

Utah Influenza Report

This report contains data through the week ending 12/17/2016 (MMWR week 50).

Overview of Influenza Surveillance: Surveillance for the 2016-2017 influenza season officially began on October 2, 2016. The Utah Department of Health publishes a weekly report throughout the active influenza season that synthesizes data from a variety of sources to give the most complete and up-to-date picture of influenza activity in the state of Utah. Data in this report should be considered provisional, and may change as more complete reports are received.

Influenza-like Illness (ILI): The U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) is a national system that conducts surveillance for influenza-like illness (ILI) in outpatient healthcare facilities. ILINet providers report weekly the total number of patients seen for any reason and the number of patients seen with ILI (defined as a fever $\geq 100^\circ$ F and a cough or sore throat). These data are used to determine the amount of ILI circulating in the community, as well as provide insight into regional differences in ILI activity. More than 50 facilities within 10 health jurisdictions throughout Utah participate in ILINet.

Figure 1. Weekly Influenza-like Illness Activity

Influenza-like illness (ILI) activity as measured by the number of standard deviations from the epidemic threshold - Utah, 2016-2017

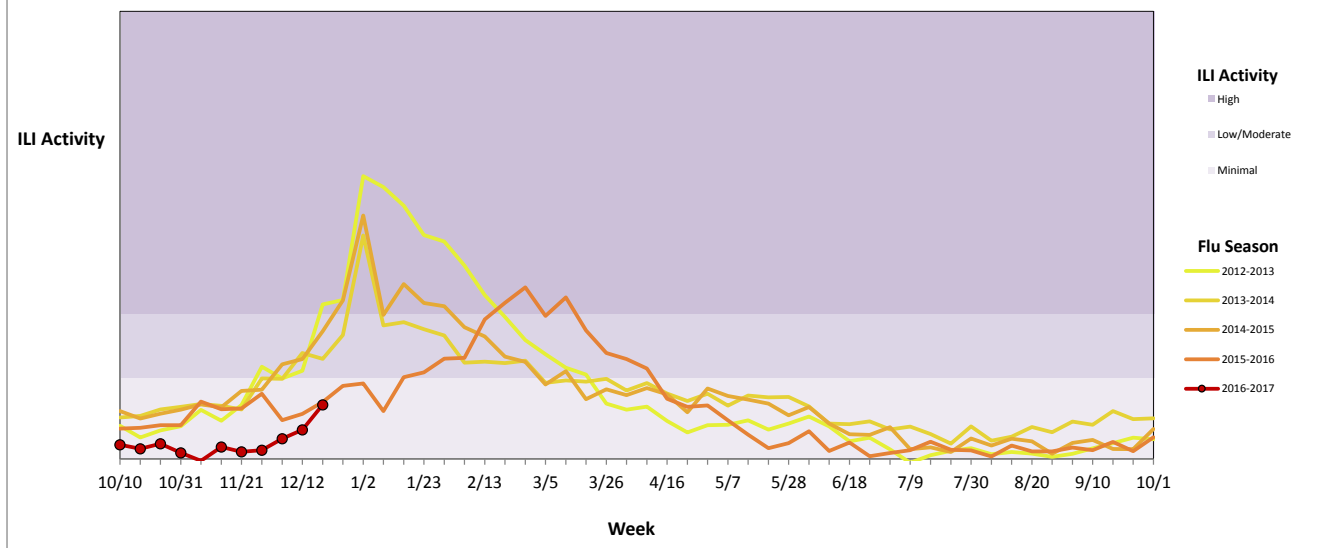


Table 1. Influenza-like Illness (ILI) Activity Levels by Health District - Utah, Current Week

| Health District | ILI Activity |
|----------------------|----------------|
| Bear River | Minimal |
| Central Utah | Minimal |
| Davis County | Minimal |
| Salt Lake County | Low/Moderate |
| San Juan County | No Data * |
| Southeast Utah | No Data * |
| Southwest Utah | Minimal |
| Summit County | Minimal |
| Tooele County | Minimal |
| TriCounty | No Data * |
| Utah County | Minimal |
| Wasatch County | Minimal |
| Weber-Morgan | Minimal |
| State Average | Minimal |

*No participating sites in this jurisdiction

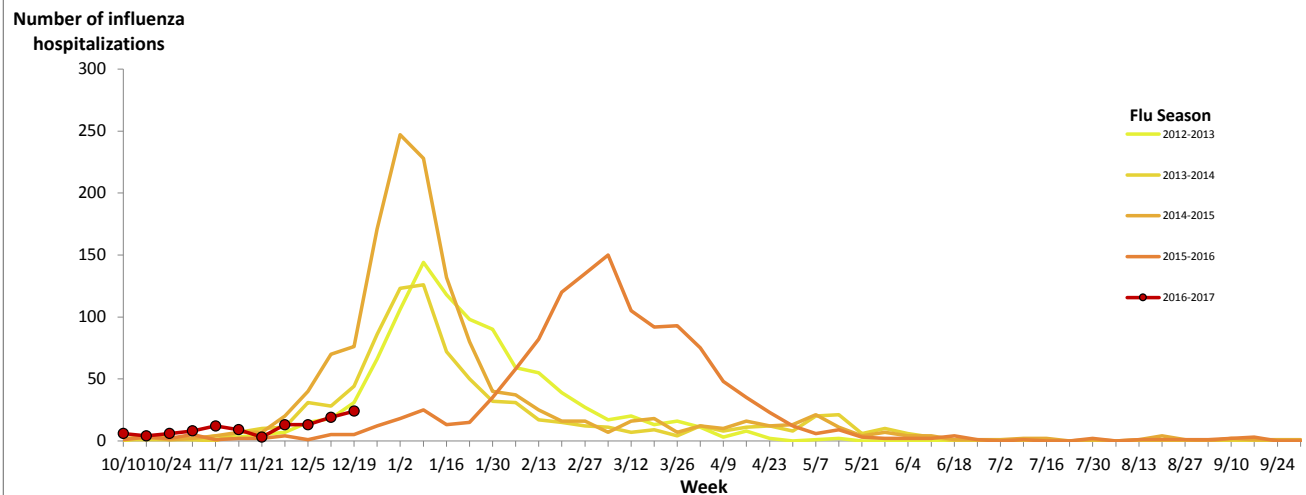
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Influenza Hospitalizations: Influenza hospitalizations are a reportable condition in Utah. A person meets the case definition for an influenza hospitalization if they are hospitalized for any length of time and have an influenza positive serology, DFA, PCR, culture or rapid influenza diagnostic test. Public health in Utah gathers a variety of data on influenza hospitalizations including clinical features, course of illness, risk and protective factors, and influenza type and subtype. Data from influenza hospitalizations allows public health in Utah to better understand subgroups of the Utah population that are most severely affected by influenza and help to guide prevention messages and interventions.

Figure 2. Influenza Hospitalizations

Number of influenza hospitalizations by event date* - Utah, 2016-2017



*Event date is calculated based on a hierarchy of dates: 1. onset date 2. specimen collection date 3. date reported to public health.

Table 2. Influenza Hospitalizations by Health District - Utah

| Health District | Current Week | Season To Date |
|--------------------|--------------|----------------|
| Bear River | 0 | 6 |
| Central Utah | 0 | 1 |
| Davis County | 1 | 9 |
| Salt Lake County | 20 | 65 |
| San Juan County | 0 | 0 |
| Southeast Utah | 0 | 1 |
| Southwest Utah | 0 | 5 |
| Summit County | 0 | 1 |
| Tooele County | 0 | 0 |
| TriCounty | 0 | 3 |
| Utah County | 1 | 12 |
| Wasatch County | 0 | 2 |
| Weber-Morgan | 2 | 12 |
| State Total | 24 | 117 |

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Table 3. Influenza Hospitalizations by Age Group - Utah, Season To Date

| Age Group | Total Cases | % of Cases | Rate* |
|--------------|-------------|--------------|------------|
| 0-4 | 8 | 6.8 | 3.2 |
| 5-24 | 10 | 8.5 | 1.0 |
| 25-49 | 29 | 24.8 | 2.9 |
| 50-64 | 22 | 18.8 | 5.0 |
| 65+ | 48 | 41.0 | 15.6 |
| Total | 117 | 100.0 | 3.9 |

*Rate is calculated as the number of cases per 100,000 population

Table 4. Influenza Hospitalizations by Sex and Race - Utah, Season To Date

| Variable | Num. of Cases | % of Cases | % in Utah Pop | p value* |
|----------|----------------------------------|------------|---------------|--------------|
| Sex | Male | 51 | 43.6 | 50.3 0.1463 |
| | Female | 66 | 56.4 | 49.7 0.1463 |
| | Unknown | 0 | 0.0 | NA -- |
| Race | White, Not Hispanic | 81 | 69.2 | 79.0 0.4236 |
| | Hispanic | 16 | 13.7 | 12.2 <0.0001 |
| | Native Hawaiian/Pacific Islander | 4 | 3.4 | 1.0 <0.0001 |
| | Black/African American | 1 | 0.9 | 1.3 0.0938 |
| | American Indian | 1 | 0.9 | 1.5 0.1131 |
| | Asian | 1 | 0.9 | 2.5 0.2769 |
| | Unknown | 13 | 11.1 | NA -- |

*If a p value is ≤ 0.05 , there is a significant difference between the percentage seen in influenza hospitalizations and the general Utah population.

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Student Absenteeism: School-age children are at high risk for respiratory virus infections, including influenza. Aggregate, all-cause absenteeism data is collected weekly from over 350 schools throughout Utah. These data are analyzed to identify elevated absenteeism rates that could indicate the circulation of influenza in school-age children.

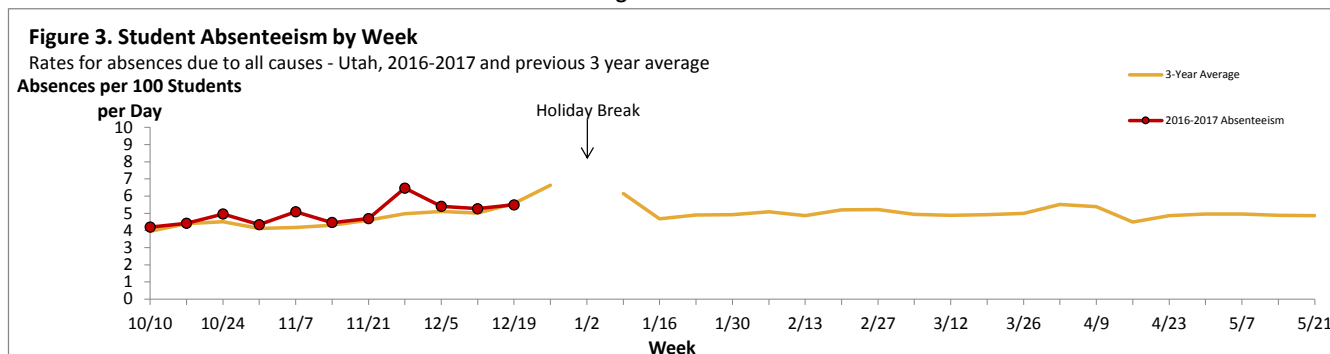
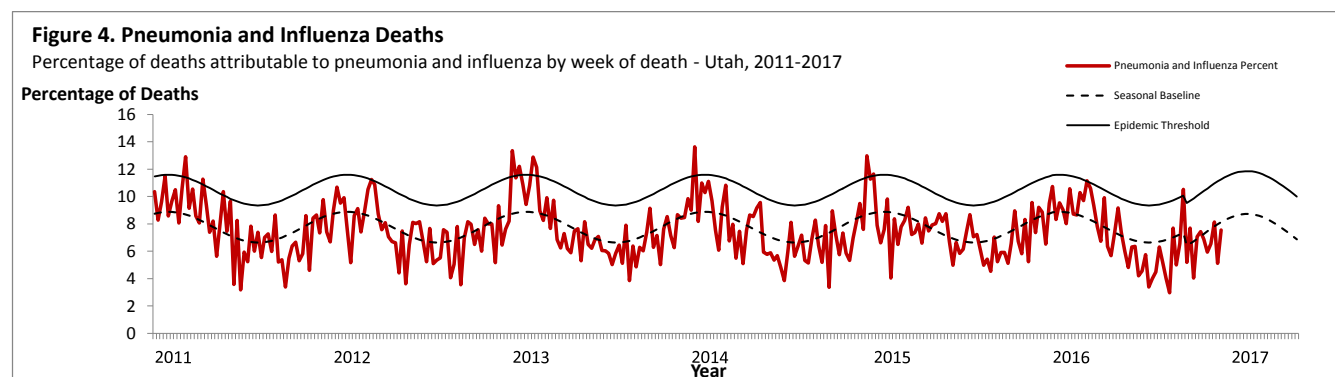


Table 5. Weekly Student Absenteeism - Utah, Current Week

| Health District | Absences per 100 students/day |
|----------------------|-------------------------------|
| Bear River | 6.7 |
| Central Utah | 3.4 |
| Davis County | 4.7 |
| Salt Lake County | 4.4 |
| San Juan County | 6.6 |
| Southeast Utah | 6.2 |
| Southwest Utah | 5.8 |
| Summit County | -- |
| Tooele County | 7.5 |
| TriCounty | 7.9 |
| Utah County | 3.5 |
| Wasatch County | 4.1 |
| Weber-Morgan | 6.7 |
| State Average | 5.5 |

Pneumonia and Influenza Deaths: Each week the total number of death certificates received and the number of those for which pneumonia or influenza was listed as an underlying or contributing cause of death is collected. The percentage of deaths due to pneumonia and influenza are compared with a seasonal baseline and epidemic threshold value calculated for each week. These data are used to monitor the severity of influenza illness in the community. Note that the seasonal baseline and epidemic threshold were updated for the 2016-2017 influenza season.



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Laboratory Surveillance: The Utah - National Electronic Disease Surveillance System (UT-NEDSS) maintains influenza testing results from hospital laboratories and the Utah Public Health Laboratory (UPHL). At UPHL, specimens are tested to determine influenza type and subtype. A portion of specimens are also sent to the Centers for Disease Control and Prevention for additional testing, including gene sequencing, antiviral resistance testing and antigenic characterization.

Figure 5. Influenza Positive Tests

Influenza positive specimens tested by laboratories throughout the state, 2016-2017

■ A (2009 H1N1) ■ A (Unknown Subtype) ■ A (H3) ■ B ■ A (H1)

Number of Positive Specimens

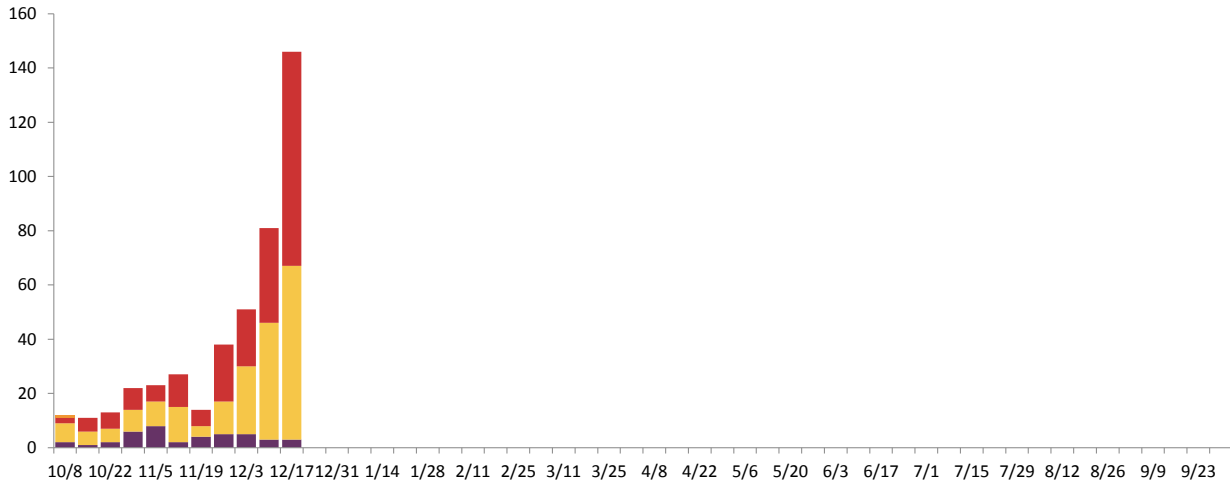


Table 6. UT-NEDSS Laboratory Influenza Testing Data: Positive Specimens by Type/Subtype

| | Current Week | | Season to Date | |
|------------------------------------|--------------|------------|----------------|------------|
| | Number | Percentage | Number | Percentage |
| Total Number of Positive Specimens | 146 | | 438 | |
| Influenza Type A | 143 | 98% | 397 | 91% |
| A (2009 H1N1 Subtype) | 0 | 0% | 1 | 0% |
| A (H1 Subtype) | 0 | 0% | 0 | 0% |
| A (H3 Subtype) | 64 | 45% | 195 | 49% |
| A (No Subtyping) | 79 | 55% | 201 | 51% |
| Influenza Type B | 3 | 2% | 41 | 9% |