

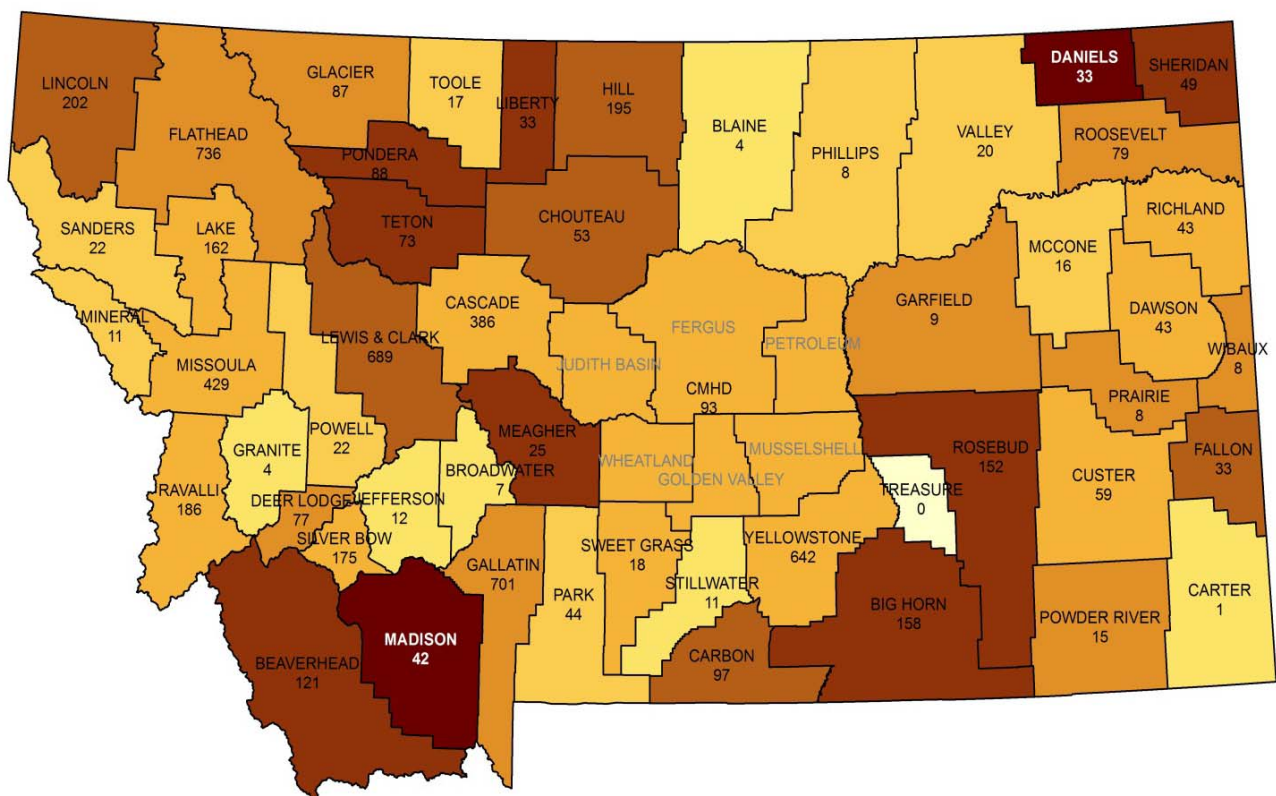
Montana Influenza Summary: 2014–2015 Final Report

Montana's influenza activity level for the week ending on 5/31/2015 is defined as: **SPORADIC**¹

Overview: Surveillance for the 2014–2015 influenza season officially began on October 1, 2014. The Montana Department of Health and Human Services (DPHHS) provided 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 for the state of Montana. This is the final report for the 2014–2015 influenza season.

Summary of Influenza Activity: During the 2014–2015 influenza season, the number of influenza cases reported to DPHHS in Montana varied, including four counties with <5 reported influenza cases (range: 0–736). Season totals include 6,191 cases, 608 hospitalizations and 24 deaths attributed to influenza. The map in Figure 1 displays 2014–2015 seasonal influenza activity as case counts by county. In addition, each county is shaded by the incidence rate of disease (per 10,000 population).

Figure 1. Number and incidence of reported influenza cases by county of residence Montana, 2014–2015 season



Rate per 10,000 population

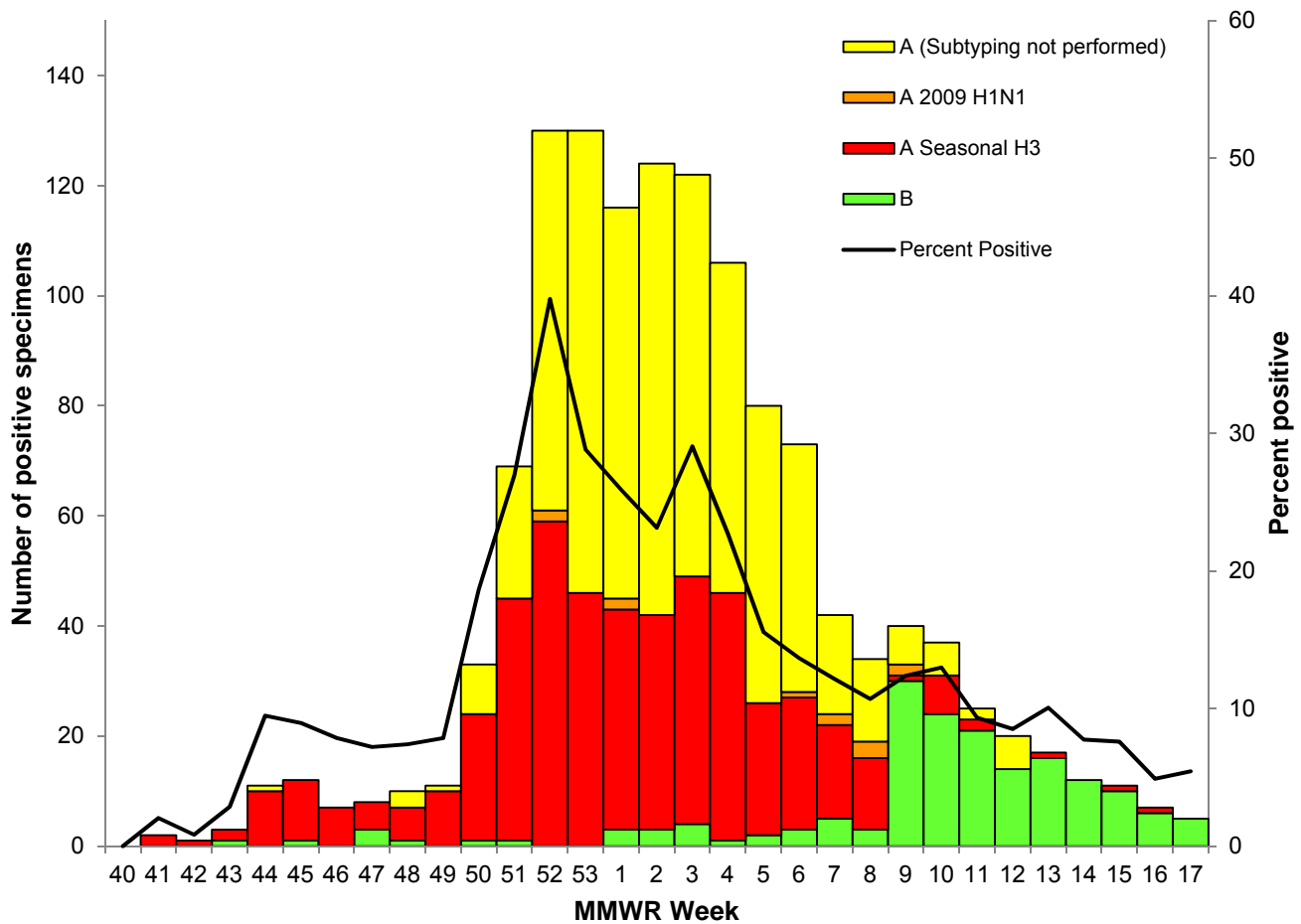


CMHD = Central Montana Health District. CMHD includes Fergus, Golden Valley, Judith Basin, Musselshell, Petroleum and Wheatland Counties. Tribal case counts are included in county totals.

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. Table 1 presented below contains testing data through week ending May 2, 2015 (MMWR Week 17). The most common subtype identified during the 2014–2015 season was Influenza A H3N2; however, the final weeks of influenza season were dominated by influenza B (Figure 2).

Table 1. Influenza types confirmed by MTPHL and partners*		
	Week 17	Season
Number of specimens tested	92	7758
Number of positive specimens (% positive)	5(5.4)	1291(16.7)
Positive specimens by type/subtype		
Influenza A	0	1121
2009 H1N1	0	12
Subtyping not performed	0	630
H3	0	486
Influenza B	5	170

Figure 2. Influenza positive tests reported by the Montana Public Health Laboratory and partners*, 2014–2015



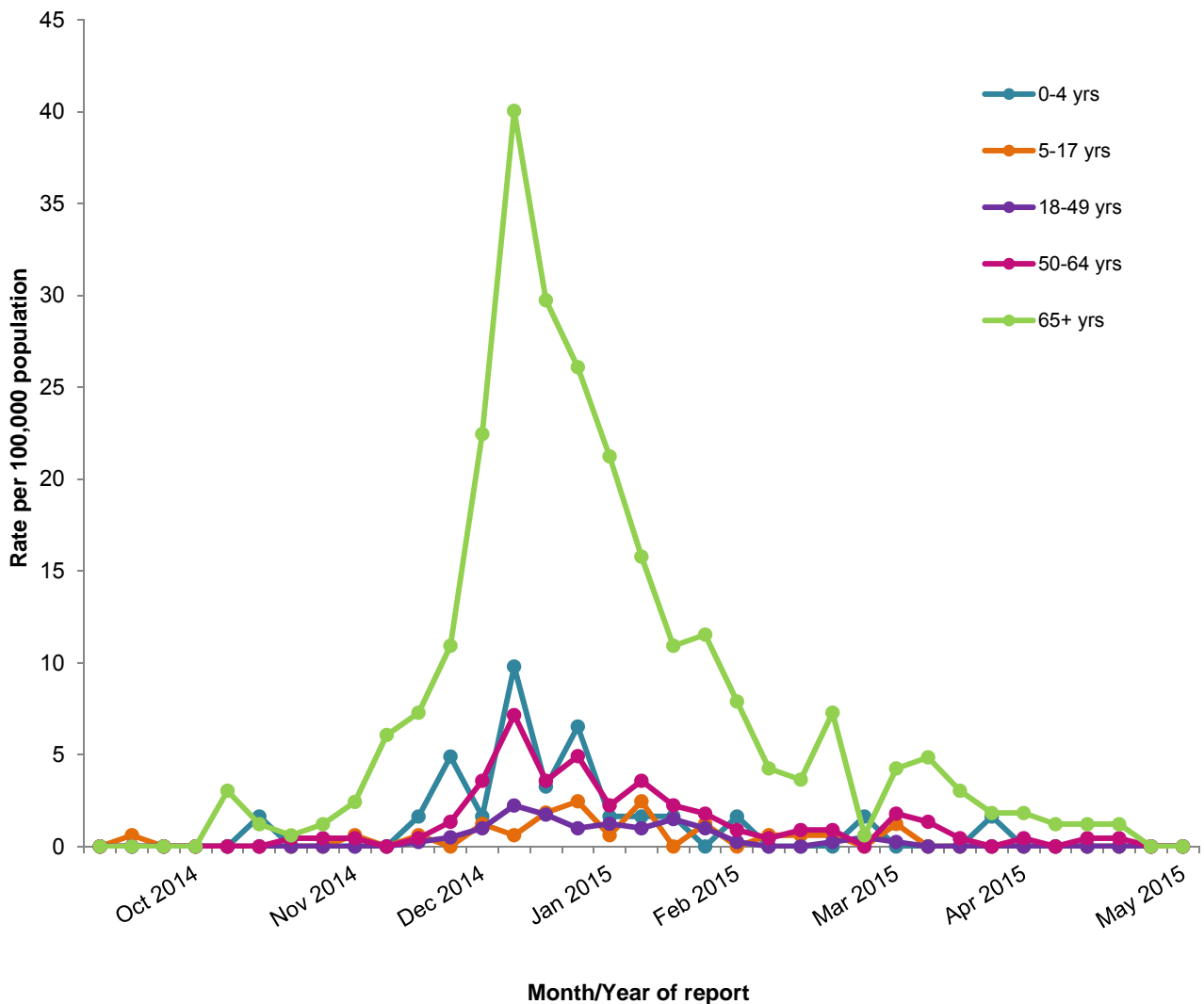
*Partner laboratories include: Benefis Health System, Billings Clinic, Bozeman Deaconess Hospital, Community Medical Center, Kalispell Regional Medical Center, St. Patrick's Hospital, St. Peter's Hospital, and St. Vincent's Hospital.

Influenza Hospitalizations: Influenza cases, including hospitalizations and deaths, are reportable to public health in Montana. During the 2014–2015 season, 608 influenza-associated hospitalizations were reported. This is a rate of 59.8 per 100,000 population. The highest rate of hospitalization was among adults aged ≥65 years (253.7/100,000 population, Figure 3). Peak activity occurred during the initial weeks of 2015.

There were 24 deaths attributed to influenza during the 2014–2015 season. The majority (83%) occurred among adults aged ≥65 years. No pediatric (aged 0–17 years) deaths were reported. Table 2 presents influenza hospitalizations and deaths for the 2014–2015 influenza season.

Table 2. Influenza hospitalizations and deaths — Montana, 2014–2015 season			
Hospitalizations	Deaths (Season to Date)		
	Pediatric	Adult <65 years	Adult >65 years
608	0	4	20

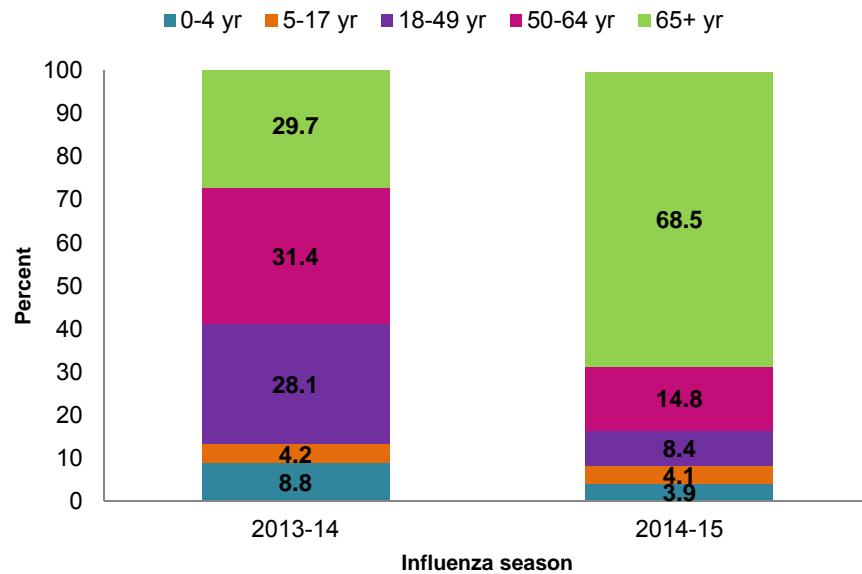
Figure 3. Influenza hospitalization rates by age group — Montana, 2014–2015 season*



*Reported by hospital admission date.

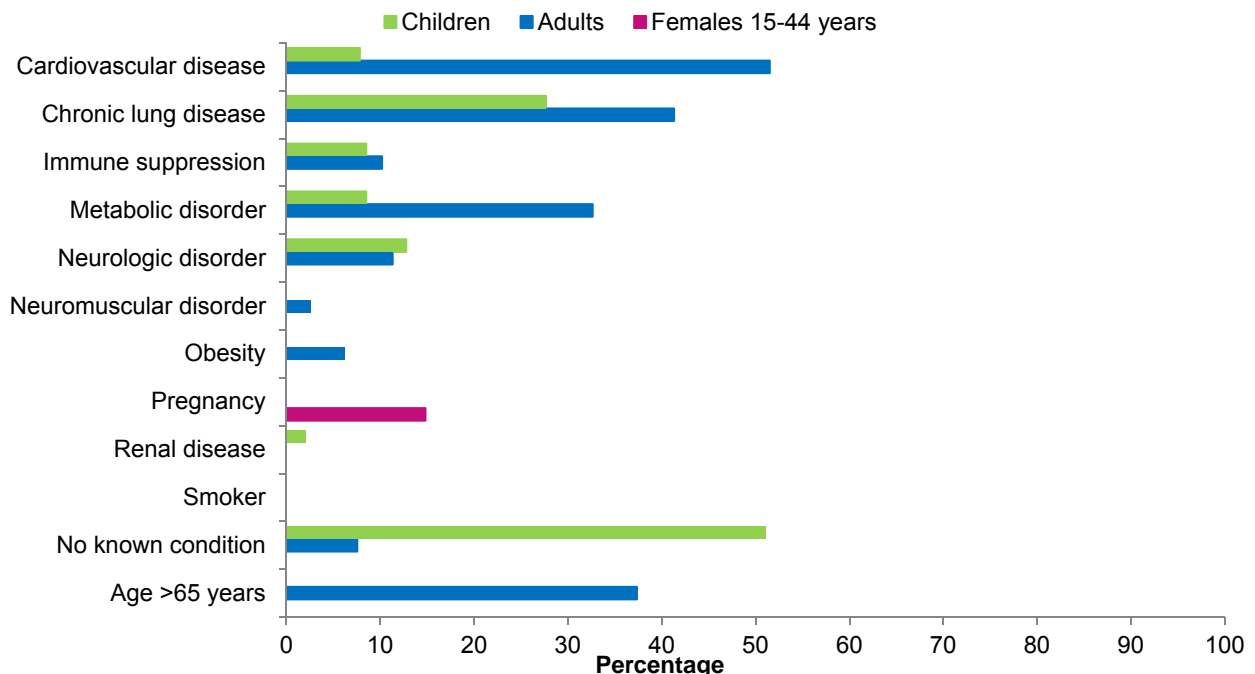
Of those hospitalized due to influenza, the majority (83%) were positive for influenza type A. Of those with documented immunization status (n=515), 36% had not received seasonal influenza vaccine. The majority of hospitalizations were aged ≥65 years with a median age of 74 years. This is similar to the characterization of influenza-associated hospitalizations in the United States during the 2014–2015 season, but markedly different from the 2013–2014 influenza season (Figure 4).

Figure 4. Influenza hospitalizations by age group — Montana, 2013–2014 vs. 2014-2015 seasons



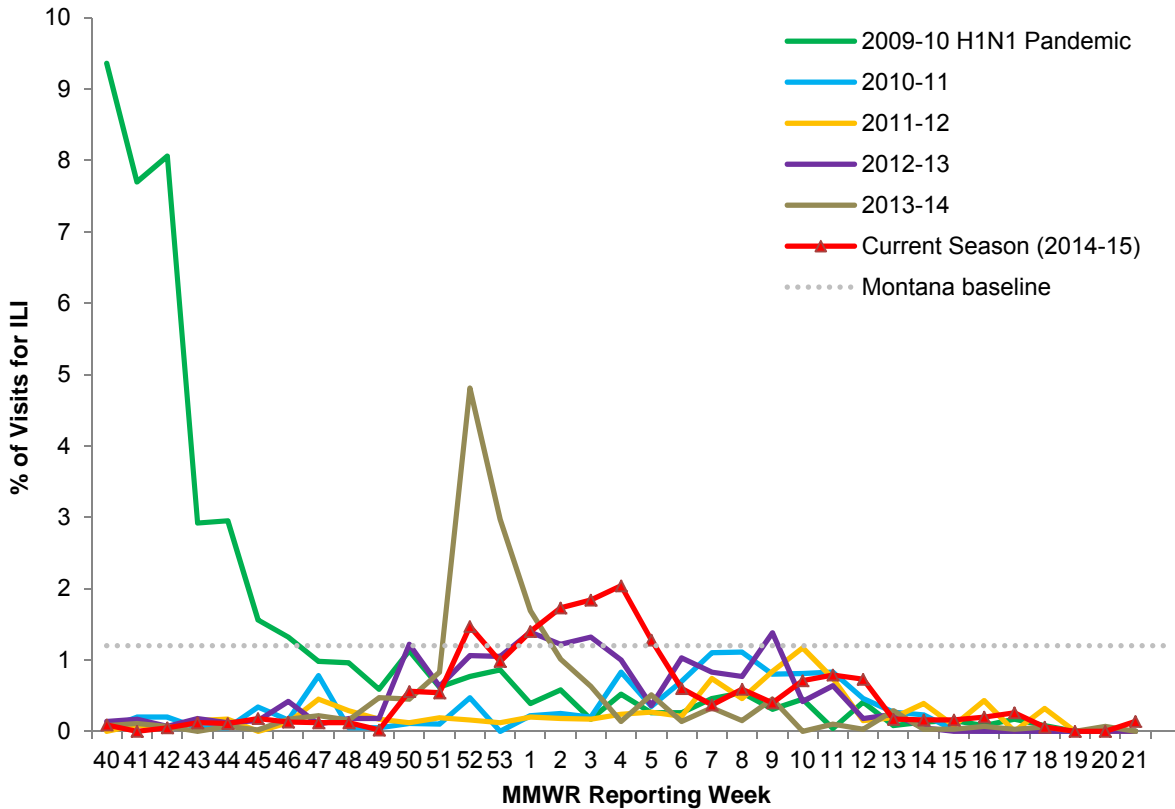
Hospitalized individuals were assessed for comorbidities present at the time of hospitalization (Figure 5). Of those with documented comorbidities (n=577), 59% of children (<18 years) and 92% of adults presented with at least one comorbidity at the time of hospitalization. Chronic lung disease (including asthma) was the most common comorbidity documented in children (28%) and cardiovascular disease the most common in adults (51%). Fifteen percent of females aged 15–44 years were pregnant at the time of hospitalization.

Figure 5. Selected underlying medical conditions of hospitalized individuals — Montana, 2014–2015 season²



Influenza-like Illness (ILI): 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 is defined as a fever (temperature of 100° F or greater) and cough and/or sore throat. During the 2014–2015 season, 12 facilities participated in ILINet in Montana. ILI activity for the season peaked during the last week of January 2015, about 5 weeks later than the United States (Figure 6).

Figure 6. Percentage of influenza-like illness (ILI) reported by sentinel providers — Montana, selected seasons



¹**Influenza 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.

²**Comorbidity categories are defined as:**

Cardiovascular diseases include conditions such as coronary heart disease, cardiac valve disorders, congestive heart failure, and pulmonary hypertension; does not include isolated hypertension.

Chronic lung diseases include conditions such as asthma, chronic obstructive pulmonary disease (COPD), bronchiolitis obliterans, chronic aspiration pneumonia, and interstitial lung disease.

Immune suppression includes conditions such as immunoglobulin deficiency, leukemia, lymphoma, HIV/AIDS, and individuals taking immunosuppressive medications.

Metabolic disorders include conditions such as diabetes mellitus, thyroid dysfunction, adrenal insufficiency, and liver disease.

Neurologic diseases include conditions such as seizure disorders, cerebral palsy, and cognitive dysfunction.

Neuromuscular diseases include conditions such as multiple sclerosis and muscular dystrophy.

Obesity was assigned if indicated in the hospitalization report.

Pregnancy percentage calculated using number of female cases aged between 15 and 44 years of age as the denominator.

Renal diseases include conditions such as acute or chronic renal failure, nephrotic syndrome, glomerulonephritis, and impaired creatinine clearance.

Smoker was assigned if current smoking status was indicated in the hospitalization report.

No known condition indicates that the case did not have any known underlying medical condition indicated at the time of hospitalization.

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>.