

Montana Influenza Summary

Cases reported as of June 1, 2020 (MMWR Week 22)

Montana DPHHS, Communicable Disease Epidemiology

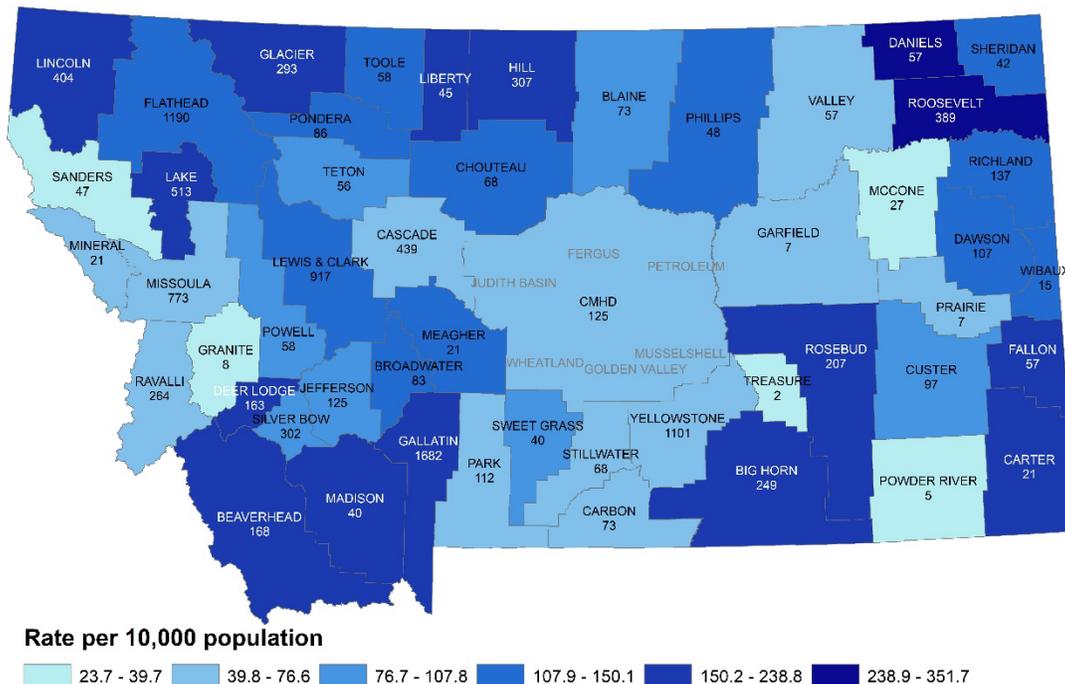


The Montana Department of Health and Human Services (DPHHS) provides a weekly report throughout the influenza season that coordinates data from a variety of sources to give the most complete and up to date view of influenza activity in the state of Montana. All data are preliminary and may change as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

Summary of Influenza Activity¹

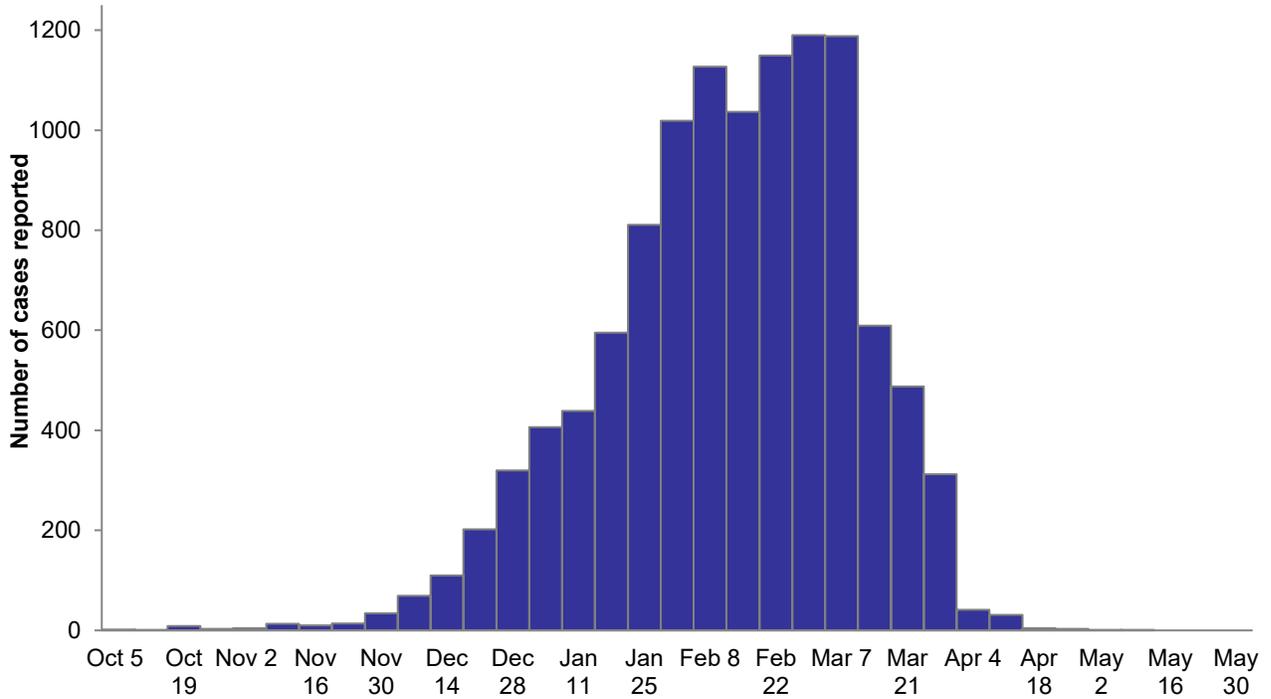
- During the 2019-2020 influenza season, 11,255 cases, 514 hospitalizations, and 41 deaths due to influenza were reported from all counties in Montana. Five counties reported fewer than ten influenza cases for the entire season (range: 2–1,682). Figure 1 displays statewide influenza activity as case counts by county shaded by incidence rate per 10,000 persons.
- The most common influenza subtype identified this season was Influenza B, which was unusual as this strain typically predominates late in the influenza season. Influenza B predominated until January and was then followed by a late increase in Influenza A H1N1 (2009) and Influenza A H3N2. Peak influenza activity occurred during the week ending March 7, 2020 (MMWR Week 10, Figure 2).
- Eighteen influenza outbreaks were reported to date this season; the majority in schools and long-term care facilities.

Figure 1. Number and incidence rate of reported influenza cases by county of residence – Montana, 2019-2020 season



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. Influenza cases reported by week – Montana, 2019-2020 season

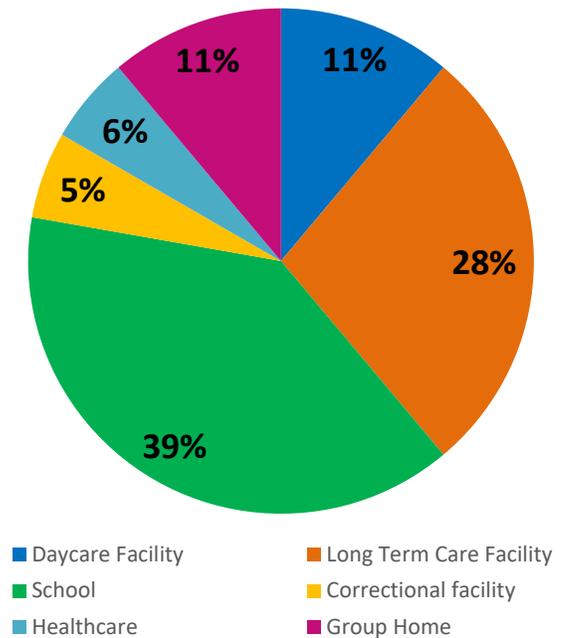


Outbreaks

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 2019-2020 influenza season, 18 outbreaks were reported to DPHHS. Settings include long term care, group homes, correctional facilities, daycare, and schools. The most common outbreak setting was in schools.

Figure 3. Reported influenza outbreaks by setting – Montana, 2019-20 season

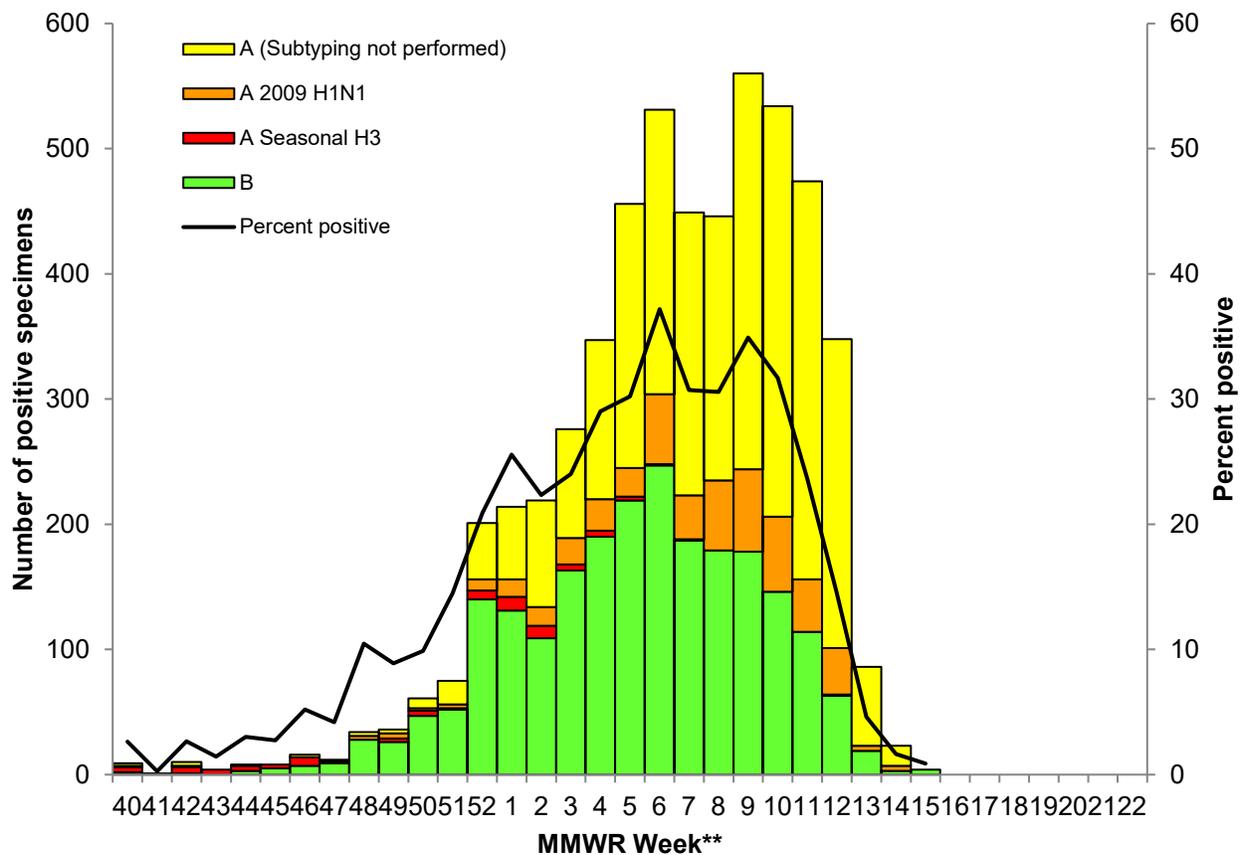


Laboratory Surveillance

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 15 and the season to date.

Table 1. Influenza type confirmed by Montana Public Health Laboratory and partners ²	
Number of specimens tested	26715
Number of positive specimens (%)	5427(20.3)
Positive specimens by type/subtype	
Influenza A (%)	3155(58.1)
2009 H1N1	482
H3	81
Subtyping not performed	2607
Influenza B (%)	2272(41.9)

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 Montana³. Since October 1, 2019, 514 influenza-associated hospitalizations have been reported, with a cumulative rate (all ages) of 48.4 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. For the 2019-2020 influenza season, 41 deaths attributed to influenza were reported. Table 2 presents influenza hospitalizations and deaths for the 2019-2020 season.

Table 2. Influenza Hospitalizations and deaths – Montana, 2019-2020 season			
Hospitalizations	Deaths		
	Pediatric (0-17 years)	Adult <65 years	Adult >65 years
514	0	9	32

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

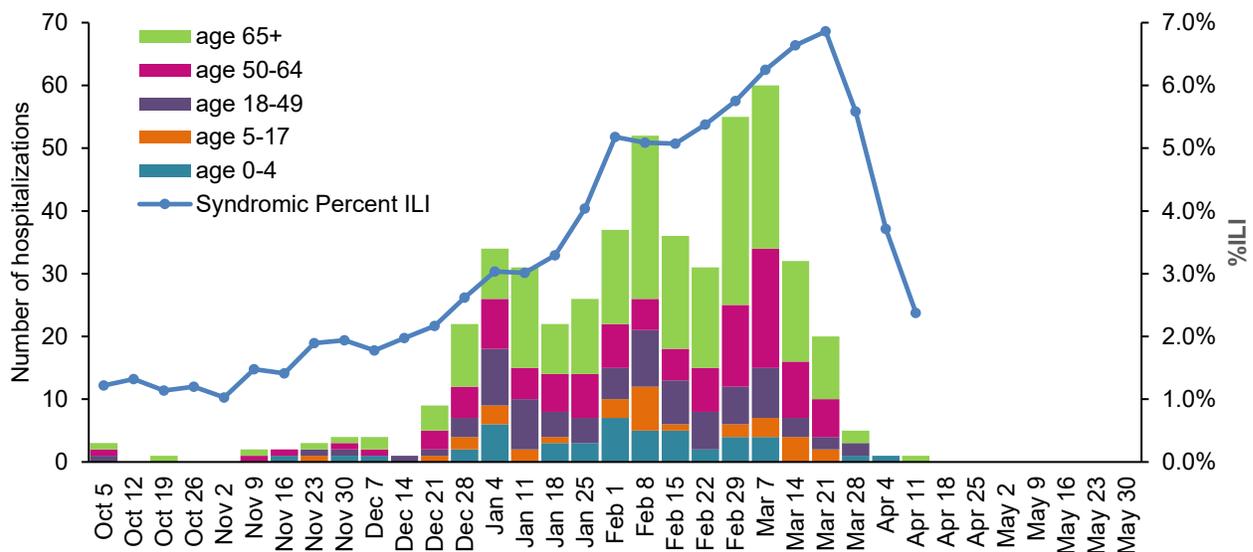


Figure 6. Number of influenza-related hospitalizations (all ages) – Montana, 2019-2020 season vs. 3-year average

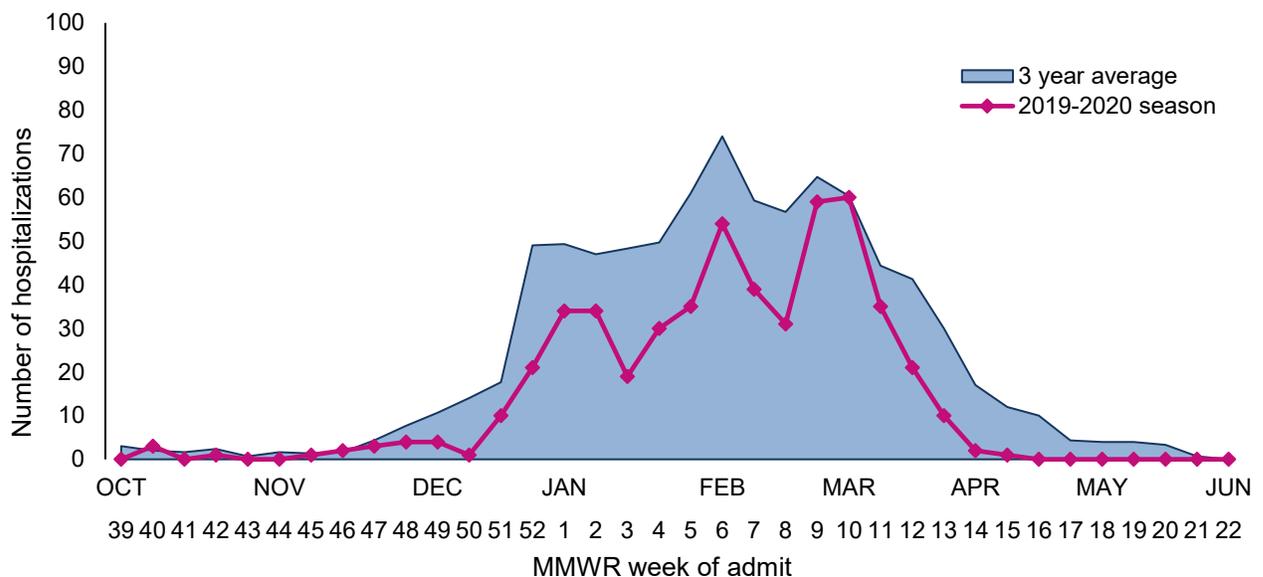
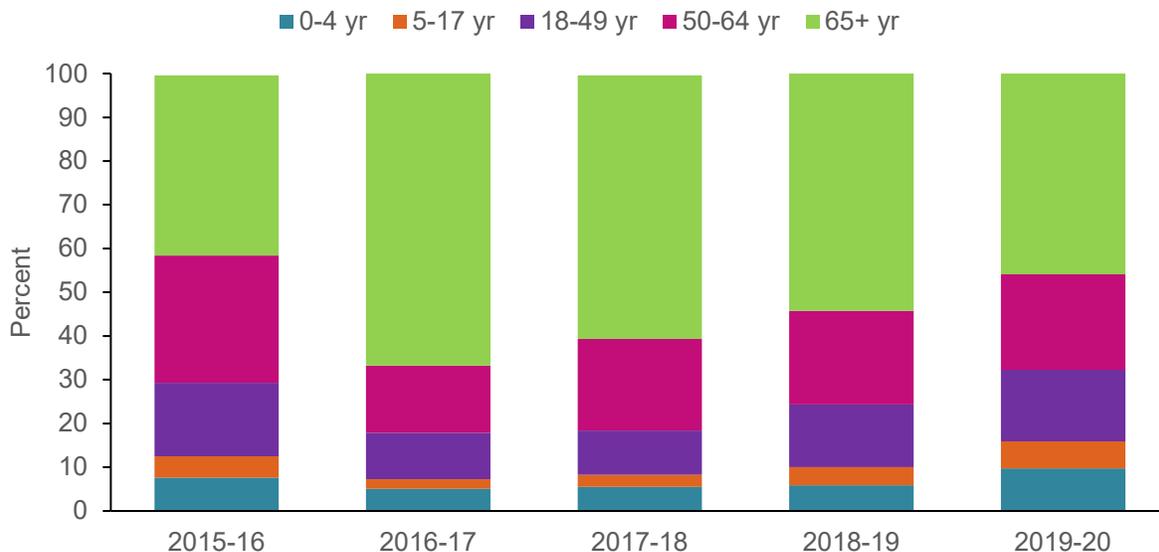


Figure 6. Influenza hospitalizations by age group – Montana, current and previous 4 seasons

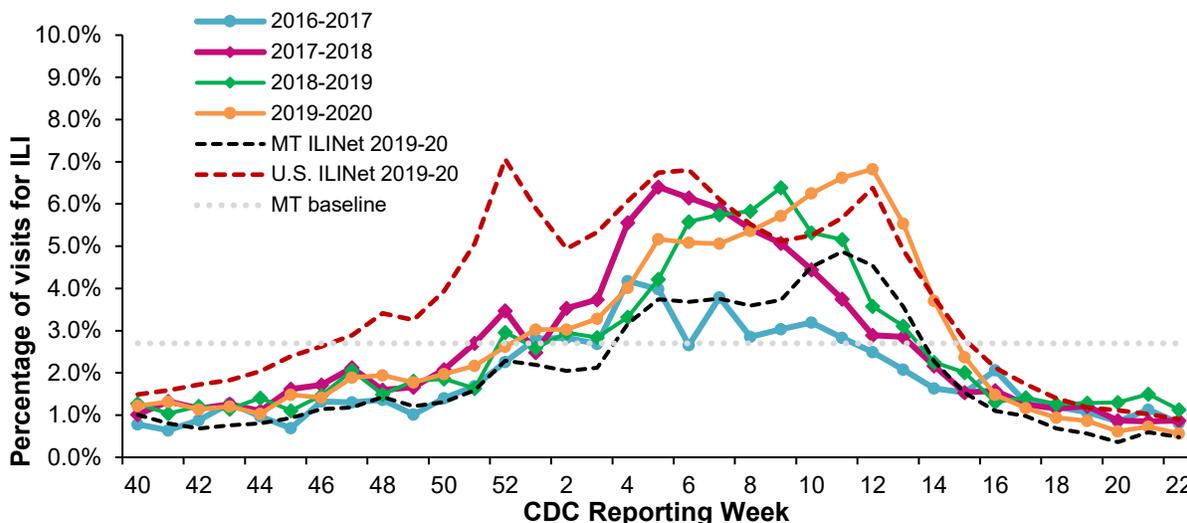


Influenza like Illness Network (ILINet) and Syndromic Surveillance

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 (solid lines) and presented alongside the U.S. and MT ILINet values (dotted lines).

For the 2019-2020 influenza season, the percentage of patient visits were due to ILI in Montana was unusual in that the peak occurred later than average (week ending March 28, 2020) This is different from that of the United States, which presented three distinct peaks of influenza activity during the 2019-2020 influenza season (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 data⁴. 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. **The 2019-2020 RSV season onset occurred on week ending December 21, 2019 and offset was week ending March 21, 2020.**

Figure 8. Number and percent positive RSV tests – Montana, 2019-2020

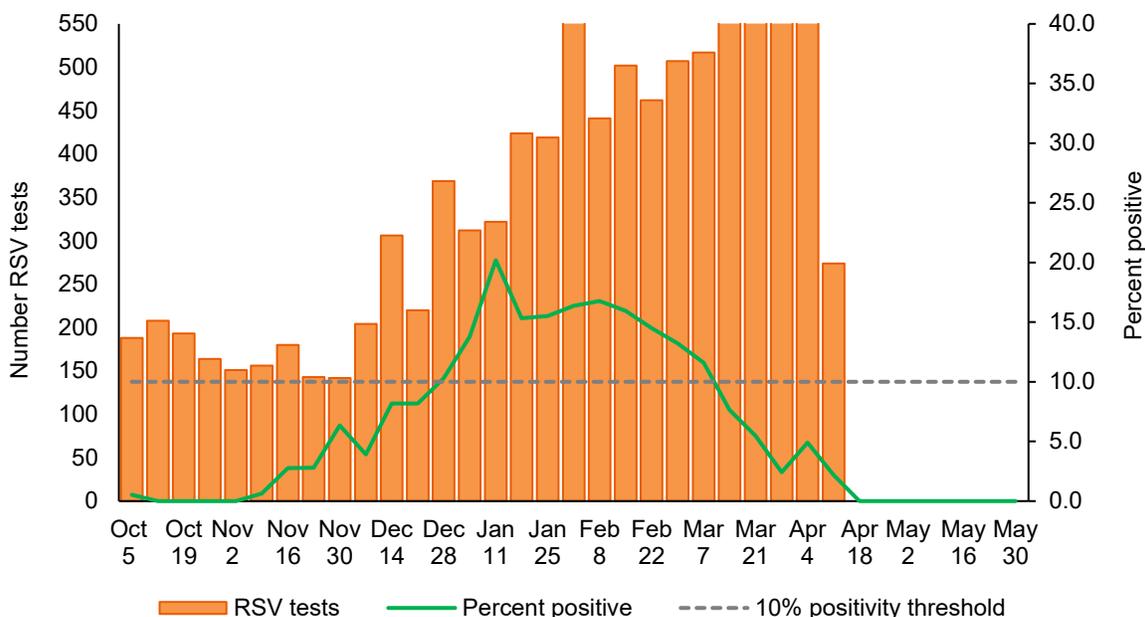
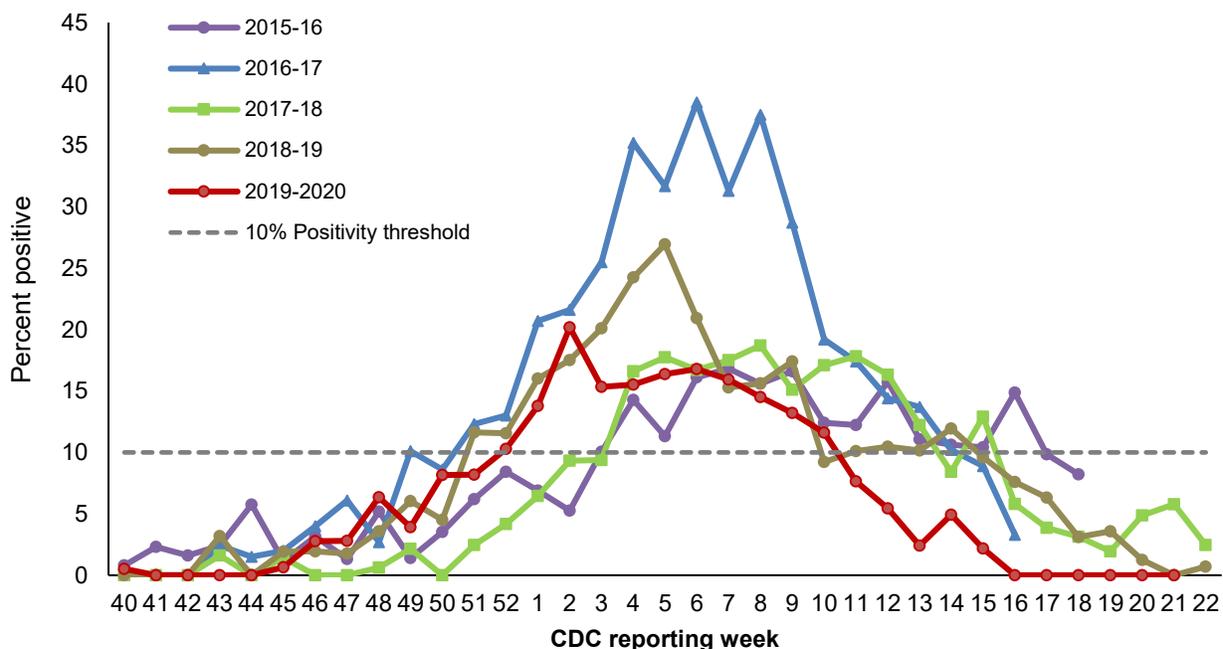


Figure 9. RSV positivity rates – Montana, select seasons



Additional Resources

Montana DPHHS Influenza: <http://dphhs.mt.gov/publichealth/cdepi/diseases/influenza>

National Influenza Surveillance Report (CDC Flu View): <https://www.cdc.gov/flu/weekly/>

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>.