

Utah Influenza Report

This report contains data from the 2015-2016 season (10/04/2015 - 05/21/2016).

Overview of Influenza Surveillance: Surveillance for the 2015-2016 influenza season officially began on October 4, 2015 and ended on May 21, 2016. During this period, the Utah Department of Health published weekly reports that incorporated data from a variety of sources to describe statewide influenza activity. This seasonal influenza report provides trend data on influenza-like illness, influenza-associated hospitalizations, influenza/pneumonia deaths, and laboratory subtyping.

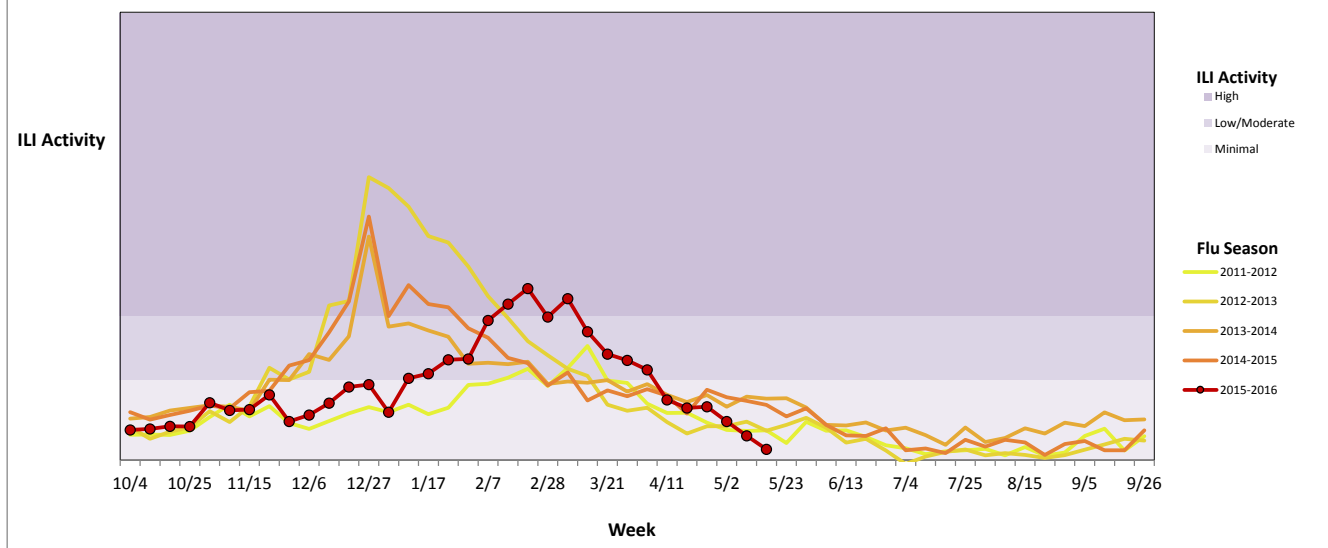
Highlights from the 2015-2016 Influenza Season

During the 2015–2016 influenza season, influenza-like illness (ILI) activity increased later than during the previous three flu seasons; ILI peaked during February, 2016. The total number of influenza-associated hospitalizations was quite high; older adults had the highest percentage of influenza-associated hospitalizations in the state (38%) and highest rates by population size. This season was less severe than the previous three seasons in terms of the percentage of pneumonia and influenza deaths crossing over the epidemic threshold. The predominant influenza virus strain for all types of influenza conditions was influenza A (57%), with a majority subtype determined to be 2009 A(H1N1). Influenza B was also prevalent (43%).

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, 2015-2016



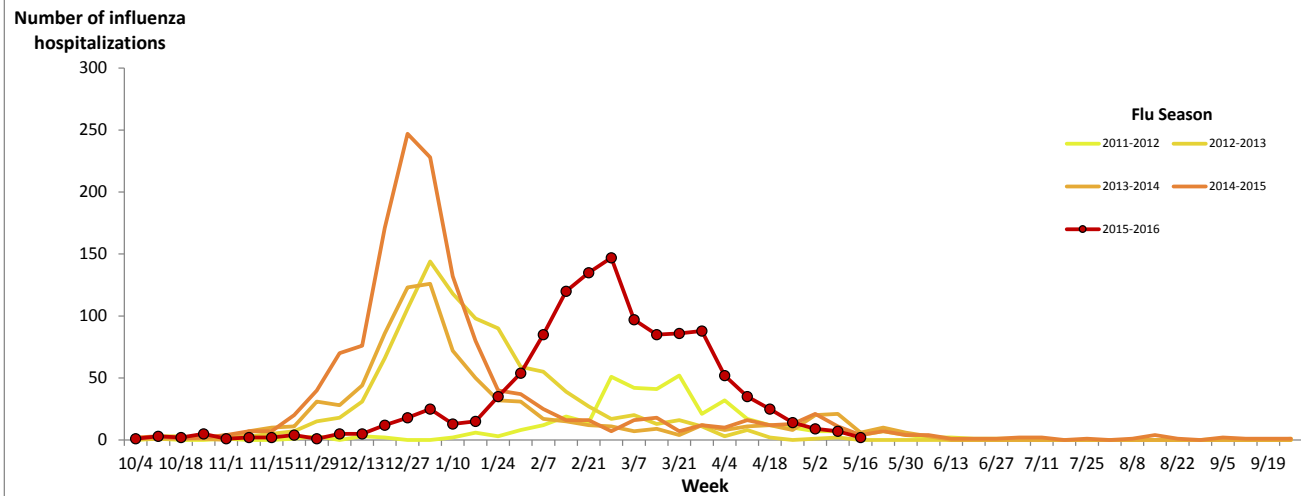
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Influenza Hospitalizations: Influenza hospitalizations are a reportable condition in Utah. A person meets the case definition for an influenza hospitalization if they are hospitalized for any length of time and have an influenza positive serology, 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, 2015-2016



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

Table 1. Influenza Hospitalizations by Health District

<u>Health District</u>	<u>Season To Date</u>
Bear River	66
Central Utah	26
Davis County	111
Salt Lake County	552
San Juan County	0
Southeast Utah	5
Southwest Utah	98
Summit County	11
Tooele County	7
TriCounty	32
Utah County	172
Wasatch County	9
Weber-Morgan	104
State Total	1,193

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Table 2. Influenza Hospitalizations by Age Group - Utah, Season To Date

Age Group	Total Cases	% of Cases	Rate*
0-4	123	10.3	46.3
5-24	116	9.7	12.1
25-49	213	17.9	22.3
50-64	289	24.3	69.8
65+	449	37.7	170.9
Total	1,190	100.0	41.7

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

Table 3. Influenza Hospitalizations by Sex and Race - Utah, Season To Date

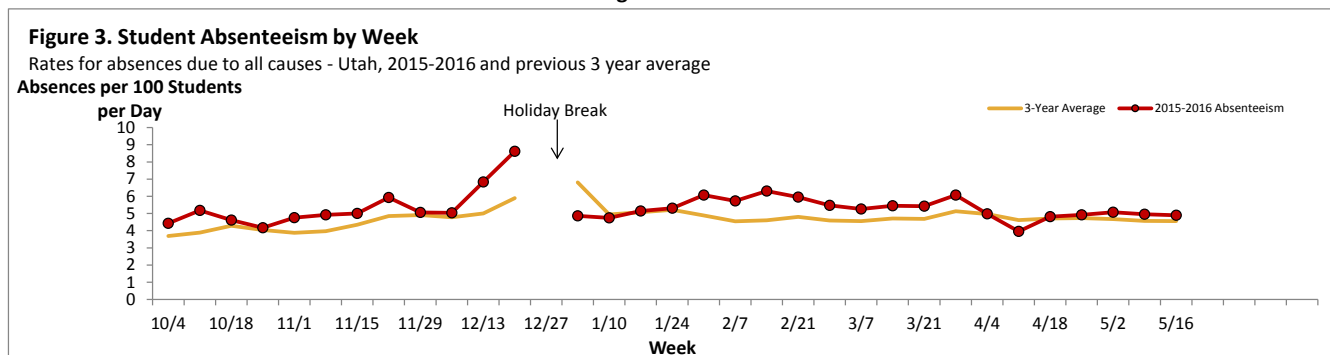
Variable	Num. of Cases	% of Cases	% in Utah Pop	p value*	
Sex	Male	616	51.8	50.2	0.2949
	Female	571	48.0	49.8	0.2207
	Unknown	2	0.2	NA	--
Race	White, Not Hispanic	743	62.4	79.9	0.4614
	Hispanic	82	6.9	11.9	<0.0001
	Native Hawaiian/Pacific Islander	35	2.9	1.0	<0.0001
	Black/African American	22	1.8	1.3	<0.0001
	American Indian	5	0.4	1.5	0.8981
	Asian	12	1.0	2.2	0.0446
	Unknown	291	24.5	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.

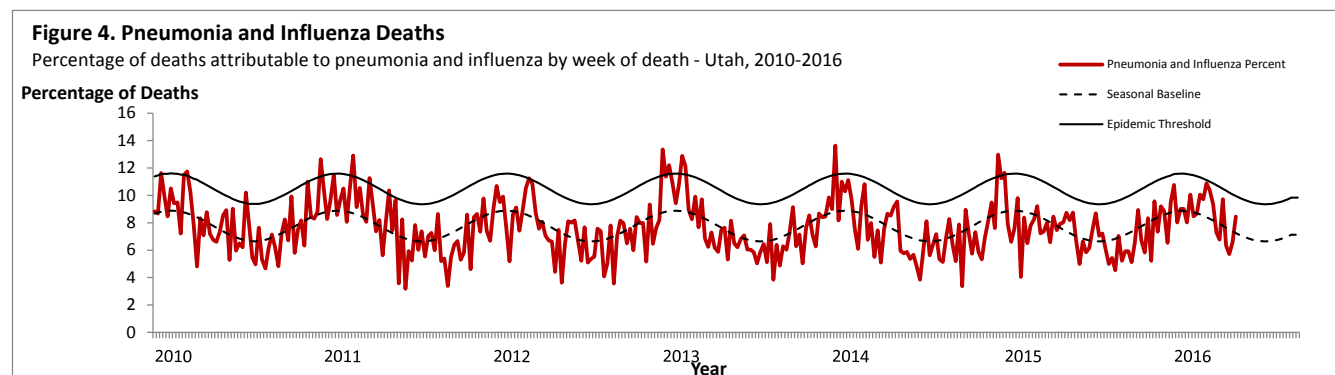
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Student Absenteeism: School-age children are at high risk for respiratory virus infections, including influenza. Aggregate, all-cause absenteeism data is collected weekly from over 350 schools throughout Utah. These data are analyzed to identify elevated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



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.



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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.

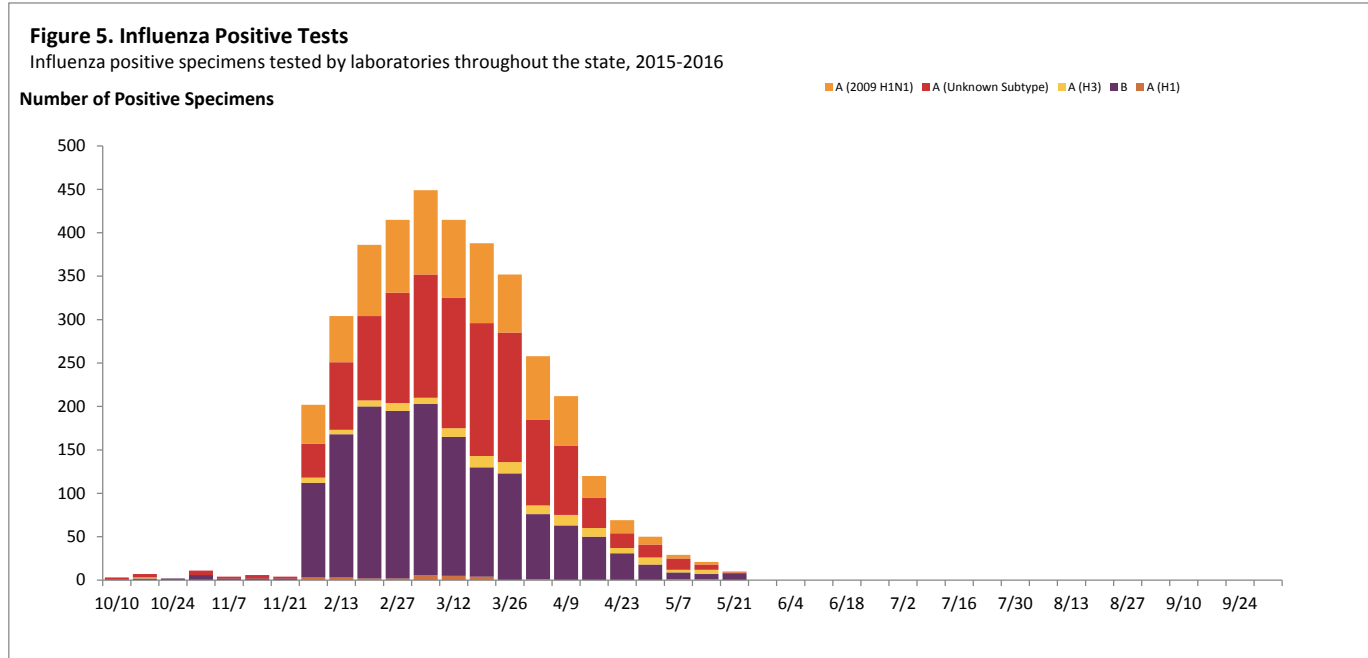


Table 4. UT-NEDSS Laboratory Influenza Testing Data: Positive Specimens by Type/Subtype

Total Number of Positive Specimens: 4,149

	Number	Percentage
Influenza Type A	2,345	57%
A (2009 H1N1 Subtype)	870	37%
A (H1 Subtype)	35	1%
A (H3 Subtype)	138	6%
A (No Subtyping)	1,302	56%
Influenza Type B	1,804	43%