



Influenza Final Surveillance Summary for 2014-2015 Influenza Season

The following summary describes influenza activity in Connecticut from August 24, 2014 through August 29, 2015 including the 2014-2015 influenza season which traditionally is considered the 8 month period from October through May. Overall, 2014-2015 influenza activity was higher than that observed during the 2013-2014 season. The 2014-2015 influenza season was characterized with two activity waves; an initial wave that peaked in January/February 2015 followed by a second wave that peaked during March 2015. Please also see previous Connecticut annual influenza season summaries, which are located on our Influenza Statistics webpage:

<http://www.ct.gov/dph/cwp/view.asp?a=3136&q=410788&dphPNavCtr=#48059>

In Connecticut, the Department of Public Health (DPH) utilizes multiple surveillance systems to monitor for circulating influenza flu viruses and track various indicators of influenza-associated illness. Data from these various surveillance systems were reviewed and updated each week. A summary of the surveillance findings of these various systems during this 2014-2015 monitoring period are described below:

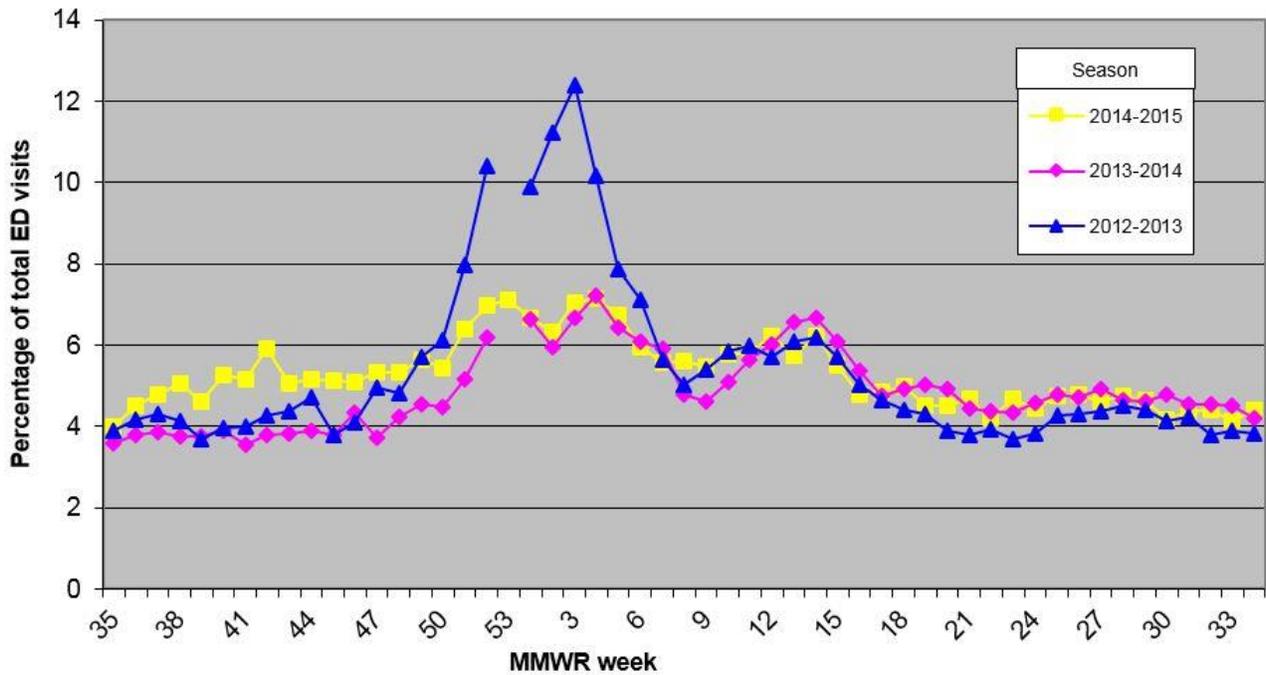
- The DPH examines the percentage of total emergency department (ED) visits attributed to the “fever/flu” syndrome category each week to identify periods when these visits exceed a level of 5% statewide; generally considered the minimum threshold when there are elevated influenza-associated ED visits. During the 2014-2015 influenza season, the percentage of “fever/flu” ED visits exceeded 5% from October 2014 through mid-April 2015. A peak level of 7.2% was observed during the week ending January 31, 2015, MMWR week 4, while a second peak level of 6.7% was observed during the week ending March 28, 2015, MMWR week 12 (Figure 1).
- The DPH examines the percentage of outpatient visits to a network of 29 non-hospital based providers with influenza-like illness (ILI) each week to determine when these visits exceed a level of 1% statewide; generally considered the baseline when there are increased influenza-associated visits in the outpatient setting. During the 2014-2015 influenza season, the percentage of outpatient ILI visits remained above 1% statewide from October 2014 through May 2015. After an initial activity wave the peaked at 2.3% during the week ending November 8, 2014, MMWR week 45, a major seasonal peak levels of 6.4% was observed during the week ending February 21, 2015, MMWR week 7. A minor peak of 2.2% was also observed during the week ending April 4, 2015, MMWR week 13 (Figure 2).
- The DPH also examines the percentage of unscheduled hospital admissions due to pneumonia each week to determine when these admissions exceed a level of 4% of all unscheduled hospital admissions statewide; generally considered the baseline when there may be increased pneumonia hospitalizations due to influenza and other severe respiratory infections. The percentage of weekly hospital pneumonia admissions remained above 4% of all unscheduled admissions, statewide from December 2014 through April 2015 with a seasonal peak of 5.5% during the week ending January 3, 2015, MMWR week 53 (Figure 3).
- Influenza associated hospitalizations have been reportable in Connecticut since October 2009. During the 2014-2015 influenza season, a total of 2,341 persons hospitalized with influenza-associated illness were reported and included 1,996 (85%) Type A, 344 (15%) Type B, and 1 (<1%) of unknown type. Of the 417 Type A isolates that were subtyped, 415 (>99%) were Type A (H3N2), with only 2 (<1%) being Type A (2009 H1N1) (Figure 4).

- Influenza associated deaths of individuals 18 years of age or younger have been reportable in Connecticut since January 2005 and influenza associated deaths of all ages since October 2009. A total of 48 influenza associated deaths were reported, including 6 in patients with Type A (H3N2), 34 in patients with Type A subtype unspecified, and 8 in patients with Type B infections. Most (47) of 48 deaths were among patients who were greater than 65 years of age (Figure 5).
- The DPH also tracks reports of laboratory-confirmed influenza. Positive results were reported from residents of all 8 Connecticut counties and included: 2,296 from Fairfield County, 2,191 from Hartford County, 1,871 from New Haven County, 383 New London County, 327 Tolland County, 275 Windham County, 272 Middlesex County, and 264 from Litchfield County. Of the 7,879 positive influenza reports, 6,597 (84%) were Type A, 1,278 (16%) were Type B, and 4 (<1%) were of unknown type. Of the 1,164 Type A isolates that were subtyped, most 1,157 (<99%) were Type A (H3N2), with only 7 (<1%) identified as Type A (2009 H1N1) (Figure 6 & 7).

The 2014-2015 influenza season was characterized by two activity waves. The first wave was predominantly comprised of influenza A (H3N2) virus, and peaked during the week ending February 7, 2015, MMWR week 5. A second wave, which was comprised of both influenza A (H3N2) and a higher percentage of influenza B, peaked during the week ending March 28, 2015, MMWR week 12. Although the percentage of weekly flu-associated emergency visits and hospitalizations were similar to those observed during the previous 2013-14 flu season (Figures 1 & 3), the peak weekly percent visits of outpatients with ILI seen during the 2014-2015 season exceed peak outpatient ILI visits seen during the previous two seasons (Figure 2).

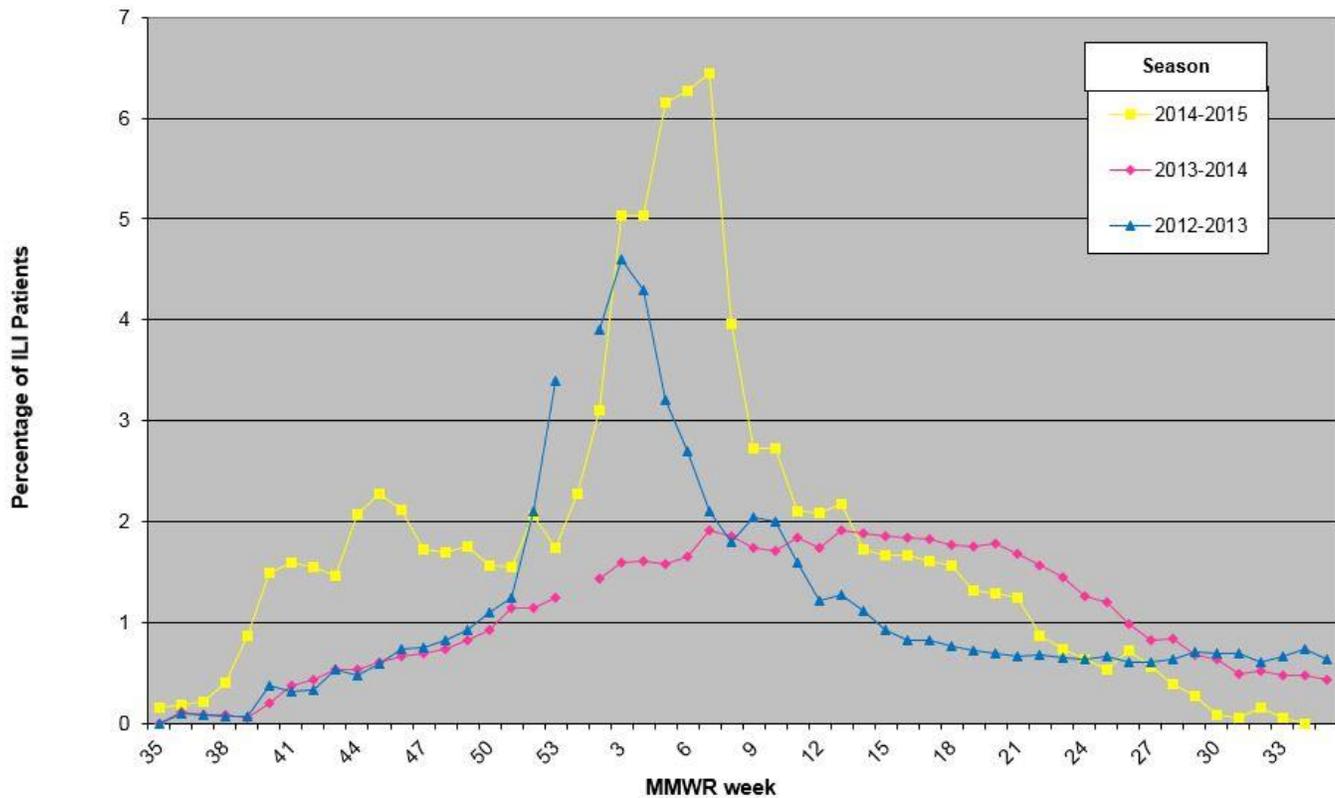
The Hospital Emergency Department Syndromic Surveillance (HEDSS) System receives daily electronic reports on ED visits from more than half of Connecticut's acute care hospitals. Data include a listing of total patient visits with information on their chief complaint, including fever/flu.

Figure 1. Connecticut Hospital Emergency Department Syndromic Surveillance (HEDSS) System: Percentage of total ED visits for "fever/flu" syndrome category, 2014-2015 influenza season compared to past seasons



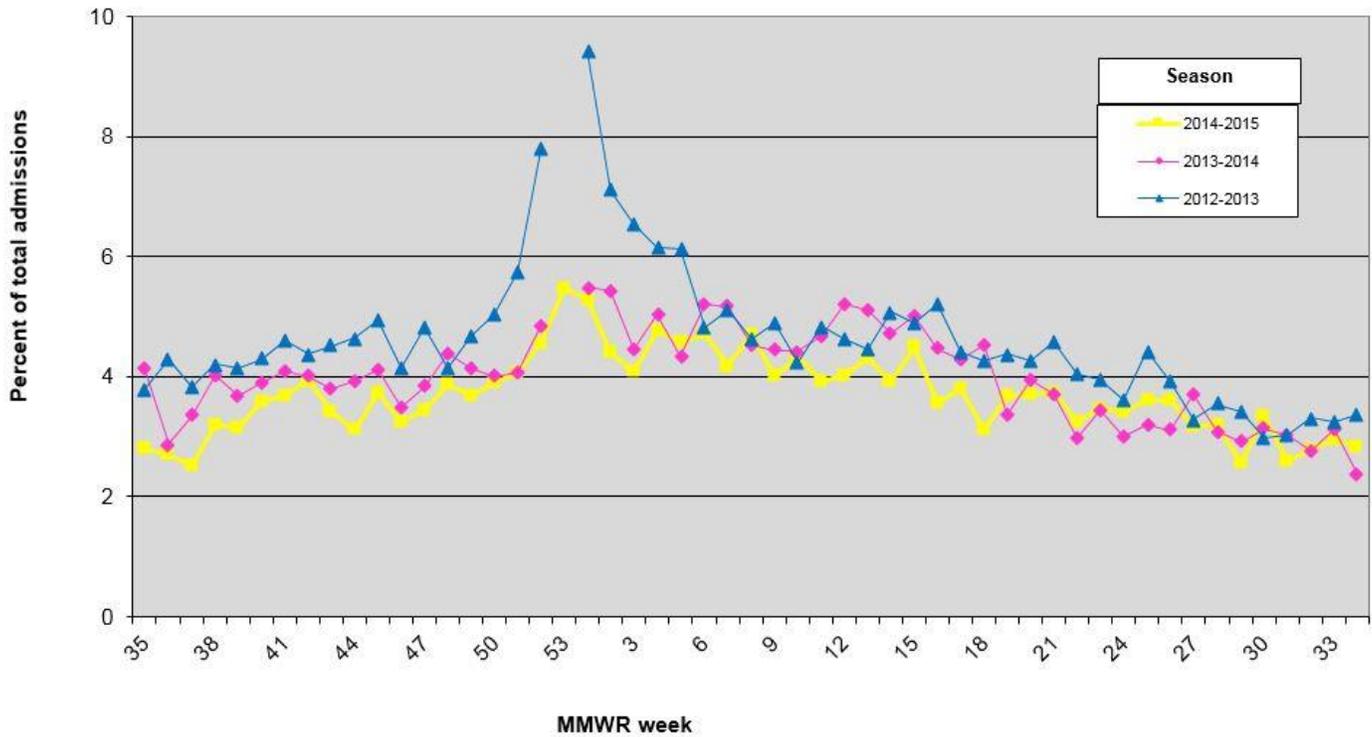
Sentinel Provider Surveillance System: Reporting of influenza-like illness (ILI) is conducted through a statewide network of volunteer outpatient providers known as ILINet. The proportion of patients exhibiting ILI is reported to the DPH on a weekly basis. ILI is defined as a cough or sore throat in the absence of a known cause, and the presence of a fever > 100° F.

Figure 2. Outpatient Influenza-Like Illness Surveillance Network (ILINet), Percentage of Patients with Influenza-Like Illness (ILI); 2012-13, 2013-14, 2014-15



The **Hospital Admissions Syndromic Surveillance (HASS) System**, receives daily electronic reports from all 32 acute care hospitals in Connecticut. Information on unscheduled admissions, including those for pneumonia that may be associated with influenza infections, is submitted.

Figure 3: Connecticut Hospital Admissions Syndromic Surveillance (HASS) System, Percentage of total statewide admissions for pneumonia; 2012-13, 2013-14, 2014-15



Influenza-associated Hospitalizations: In Connecticut, influenza-associated hospitalizations and deaths are reportable. Data collected describe the more serious illnesses associated with influenza infections.

Figure 4. Hospitalized Patients (n = 2341) with Positive Lab Tests by Subtype & Week

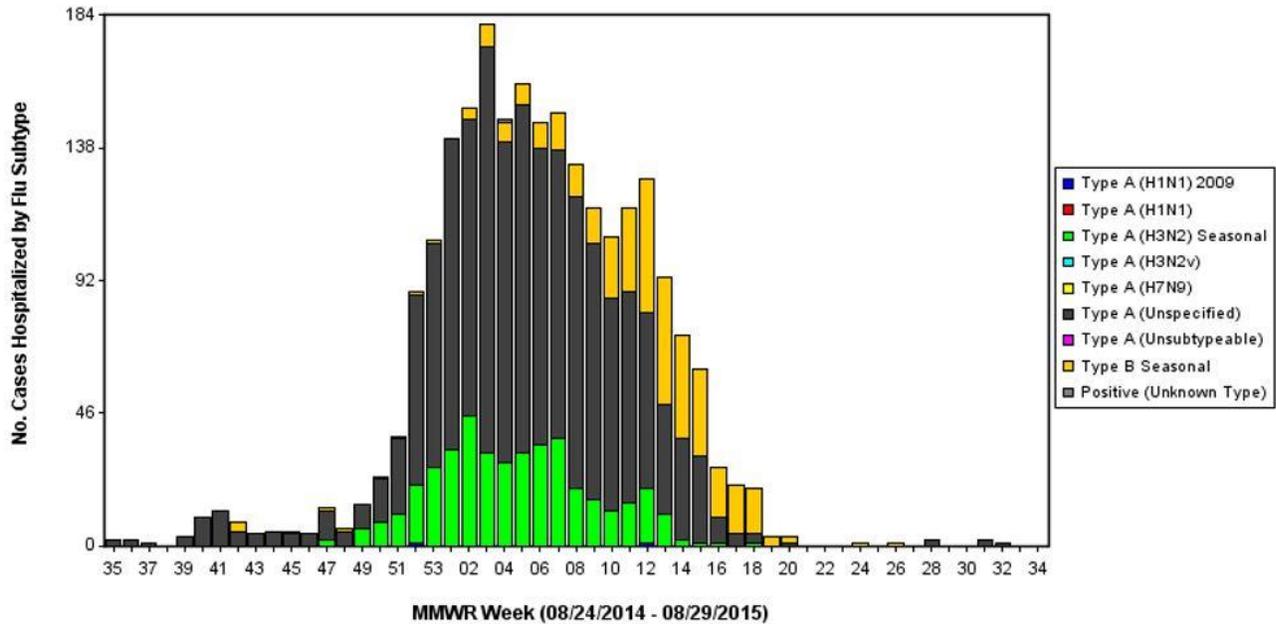
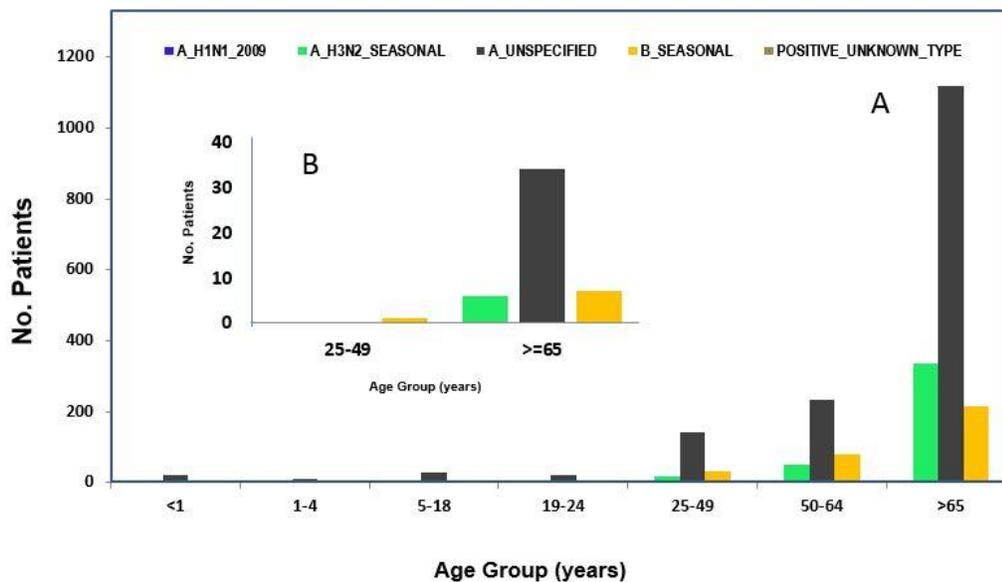


Figure 5. Hospitalized Patients (n=2341, A) and Flu-Associated Deaths (n=48, B) with Positive Laboratory Tests by Influenza Subtype and Age Group, Connecticut



Laboratory Surveillance: Positive influenza tests are laboratory reportable findings in Connecticut. The DPH tracks these results to determine what types, subtypes, and strains are circulating.

Figure 6. Positive Laboratory Tests (n =7879) by Influenza Subtype and Week, Connecticut

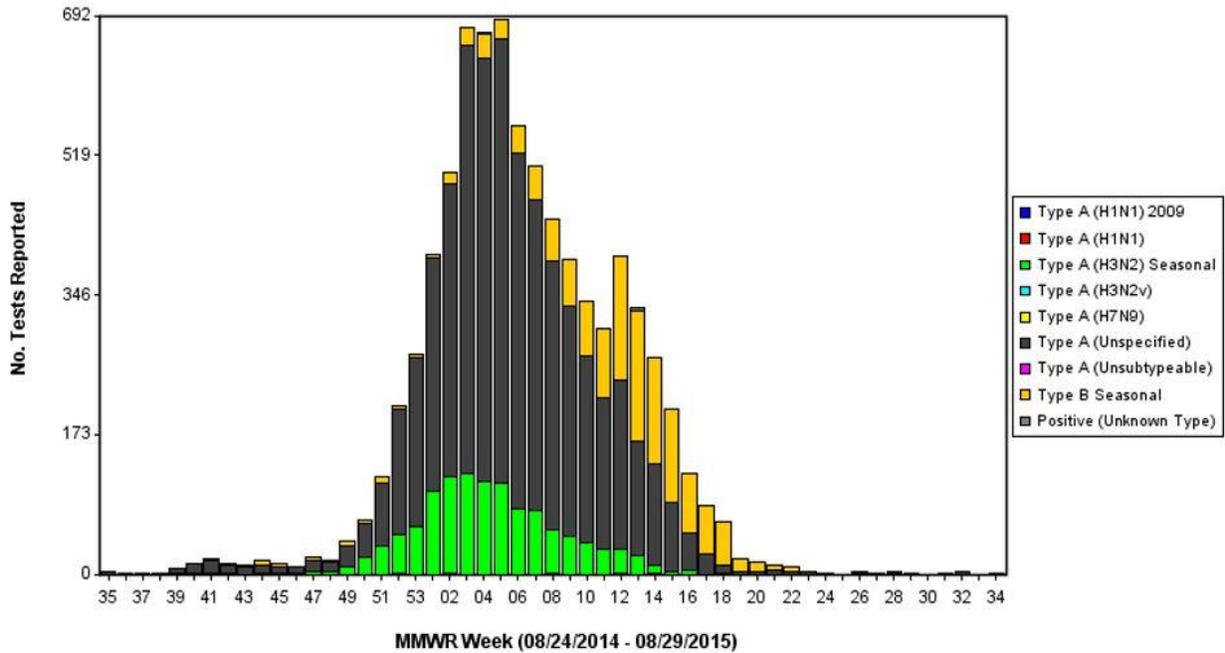


Figure 7. Proportion of Cumulative Positive Laboratory Tests (n = 7879) by Influenza Subtype, Connecticut

