Montana Influenza Summary

Cases reported as of February 9, 2019 (MMWR Week 6)
Montana DPHHS, Communicable Disease Epidemiology

The Montana Department of Health and Human Services (DPHHS) provides a weekly report throughout the influenza season that coordinates data from a variety of sources to give the most complete and up to date view of influenza activity in the state of Montana. All data are preliminary and may change as more complete information is received.

State Summary: Flu activity is defined as WIDESPREAD

- Influenza activity increased during week 6 of 2019 with 1,058 new cases reported.
- Season to date, 3,279 cases, 190 hospitalizations, and 3 deaths (1 pediatric) due to influenza have been reported from all but two counties.
- The most common influenza subtype identified this season is Influenza A H1N1 (2009).
- During week 6, the proportion of healthcare provider and emergency room visits for influenza like illness (ILI) increased and remains above baseline.
- No new influenza outbreaks were reported during week 6; a total of seven outbreaks have been reported to date this season.
- RSV activity decreased during week 6 but remains above the 10% positivity threshold. Season onset of RSV was December 15, 2018. Detailed RSV information is found on page 6.

Figure 1. Newly reported influenza cases as of February 9, 2019

Number of cases

No report  No cases reported  1-5  6-10  11-50  51-100  101-150  151-200

Tribal cases are included in county totals.
CMHD = Central Montana Health District. CMHD includes Fergus, Golden Valley, Judith Basin, Musselshell, Petroleum, and Wheatland counties.
Figure 2. Number and incidence rate of reported influenza cases by county of residence – Montana, 2018-2019 season

Figure 3. Influenza cases reported by week – Montana, 2018-2019 season

Rate per 10,000 Montanans
- No reported activity
- 0.1 - 8.7
- 8.8 - 18.1
- 18.2 - 34.5
- 34.6 - 54.9
- 55.0 - 86.2

Tribal cases are included in county totals.

CMHD = Central Montana Health District. CMHD includes Fergus, Golden Valley, Judith Basin, Musselshell, Petroleum, and Wheatland counties.
Laboratory Surveillance
The Montana Public Health Laboratory (MTPHL) and partners report the number of specimens tested for influenza by Polymerase Chain Reaction (PCR) as well as the number of positives by influenza virus type and influenza A virus subtype. The table presented below contains data for week 6 and the season to date.

Table 1. Influenza type confirmed by Montana Public Health Laboratory and partners²

<table>
<thead>
<tr>
<th></th>
<th>Week 6</th>
<th>Season to date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of specimens tested</td>
<td>1017</td>
<td>9373</td>
</tr>
<tr>
<td>Number of positive specimens (%)</td>
<td>321(31.5)</td>
<td>1356(14.5)</td>
</tr>
<tr>
<td>Positive specimens by type/subtype</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza A (%)</td>
<td>295</td>
<td>1185</td>
</tr>
<tr>
<td>2009 H1N1</td>
<td>30</td>
<td>244</td>
</tr>
<tr>
<td>Subtyping not performed</td>
<td>224</td>
<td>845</td>
</tr>
<tr>
<td>H3</td>
<td>42</td>
<td>109</td>
</tr>
<tr>
<td>Influenza B (%)</td>
<td>26</td>
<td>171</td>
</tr>
</tbody>
</table>

Figure 4. Influenza positive tests reported by the Montana Public Health Laboratory and partners, 2018-2019 season

**The MMWR week is the week of the epidemiologic year for which the National Notifiable Diseases Surveillance System (NNDSS) disease report is assigned by the reporting local or state health department for the purposes of MMWR disease incidence reporting and publishing. Values for MMWR week range from 1 to 53, although most years consist of 52 weeks.
Hospitalizations and deaths
Influenza cases, including hospitalizations and deaths, are reportable to local public health in Montana. Since September 1, 2018, 124 influenza-associated hospitalizations have been reported, with a cumulative rate (all ages) of 11.9 per 100,000 population (Figures 5-6). An influenza related death is included in season totals when it is reported to DPHHS or if influenza is indicated on a death record. Season to date, there have been three deaths attributed to influenza, including one pediatric death (<18 years). Table 2 presents influenza hospitalizations and deaths current as of the week ending February 9, 2019.

Table 2. Influenza Hospitalizations and deaths – Montana, week ending 2/9/2019

<table>
<thead>
<tr>
<th>Hospitalizations</th>
<th>Deaths (season to date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Week</td>
<td>Season to date</td>
</tr>
<tr>
<td>52</td>
<td>190</td>
</tr>
<tr>
<td>Pediatric (0-17 years)</td>
<td>1</td>
</tr>
<tr>
<td>Adult &lt;65 years</td>
<td>0</td>
</tr>
<tr>
<td>Adult &gt;65 years</td>
<td>2</td>
</tr>
</tbody>
</table>

Figure 5. Influenza-associated hospitalizations by age group and percentage of emergency room outpatient visits due to ILI – Montana, 2018-19 season

Figure 6. Number of influenza-related hospitalizations (all ages) – Montana, 2018-19 season
Influenza like Illness Network (ILI Net) and Syndromic Surveillance

The U.S. Outpatient ILI Surveillance Network (ILI Net) is a national system that conducts surveillance for Influenza-like illness (ILI) in outpatient healthcare facilities. ILI has a standardized definition which includes a fever (temperature of 100° F or greater), cough, and/or sore throat. Currently, 37 facilities participate in ILINet in Montana, either through manual data entry or through the syndromic surveillance data feed.

Syndromic surveillance data in Montana is analyzed in ESSENCE, which collects real-time emergency department (ED) data from 33 facilities across Montana including chief complaint of ILI symptoms. Figure 7 below shows the proportion of medical visits with a chief complaint of ILI each week for the current as well as past three seasons and presented alongside the U.S. and MT ILINet values.

For the week ending 2/9/2019, 3.34% of all patient visits were due to ILI in Montana compared to 4.8% in the United States (Figure 7).

Figure 7. Percentage of ER visits for chief complaint of ILI – Montana, selected seasons
Respiratory Syncytial Virus (RSV)

RSV is a respiratory virus and is the most common cause of bronchiolitis and pneumonia in children less than one year of age. Typically, the RSV season tends to mirror that of influenza. RSV surveillance is compiled from 15 sentinel laboratories in Montana that report weekly testing data. Figures 8 and 9 describe RSV testing for the current season and a comparison of the percent positivity over the current and last three seasons, respectively. During the week ending 2/9/2019, the percentage of positive RSV tests remained above the 10% threshold. The 2018-2019 RSV season onset was December 15, 2018.

Figure 8. Number and percent positive RSV tests – Montana, 2018-2019

Figure 9. RSV positivity rates – Montana, select seasons
Additional Resources
Montana DPHHS Influenza: http://dphhs.mt.gov/publichealth/cdepi/diseases/influenza


International Influenza Data: http://www.who.int/influenza/en/

Influenza vaccine resources: visit https://vaccinefinder.org or www.cdc.gov/flu to find a location near you where you can get vaccinated.

Notes
1Influenza Activity: State health departments report the estimated level of geographic spread of influenza activity in their states each week through the State and Territorial Epidemiologists Reports. States report geographic spread of influenza activity as no activity, sporadic, local, regional, or widespread. These levels are defined as follows:

- **No Activity**: No laboratory-confirmed cases of influenza and no reported increase in the number of cases of ILI.
- **Sporadic**: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of ILI.
- **Local**: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in a single region of the state.
- **Regional**: Outbreaks of influenza or increases in ILI and recent laboratory confirmed influenza in at least two but less than half the regions of the state with recent laboratory evidence of influenza in those regions.
- **Widespread**: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

2Molecular influenza testing partner laboratories: Barrett Hospital and Healthcare, Benefis Healthcare System, Big Sandy Medical Center, Bighorn County Hospital, Billings Clinic Hospital, Bozeman Deaconess Hospital, Community Medical Center, Deer Lodge Medical Center, Glacier Medical Associates, Grant Creek Family Practice, Great Falls Clinic, Holy Rosary Health Care, Kalispell Regional Medical Center, Liberty County Hospital, Phillips County Hospital, Poplar Community Hospital, Rosebud Healthcare, St. Joseph Hospital, St. Patrick’s Hospital, St. Peter’s Hospital, St. Vincent Hospital, Sidney Health Center, Trinity Hospital, and VA Ft. Harrison.

3Per the Administrative Rules of Montana 37.114.203 and 37.114.316, influenza is a reportable condition for the following:

- Influenza cases, hospitalizations, and deaths
- Influenza outbreaks in congregate settings
- Other illnesses of public health significance (novel influenza A)

4RSV laboratory surveillance partners: Barrett Hospital and Healthcare, Benefis Healthcare System, Bighorn County Hospital, Billings Clinic Hospital, Bozeman Deaconess Hospital, Community Medical Center, Deer Lodge Medical Center, Great Falls Clinic, Holy Rosary Health Care, Kalispell Regional Medical Center, Liberty County Hospital, Phillips County Hospital, Poplar Community Hospital, Rosebud Healthcare, St. Peter’s Hospital, St. Vincent Hospital, and Trinity Hospital.

For additional information on influenza activity in Montana, please contact your local health department or the Department of Public Health and Human Services’ Communicable Disease Epidemiology Section at (406) 444-0273 or visit https://dphhs.mt.gov/publichealth/cdepi/diseases/influenza.