Montana Influenza Summary
Cases reported as of February 29, 2020 (MMWR Week 9)
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 continued to increase during week 9 with 1,188 new cases reported.
- Season to date, 8,572 cases, 361 hospitalizations, and nine deaths due to influenza have been reported. All counties in Montana have reported at least one case of influenza.
- The most common influenza subtype identified this week was influenza A H1N1 (2009). In the past few weeks, the proportion of influenza A positives has been increasing and now is higher than influenza B.
- During week 9, the proportion of healthcare provider and emergency room visits for influenza like illness (ILI) increased and remains above baseline.
- Two new influenza outbreaks were reported during week 9; to date this season 17 outbreaks have been reported and schools are the most common setting.
- RSV activity decreased slightly during week 9 but remains above the 10% positivity threshold. RSV 2019-2020 season onset was 12/21/2019. Detailed RSV information is found on page 6.

Figure 1. Newly reported influenza cases as of February 29, 2020
Figure 2. Number and incidence rate (per 10,000) of reported influenza cases by county of residence – Montana, 2019-2020 season

Rate per 10,000 population
- 3.0 - 29.7
- 29.8 - 55.2
- 55.3 - 91.1
- 91.2 - 145.1
- 145.2 - 214.9
- 215.0 - 317.4

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 3. Influenza cases reported by week – Montana, 2019-2020 season
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 9 and the season to date.

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

<table>
<thead>
<tr>
<th>Table 1. Influenza type confirmed by Montana Public Health Laboratory and partners²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 9</strong></td>
</tr>
<tr>
<td>Number of specimens tested</td>
</tr>
<tr>
<td>Number of positive specimens (%)</td>
</tr>
<tr>
<td>Positive specimens by type/subtype</td>
</tr>
<tr>
<td>Influenza A (%)</td>
</tr>
<tr>
<td>2009 H1N1</td>
</tr>
<tr>
<td>H3</td>
</tr>
<tr>
<td>Subtyping not performed</td>
</tr>
<tr>
<td>Influenza B (%)</td>
</tr>
</tbody>
</table>

Figure 4. Influenza positive tests reported by the Montana Public Health Laboratory and partners, 2019-2020 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 October 1, 2019, 361 influenza-associated hospitalizations have been reported, with a cumulative rate (all ages) of 33.9 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, nine deaths attributed to influenza were reported. Table 2 presents influenza hospitalizations and deaths current as of the week ending February 29, 2020.

Table 2. Influenza Hospitalizations and deaths – Montana, week ending 2/29/2020

<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>Pediatric (0-17 years)</td>
<td>Adult &lt;65 years</td>
</tr>
<tr>
<td>44</td>
<td>361</td>
</tr>
</tbody>
</table>

Figure 5. Influenza-associated hospitalizations by age group and percentage of emergency room outpatient visits due to ILI – Montana, 2019-20 season

Figure 6. Number of influenza-related hospitalizations (all ages) – Montana, 2019-20 season vs. 3-year average
Outbreaks
Outbreaks in a congregate setting are reportable to DPHHS by Administrative Rule (ARM). An outbreak is defined as “an incidence of a disease or infection significantly exceeding the incidence normally observed in a population of people over a period of time specific to the disease or infection in question” (ARM 34.114.101 (24)).

For the week ending 2/29/2020, two new influenza outbreaks were reported to DPHHS, with a total of 17 reported season to date. Settings include long term care, correctional facility, daycare, and schools.

Influenza like Illness Network (ILINet) and Syndromic Surveillance
The U.S. Outpatient ILI Surveillance Network (ILINet) 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, 44 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 facilities across Montana including chief complaint of ILI symptoms. Figure 8 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 2/29/2020, 5.7% of all patient visits were due to ILI in Montana compared to 5.3% in the United States (Figure 9).
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 10 and 11 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 2/29/2020, the percentage of positive RSV tests decreased but remains above the 10% threshold. The 2019-2020 RSV season onset occurred on 12/21/2019.

**Figure 10. Number and percent positive RSV tests – Montana, 2019-2020**

**Figure 11. RSV positivity rates – Montana, select seasons**
Additional Resources
Montana DPHHS Influenza: http://dphhs.mt.gov/publichealth/cdepi/diseases/influenza


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

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

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, Cabinet Peaks Medical Center, Central Montana Medical Center, 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, Livingston Healthcare, Pondera Medical Center, Poplar Community Hospital, Roundup Memorial Hospital, 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.