Summary of the 2016-17 Season

- 3,695 people were hospitalized with laboratory confirmed influenza
- 2 pediatric influenza-related deaths were confirmed
- 182 outbreaks of influenza in long-term care facilities were reported
- 391 outbreaks of ILI in schools were reported

Minnesota Influenza Surveillance Website: http://www.health.state.mn.us/diseases/flu/stats/

Neighboring states’ influenza information:
- Iowa http://www.idph.state.ia.us/IdphArchive/Archive.aspx?channel=FluReports
- South Dakota http://doh.sd.gov/diseases/infectious/flu/
Hospitalized influenza cases are based on disease reports of laboratory-positive influenza (via DFA, IFA, viral culture, EIA, rapid test, paired serological tests or RT-PCR) and specimens from hospitalized patients with acute respiratory illness submitted to MDH-PHL by hospitals and laboratories.

**Hospitalized Influenza Surveillance**

**Hospitalized Influenza Cases by Type**

**Minnesota (FluSurv-NET*)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of Hospitalizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>B (no genotype)</td>
<td></td>
</tr>
<tr>
<td>B (Yamagata)</td>
<td></td>
</tr>
<tr>
<td>B (Victoria)</td>
<td></td>
</tr>
<tr>
<td>A (not subtyped)</td>
<td></td>
</tr>
<tr>
<td>A H1 (unspecified)</td>
<td></td>
</tr>
<tr>
<td>A (H1N1)pdm09</td>
<td></td>
</tr>
<tr>
<td>A (H1N2v)</td>
<td></td>
</tr>
<tr>
<td>A (H3N2v)</td>
<td></td>
</tr>
<tr>
<td>A&amp;B</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
</tr>
</tbody>
</table>

**Hospitalized Influenza Cases by Season, Minnesota (FluSurv-NET*)**

<table>
<thead>
<tr>
<th>Season</th>
<th>Total hospitalizations (historic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-2012</td>
<td>556</td>
</tr>
<tr>
<td>2012-2013</td>
<td>3,075</td>
</tr>
<tr>
<td>2013-2014</td>
<td>1,578</td>
</tr>
<tr>
<td>2014-2015</td>
<td>4,081</td>
</tr>
<tr>
<td>2015-2016</td>
<td>1,538</td>
</tr>
<tr>
<td>2016-2017</td>
<td>3,695</td>
</tr>
</tbody>
</table>

*Influenza Surveillance Network
Minnesota Department of Health Weekly Influenza & Respiratory Summary Report of the 2016-17 Influenza Season
### Number of Influenza Hospitalizations and Incidence by Region, Minnesota
**October 2, 2016 – May 20, 2017**

<table>
<thead>
<tr>
<th>Region</th>
<th>Hospitalizations this week</th>
<th>Total (to date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>---</td>
<td>498 (14%)</td>
</tr>
<tr>
<td>Metro</td>
<td>---</td>
<td>2,082 (56%)</td>
</tr>
<tr>
<td>Northeast</td>
<td>---</td>
<td>203 (5%)</td>
</tr>
<tr>
<td>Northwest</td>
<td>---</td>
<td>47 (1%)</td>
</tr>
<tr>
<td>South Central</td>
<td>---</td>
<td>235 (6%)</td>
</tr>
<tr>
<td>Southeast</td>
<td>---</td>
<td>358 (10%)</td>
</tr>
<tr>
<td>Southwest</td>
<td>---</td>
<td>166 (4%)</td>
</tr>
<tr>
<td>West Central</td>
<td>---</td>
<td>106 (3%)</td>
</tr>
</tbody>
</table>

### Median age (years) at time of admission

<table>
<thead>
<tr>
<th>Median age (years)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>73.0</td>
</tr>
</tbody>
</table>

### Number of Influenza Hospitalizations and Incidence by Age, Minnesota
**October 2, 2016 – May 20, 2017**

- **Region Hospitalizations per 100,000 Persons**
  - Central: 68.3
  - Metro: 73.1
  - Northeast: 62.2
  - Northwest: 30.0
  - South Central: 80.7
  - Southeast: 72.4
  - Southwest: 74.7
  - West Central: 45.3

- **Hospitalizations per 100,000 Persons**

- **Median age (years)**: 73.0
School Outbreaks

K-12 schools report an outbreak of influenza-like illness (ILI) when the number of students absent with ILI reaches 5% of total enrollment or three or more students with ILI are absent from the same elementary classroom.

Influenza-like Illness (ILI) in Schools by Season

![Graph showing influenza-like illness outbreaks in schools by season]

- Total this season: 391
Long-Term Care (LTC) Outbreaks

LTC facilities report to MDH when they suspect an outbreak of influenza in their facility. Laboratory-confirmed outbreaks are reported here.
MDH collaborates with healthcare providers who report the total number of patients seen and the total number of those patients presenting to outpatient clinics with influenza-like illness.

**Sentinel Provider Surveillance (Outpatients)**

MDH collaborates with healthcare providers who report the total number of patients seen and the total number of those patients presenting to outpatient clinics with influenza-like illness.

### Percentage of Persons Presenting to Outpatient Clinics with Influenza-Like Illness (ILI)

*Indicates current week-data may be delayed by 1 or more weeks*

---

**Peak % of outpatients with ILI**

5.73%
Laboratory Surveillance

The MN Lab System (MLS) Laboratory Influenza Surveillance Program is made up of more than 310 clinic- and hospital-based laboratories, voluntarily submitting testing data weekly. These laboratories perform rapid testing for influenza and Respiratory Syncytial Virus (RSV). Significantly fewer labs perform PCR testing for influenza and three also perform PCR testing for other respiratory viruses. MDH-PHL provides further characterization of submitted influenza isolates to determine the hemagglutinin serotype to indicate vaccine coverage. Tracking the laboratory results assists healthcare providers with patient diagnosis of influenza-like illness and provides an indicator of the progression of the influenza season as well as prevalence of disease in the community.

Specimens Positive for Influenza by Molecular Testing*, by Week

*Beginning in 2016-17, laboratories report results for rapid molecular influenza tests in addition to RT-PCR results

Peak % molecular tests positive

26.1%
Laboratory Surveillance (continued)

Specimens Positive by Influenza Rapid Antigen Test, by Week

- Specimens Positive by RSV Rapid Antigen Test, by Week

<table>
<thead>
<tr>
<th>MMWR Week</th>
<th>Number +</th>
<th>2013-14 % +</th>
<th>2014-15 % +</th>
<th>2015-16 % +</th>
<th>2016-17 % +</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

- Peak % rapid influenza tests positive
  - 30.82%

- Peak % rapid RSV tests positive
  - 35.9%
Minnesota Influenza Incidence Surveillance Project (MIISP)

Positive Respiratory Pathogens by PCR, by MMWR Week

- Influenza B
- Influenza A H3
- Influenza A (H1N1) pdm09
- Influenza A Unspecified
- Influenza C
- RSV
- Human Metapneumovirus
- Rhinovirus/Enterovirus
- Adenovirus
- Coronavirus NL63
- Coronavirus OC43
- Coronavirus 229E
- Coronavirus HKU1
- Parainfluenza-1
- Parainfluenza-2
- Parainfluenza-3
- Parainfluenza-4

*Indicates current week-data may be delayed by 2 or more weeks

**Viral Surveillance:** The most frequently identified influenza virus type reported by public health laboratories during week 42 was influenza A. The percentage of respiratory specimens testing positive for influenza in clinical laboratories was low.

**Pneumonia and Influenza Mortality:** The proportion of deaths attributed to pneumonia and influenza (P&I) was below the system-specific epidemic threshold in the National Center for Health Statistics (NCHS) Mortality Surveillance System.

**Influenza-associated Pediatric Deaths:** No influenza-associated pediatric deaths were reported.

**Outpatient Illness Surveillance:** The proportion of outpatient visits for influenza-like illness (ILI) was 1.3%, which is below the national baseline of 2.2%. All 10 regions reported ILI below region-specific baseline levels. New York City, Puerto Rico, and all 50 states experienced minimal ILI activity and the District of Columbia had insufficient data.

**Geographic Spread of Influenza:** The geographic spread of influenza in Guam was reported as widespread; Puerto Rico reported regional activity; one state reported local activity; the District of Columbia, the U.S. Virgin Islands and 41 states reported sporadic activity; and eight states reported no activity.