What's New with Flu in 2015-2016

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Co-Chair, United States Adult and Influenza Immunization Summit

December 8th, 2015

Disclosures

• I have received honoraria from Pfizer, bioCSL, Temptime Corp., TruMedSystems, and Sanofi Pasteur for service as a scientific consultant.
  - My honoraria is donated to the IAC
• I do NOT intend to discuss an unapproved or investigative use of a commercial product/device in my presentation.
Disclaimer

The opinions expressed in this presentation are solely those of the presenter and do not necessarily represent the official positions of the Immunization Action Coalition, or the National Adult and Influenza Immunization Summit.

Outline

- Review 2014-2015 influenza season activity and vaccination coverage rates
- Describe influenza recommendations and vaccines available for 2015-2016 influenza season
- Detail communication strategies for the 2015-2016 season
The 2014-2015 Influenza Season
Of 123 with known vaccination status, 94 were not vaccinated!

Number of Pediatric Influenza Deaths by Week of Death - 2012 season to present

Number of reported deaths = 171
Number of reported deaths = 111
Number of reported deaths = 147

Influenza-Associated Pediatric Deaths by Age Group

*Data from week 40, 2014 – week 21, 2015
Hospitalization rates were high!

Hospitalization rates in children were very high!
H3N2 antigenic drift in the 2014-2015 season

- 18.6% of characterized A(H3N2) viruses matched the H3N2 component of 2014-15 Northern Hemisphere vaccine (A/Texas/50/2012-like)
- The other 81.4% were different from A/Texas/50/2012.
- Majority of this 81.4% were antigenically similar to A/Switzerland/9715293/2013, the influenza A (H3N2) component of the 2015 Southern Hemisphere influenza vaccine and 2015-2016 Northern Hemisphere influenza vaccine.
Little H1N1, B peak in February/March

• All characterized A(H1N1)pmd09 viruses matched the H1N1 component of the 2014-15 Northern Hemisphere vaccine (A/California/7/2009-like)
• 72% of B strains were of Yamagata lineage matching the influenza B component of the Northern Hemisphere trivalent and quadrivalent vaccines (B/Massachusetts/2/2012-like)
  • 98.1% of characterized influenza B Yamagata lineage viruses matched the vaccine strain
  • 97.8% of characterized influenza B Victoria lineage viruses matched the influenza B component of the Northern Hemisphere quadrivalent vaccine (B/Brisbane/60/2008-like)

Summary of Influenza Activity 2014-2015

• Influenza activity began approximately 4 weeks earlier than usual, and disease was considered to be moderately severe
  • Activity peaked in late December/early January
  • H3N2 viruses predominated through the peak of the season
  • A late season increase in influenza B activity occurred with a peak in February/March
• Season dominated by a drifted H3N2 virus strain (and dominated the media as well!)
Summary of Influenza Activity 2014-2015 (cont.)

- Adults 65+ years most adversely affected
  - The 2014-15 rate of 322.8 influenza-associated hospitalizations per 100,000 population was the highest reported since surveillance began in 2005-06

- The hospitalization rate for children 0-4 years was 57.2 per 100,000 population.
  - During the 2012-2013 season, the overall hospitalization rate for that age group was 67.0 per 100,000 cumulatively that season

2014-2015 Influenza Vaccination Coverage

- 59.3% of those 6 months through 17 years of age vaccinated (cf. 58.9% previous year at the same time point)

- 43.6% of adults 18 years of age and above vaccinated (cf. 42.2% previous year at the same time point)
  - Only 66.7% of those over 65 years of age vaccinated (cf. 65.0% previous year)
  - 47.6% of adults 18-64 years of age with at least one high-risk medical condition vaccinated (cf. 46.3% previous year)
Vaccine Effectiveness

Preliminary adjusted VE estimates for ≥1 dose of 2014-15 seasonal influenza vaccine

<table>
<thead>
<tr>
<th>Any Influenza A and B</th>
<th>Adjusted VE*</th>
<th>(95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All patients aged ≥ 6 months</td>
<td>24%</td>
<td>(15 to 31)</td>
</tr>
<tr>
<td>6 mos–8 y</td>
<td>27%</td>
<td>(10 to 41)</td>
</tr>
<tr>
<td>9–17</td>
<td>28%</td>
<td>(6 to 45)</td>
</tr>
<tr>
<td>18–49</td>
<td>10%</td>
<td>(-10 to 26)</td>
</tr>
<tr>
<td>50-64</td>
<td>27%</td>
<td>(5 to 44)</td>
</tr>
<tr>
<td>≥65</td>
<td>36%</td>
<td>(8 to 56)</td>
</tr>
</tbody>
</table>
## Preliminary adjusted VE against influenza A(H3N2) and B for ≥1 dose of 2014-15 seasonal influenza vaccine

<table>
<thead>
<tr>
<th>Influenza type and age group</th>
<th>Adjusted VE*</th>
<th>(95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Influenza A (H3N2)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All patients aged ≥ 6 months</td>
<td>13%</td>
<td>(2 to 23)</td>
</tr>
<tr>
<td>6 mos–8</td>
<td>22%</td>
<td>(1 to 39)</td>
</tr>
<tr>
<td>9–17</td>
<td>11%</td>
<td>(-21 to 35)</td>
</tr>
<tr>
<td>18–49</td>
<td>-2%</td>
<td>(-27 to 18)</td>
</tr>
<tr>
<td>50–64</td>
<td>19%</td>
<td>(-10 to 41)</td>
</tr>
<tr>
<td>≥65</td>
<td>17%</td>
<td>(-25 to 45)</td>
</tr>
<tr>
<td><strong>Influenza B (Yamagata)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All patients aged ≥ 6 months</td>
<td>55%</td>
<td>(43 to 65)</td>
</tr>
</tbody>
</table>

## Does LAIV offer better protection than IIV against antigenically drifted H3N2 viruses?

- One study in mismatch season showed 79% improved efficacy of LAIV; two other trials showed no benefit.
Does LAIV offer better protection than IIV against antigenically drifted H3N2 viruses?

- VE estimates against A(H3N2) by vaccine type, ages 2 – 17 years, US Flu VE Network, Nov 2014- Apr 2015

<table>
<thead>
<tr>
<th>Vaccine type</th>
<th>Adjusted VE*</th>
<th>(95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any vaccine</td>
<td>13%</td>
<td>(-6 to 28)</td>
</tr>
<tr>
<td>Live-attenuated influenza vaccine</td>
<td>-4%</td>
<td>(-39 to 22)</td>
</tr>
<tr>
<td>Inactivated influenza vaccine</td>
<td>20%</td>
<td>(-1 to 36)</td>
</tr>
</tbody>
</table>

* Adjusted for study site, age, sex, race/Hispanic ethnicity, self-rated health status, days from illness onset to enrollment, and calendar time (biweekly intervals).

Preliminary data, 2014-15 influenza season

Limitations

- Limited precision of VE estimates
  - Larger sample sizes needed when VE is low
- Preliminary analysis
  - Additional analyses planned for effects of prior vaccination
- Observational study design
  - Potential for confounding
Summary of VE for the 2014-2015 influenza season

- Predominance of antigenically drifted A(H3N2) viruses and low circulation of influenza B viruses
  - Majority of H3N2-positive cases were antigenically-drifted viruses
  - Protection against some vaccine-like H3N2 viruses
  - Significant protection against influenza B at low level of activity

- No evidence of better protection for live-attenuated vs. inactivated vaccines among children against drifted H3N2 viruses in 2014-15 season

Hospitalization with influenza pneumonia, associated with not having received influenza vaccination.

- Grijalva and colleagues looked at used data from 2,767 patients age 6 months and older collected in the Etiology of Pneumonia in the Community (EPIC) study
- Patients were hospitalized with community-acquired pneumonia during the 2010, 2011, and 2012 influenza seasons
- Influenza vaccination was 56.7% effective at preventing hospitalization due to influenza pneumonia in patients with community acquired pneumonia.
Hospitalization with influenza pneumonia, associated with not having received influenza vaccination.

Table 6. Subgroup Analyses Within Study of Influenza Vaccination and Influenza Pneumonia

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Cases Who Were Vaccinated, No./Total No. (ID)</th>
<th>Controls Who Were Vaccinated, No./Total No. (ID)</th>
<th>Adjusted Odds Ratio (95% CI)</th>
<th>Estimated Vaccine Effectiveness, % (95% CI)</th>
<th>P Value for Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall estimate</td>
<td>28/162 (17)</td>
<td>756/3605 (29)</td>
<td>0.43 (0.28 to 0.68)</td>
<td>56.7 (31.9 to 72.5)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td>7/58 (12)</td>
<td>378/1399 (29)</td>
<td>0.25 (0.11 to 0.58)</td>
<td>74.6 (42.5 to 88.8)</td>
<td>.01</td>
</tr>
<tr>
<td>Adults</td>
<td>21/104 (22)</td>
<td>388/2206 (38)</td>
<td>0.50 (0.24 to 1.02)</td>
<td>41.5 (-2.3 to 68.5)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Age groups, y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-4</td>
<td>3/40 (8)</td>
<td>208/950 (24)</td>
<td>0.16 (0.05 to 0.53)</td>
<td>94.3 (44.3 to 99.3)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>5-17</td>
<td>4/20 (14)</td>
<td>110/459 (24)</td>
<td>0.48 (0.16 to 1.44)</td>
<td>42.4 (-4.5 to 92.4)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>18-49</td>
<td>4/36 (11)</td>
<td>76/433 (18)</td>
<td>0.57 (0.19 to 1.73)</td>
<td>43.5 (-7.5 to 91.2)</td>
<td>.17</td>
</tr>
<tr>
<td>50-64</td>
<td>9/39 (24)</td>
<td>122/954 (34)</td>
<td>0.66 (0.29 to 1.50)</td>
<td>33.6 (-49.7 to 108)</td>
<td>.36</td>
</tr>
<tr>
<td>65+</td>
<td>8/20 (40)</td>
<td>192/409 (47)</td>
<td>0.52 (0.20 to 1.33)</td>
<td>40.4 (-33.3 to 80)</td>
<td>.24</td>
</tr>
<tr>
<td>Immunosuppression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>13/34 (39)</td>
<td>501/1212 (37)</td>
<td>0.37 (0.14 to 0.94)</td>
<td>73.4 (51.1 to 85.5)</td>
<td>.002</td>
</tr>
<tr>
<td>No</td>
<td>15/28 (54)</td>
<td>174/383 (44)</td>
<td>1.22 (0.55 to 2.71)</td>
<td>-28.9 (-170.7 to 45.5)</td>
<td>.64</td>
</tr>
<tr>
<td>Chronic disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5/17 (31)</td>
<td>239/627 (37)</td>
<td>0.24 (0.09 to 0.62)</td>
<td>75.7 (57.6 to 89.6)</td>
<td>.14</td>
</tr>
<tr>
<td>No</td>
<td>22/93 (25)</td>
<td>537/2828 (33)</td>
<td>0.54 (0.32 to 0.91)</td>
<td>49.9 (36.6 to 67.9)</td>
<td>.02</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AI/</td>
<td>13/63 (21)</td>
<td>182/737 (25)</td>
<td>0.49 (0.24 to 0.99)</td>
<td>51.1 (1.56 to 76.41)</td>
<td>.03</td>
</tr>
<tr>
<td>BI</td>
<td>2/20 (11)</td>
<td>83/544 (15)</td>
<td>0.26 (0.06 to 1.40)</td>
<td>74.2 (-40.5 to 91.4)</td>
<td>.83</td>
</tr>
<tr>
<td>C</td>
<td>12/46 (26)</td>
<td>387/1617 (28)</td>
<td>0.50 (0.25 to 0.99)</td>
<td>50.5 (31.3 to 71.3)</td>
<td>.03</td>
</tr>
<tr>
<td>Other</td>
<td>3/15 (20)</td>
<td>134/547 (24)</td>
<td>0.33 (0.09 to 1.21)</td>
<td>67.2 (-20.0 to 91.1)</td>
<td>.11</td>
</tr>
<tr>
<td>Influenza season</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010-2011</td>
<td>18/97 (19)</td>
<td>408/2885 (52)</td>
<td>0.44 (0.25 to 0.77)</td>
<td>55.9 (22.5 to 74.8)</td>
<td>.01</td>
</tr>
<tr>
<td>2011-2012</td>
<td>10/59 (17)</td>
<td>333/1617 (51)</td>
<td>0.44 (0.22 to 0.89)</td>
<td>53.5 (9.8 to 78.4)</td>
<td>.01</td>
</tr>
<tr>
<td>Virus type/subtype</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A(H1N1)pdm09</td>
<td>9/62 (15)</td>
<td>766/3605 (29)</td>
<td>0.40 (0.19 to 0.87)</td>
<td>59.5 (13.0 to 81.2)</td>
<td>.01</td>
</tr>
<tr>
<td>A(H3N2)</td>
<td>14/51 (27)</td>
<td>766/3605 (29)</td>
<td>0.55 (0.29 to 1.09)</td>
<td>45.1 (-9.3 to 72.4)</td>
<td>.08</td>
</tr>
<tr>
<td>B</td>
<td>4/43 (9)</td>
<td>766/3605 (29)</td>
<td>0.28 (0.09 to 0.81)</td>
<td>72.0 (14.8 to 86.4)</td>
<td>.01</td>
</tr>
</tbody>
</table>

Another way to look at influenza vaccine effectiveness - negative outcomes averted

The benefits of flu vaccination 2013-2014

The estimated number of influenza-associated illnesses prevented by flu vaccination during the 2013-2014 season: 7.2 million

The estimated number of flu-associated medical visits prevented by vaccination during the 2013-2014 season: 3.1 million

The estimated number of flu hospitalizations prevented during the 2013-2014 season: 90,000
Influenza Vaccine Refresher

2015-2016 Influenza Vaccine Strains

• Strain changes from last year!
• New seasonal influenza vaccine formulations
  - Trivalent preparations: an A/California/7/2009 (H1N1) pdm09-like virus, an A/Switzerland/9715293/2013 (H3N2)-like virus, and a B/Phuket/3073/2013-like virus.
  - Quadrivalent preparations adds a B/Brisbane/60/2008-like virus.
**Influenza Vaccine Formulation - Quadrivalent**

- Contains 2 influenza A and 2 influenza B strains
  - Currently approved from MedImmune, GSK, and Sanofipasteur.
- Addresses the 50% possibility of a mismatch for the B strain each season
- IIV4 and LAIV quadrivalent has a price premium (~ $4 for the injectable)
- No clarity on how many total doses are available
  - Sanofi continue to have both IIV3 and IIV4 on the market simultaneously
  - All LAIV will be quadrivalent
  - No preferential use recommendation

**Cell Culture Influenza Vaccine**

- Flucelvax® from Seqirus October 1
  - Trivalent
  - Uses cultured animal mammalian cells instead of chicken eggs to grow vaccine virus
  - The production process may not be totally egg free but rather "functionally" egg free
  - No guidance on use in those with egg allergies
  - Side effects similar to IIV3
  - FDA approved for adults 18 years and older
- CPT Code: 90661; CMS will pay $22.288 for 2015-16
Recombinant DNA Influenza Vaccine

- Flublok® from Protein Sciences
  - Trivalent
  - HA DNA sequence produced by recombinant technology and expressed in baculovirus that infects an insect cell line.
  - Totally egg-free process
  - ACIP recommends use in those with severe egg allergies
  - Side effects similar to IIV3; no latex in vial stoppers
  - FDA approved for adults 18 years and older
  - 16 week shelf life
- CPT code: 90673; CMS will pay $37.193 for 2015-16

Other Influenza Vaccines

- Fluzone ID®
  - Novel microinjection system for intradermal delivery
  - Ultra-fine needle that is 90% shorter than the typical needle
  - Licensed for use in adults 18-64 years of age
  - Contains 9 mcg of influenza virus hemagglutinin for each strain
  - Similar safety profile as IIV, erythema most common complaint
- A quadrivalent, intradermal influenza vaccine by Sanofi-Pasteur recently was approved by FDA
- CPT code: 90654
- CMS payment: $18.918 (2014), pending for 2015
Other Influenza Vaccines

- **Fluzone HD®**
  - Contains 4 times the amount of antigen - 60 mcg of influenza virus hemagglutinin for each strain
  - Indicated for 65 and older; most common complaint is injection site pain and erythema
  - Medicare covers this higher dose formulation
  - Trial of 30,000 participants, Fluzone HD was 24.2% more effective in preventing influenza in adults ≥65 years of age than Fluzone vaccine*

- **CPT code: 90662**
  - Payment Rate: $$36.315 (2015-16)


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### Influenza Vaccines 2015-2016
(www.immunize.org/catg.d/p4072.pdf)

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Trade Name (vaccine administration)</th>
<th>How Supplied</th>
<th>Mercury Content (as administered)</th>
<th>Age Group</th>
<th>Vaccine Product Billing Code¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>BioCSL, Inc.</td>
<td>Fluzone (IV)</td>
<td>0.5 ml (single-dose syringe)</td>
<td>0 95 years &amp; older (1)</td>
<td>25</td>
<td>900056 900058 028195</td>
</tr>
<tr>
<td></td>
<td>5.0 ml (multi-dose vial)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GlaxoSmithKline</td>
<td>Fluarix (IV)</td>
<td>0.5 ml (single-dose syringe)</td>
<td>0 3 years &amp; older</td>
<td>25</td>
<td>900063 900064</td>
</tr>
<tr>
<td></td>
<td>5.0 ml (multi-dose vial)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID Biomedical Corp.</td>
<td>Fluvax (IV)</td>
<td>0.5 ml (single-dose syringe)</td>
<td>0 3 years &amp; older</td>
<td>25</td>
<td>900063 900064</td>
</tr>
<tr>
<td></td>
<td>5.0 ml (multi-dose vial)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medimmune</td>
<td>Flumist (IDIVAC)</td>
<td>0.2 ml (single-use nasal spray)</td>
<td>0 2 through 49 years</td>
<td>25</td>
<td>900056 900064</td>
</tr>
<tr>
<td>NVS influenza vaccines (formerly Novartis)</td>
<td>Fluvirin (IV)</td>
<td>0.5 ml (single-dose syringe)</td>
<td>≤6 4 years &amp; older</td>
<td>25</td>
<td>900056 900064</td>
</tr>
<tr>
<td></td>
<td>Fluvirin (IV)</td>
<td>5.0 ml (multi-dose vial)</td>
<td>0 18 years &amp; older</td>
<td>25</td>
<td>900056 900064</td>
</tr>
<tr>
<td></td>
<td>Fluzone (IV)</td>
<td>0.5 ml (single-dose syringe)</td>
<td>0 18 years &amp; older</td>
<td>25</td>
<td>900056 900064</td>
</tr>
<tr>
<td>Protein Sciences Corp.</td>
<td>Fluzone (IV)</td>
<td>5.0 ml (multi-dose vial)</td>
<td>25 6 through 35 months</td>
<td>25</td>
<td>900056 900064</td>
</tr>
<tr>
<td></td>
<td>5.0 ml (multi-dose vial)</td>
<td></td>
<td></td>
<td>35</td>
<td>900058 100168</td>
</tr>
<tr>
<td>Sanofi Pasteur, Inc.</td>
<td>Fluzone (IV)</td>
<td>0.75 ml (single-dose syringe)</td>
<td>0 6 through 35 months</td>
<td>25</td>
<td>900056 900064</td>
</tr>
<tr>
<td></td>
<td>5.0 ml (multi-dose vial)</td>
<td></td>
<td></td>
<td>35</td>
<td>900058 028195</td>
</tr>
<tr>
<td></td>
<td>5.0 ml (multi-dose vial)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.5 ml (single-dose syringe)</td>
<td>0 3 years &amp; older</td>
<td></td>
<td>25</td>
<td>900056 900064</td>
</tr>
<tr>
<td></td>
<td>5.0 ml (multi-dose vial)</td>
<td></td>
<td></td>
<td>35</td>
<td>900058 900064</td>
</tr>
<tr>
<td></td>
<td>5.0 ml (multi-dose vial)</td>
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</tr>
</tbody>
</table>

Footnotes:
1. HIV = human immuno deficiency virus; influenza vaccine (inactivated): where necessary to refer to inactivated vaccine, the prefix "in" is used (e.g., inactivated influenza vaccine); HIV = human immuno deficiency virus; influenza vaccine (inactivated); UP = upper quadrant location (great saphenous vein); LV = lower quadrant location (medial saphenous vein).
2. Effective for children with a single-dose as an event (0.25 ml) CPT (Current Procedural Terminology) code 99080 is no longer payable for Medicare patients, HCPCS (Healthcare Common Procedure Coding System) 02 codes, as indicated above, should be submitted for payment purposes.
3. An administration code should always be reported in addition to the vaccine product code. These third-party payers may have specific policies and guidelines that might require prior authorization or additional information on their own forms. In 2016, AAO recommended that Fluzone should be used in children and pregnant women only when a single-dose per patient has been administered. Fluzone should be used in a child or young than age 1 year. This recommendation continues for the 2017-2018 influenza season.
4. In 1980, AAO recommended that Fluzone be used in children younger than age 1 year. This recommendation continues for the 2017-2018 influenza season.
5. Allergies are approved by the Food and Drug Administration for intramuscular administration with the Phanexject TCS. Needle-Free Injection System for persons age 30 through 47 years.
Manufacturer Production Estimates

- Sanofi Pasteur (7/14)
  - Anticipates delivering 65+M doses
- Protein Sciences (8/11)
  - Anticipate delivering 1.5M doses of RIV3
- NVS Influenza Vaccines (Sequiris as of October 1) (7/23)
  - Anticipate delivering 36M doses of IIV3 and ccIIV3
- bioCSL (7/13)
  - Anticipates delivering 18M doses of IIV3
  - FDA approved Afluria (bioCSL) for injection by jet injector (Stratus by Pharmajet)
- AstraZeneca (MedImmune) (9/3)
  - Anticipates delivering 15M doses of LAIV4
- GSK Vaccines (7/16)
  - Anticipates delivering 32-38M doses, with all doses being IIV4

ACIP Influenza Recommendations

- All persons 6 months of age or older should receive influenza immunization
  - Influenza vaccination should not be delayed to procure a specific vaccine preparation if an appropriate one is already available
- Immunization should begin as soon as vaccine is available (optimally before influenza circulates in the community) and continue as long as influenza is circulating
- Don’t delay to procure a specific vaccine preparation
- Final recommendations published in the August 7, 2015 issue of the MMWR:
  http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6430a3.htm.
The 2015 - 2016 pediatric recommendations

• Recall last year’s recommendation:
  - When immediately available, LAIV should be used for healthy children aged 2 through 8 years who have no contraindications or precautions.
  - If LAIV is not immediately available, IIV should be used. Do not delay vaccination to secure LAIV.

• ACIP removed this preferential recommendation for live attenuated influenza vaccine (LAIV) for children at the February 2015 meeting:
  [Link to CDC website]

Influenza vaccine dosing algorithm for children aged 6 months through 8 years

Has the child received ≥2 total doses of trivalent or quadrivalent influenza vaccine before July 1, 2015*

Yes

1 dose of 2015–16 influenza vaccine

No or don’t know

2 doses† of 2015–16 influenza vaccine

* The two doses need not have been received during the same season or consecutive seasons.
† Doses should be administered ≥4 weeks apart.
What about egg allergies?

• RIV recommended for vaccination of persons 18 through 49 years of age with egg allergy of any severity
  - IIV should be administered to individuals with a severe egg allergy, or if outside age range for RIV, by a physician with experience in the recognition and management of severe allergic conditions.

• For individuals who have no known history of exposure to egg, but who are suspected of being egg-allergic on the basis of previously performed allergy testing, consultation with a physician with expertise in the management of allergic conditions should be obtained prior to vaccination.

Influenza vaccination of persons who report allergy to eggs*†

<table>
<thead>
<tr>
<th>Can the patient eat lightly cooked egg, e.g., scrambled egg, without reaction?</th>
<th>Yes</th>
<th>Administer vaccine per usual protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>After eating eggs or egg-containing foods, does the patient experience ONE of the following?</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Administer RIV, or if patient aged ≥18 years OR Administer IIV, observe for reaction for at least 30 minutes after vaccination.</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>After eating eggs or egg-containing foods, does the patient experience any of the following symptoms?</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Administer RIV, or if patient aged ≥18 years OR Administer IIV, observe for reaction for at least 30 minutes after vaccination.</td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: IIV = inactivated influenza vaccine, trivalent or quadrivalent; RIVS = recombinant influenza vaccine, trivalent.

* Presence of egg allergy may indicate egg in labeled products (e.g., formal or label). Reference to egg-containing foods does not exclude the possibility of egg allergy (Silverman- Lazarowicz et al., Recommendations for the administration of influenza vaccine in children allergic to egg. BMJ 2009;339:b5383).

† For persons who have no known history of exposure to egg, but who are suspected of being egg-allergic on the basis of previously performed allergy testing, consultation with a physician with expertise in the management of allergic conditions should be obtained prior to vaccination. Alternatively, RIVS may be administered if the recipient is aged ≥18 years.
**CDC communication plans for the 2015-2016 season**

**Goal**
Create and sustain positive social norms that encourage flu vaccination, foster flu vaccination efforts, and achieve continued increases in flu vaccination coverage over time


**Objectives**
- Maintain and increase awareness of the universal flu vaccination recommendation; everyone 6 months and older should be vaccinated
- Foster knowledge and favorable beliefs regarding influenza vaccine and vaccination recommendations (e.g., flu vaccination is best way to protect yourself and those you love)
- Maintain and extend confidence in flu vaccine safety
- Foster flu vaccination among Hispanics/Latinos, African-Americans, and other minority populations
- Emphasize the importance of a provider flu vaccine recommendation

3 Steps to Fight the Flu

- CDC recommends a yearly flu vaccine as the best way to protect against flu.
- Everyday preventive actions like covering your cough, staying away from people who are sick and washing your hands often can help prevent the spread of respiratory viruses like the flu.
- Influenza antiviral medications are an important second line of defense against the flu.

 CDC’s Vaccine Effectiveness Key Messaging Concepts

- Two of the vaccine components for this season’s flu vaccines were updated to match with the viruses experts expect to be most common during the upcoming season
  - Compared to the 2014-15 flu vaccines, the 2015-16 vaccines have different influenza A (H3) and influenza B (Yamagata lineage) components.

CDC’s Vaccine Effectiveness Key Messaging Concepts

• Last season was very unusual – two things happened that usually don’t happen
  - One strain of influenza caused almost all the cases of flu.
  - The strain that caused most of the cases was very different from the strain in the vaccine – and that’s because that flu virus changed and quickly became predominant.

• Based on the information we have now, we’re optimistic that this season’s flu vaccines will provide good protection against circulating viruses.
  - Laboratory data to date indicates that most circulating viruses are still like the vaccine viruses selected for this season’s vaccine.
Visit IAC Resources!

• Read our publications!
  - http://www.immunize.org/publications/

• Visit our websites!
  - www.immunize.org
  - www.vaccineinformation.org
  - www.izcoalitions.org
  - www.izsummitpartners.org

• Stay ahead of the game! Subscribe to our updates!
  - http://www.immunize.org/subscribe/

Why do we immunize against influenza?

- Amanda, died at age 4½ yrs from influenza
- Lucio, died at age 8 yrs from influenza complications
- Alana, died at age 5½ yrs from influenza
- Breanne, died at age 15 mos from influenza complications
- Barry, a veteran fire-fighter, died at age 44 yrs from influenza

Slide Courtesy of Families Fighting Flu
Thank You for your attention!