

# Montana Influenza Summary

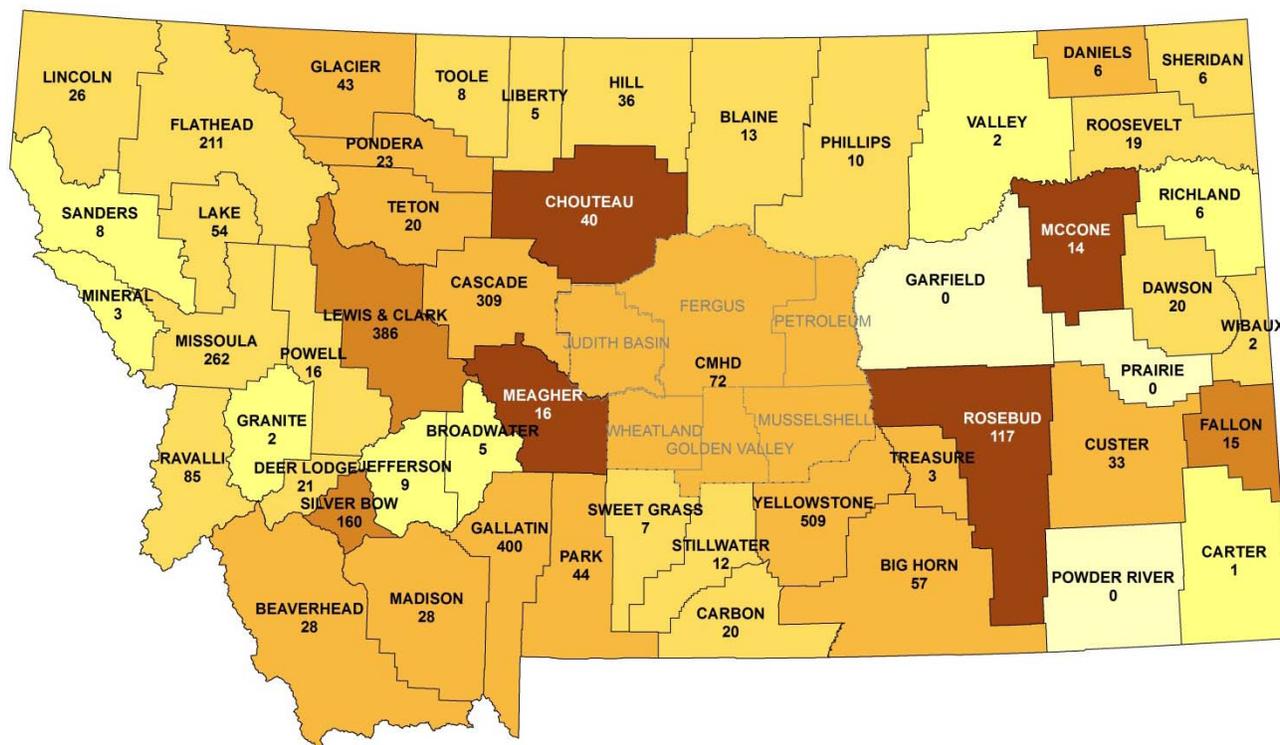
Confirmed Influenza Cases Reported as of 5/31/2014 (MMWR Week 22)

Montana's influenza activity level for the week ending on 5/31/2014 is defined as: **SPORADIC**<sup>1</sup>

**Overview:** Surveillance for the 2013–2014 influenza season officially began on October 1, 2013. 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 2013–2014 influenza season.

**Summary of Influenza Activity:** During the 2013–2014 influenza season, the number of influenza cases reported to DPHHS in Montana varied, including nine counties with <5 reported influenza cases (range: 0–509). Season totals include 3,192 cases, 313 hospitalizations and 8 deaths attributed to influenza. The map in Figure 1 demonstrates 2013–2014 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, 2013–2014



Cases per 10,000 population

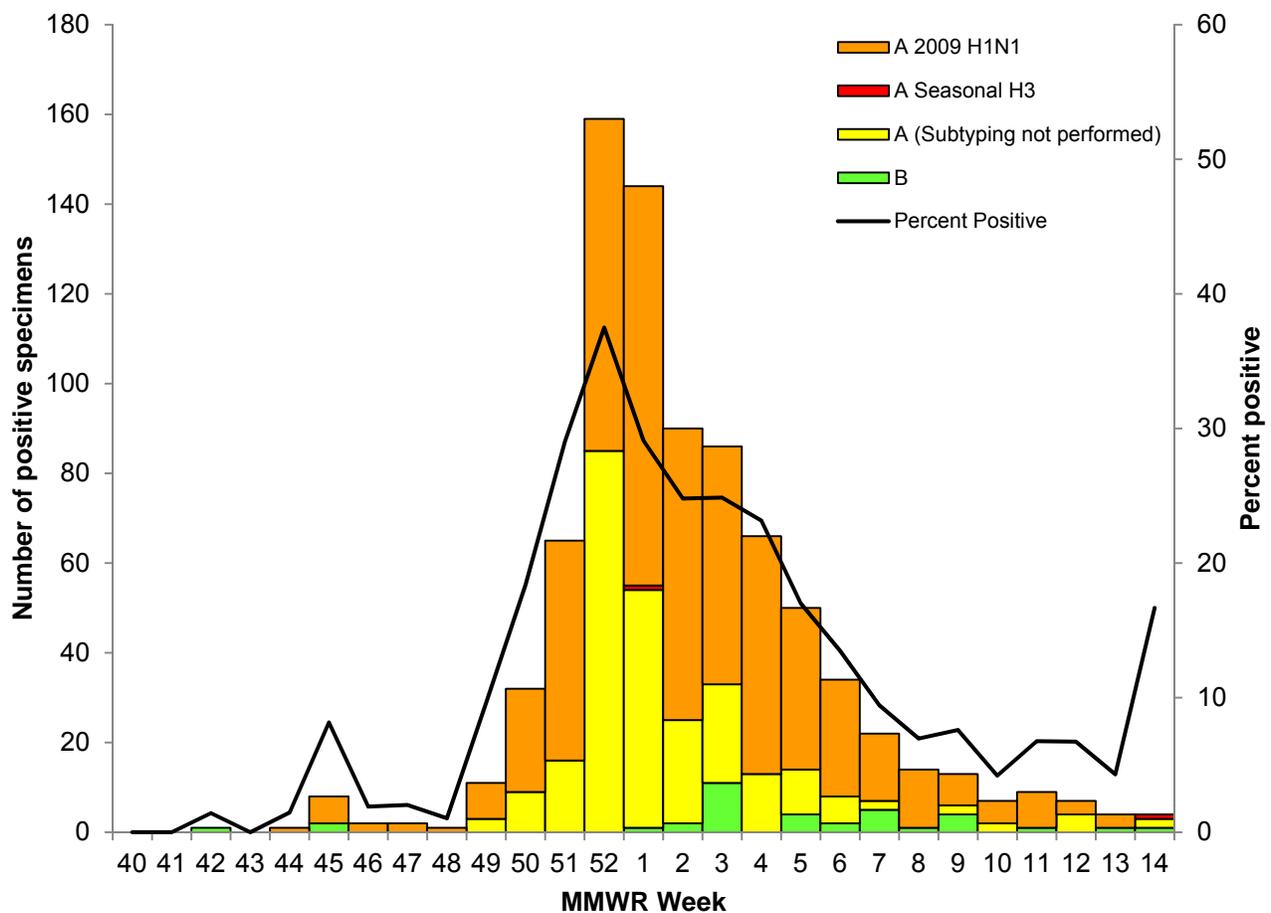
No Activity
  0.01 - 8.69
  8.70 - 24.22
  24.23 - 43.64
  43.65 - 67.75
  67.76 - 124.52

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. The table presented below contains testing data through week ending April 5, 2014 (MMWR Week 14). The most common subtype identified during the 2013–2014 season was Influenza A 2009 H1N1 (Figure 2).

Table 1. Influenza Types Confirmed by MTPHL and Partners*		
	Week 14	YTD
Number of specimens tested	24	4817
Number of positive specimens (% positive)	3(16.7)	832(17.3)
Positive specimens by type/subtype		
Influenza A	3	796
2009 H1N1	0	542
Subtyping not performed	2	252
H3	1	2
Influenza B	1	36

**Figure 2. Influenza Positive Tests Reported by the Montana Public Health Laboratory and Partners\*, 2013–2014**



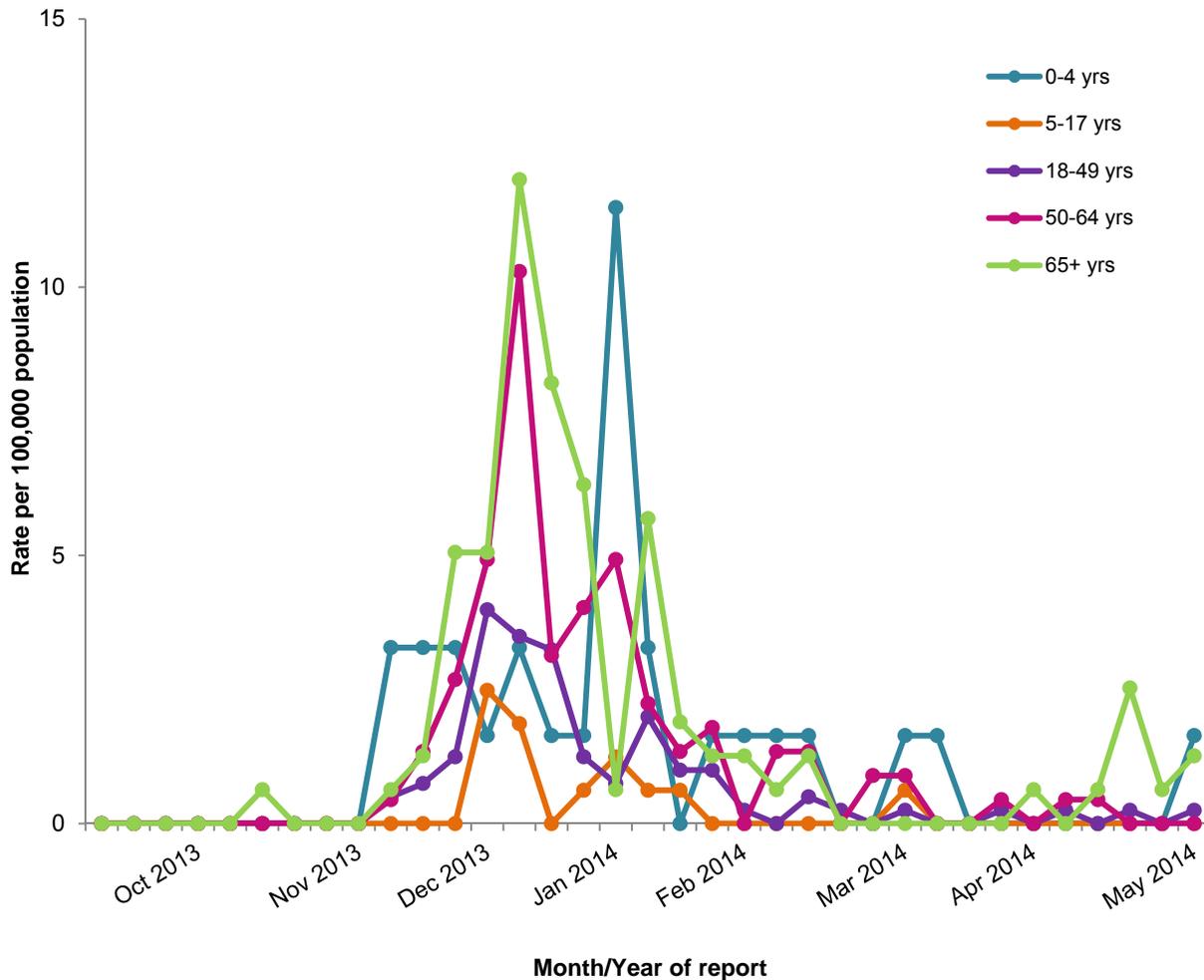
\*Partner laboratories include: Benefis Health System, Bozeman Deaconess Hospital, Kalispell Regional Medical Center, Missoula Community Hospital, St. Patrick's Hospital, St. Peter's Hospital, and St. Vincent's Hospital.

**Influenza Hospitalizations:** Influenza cases, including hospitalizations and deaths, are reportable to public health in Montana. During the 2013–2014 season, 313 influenza-associated hospitalizations were reported. This is a rate of 31.1 per 100,000 population. The highest rate of hospitalization was among adults aged  $\geq 65$  years (55.0/100,000 population, Figure 3). However, the 18–64 year age group accounted for 59% of all reported influenza-related hospitalizations in Montana.

There were 8 deaths attributed to influenza during the 2013–2014 season. Of these, 4 (50%) occurred among adults aged  $\geq 65$  years. No pediatric (aged 0–17 years) deaths were reported. Table 2 presents influenza hospitalizations and deaths for the 2013–2014 influenza season.

Table 2. Influenza Hospitalizations and Deaths — Montana, 2013–2014 season			
Hospitalizations	Deaths (Season to Date)		
	Pediatric	Adult <65 years	Adult $\geq 65$ years
313	0	4	4

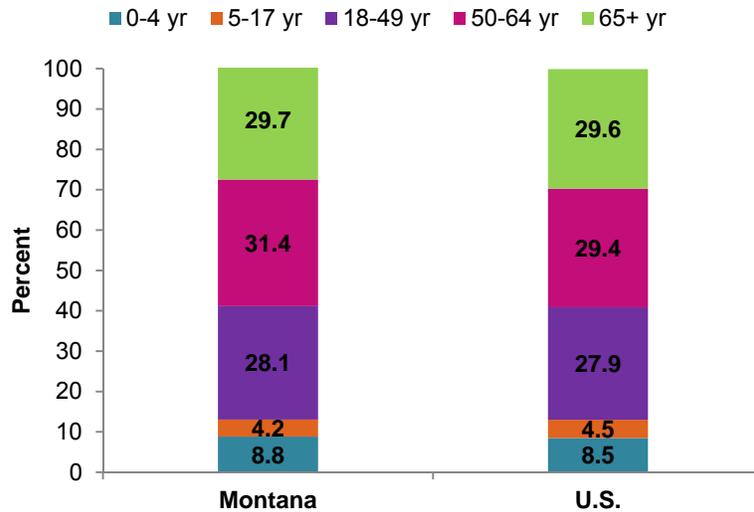
Figure 3. Influenza Hospitalization Rates by Age Group — Montana, 2013–2014 Season\*



\*Reported by hospital admission date.

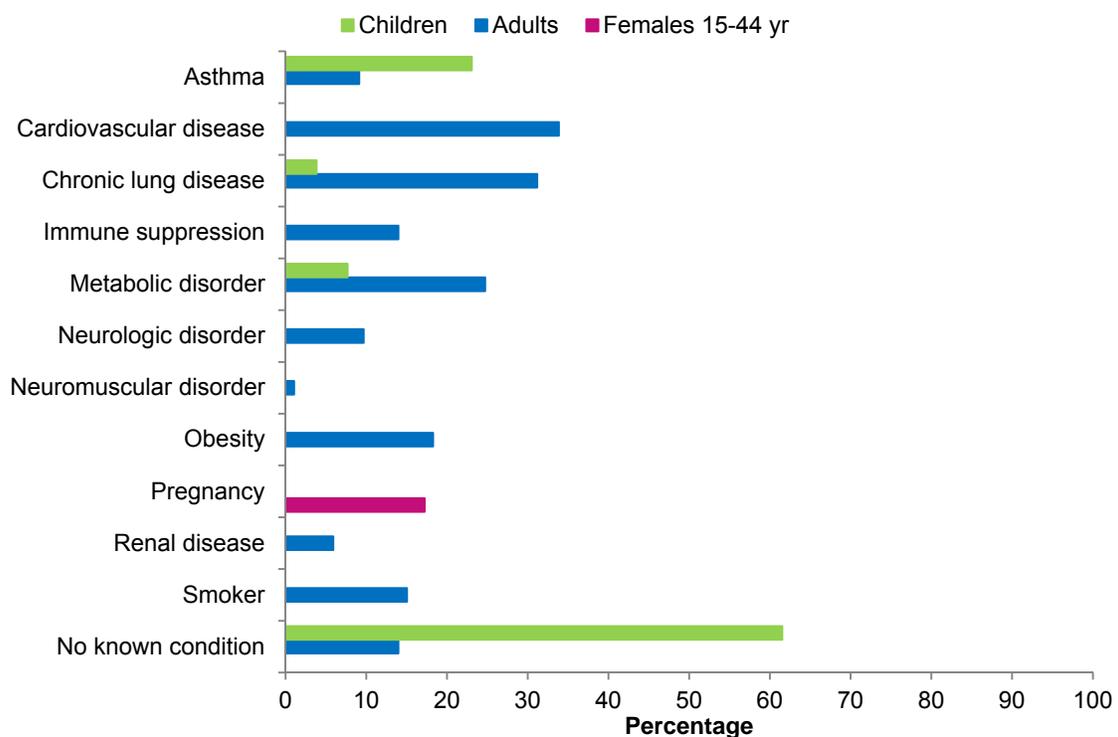
Of those hospitalized due to influenza, the majority (77%) were positive for influenza type A. Of those with documented immunization status (n=278), 69% had not received seasonal influenza vaccine. The majority of hospitalizations were aged >50 years with a median age of 54 years (Figure 4). This is similar to the characterization of influenza-associated hospitalizations in the United States.

**Figure 4. Influenza Hospitalizations by Age Group — Montana and U.S., 2013–2014 Season**



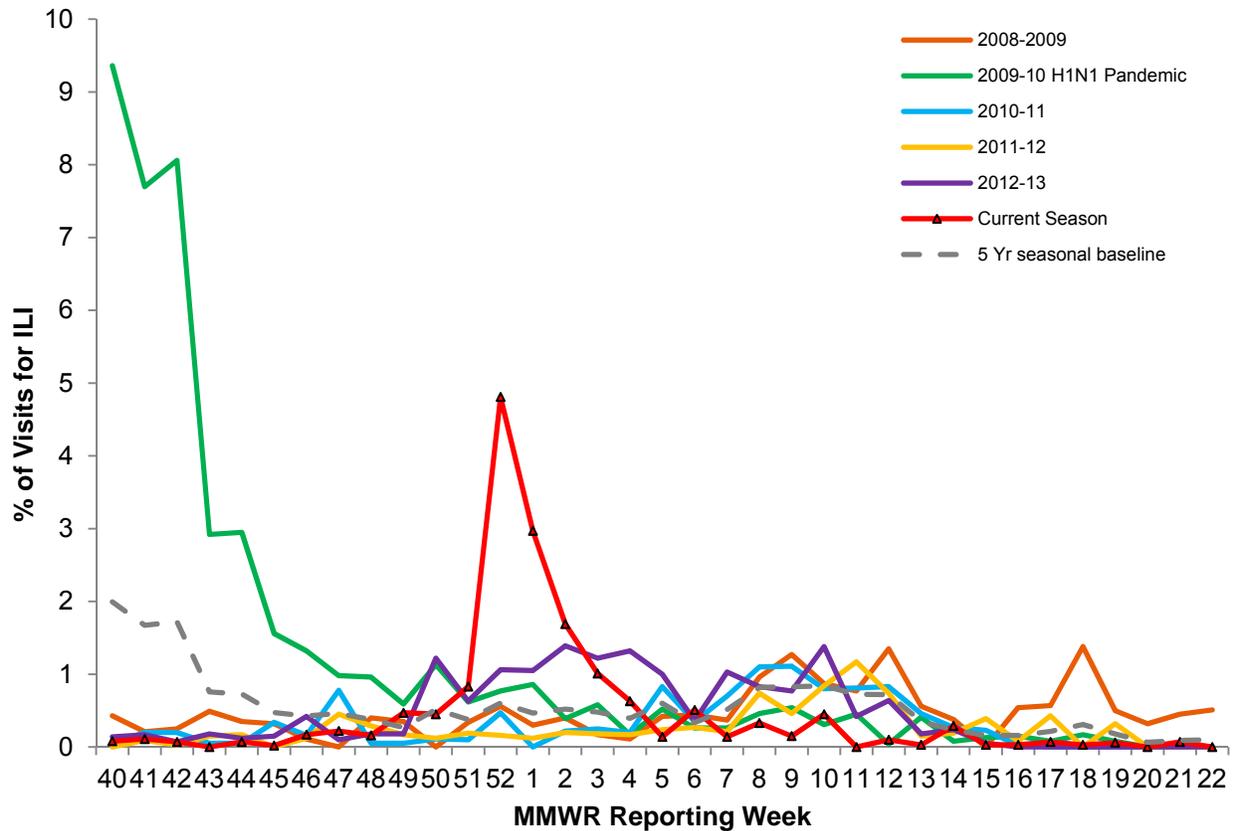
Hospitalized individuals were assessed for comorbidities present at the time of hospitalization (Figure 5). Of those with documented comorbidities (n=213), 38% of children (<18 years) and 87% of adults had at least one comorbidity at the time of hospitalization. Asthma was the most common comorbidity documented in children (23%) and cardiovascular disease the most common in adults (34%). Seventeen percent of females aged 15–44 years were pregnant at the time of hospitalization.

**Figure 5. Selected Underlying Medical Conditions of Hospitalized Individuals — Montana, 2013–2014 Season<sup>2</sup>**



**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 2013–2014 season, 9 facilities participated in ILINet in Montana. ILI activity for the season peaked during the last week of 2013 and was similar to that of the United States (Figure 6).

**Figure 6. Percentage of Influenza-Like Illness (ILI) reported by sentinel providers — Montana, Selected seasons**



<sup>1</sup>**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.

<sup>2</sup>**Comorbidity** categories are defined as:

Asthma includes a medical diagnosis of asthma or reactive airway disease.

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 chronic obstructive pulmonary disease, 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 <http://www.dphhs.mt.gov/influenza/index.shtml>.