



## **Influenza Final Surveillance Summary for 2018-2019 Influenza Season**

The following summary describes influenza activity as monitored in Connecticut from August 26, 2018 through August 24, 2019. The season's monitoring period includes the eight month period from October through May when flu activity tends to be highest and when the U.S Centers for Disease Control and Prevention (CDC) provides weekly flu season updates. Although not as severe as the 2017-2018 season, the 2018-2019 influenza season had one of the higher levels of activity observed during the past ten years. The 2018-2019 influenza season was characterized by three distinct activity waves. A small initial wave peaked in early January and a second activity wave peaked during February. Both the January and February waves were comprised primarily of influenza A (2009 H1N1) viruses. A third activity wave, comprised primarily of influenza A (H3N2) viruses, peaked during March. Previous Connecticut annual influenza season summaries are located on our Influenza Annual Summaries webpage:

<https://portal.ct.gov/DPH/Epidemiology-and-Emerging-Infections/Influenza-Annual-Summaries>

In Connecticut, the Department of Public Health (DPH) utilizes multiple surveillance systems to monitor for circulating influenza flu viruses and track indicators of influenza-associated illness. Data from each surveillance system were reviewed and updated each week. A summary of the surveillance findings of these systems during this 2018-2019 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 using data collected by the EpiCenter system which replaced the Hospital Emergency Department Surveillance System for the 2018-2019 season. The 2018-2019 seasonal peak level of 10.9% was observed during the week ending January 19, 2019, MMWR week 3. A later, smaller peak of 8.1% occurred during the week ending April 7, 2018, MMWR week 13 (Figure 1).
- The DPH examines the percentage of outpatient visits associated with influenza-like illness (ILI) to a network of non-hospital based providers each week to determine when these visits exceed a level of 1% statewide, considered the baseline when there are increased influenza-associated visits in the outpatient setting. During the 2018-2019 influenza season, the percentage of outpatient ILI visits remained above 1% statewide from October 2018 through May 2019. The percentage of ILI visits remained above 4% from late December through February with the seasonal peak level of 5.3% observed during the week ending January 19, 2019, MMWR week 3. A second, smaller peak of 4.1 % during the week ending April 7, 2019, MMWR week 13 (Figure 2).
- Influenza-associated hospitalizations have been reportable in Connecticut since October 2009. During the 2018-2019 influenza season monitoring period, a total of 3,506 persons hospitalized with influenza-associated illness were reported, including 3,430 influenza A, 74 influenza B and 2 of unknown type. Of the 470 Type A isolates that were subtyped, 260 (55%) were Type A (2009 H1N1), and 210 (45%) were Type A (2009 H3N2) influenza (Figures 3 & 4).

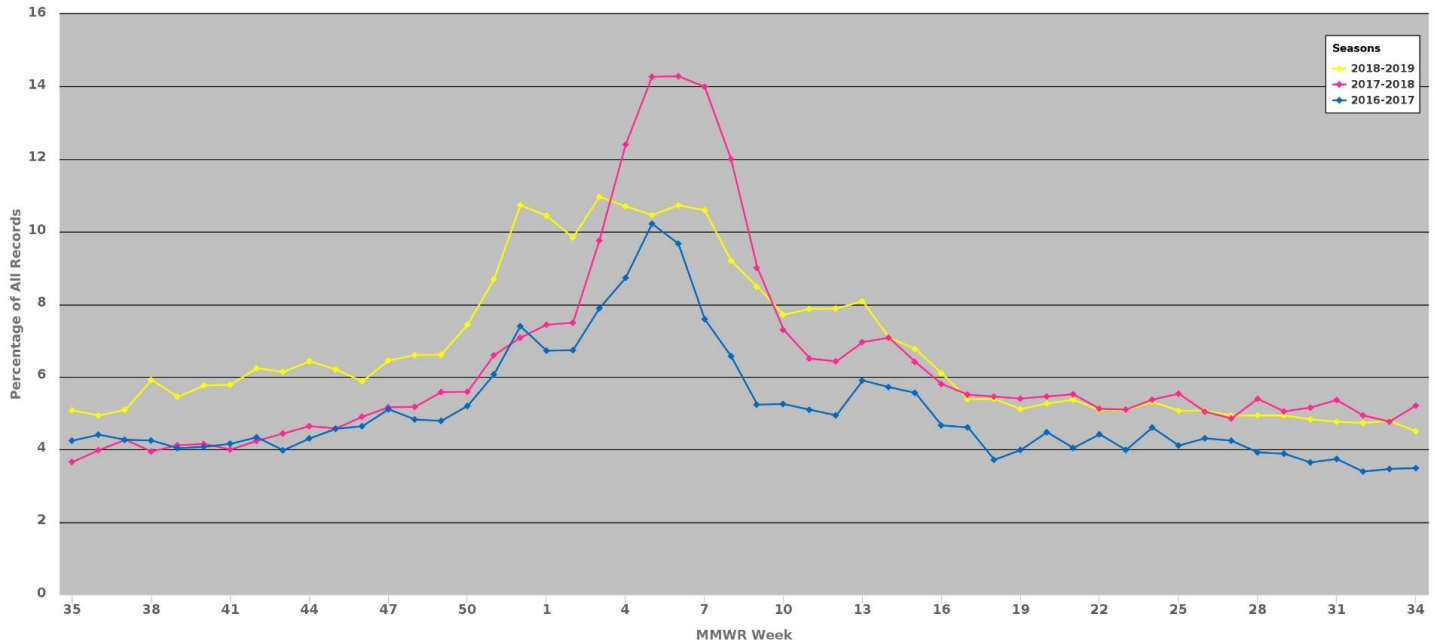
- Influenza associated deaths among individuals less than 18 years of age have been reportable in Connecticut since January 2005 and influenza associated deaths among all age groups since October 2009. A total of 88 influenza-associated deaths were reported, including 9 in patients with Type A (2009 H1N1), 5 in patients with Type A (H3N2), 72 in patients with Type A subtype unspecified, and 2 in patients with Type B influenza. Of the 88 reported influenza-associated deaths, 62 (70%) were among patients equal or greater than 65 years of age, 21 (24%) were 50-64 years of age, 4 (5%) were 25-49 years of age, 0 (0%) were 18-24 years of age and 1 (<2%) was <18 years of age.
- The DPH also tracks reports of laboratory-confirmed influenza. Positive results were reported among residents of all 8 Connecticut counties and included: 3,307 from New Haven County, 2,510 from Hartford County, 2,000 from Fairfield County, 946 from New London County, 645 from Litchfield County, 568 from Middlesex County, 354 from Windham County, 244 from Tolland County, and 45 from unknown counties. Of the 10,619 positive influenza reports, 8,924 (84%) were Type A subtype unspecified, 831 (7.9%) were Type A (2009 H1N1), 499 (4.7%) were Type A (H3N2), 363 (3.4%) were Type B, and 2 (<1%) were of unknown type. Of the 1,330 Type A isolates that were subtyped, 831 (62%) were Type A (2009 H1N1), with 499 (38%) identified as Type A (H3N2) influenza (Figures 5 & 6).
- Although many recent influenza seasons have had two distinct activity waves with a predominantly influenza B spring wave, the 2018-2019 influenza season was characterized with three activity waves with very little influenza B virus activity. A small initial activity wave peaked in the week ending January 5, 2019, MMWR week 1, followed by a major activity wave, which peaked in the week ending February 6, 2019, MMWR week 6. Both of these activity waves were comprised primarily of influenza A (2009 H1N1) viruses. A third activity wave, comprised primarily of influenza A (H3N2) viruses, peaked during the week ending March 16, 2019, MMRW week 11. This third activity wave did not subside until late May 2019 (Figures 3 & 5).

**Comments:**

Geographically widespread flu activity was observed within Connecticut from December 2018 through April 2019. With 88 flu-associated deaths and 3,506 flu-associated hospitalizations, the severity of the 2018-2019 influenza season was second only to the 2017-18 season, which with 184 deaths and 3895 hospitalizations was the most severe influenza season in Connecticut since these measures were first made reportable during October 2009. In addition, the 2018-2019 season was notable for having three distinct activity waves and little influenza B activity. The high percentage of influenza A (H3N2) viruses in circulation during the second half of the season, including a newly emerging “clade” (strain), likely contributed to this season's high levels of flu activity, as these viruses are generally associated with more severe illness.

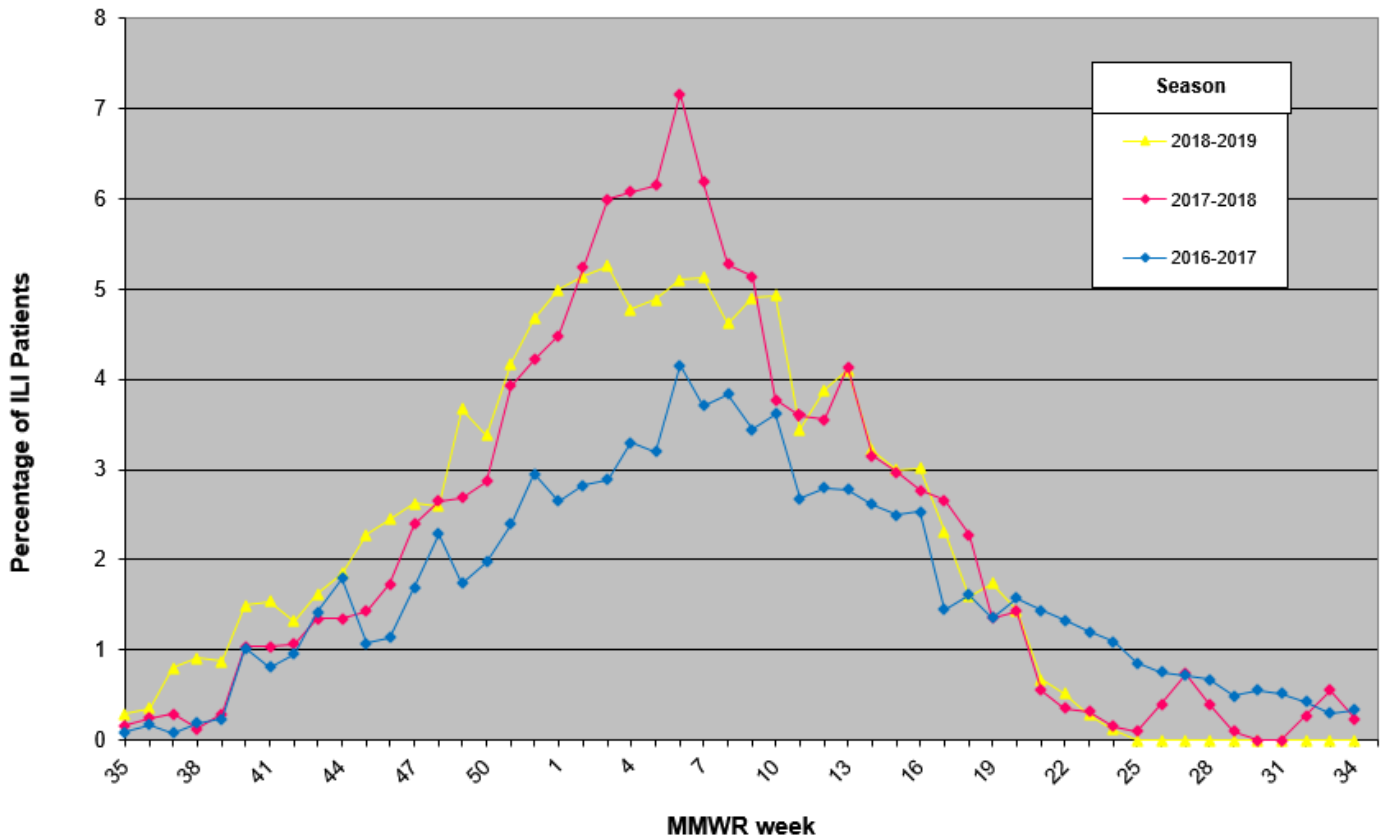
**Figure 1:** The EpiCenter System receives near real-time reports on Emergency Department (ED) visits from all 38 licensed, hospital emergency departments in Connecticut. Data include description of the chief complain, or reason for visit, including fever/flu. The EpiCenter system replaced the Hospital Emergency Department Syndromic Surveillance system (HEDSS). During 2017-2018, 18 additional ED facilities began sending data to the EpiCenter, and caution should be used when comparing EpiCenter surveillance data to historical HEDSS data.

**Figure 1: Percentage of Emergency Department Visits for “Fever/Flu” Syndrome Category, Connecticut Hospitals; 2016-17, 2017-18, 2018-19**



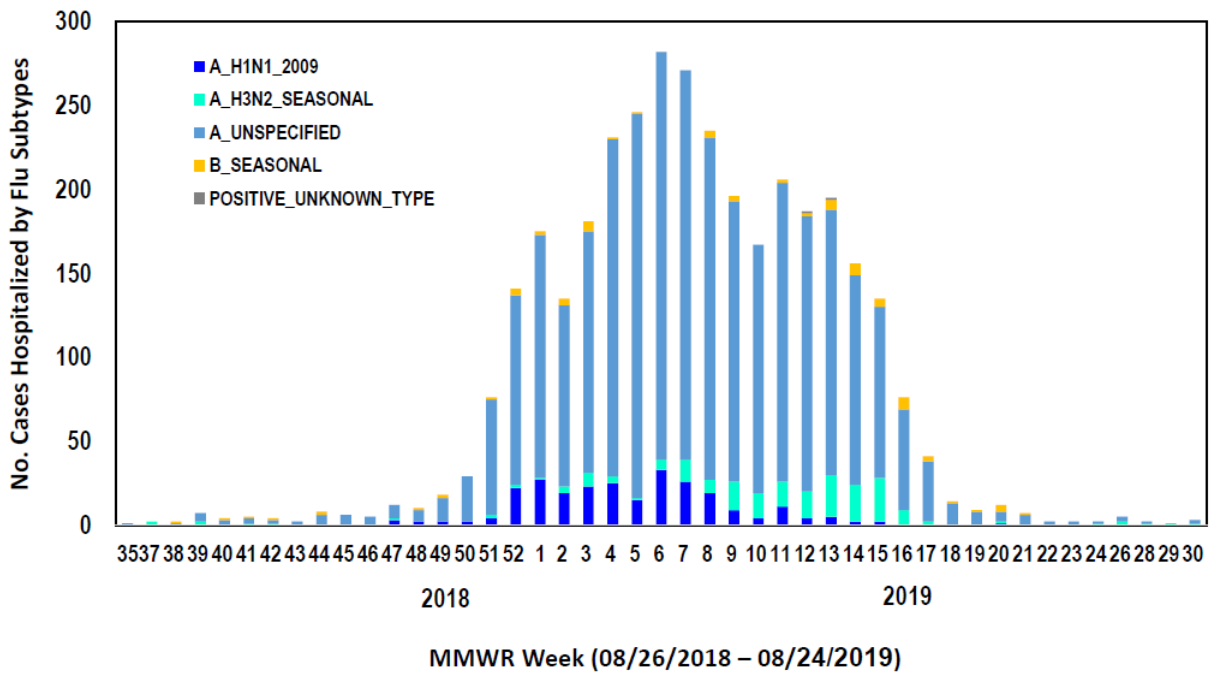
**Sentinel Provider Surveillance System:** Reporting of influenza-like illness (ILI) is conducted through a statewide network of volunteer outpatient providers known as ILINet. The proportion of patients exhibiting ILI is reported to the DPH on a weekly basis. ILI is defined as a cough or sore throat 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); 2016-17, 2017-18, 2018-19**

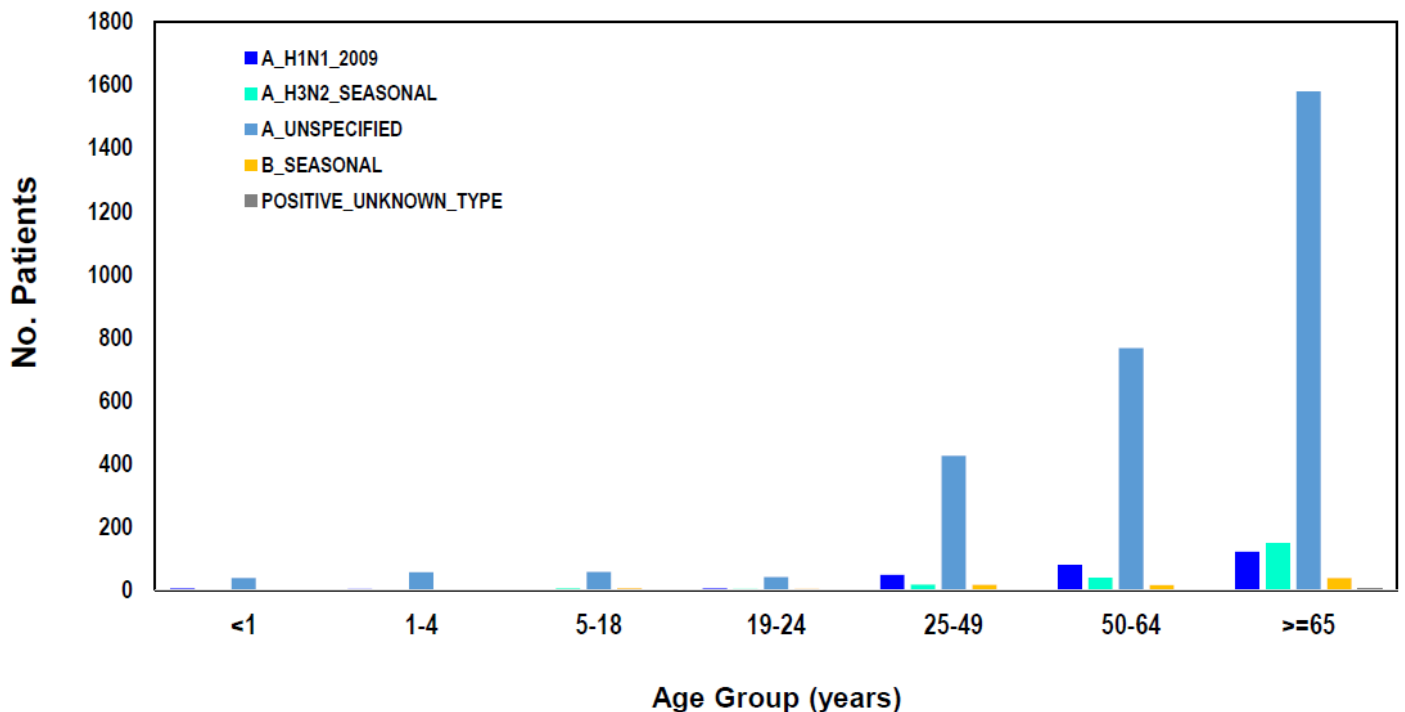


**Influenza-associated Hospitalizations:** In Connecticut, influenza-associated hospitalizations and deaths are reportable. Data collected describe the more serious illnesses associated with influenza infections.

**Figure 3. Hospitalized Patients (n=3506) with Positive Lab Tests By Subtype & Week, Connecticut, 2018-2019 Season**

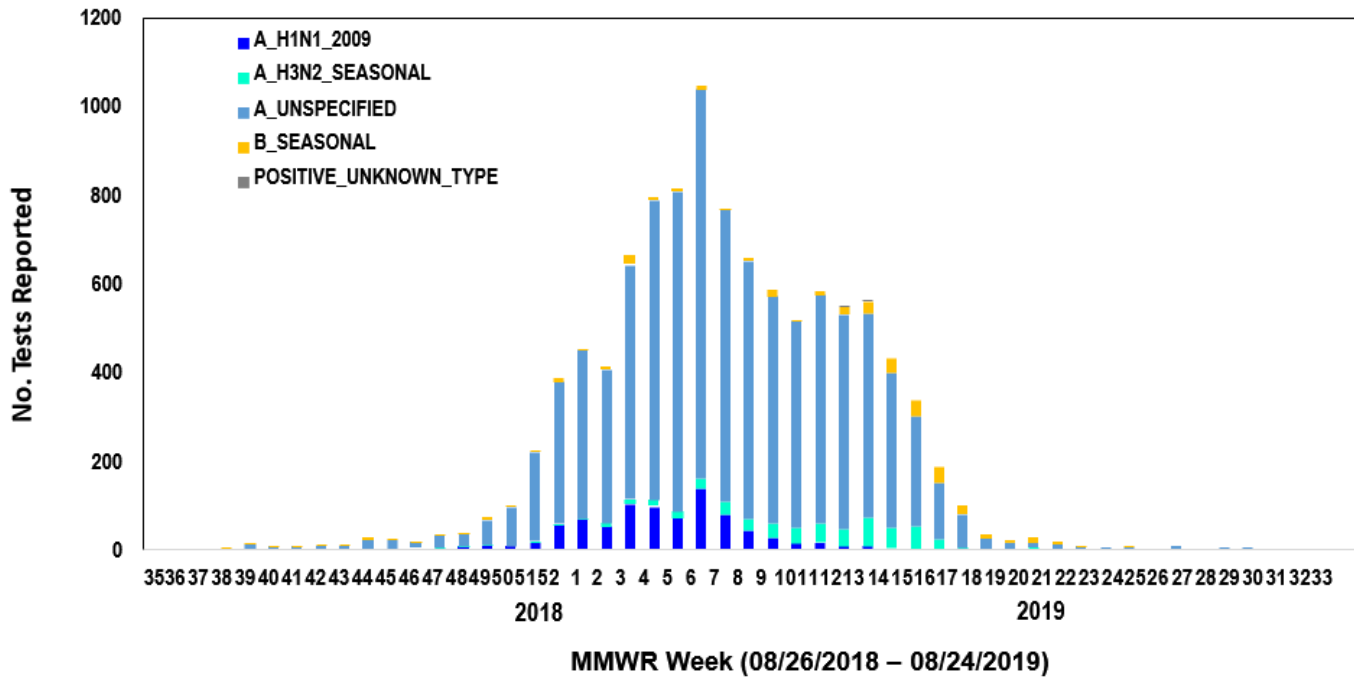


**Figure 4. Hospitalized Patients (n=3506) with Positive Laboratory Tests by Influenza Subtype and Age Group, Connecticut, 2018-2019 Season**



**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 5. Positive Laboratory Tests (n=10619) by Influenza Subtype and Week, Connecticut, 2018-2019 Season**



**Figure 6. Proportion of Cumulative Positive Laboratory Tests (n=10619) by Influenza Subtype, Connecticut, 2018-2019 Season**

