What Happened to Influenza Last Season?

What Will Happen This Season?

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Outline

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

- Looking ahead to 2021-2022
  - What can we expect?
  - Two important preparations
**Influenza Activity: 2020-2021**

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Specimens Tested</th>
<th>Influenza Positives</th>
<th>Peak % Positive</th>
<th>Total % Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-16</td>
<td>770,455</td>
<td>70,291</td>
<td>23.6</td>
<td>9.1</td>
</tr>
<tr>
<td>2016-17</td>
<td>1,028,886</td>
<td>133,497</td>
<td>24.7</td>
<td>13.0</td>
</tr>
<tr>
<td>2017-18</td>
<td>1,373,123</td>
<td>238,063</td>
<td>27.4</td>
<td>17.3</td>
</tr>
<tr>
<td>2018-19</td>
<td>1,294,800</td>
<td>181,531</td>
<td>26.2</td>
<td>14.0</td>
</tr>
<tr>
<td>2019-20</td>
<td>1,491,430</td>
<td>250,396</td>
<td>30.3</td>
<td>16.8</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>1,191,739</strong></td>
<td><strong>174,756</strong></td>
<td><strong>26.4</strong></td>
<td><strong>14.0</strong></td>
</tr>
<tr>
<td><strong>Median</strong></td>
<td><strong>1,294,800</strong></td>
<td><strong>181,531</strong></td>
<td><strong>26.2</strong></td>
<td><strong>14.0</strong></td>
</tr>
</tbody>
</table>

**2020-21**

<table>
<thead>
<tr>
<th>Year</th>
<th>Specimens Tested</th>
<th>Influenza Positives</th>
<th>Peak % Positive</th>
<th>Total % Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020-21</td>
<td>1,476,485</td>
<td>2,261</td>
<td>0.4</td>
<td>0.2</td>
</tr>
</tbody>
</table>

*Data through August 28, 2021; reported to CDC as of September 1, 2021.*
Seasonal Influenza Virus Genetic Characterization
US viruses collected since September 27, 2020

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

ILINet: Percent of Outpatient Visits for ILI

FluSurvNet: Hospitalization Rates for Lab Confirmed Flu

* Data through August 28, 2021; reported to CDC as of September 1, 2021.
Mortality Surveillance: Influenza-Associated Pediatric Deaths and NCHS Mortality Surveillance System; 2017-2018 through 2020-2021* Seasons

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

Influenza-Associated Pediatric Deaths

NCHS Mortality Surveillance System

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

What Happened to Influenza?

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

Influenza is unpredictable!
Changing Landscape of COVID-19 Mitigation Measures

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

Clues from Other Respiratory Viruses

https://www.cdc.gov/mmwr/volumes/70/wr/mm7029a1.htm
What We Don’t Have

What We Do Have

2021-2022 Preparations
Two important fall/winter preparations

- Make sure surveillance systems are running efficiently.
  - We need to know what is going on so we can respond appropriately.

- Influenza vaccination
  - Primary method of preventing influenza infection and illness
  - Even more important this season

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

https://www.cdc.gov/mmwr/volumes/70/rr/rr7005a1.htm
ACIP Influenza Recommendations: Key Updates (1)

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

- Guidance for vaccine planning during the pandemic

ACIP Influenza Recommendations: Key Updates (2)

- Vaccine Strains
  - **A/H1pdm09** - Updated
    - A/Victoria/2570/2019 (H1N1)pdm09-like virus (egg)
    - A/Wisconsin/588/2019 (H1N1)pdm09-like virus (cell or recombinant)
  - **A/H3N2** – Updated
    - A/Cambodia/e0826360/2020 (H3N2)-like virus (egg, cell or recombinant)
  - **B/Victoria** – No change
    - B/Washington/02/2019 (B/Victoria lineage)-like virus (egg, cell, recombinant)
  - **B/Yamagata** – No change
    - B/Phuket/3073/2013 (B/Yamagata lineage)-like virus (egg, cell, recombinant)
ACIP Influenza Recommendations: Key Updates (3)

- All influenza vaccines available in the U.S. this season are quadrivalent.
- Age indication for Flucelvax Quadrivalent (the cell culture-based inactivated flu vaccine [ccIIV4]) expanded from ≥4 years to ≥2 years.

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

<table>
<thead>
<tr>
<th>Vaccine (manufacturer)</th>
<th>Presentations</th>
<th>Age indication</th>
<th>µg M (RIV and RIV4) “severe reactant” (LAIV) for each vaccine type</th>
<th>Route</th>
<th>Mercury (from intranasal, if present), µg/0.5 mL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flu-IV (Standard-dose, egg-based vaccine)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluzone Quadrivalent</td>
<td>0.5 mL, IIV</td>
<td>6 through 25 mos</td>
<td>7.5 µg/0.5 mL</td>
<td>IM</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>0.5 mL, IIV</td>
<td>≥2 yrs</td>
<td>15 µg/0.5 mL</td>
<td>IM</td>
<td>245</td>
</tr>
<tr>
<td></td>
<td>0.5 mL, MDV</td>
<td>6 mos to 5 yrs (needle/implant)</td>
<td>15 µg/0.5 mL</td>
<td>IM</td>
<td>—</td>
</tr>
<tr>
<td>Flu-IV (High-dose, egg-based vaccine)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluzone High-Dose Quadrivalent</td>
<td>0.5 mL, MDV</td>
<td>6 mos to 4 yrs</td>
<td>7.5 µg/0.5 mL</td>
<td>IM</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>0.5 mL, MDV</td>
<td>12 mos to 5 yrs</td>
<td>15 µg/0.5 mL</td>
<td>IM</td>
<td>245</td>
</tr>
</tbody>
</table>

ACIP Influenza Recommendations: Key Updates (4)

- Receipt of cclIV4
  - Precaution — history of severe allergic reaction to previous dose of egg-based IV, LAIV or RIV
  - Contraindication — history of severe allergic reaction to any previous dose or component of cclIV4

- Receipt of RIV4
  - Precaution — history of severe allergic reaction to previous dose of egg-based IV, cclIV or LAIV
  - Contraindication — history of severe allergic reaction to any previous dose or component of RIV
ACIP Influenza Recommendations: Key Updates (5)

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

ACIP Influenza Recommendations: Key Updates (6)

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

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

Any questions?

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For more information, contact CDC
1-800-CDC-INFO (232-4636)

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.