,300** deaths

Imagine the impact if more Americans chose to get a flu vaccine. 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.

Vaccine Prevented

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

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®
A 2022 study showed that flu vaccination reduced children’s risk of severe life-threatening influenza by 75%.
INFLUENZA-ASSOCIATED PEDIATRIC DEATHS BY WEEK OF DEATH, 2018-2019 TO 2021-2022 SEASON

https://www.cdc.gov/flu/weekly/weeklyarchives2021-2022/PedFlu33.html
Pediatrics Deaths Due to Not Being Vaccinated During the 2009 H1N1 Pandemic

Vaccination Status in Influenza Associated Pediatric Influenza Deaths in Children Older than 6 Months

- Pediatric Deaths from Influenza: 80% were unvaccinated

https://www.cdc.gov/flu/highrisk/children.htm
Influenza Key Points

- Children consistently have the **highest attack rates** of influenza in the community during seasonal influenza epidemics.
- Children play a pivotal role in the transmission of influenza virus to their households and close contacts (e.g., grandparents, parents, caregivers, and other family members).
- Children < 5 years (especially < 2 years) and children with certain underlying medical conditions are at increased risk of hospitalization and complications from influenza.
Important to Remember

Children Are More Vulnerable

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INFLUENZA DURING THE COVID-19 PANDEMIC?
There were two peaks of outpatient visits during the 2021-22 season. The second peak was much later in the season than typical.
The percentage of outpatient visits for respiratory illness was the highest among the 0-4 age group.
Although influenza vaccination does not prevent all cases of influenza, it does offer substantial protection against severe and life-threatening disease.
AAP ANNUAL INFLUENZA RECOMMENDATIONS

Policy Statement and Technical Report

Early released on September 6th
Print available in the October issue of Pediatrics
AAP ANNUAL INFLUENZA VACCINE RECOMMENDATIONS

• AAP recommends annual influenza vaccination for all children 6 months of age and older, ideally by the end of October.
• Influenza injection and nasal spray vaccines are recommended with no preference for either.
• Children should receive the influenza vaccine as soon as it is available.
**WHEN DOES A CHILD NEED TWO DOSES?**

- Children
  - 6 months through 8 years of age who are receiving influenza vaccine for the *first time*,
  - Or only 1 dose ever before July 1, 2022,
  - Or vaccination status is unknown

- A child should receive 2 doses of vaccine 4 weeks apart, ideally *by the end of October*
IIV4 Inactivated influenza vaccine – Egg-based
• Afluria (Seqirus) – 6 months and older
• Fluarix (GSK) – 6 months and older
• FluLaval (GSK) – 6 months and older
• Fluzone (Sanofi Pasteur) – 6 months and older

cclIV4 Cell culture-based influenza vaccine
• Flucelvax (Seqirus) – 6 months and older

LAIV4 - Live attenuated influenza vaccine – Egg based
• FluMist (AstraZeneca) – 2 years and older

Please refer to the AAP recommendations for influenza prevention and control of influenza for more information
Antivirals for Influenza

- Oseltamivir (Tamiflu)
  - Adverse effects: Nausea, vomiting, headache, skin reactions, diarrhea
- Zanamivir (Relenza)
  - Adverse effects: Bronchospasm
- Peramivir (Rapivab)
  - Adverse effects: Diarrhea; some reports of skin reactions
- Baloxavir (Zofluxa)
  - Vomiting, diarrhea

Antiviral medications are important in the control of influenza but are NOT a substitute for influenza vaccination. Promote vaccination to children, families, and staff.

Please refer to the AAP recommendations for influenza prevention and control of influenza for more information.
EGG ALLERGY AND INFLUENZA VACCINES

- The presence of an egg allergy in an individual is NOT a contraindication to receive an influenza vaccine.
- Children with egg allergies can receive age-appropriate, licensed, recommended vaccine without special precautions beyond those recommended for other routine vaccines.
- Children with a history of allergic reaction to previous influenza vaccination should be evaluated by an allergist and vaccine administration should be supervised by a health care provider who can recognize and manage allergic conditions.

*Based on 28 studies evaluating 4,315 egg-allergic subjects (656 with severe allergies)
Influenza Vaccination and Other Strategies to Prevent or Control Influenza in Early Education and Child Care Settings
FLU SEASON IS COMING!

Share 1-2 words that come to mind about flu season in the early education and child care settings.
WHY DO CHILDREN GET SICK AT CHILD CARE?

- Unique age group vs. other older children
- Immature immune system
  - Every virus is “new” to them
- Developmental Stage
  - Close contact and proximity
WHY PROMOTE VACCINATION IN EARLY EDUCATION AND CHILD CARE SETTINGS?

• You care for the most vulnerable population
  – Younger children at higher risk of influenza complications
  – Children < 6 months old are too young to be vaccinated

• Typical influenza prevention methods difficult
  – Nonpharmaceutical interventions in early child care settings
  – Exclusion – Affects parents’ ability to work
  – Infection control – Influenza is spread by coughing, sneezing, and touching things

• Children bring influenza home to families and spread it into communities

• Influenza vaccination is the best way to prevent influenza and the serious complications that can result from it, particularly for those with high-risk conditions.
It is important to promote both influenza and COVID-19 vaccination for all children 6 months of age and older to help reduce co-infection and the burden of disease.

Influenza vaccines can be administered simultaneously with other live and inactivated vaccines, including the available COVID-19 vaccines.

Promote and encourage influenza vaccine and COVID-19 vaccine to families and staff.
• **Infection control makes a difference!**
  – Helps to prevent other infections, including COVID.
  – More effective at reducing diarrheal disease.

• **Practice should not change for the influenza season**
  – **Hand washing is the preferred method.**
  – Consider the use of alcohol-free hand sanitizer if soap and water are not available. **Use hand sanitizer with caution.**
    ▪ Check your local licensing requirements to determine whether hand sanitizers are permissible in early care and education programs.
  – Early education and child care settings should use their existing cleaning and disinfecting procedures as recommended in **Caring for Our Children**.

**AT BEST -**
Reduces respiratory illness by 25%.

https://nrckids.org/CFOC/TOC
**HAND WASHING**

- Must be learned!
- Teach children by making it into a LESSON activity
- Focus on just-in-time reminders and training for staff

https://pixabay.com/photos/hand-washing-soap-sink-hygiene-5086499/
**BE AN ADVOCATE:**

**REMIND PARENTS ABOUT VACCINATIONS**

- Parents look to YOU for advice and expertise
- Send out reminders
  - Flyers in backpacks
  - Emails
  - Texts

INFECTION PREVENTION AND CONTROL METHODS

• Surface cleaning, sanitizing, and disinfecting
• Cough and sneeze etiquette
• Ventilation
• Some recommendations covered in Caring for Our Children, 4th Edition at:
  http://nrckids.org/CFOC/Database/3

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INFECTION CONTROL

- User-friendly content can be found in the Managing Infectious Diseases in Child Care and Schools, 5th edition (released 2019).
- Can be found at https://shop.aap.org/.
- Nearly 3 out of 4 US licensed child care settings use this reference.
EXCLUSION FOR INFLUENZA

• **Should not exclude *solely* for the prevention of spread**
  – Children with influenza virus are infectious a day before symptoms develop and may still be infectious for up to 2 weeks.
  – Lots of children are infected and are infectious but don’t show symptoms.
  – We don’t know if exclusion reduces the spread of influenza.
EXCLUSION FOR INFLUENZA – WHOM TO EXCLUDE?

- Can’t tell which children have influenza?
  - Overlap of symptoms of influenza versus other viruses (eg, COVID-19)
  - Most kids with fever and respiratory symptoms do not have influenza (even in an influenza epidemic)
  - Given COVID-19 – likely many will require testing for COVID-19 depending on symptoms and exposure
## Differences Between Respiratory Viruses

<table>
<thead>
<tr>
<th></th>
<th>Cold</th>
<th>Flu</th>
<th>COVID-19</th>
<th>RSV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respiratory virus?</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Symptoms</strong></td>
<td>Mild (runny nose congestion)</td>
<td>More severe (fever, body and head aches, more)</td>
<td>Similar to cold and flu; loss of taste and smell</td>
<td>Mild (can be similar to a cold; includes fever, cough, sneezing, more)</td>
</tr>
<tr>
<td><strong>Can lead to hospitalization or death?</strong></td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Vaccine available?</strong></td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Can identify with a test?</strong></td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

[https://www.cdc.gov/flu/symptoms/coldflu.htm](https://www.cdc.gov/flu/symptoms/coldflu.htm)
[https://www.cdc.gov/rsv/index.html](https://www.cdc.gov/rsv/index.html)
EXCLUSION FOR INFLUENZA – WHOM TO EXCLUDE?

• Which children with respiratory symptoms should be excluded?
  – Must exclude if not participating in activities and requiring too much care
  – Exclude children with fever and respiratory symptoms because the amount of flu virus (if they have it) is greatest in these children
  – Meets other exclusion criteria described in *Managing Infectious Diseases, 5th ed.*
STRATEGY: PROVIDE EDUCATION


• AAP Healthy Children influenza subsite (English and Spanish) https://healthychildren.org/English/health-issues/conditions/flu/Pages/default.aspx

• Use Centers for Disease Control and Prevention materials https://www.cdc.gov/flu/resource-center/index.htm

• Inform staff and parents about influenza vaccine recommendations

• Increase knowledge. The CDC has created a quick 10 question quiz, available here: www.cdc.gov/flu/freeresources/widgets/fluiq/index.html

• Post posters and provide FAQs to staff and parents when promoting influenza vaccination to encourage dialogue.
STRATEGY: IMPROVE ACCESS

- Provide on-site immunizations (for children and staff)
  - Health Department or child care health consultant
- Make it convenient for staff to get it
  - Find information about local sites
  - Give scheduled time off
- Make annual influenza vaccine part of the routine

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STRATEGY: ADDRESS COST ISSUES/INCENTIVES

- Studies show employers save money with influenza immunization.
- Some businesses pay for the vaccine (free for employee)
- For adult caregivers
  - Consider a $5 gift card
- For children
  - Consider providing a book to children if they are vaccinated
- Studies demonstrate influenza immunization rates increase to 50-60% (from ~ 20%) for caregivers if offered free and on-site.
Improving Preparedness During COVID-19
WHY PLAN FOR PANDEMIC INFLUENZA, COVID-19, AND OTHER INFECTIOUS DISEASES?

• To protect your setting in an emergency
• Saves lives and reduces adverse consequences
• Prepare ahead to make difficult decisions
• Keep your center and business open
What to Consider for a Preparedness Plan?

- Who will oversee and implement the plan?
- Where will you receive information and updates from?
- Will your child care center/school need to close?
- Will your existing communication plan work?
- Do parents have alternate care arrangements?
WHAT SHOULD A PANDEMIC INFLUENZA PREPAREDNESS PLAN INCLUDE?

Planning/Coordination

• Identify key staff to develop, practice, and review the plan
• Test developed preparedness and communication plan
• Monitor pandemic threat
• Identify who has the legal authority to close early education/child care programs in your state
• Collaborate with other child care programs in the area
WHAT SHOULD A PANDEMIC INFLUENZA PREPAREDNESS PLAN INCLUDE?

Communications Plan
• Identify key community contacts (eg, staff members, program directors, families, and local health experts)
• How to stay connected with staff and families (email, social media, phone)
• Vendors (you will need supplies and services)

Infection Control (always – but not applicable if closed)
• Hand/cough hygiene
• Cleaning/sanitizing/disinfection
• Exclusion
• Education
WHAT SHOULD A PANDEMIC INFLUENZA PREPAREDNESS PLAN INCLUDE?

**Operations**

- How to deal with program closings and staff absences
- Plans to continue basic functions
  - Payroll
  - Plans for continued learning if program is closed
WHAT IS THE ROLE OF GROUP CHILD CARE DURING COVID-19?

• Critical infrastructure
  – Level of preparation if high levels of influenza and COVID-19
  – Funding depends on parents
  – More funding support may be needed

• Provides a means for parents to continue working

• Relatively safe environment for children and caregivers

• Higher chances of closures or disruptions with the spread of influenza and COVID – **MUST promote influenza vaccination!!!**
INFECTION PREVENTION & CONTROL RESOURCES

• Germ Prevention Strategies
  – https://www.healthychildren.org/English/health-issues/conditions/prevention/Pages/Germ-Prevention-Strategies.aspx

• Hand Washing: A Powerful Antidote to Illness

• Cloth Face Coverings for Children During COVID-19

• Make Hand Washing Fun
  – https://www.youtube.com/watch?v=tQntTnCbgf4
AAP AND CDC POLICIES

• The American Academy of Pediatrics Recommendations for Prevention and Control of Influenza in Children, 2022-23
  – Policy Statement: https://doi.org/10.1542/peds.2022-059274
• Technical Report on Immunizing Parents and Other Close Family Contacts in the Pediatric Office Setting
  – https://pediatrics.aappublications.org/content/129/1/e247.full
• AAP Policy Statement about coadministration of COVID and other routinely recommended vaccines including influenza: COVID-19 Vaccines in Children and Adolescents
  – https://pediatrics.aappublications.org/content/148/2/e2021052336
• CDC Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices, United States, 2022-23 Influenza Season
  – https://www.cdc.gov/mmwr/volumes/71/rr/rr7101a1.htm
AAP RESOURCES

• AAP Influenza Webpage

• Influenza (Flu) Toolkit

• AAP Immunizations Webpage

• Interim Guidance during the COVID-19 pandemic
  – www.aap.org/covid-19

• COVID-19 Guidance for Safe Schools and Promotion of In-Person Learning
PANDEMIC INFLUENZA RESOURCES

• Creating a Pandemic Influenza Preparedness Plan: A Guide for Child Care Centers and Family Child Care Homes

• Guidance for School Administrators to Help Reduce the Spread of Seasonal Influenza in K-12 Schools

• Supplemental Interim Guidance for School Administrators Associated with Possible Outbreaks of H3N2 Influenza Virus (‘H3N2v’)
  – https://www.cdc.gov/flu/swineflu/variant/h3n2v-schools.htm

• Caring for our Children Standard 9.2.4.4 - Written Plan for Seasonal and Pandemic Influenza
  – https://nrckids.org/CFOC/Database/9.2.4.4

• Preparing Child Care Programs for Pandemic Influenza
HEALTHY CHILDREN RESOURCES IN ENGLISH

- Flu Subsite: https://healthychildren.org/English/health-issues/conditions/flu/Pages/default.aspx
  - The Flu: What Parents Need to Know https://healthychildren.org/English/health-issues/conditions/flu/Pages/the-flu-what-parents-need-to-know.aspx
  - Preventing the Flu: Resources for Parents & Child Care Providers https://healthychildren.org/English/health-issues/conditions/flu/Pages/preventing-the-flu-resources-for-parents-and-child-care-providers.aspx
**Healthy Children Resources in Spanish**

- Gripe Subsite: [https://healthychildren.org/spanish/health-issues/conditions/flu/paginas/default.aspx](https://healthychildren.org/spanish/health-issues/conditions/flu/paginas/default.aspx)
TAKE HOME POINTS

• Influenza is the most common cause of vaccine-preventable deaths in children.
• Children can spread influenza to caregivers, families, and the community.
• Immunization is the best way to prevent influenza.
• Even though infection control may not be as effective as immunization, it is still very important.
• Child care programs have an important role and the opportunity to improve immunization rates.
• Seasonal influenza/COVID-19 plan should be reviewed and updated regularly.
Q&A Session
Participants will receive a certificate of participation after completing an online evaluation form found here:

https://www.surveymonkey.com/r/NCECHWWWebinarFeedback
Thank you!