The Return of Influenza
A summary of the 2021-2022 Influenza Season

National Adult and Influenza Immunization Summit
May 20, 2022

Alicia Budd, MPH
Influenza Division, NCIRD, CDC

Outline

- Seasonal influenza activity in the United States
- Highly pathogenic avian influenza (HPAI) A/H5N1
Seasonal Influenza Activity in the United States

Influenza Tests Reported to CDC by U.S. Clinical Laboratories, National Summary 2021-2022*

* Data through May 7, 2022; reported to CDC as of May 11.
Influenza Tests Reported to CDC by U.S. Clinical Laboratories, National Summary 2015-2016 through 2021-2022*

* Data through May 7, 2022; reported to CDC as of May 11.

Influenza Tests Reported to CDC by U.S. Clinical Laboratories, National Summary 2021-2022*

* Data through May 7, 2022; reported to CDC as of May 11.
Regional Variations: Data Reported by Clinical Laboratories
2021-2022* Influenza Season

- All regions had 2 waves of activity
- Regional differences
  - Relative magnitude of wave 1 vs 2
  - Timing of beginning of waves 1 & 2
  - Timing of wave 1 & 2 peaks

Influenza Tests Reported to CDC by U.S. Public Health Laboratories,
National Summary, 2015-2016 through 2021-2022 Seasons*

* Data through May 7, 2022; reported to CDC as of May 11.
**Specimens Tested for Influenza and Reported to CDC by U.S. Clinical and Public Health Laboratories, National Summary 2015-2016 through 2021-2022**

*Data through May 7, 2022; reported to CDC as of May 11.*

**Specimens Tested at Clinical Laboratories**

**Specimens Tested at Public Health Laboratories**

**Influenza Virus Characterization 2021-2022**

<table>
<thead>
<tr>
<th>Virus</th>
<th>Genetic Characterization</th>
<th>Antigenic Characterization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number Tested</td>
<td>Clade/Subclade</td>
</tr>
<tr>
<td>H3</td>
<td>1,202</td>
<td>99.7% - 3C.2a1b.2a.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B/Victoria</td>
<td>23</td>
<td>39% - V1A.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>61% - V1A.3a.2</td>
</tr>
</tbody>
</table>

**Virus Susceptibility to Antiviral Medications**

<table>
<thead>
<tr>
<th>Antiviral</th>
<th>Number Tested</th>
<th>Number with Reduced Inhibition/Decr. Susceptibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oseltamivir, Peramivir, Zanamivir</td>
<td>1,253</td>
<td>0</td>
</tr>
<tr>
<td>Baloxivir</td>
<td>1,230</td>
<td>1</td>
</tr>
</tbody>
</table>

*Data through May 7, 2022; reported to CDC as of May 11.*
Percentage of Outpatient Visits for Influenza-like Illness
U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet)
2020-2021* and Selected Previous Influenza Seasons

This system monitors visits for ILI (fever and cough or sore throat), not laboratory confirmed influenza and may capture patient visits due to other respiratory pathogens that cause similar symptoms.

Percentage of Long-term Care Facilities (LTCF) with at Least One Confirmed Influenza Positive Test among Residents, Reported to CDC’s National Healthcare Safety Network (NHSN)
2021-2022* Influenza Season

* Data through May 7, 2021; reported to CDC as of May 11.
Highly Pathogenic Avian Influenza (HPAI) A/H5N1
Highly Pathogenic Avian Influenza (HPAI) A/H5N1: United States

- USDA first reported wild birds infected with HPAI A/H5N1 in January 2022
- First infected commercial/backyard flock was identified in February
- As of May 16, 37 states have identified infected wild birds and 34 states have identified infected flocks

The Virus

- HPAI A/H5N1
  - Clade 2.3.4.4b – predominant H5N1 avian influenza virus worldwide since the fall of 2021
  - Can be detected using CDC’s diagnostic tools
    - Tools used at public health labs in all 50 states
  - A candidate vaccine virus exists
  - Antivirals for seasonal flu would work against these viruses
Monitoring for Human Infections

- CDC is working with USDA and state partners to monitor for infections in people who have had HPAI A/H5N1 virus exposures

- Approximately 3,200 people monitored
  - ~100 persons tested
  - H5 detected in 1 person
    - Close, prolonged exposure to infected birds and their environment
    - Only reported symptom was fatigue, resolved after 3 days
    - No known human-to-human transmission
    - This group of H5 viruses has only been detected in one other person – Dec 2021 in the United Kingdom; raised infected birds; asymptomatic

Summary
Summary

- Seasonal influenza
  - The 2021-2022 flu season is not over
  - Peak activity is later than usual
  - Activity is lower than almost all pre-COVID flu seasons on record

<table>
<thead>
<tr>
<th>Burden Estimates</th>
<th>2021-22 Estimate</th>
<th>2010-2020 Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illnesses</td>
<td>at least 6.4 million</td>
<td>9 million to 41 million</td>
</tr>
<tr>
<td>Hospitalizations</td>
<td>at least 65,000</td>
<td>140,000 to 710,000</td>
</tr>
<tr>
<td>Deaths</td>
<td>at least 4,000</td>
<td>12,000 to 52,000</td>
</tr>
</tbody>
</table>

- What will flu do next...and when?????

- HPAI A/H5N1 outbreak is continuing in birds
  - Risk to general public remains low
  - People exposed to infected poultry and wild birds may be at increased risk of H5 infection

Thank you!

Any questions?

Alicia Budd
ABudd@cdc.gov

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.
Regional Variations: Hospitalizations Reported to HHS Protect 2021-2022* Influenza Season

Region 1

Region 2

Region 3

Region 4

Region 5

Region 6

Region 7

Region 8

Region 9

Region 10

* Data through 5/7/22, Reported as of 5/11/22
What you can do

- Clinicians
  - Consider the possibility of H5N1 infection in persons showing signs or symptoms of respiratory illness who have relevant exposures
    - Contact with potentially infected birds and their environment
- State health departments
  - Monitor exposed individuals and investigate potential human cases of H5N1 virus infection and notify CDC within 24 hours of identifying a case under investigation.
- General public
  - Avoid unprotected exposure to sick or dead birds and their environment
  - If exposed - monitored for signs and symptoms of influenza beginning after their first exposure and for 10 days after their last exposure.

Health Alert Network Notice - https://emergency.cdc.gov/han/2022/han00464.asp