Influenza Activity Update: 2023-2024 Influenza Season

National Adult and Influenza Immunization Summit
May 16, 2024

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Outline

- Flu activity in the COVID era
- 2023-2024 season update
- Highly pathogenic avian influenza (HPAI) A/H5
Influenza in the COVID Era

Clinical Laboratories:
Percent Positive for Influenza

2018-2019 – the last season unaffected by COVID
Clinical Laboratories:
Percent Positive for Influenza

2019 - 2020 – Flu activity dropped sharply shortly after COVID emerged

Clinical Laboratories:
Percent Positive for Influenza

2020 - 2021 – No flu activity the first full fall/winter with COVID
Clinical Laboratories: Percent Positive for Influenza

2021 - 2022 – Flu activity starts to return – low, 2 waves – 1 quite late

Clinical Laboratories: Percent Positive for Influenza

2022 - 2023 – Flu activity returns to pre-COVID levels but a very early season
Clinical Laboratories: Percent Positive for Influenza

2023 - 2024 – Flu activity remains at “normal” levels and occurs at “normal” time

2023 – 2024 Influenza Activity
National Influenza Surveillance: 2023-2024 Season

- 4 categories of data
- 8 systems/components

Data are summarized each week and available on FluView and FluView interactive
https://www.cdc.gov/flu/weekly/fluactivitysurv.htm

Clinical and Public Health Laboratories

Peak % Positive
- Overall and Influenza A – week 52 (late Dec.)
- Influenza B – week 8 (mid-Feb.)

Data through May 4, 2024; reported to CDC as of May 8.
### Regional Variations

Influenza Positive Tests Reported to CDC by U.S. Public Health Laboratories,

Data through May 4, 2024; reported to CDC as of May 8.

### Characteristics of Viruses Collected in the U.S. since October 1, 2023

<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>A/H1</td>
<td>1,638</td>
<td>23% - 6B.1A.5a.2a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>77% - 6B.1A.5a.2a.1</td>
</tr>
<tr>
<td>A/H3</td>
<td>1,429</td>
<td>0.1% - 3C.2a1b.2a.2a.1b</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1% - 3C.2a1b.2a.2a.3a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>99.8% - 3C.2a1b.2a.2a.3a.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1% - 3C.2a1b.2a.2b</td>
</tr>
<tr>
<td>B/Victoria</td>
<td>1,190</td>
<td>100% - V1A.3a.2</td>
</tr>
</tbody>
</table>

### Antiviral Susceptibility

<table>
<thead>
<tr>
<th>Medication, Peramivir, Zanamivir</th>
<th>Number Tested</th>
<th>Number with Reduced Inhibition/Susceptibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oseltamivir, Peramivir, Zanamivir</td>
<td>4,261</td>
<td>2 H1s - reduced inhibition, oseltamivir and peramivir</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 H1 - reduced inhibition, oseltamivir</td>
</tr>
<tr>
<td>Baloxavir</td>
<td>4,139</td>
<td>1 H3 - reduced susceptibility</td>
</tr>
</tbody>
</table>

Data through May 4, 2024.
NAIIS - Setting the stage for 2024 – 2025
Respiratory Virus Season - May 16, 2024

Outpatient/ED Respiratory Illness

Influenza Associated Hospitalizations
Mortality Surveillance

Influenza Associated Pediatric Deaths
Reported to CDC, 2004-2005 through 2023-2024

Data through May 4, 2024; reported to CDC as of May 8.

Influenza Mortality from
the National Center for Health Statistics Mortality Surveillance System
Data as of May 8, 2024

https://www.cdc.gov/surveillance/resp-lens/dashboard.html

Data through May 4, 2024; reported to CDC as of May 8.
2023-2024 Burden and Severity

2023 – 2024 Burden Estimates
≥ 24,000 deaths
≥ 380,000 hospitalizations
≥ 34 million illnesses

Estimated Range from 2010 – 2023*

https://www.cdc.gov/flu/about/classifies-flu-severity-inseason.htm

Highly Pathogenic Avian Influenza (HPAI) A/H5

https://www.cdc.gov/flu/about/burden/preliminary-in-season-estimates.htm
https://www.cdc.gov/flu/about/classifies-flu-severity-inseason.htm

Data as of May 4, 2024.
A/H5N1 in U.S. Cattle - 2024

- Dairy cow illness onsets began in early 2024
  - Significant decreases in milk production and quality
  - USDA notified in early March
- March 25: USDA reported HPAI confirmed in cows and milk samples from TX and KS
- USDA has confirmed HPAI in dairy herds on 46 farms across 9 states
  - CO (2), ID (4), KS (4), MI (12), NM (8), NC (1), OH (1), SD (1), TX (13)

One A/H5N1 Human Case in U.S. in 2024

- April 1: State of Texas announced that a person has tested positive for HPAI A(H5N1) virus
  - Direct exposure to cattle presumed to be infected with HPAI
  - Reported eye redness as their only symptom, consistent with conjunctivitis; not hospitalized, recovered
- Respiratory and conjunctival specimens confirmed positive at CDC
  - Clade 2.3.4.4b
  - Circulating globally in wild birds and in the U.S. since late 2021
  - Nearly identical to infected dairy cattle and birds in Texas
- No illness reported in household contacts
- No additional cases of human infection associated with this case
- No human-to-human transmission of HPAI A (H5N1) virus have been identified
The CO case in April 2022 only reported “fatigue; very low level of H5 viral RNA was detected in one upper respiratory specimen - likely represents detection of transient environmental contamination and not true H5n1 virus infection

Uyeki, Timothy M. (CDC/NCIRD/ID, 2024-04-08T15:41:43.144
A/H5N1 Response Summary

- Overall risk to the general public remains low
  - Greater risk for people with close, prolonged, or unprotected exposures to infected animals, or to environments contaminated by infected animals
- Continued readiness posture
  - Concerning genetic changes in the virus
  - Impact to current diagnostics, treatments, CVVs
- Continued Reassessment of Risk
  - Overall public health risk
  - Potential pandemic risk (IRAT)
- Ongoing One Health collaborations with USDA APHIS, FDA, ASPR, NIAID and USG interagency remains critical

What does this mean for influenza surveillance this summer?

- Monitoring those exposed for illness
- Reminding providers to think of flu and ask about animal exposures
- Agricultural fair outreach – swine and cattle
- Maintaining/enhancing virologic surveillance
  - Getting in more specimens
  - Subtyping influenza A positives
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.