RESPIRATORY VIRUS SURVEILLANCE REPORT

Week 50: Ending December 14, 2019

Wisconsin Department of Health Services | Division of Public Health
Bureau of Communicable Diseases | Communicable Diseases Epidemiology Section

www.dhs.wisconsin.gov/dph/bcd.htm | dhsdphbcd@dhs.wi.gov
INFLUENZA LIKE ILLNESS (ILI) ACTIVITY

STATE OF WISCONSIN

REGION V OF US (WI, MN, IL, MI, OH, IN)

UNITED STATES

ILI: HIGH LEVELS  ILI: MODERATE LEVELS  ILI: BELOW BASELINE  ILI: INSUFFICIENT DATA

AT-A-GLANCE:

- Weekly Respiratory Report Description
- Predominant Viruses of the Week:
  Influenza B and RSV are the predominant viruses this week.

CURRENT ALERTS:

Influenza B (Victoria lineage) continues to be the predominant influenza virus in Wisconsin. Influenza B viruses cause increased morbidity among the younger population.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS REPORTED:

<table>
<thead>
<tr>
<th>Location</th>
<th>Week 50, 2019</th>
<th>October 1, 2019 to present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wisconsin</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Nationwide</td>
<td>9</td>
<td>19</td>
</tr>
</tbody>
</table>

For National US influenza surveillance statistics visit: www.cdc.gov/flu/weekly/
INFLUENZA AND PNEUMONIA-ASSOCIATED MORTALITY

Influenza and Pneumonia Deaths, Wisconsin

Influenza- and pneumonia-associated deaths by influenza season year and week, Wisconsin

<table>
<thead>
<tr>
<th>Influenza season week</th>
<th>Influenza-associated deaths (I)</th>
<th>Pneumonia-associated deaths (P)</th>
<th>Percent I+P of all deaths</th>
<th>Baseline I+P of all deaths</th>
<th>Threshold I+P of all deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>0</td>
<td>52</td>
<td>5.1%</td>
<td>5.2%</td>
<td>5.9%</td>
</tr>
<tr>
<td>49</td>
<td>2</td>
<td>54</td>
<td>5.3%</td>
<td>5.3%</td>
<td>6.0%</td>
</tr>
<tr>
<td>50</td>
<td>1</td>
<td>49</td>
<td>5.7%</td>
<td>5.4%</td>
<td>6.1%</td>
</tr>
<tr>
<td>(Preliminary data)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seasonal total</td>
<td>9</td>
<td>798</td>
<td>4.8%</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

Data source: DPH, Office of Health Informatics
Wisconsin positive influenza results and subtypes by PCR

Cumulative number of positive influenza PCR tests by subtype
September 1, 2019 to present

<table>
<thead>
<tr>
<th>Influenza A: A (2009 H1N1)</th>
<th>A (H3N2 seasonal)</th>
<th>31% A (Unknown)</th>
<th>Influenza B: B (Victoria)</th>
<th>B (Yamagata)</th>
<th>69% B (Unknown)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total positive (n)</td>
<td>39</td>
<td>44</td>
<td>290</td>
<td>52</td>
<td>8</td>
<td>753</td>
</tr>
<tr>
<td>% of total positive</td>
<td>3%</td>
<td>4%</td>
<td>24%</td>
<td>4%</td>
<td>1%</td>
<td>63%</td>
</tr>
</tbody>
</table>
WISCONSIN LABORATORY SURVEILLANCE FOR RESPIRATORY VIRUSES BY PCR

Trends in respiratory virus activity by PCR

<table>
<thead>
<tr>
<th>Respiratory virus</th>
<th>Tested</th>
<th>Positive (n)</th>
<th>Positive (%)</th>
<th>Influenza A</th>
<th>Influenza B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>H3N2 2009 H1N1 Unknown</td>
<td>Victoria Yamagata Unknown</td>
</tr>
<tr>
<td>Influenza</td>
<td>3587</td>
<td>474</td>
<td>13.2%</td>
<td>2 5 99</td>
<td>12 0 356</td>
</tr>
<tr>
<td>Parainfluenza</td>
<td>697</td>
<td>23</td>
<td>3.3%</td>
<td>10 1 0</td>
<td>12</td>
</tr>
<tr>
<td>Coronavirus (CoV)</td>
<td>295</td>
<td>13</td>
<td>4.4%</td>
<td>1 0 0</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respiratory virus</th>
<th>Tested</th>
<th>Positive (n)</th>
<th>Positive (%)</th>
<th>CoV 229E CoV OC43 CoV NL63 CoV HKU1</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSV</td>
<td>1327</td>
<td>169</td>
<td>12.7%</td>
<td></td>
</tr>
<tr>
<td>Human metapneumovirus</td>
<td>723</td>
<td>34</td>
<td>4.7%</td>
<td></td>
</tr>
<tr>
<td>Rhino-enterovirus</td>
<td>668</td>
<td>71</td>
<td>10.6%</td>
<td></td>
</tr>
<tr>
<td>Adenovirus</td>
<td>295</td>
<td>10</td>
<td>3.4%</td>
<td></td>
</tr>
</tbody>
</table>
ILI activity trend analysis

Influenza and RSV trend analysis
**WISCONSIN STATE SUMMARY**

ILI activity trend analysis by influenza season, Wisconsin

![Graph showing ILI activity trend analysis by influenza season](image)

Influenza-associated hospitalizations, Wisconsin Electronic Disease Surveillance System
September 1, 2019 to present

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Total reported (n)</th>
<th>Influenza subtype</th>
<th>Admitted to ICU</th>
<th>Required mechanical ventilation</th>
<th>Pregnant</th>
<th>Postpartum (≤6 weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>4</td>
<td>A (2009 H1N1) 0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1-4</td>
<td>18</td>
<td>A (H3N2) 0</td>
<td>7</td>
<td>3</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>5-17</td>
<td>22</td>
<td>A (Unknown) 3</td>
<td>12</td>
<td>5</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>18-49</td>
<td>41</td>
<td>B Not reported 26</td>
<td>2</td>
<td>10</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>50-64</td>
<td>33</td>
<td></td>
<td>11</td>
<td>7</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>65+</td>
<td>71</td>
<td></td>
<td>34</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>189</td>
<td>69</td>
<td>11</td>
<td>31</td>
<td>6</td>
<td>4</td>
</tr>
</tbody>
</table>

Reported cumulative influenza-associated hospitalizations by influenza season, Wisconsin

![Graph showing reported cumulative influenza-associated hospitalizations](image)
NORTHEASTERN REGION

### Influenza rapid antigen tests

<table>
<thead>
<tr>
<th>Tested</th>
<th>Positive (n)</th>
<th>% Positive</th>
<th>Tested</th>
<th>Positive (n)</th>
<th>% Positive</th>
<th>ILI %</th>
<th>Baseline</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza A</td>
<td>16</td>
<td></td>
<td>Influenza B</td>
<td>13</td>
<td></td>
<td>Total</td>
<td>29</td>
<td>10.4%</td>
</tr>
</tbody>
</table>

### ILI activity trend analysis

![Graph showing ILI activity trend analysis]

### Influenza and RSV trend analysis

![Graph showing influenza and RSV trend analysis]
NORTHWESTERN REGION

<table>
<thead>
<tr>
<th>Tested</th>
<th>Influenza A</th>
<th>Influenza B</th>
<th>Total</th>
<th>% Positive</th>
<th>Tested</th>
<th>Positive (n)</th>
<th>% Positive</th>
<th>ILI %</th>
<th>Baseline</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>256</td>
<td>9</td>
<td>29</td>
<td>38</td>
<td>14.8%</td>
<td>73</td>
<td>22</td>
<td>30.1%</td>
<td>1.7%</td>
<td>1.9%</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

**ILI activity trend analysis**

Week ending | Baseline | Threshold | 3 per. Mov. Avg. (Average % ILI)
--- | --- | --- | ---
9/1 | 0% | | 
9/22 | 0% | | 
10/13 | 0% | | 
11/3 | 0% | | 
11/24 | 0% | | 
12/15 | 0% | | 
1/5 | 0% | | 
1/26 | 0% | | 
2/16 | 0% | | 
3/8 | 0% | | 
3/29 | 0% | | 
4/19 | 0% | | 
5/10 | 0% | | 
5/31 | 0% | | 

**Influenza and RSV trend analysis**

Week ending | 3 per. Mov. Avg. (RSV) | 3 per. Mov. Avg. (Influenza)
--- | --- | ---
9/1 | 0% | 0%
9/22 | 0% | 0%
10/13 | 0% | 0%
11/3 | 0% | 0%
11/24 | 0% | 0%
12/15 | 0% | 0%
1/5 | 0% | 0%
1/26 | 0% | 0%
2/16 | 0% | 0%
3/8 | 0% | 0%
3/29 | 0% | 0%
4/19 | 0% | 0%
5/10 | 0% | 0%
5/31 | 0% | 0%
ILI activity trend analysis

Influenza and RSV trend analysis
SOUTHERN REGION

ILI activity trend analysis

Influenza and RSV trend analysis

<table>
<thead>
<tr>
<th>Tested</th>
<th>Influenza rapid antigen tests</th>
<th>RSV rapid antigen tests</th>
<th>Influenza-like illness (ILI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Influenza A</td>
<td>Influenza B</td>
<td>Total</td>
</tr>
<tr>
<td>28</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Average % ILI

Week ending

% Positive by antigen detection
Influenza vaccine composition 2019-2020:

The *trivalent* vaccines for use in the 2019-2020 influenza season contain the following:

- A/Brisbane/02/2018 (H1N1)pdm09–like virus (updated)
- A/Kansas/14/2017 (H3N2)-like virus (updated)
- B/Colorado/06/2017-like (Victoria lineage) virus

It is recommended that *quadrivalent* vaccines containing two influenza B viruses contain the above three viruses and:

- B/Phuket/3073/2013-like virus (Yamagata lineage)
SEASONAL INFLUENZA VACCINATION

Percentage of Wisconsin residents who received one or more doses of influenza vaccine, by age group and influenza season

Each season includes doses administered during the same time period (August 1 through May 3).

Percentage of Wisconsin residents who received one or more doses of influenza vaccine, by race and ethnicity and region, 2019-2020 influenza season

All of Wisconsin

- Total: 35%
- Non-Hispanic: 33%
- Hispanic: 22%
- White: 32%
- Black: 19%
- Asian: 26%
- American Indian/Alaska-Native: 21%

Northeastern

- Total: 36%
- Non-Hispanic: 35%
- Hispanic: 23%
- White: 34%
- Black: 19%
- Asian: 24%
- American Indian/Alaska-Native: 26%

Northern

- Total: 33%
- Non-Hispanic: 32%
- Hispanic: 21%
- White: 31%
- Black: 17%
- Asian: 24%
- American Indian/Alaska-Native: 21%

Southeastern

- Total: 33%
- Non-Hispanic: 32%
- Hispanic: 22%
- White: 31%
- Black: 20%
- Asian: 25%
- American Indian/Alaska-Native: 12%

Southern

- Total: 40%
- Non-Hispanic: 32%
- Hispanic: 23%
- White: 31%
- Black: 19%
- Asian: 28%
- American Indian/Alaska-Native: 26%

Western

- Total: 34%
- Non-Hispanic: 33%
- Hispanic: 22%
- White: 33%
- Black: 17%
- Asian: 25%
- American Indian/Alaska-Native: 17%