2018-2019 Influenza Season Update for Week 7[*]
(The week ending on Saturday, February 16, 2019)

Key Points
- ✓ Classification of Connecticut geographic activity remains at **widespread**[**] for week 7.
- ✓ Influenza activity has remained elevated during the last several weeks nationally and within Connecticut.
- ✓ Influenza A viruses are the predominate type circulating; very few flu B viruses are now being reported.
- ✓ The U.S. Centers for Disease Control and Prevention (CDC) recent reports on the percentage of people nationally seeing their health care provider with influenza-like-illness (ILI) is currently 4.8%, above the national baseline of 2.2% for elevated ILI activity.
- ✓ There is still time for you and your family to obtain your flu vaccine and take steps to prevent influenza-related illness and hospitalization: https://portal.ct.gov/DPH/Immunizations/Seasonal-Influenza

The Department of Public Health (DPH) uses multiple surveillance systems to monitor circulating flu viruses throughout the year. Data are updated with available information each week starting in October and ending in May. Consider current week data preliminary due to delays in reporting and confirmation.

- The percentage of statewide emergency department visits attributed to the "fever/flu syndrome" has decreased slightly from 10.8% in week 6 to 10.7% in week 7 (Figure 1). Caution should be used when comparing the 2018-2019 EpiCenter syndromic surveillance data to 2016-2017 and 2017-2018 Hospital Emergency Department Syndromic Surveillance System data[†].

- The percentage of outpatient visits with influenza-like illness (ILI) is currently 4.6%, above the level of 1% generally considered the minimum threshold for elevated influenza-associated visits in the outpatient setting in Connecticut (Figure 2).

- To date, a total of 1,668 hospitalized patients with laboratory-confirmed influenza admitted during the current season (August 26 to February 16, 2019) have been reported. Of these, 1,445 were associated with type A (subtype unspecified), 161 influenza A (2009 H1N1), 35 influenza A (H3N2), and 27 influenza B viruses (Figures 3 & 4).

- Four flu-associated deaths were reported in week 7, resulting in a total of 29 deaths reported in Connecticut during this flu season so far. Twenty-five flu-associated deaths were associated with influenza A (unspecified), 2 with influenza A (2009 H1N1), 1 with influenza A (H3N2), and 1 with influenza B. Of the 29 total reported flu-associated deaths, 17 occurred in persons >65 years of age, 9 in persons 50-64 years of age, and 3 in persons 25-49 years of age. For comparison to the 2017-2018 flu season, 97 total influenza-associated deaths had been reported as of week 7.

- A total of 4,540 influenza positive laboratory tests have been reported during the current season: New Haven (1,287), Hartford County (1,181), Fairfield (970), Middlesex (274), New London (261), Litchfield (226), Windham (174), Tolland (91), and 76 in currently unknown counties. Of the 4,540 total positive reports, 3,752 were influenza A (subtype unspecified), 602 influenza A (2009 H1N1), 89 influenza A (H3N2), and 97 influenza B (Figures 5 & 6).

- Three additional figures are included in this week's update. Since 2003, the Connecticut Emerging Infections Program (EIP) at the Yale School of Public Health conducts active surveillance for laboratory-confirmed, influenza-associated hospitalizations as part of the national FluSurv-NET system. EIP staff work with the Connecticut Department of Public Health, the Centers for Disease Control and Prevention, and local hospitals to conduct surveillance for hospitalized cases of influenza among residents of New Haven and Middlesex Counties. Together with other FluSurv-NET sites, these data provide near real time estimates of influenza severity in the US: https://publichealth.yale.edu/eip/projects/flu.aspx.

  - Figure 7 displays total New Haven and Middlesex County resident hospitalizations by MMWR week* and age category (includes preliminary counts for week 8 as of February 20, 2019). Please note that the vast majority of hospitalizations are among residents greater than 65 years of age.
  - Figure 8 displays total New Haven and Middlesex County resident hospitalizations by MMWR week* and flu type (includes preliminary counts for week 8). The majority of hospitalizations among New Haven and Middlesex County residents are associated with influenza A infections.
  - Figure 9 compares the current 2018-2019 influenza season New Haven and Middlesex County resident hospitalizations with those of the previous two influenza seasons (2017-2018 and 2016-2017).

* Week numbers refer to the Morbidity and Mortality Weekly Report calendar used by the Centers for Disease Control and Prevention (CDC) for national disease surveillance.
** Definitions for the estimated levels of geographic spread of influenza activity available at:
http://www.cdc.gov/flu/weekly/overview.htm
† The EpiCenter system replaced the Hospital Emergency Department Syndromic Surveillance System; 18 additional emergency department facilities send data to the EpiCenter.

Figure 1. Percentage of Statewide Emergency Department Visits Attributed to "Fever/Flu Syndrome", 2016-17, 2017-18, 2018-19*
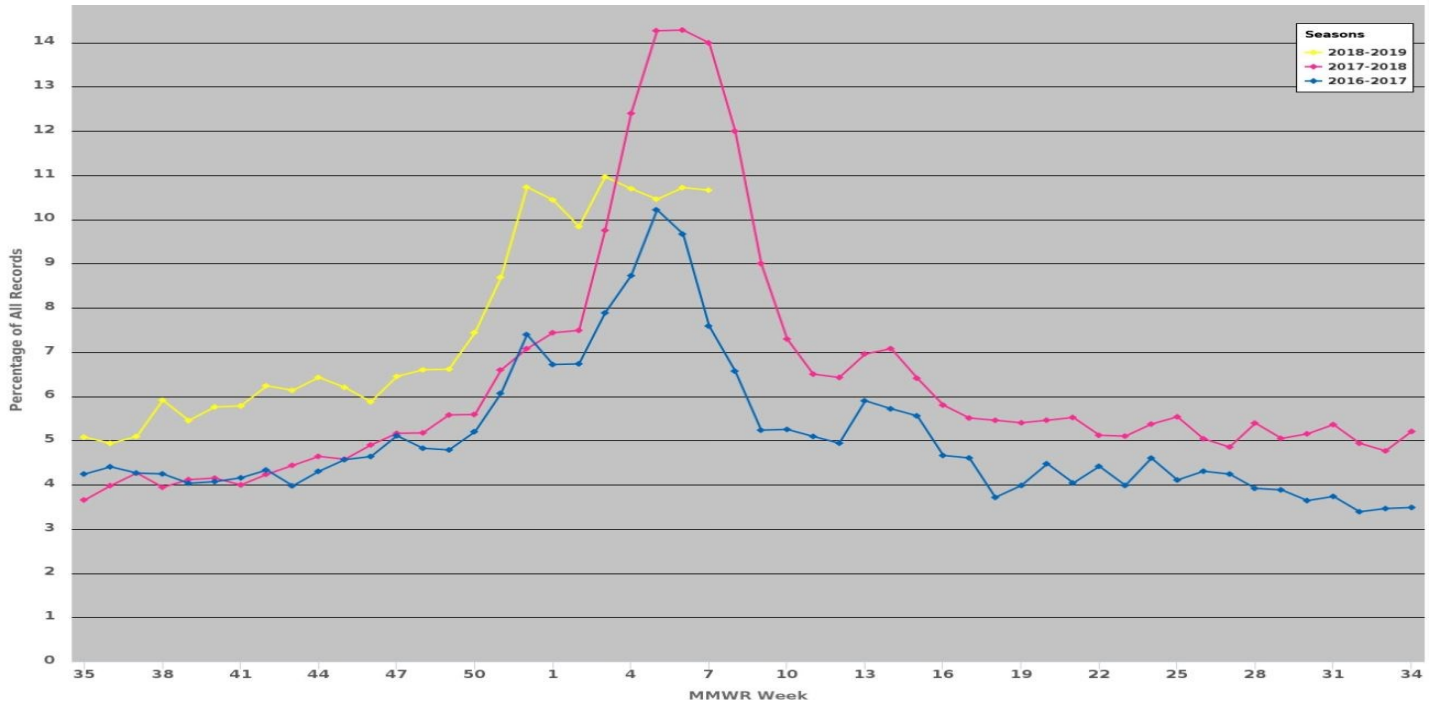
*Caution should be used when comparing EpiCenter surveillance data to 2016-17 and 2017-18 Hospital Emergency Department Syndromic Surveillance system data.

Figure 2. Outpatient Influenza-Like Illness Surveillance Network (ILINet), Percentage of Patients with Influenza-Like Illness (ILI); 2016-17, 2017-18, 2018-19
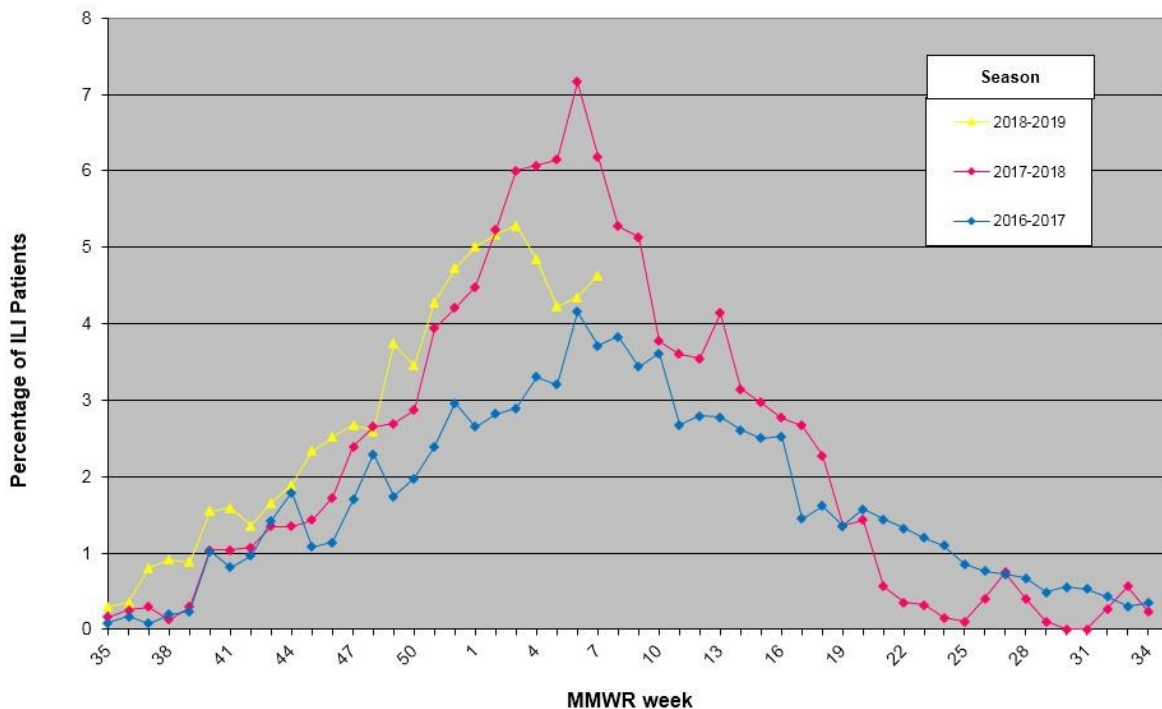
Figure 3. Hospitalized Patients (n = 1668) with Positive Lab Tests by Subtype & Week, Connecticut, through 2/16/2019
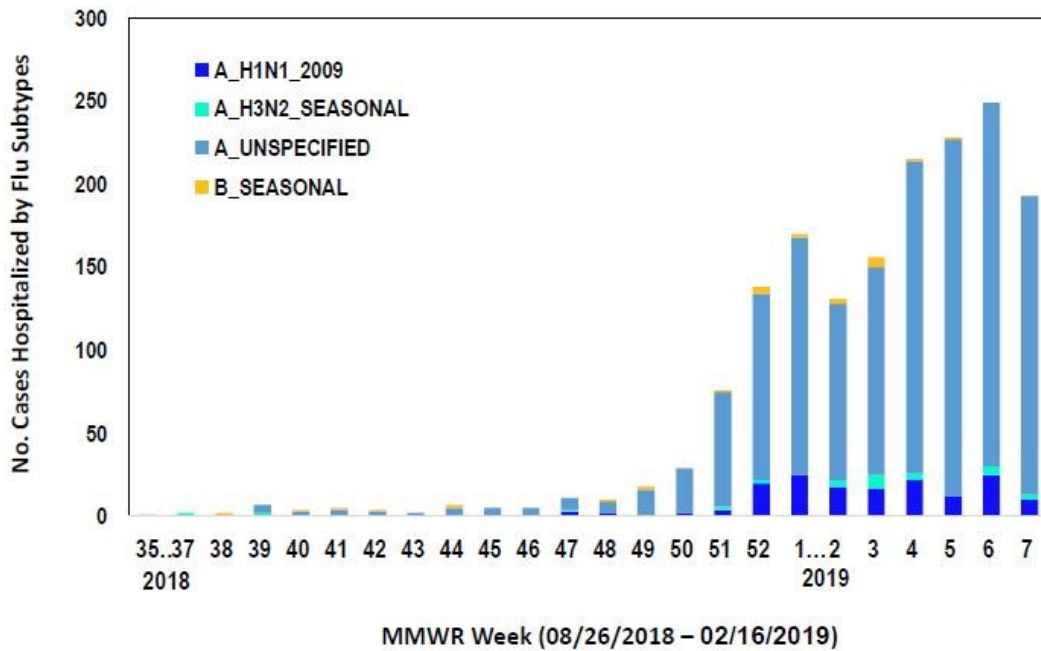

Figure 4. Hospitalized Patients (n=1668) with Positive Laboratory Tests by Influenza Subtype and Age Group, Connecticut, through 2/16/2019
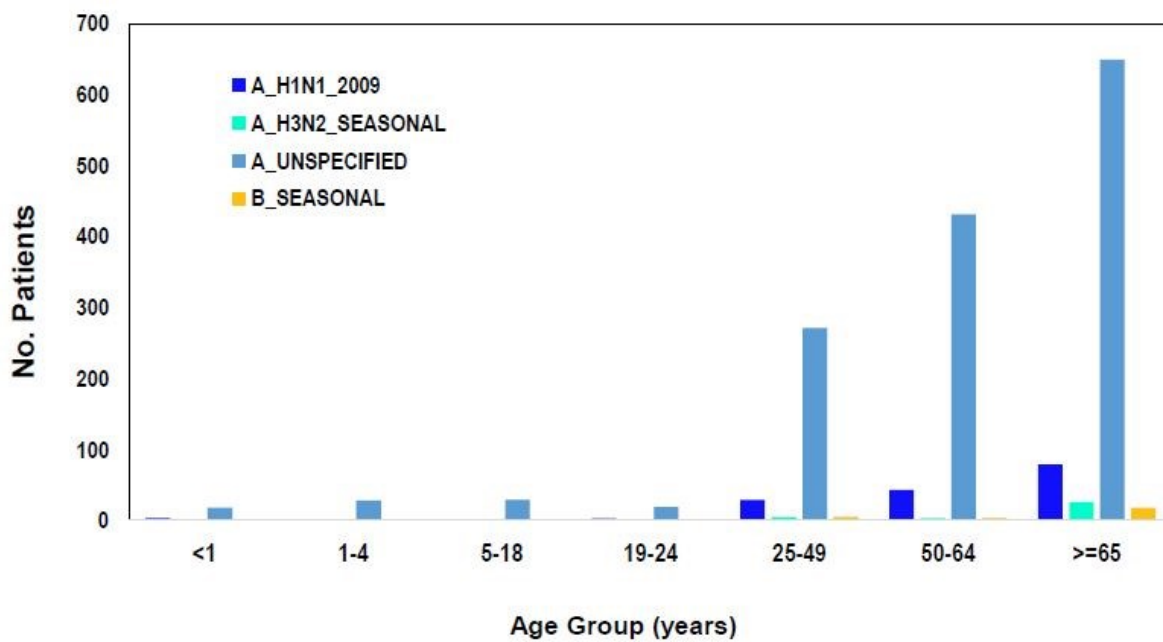
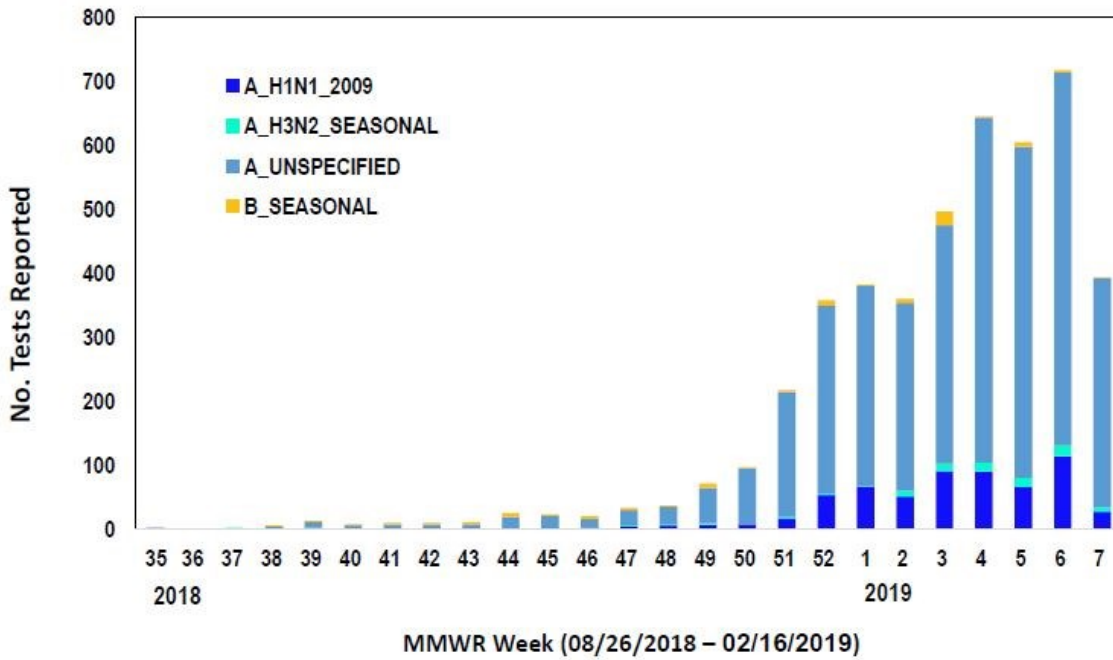## Figure 5. Positive Laboratory Tests (n = 4540) by Influenza Subtype and Week, Connecticut, through 2/16/2019
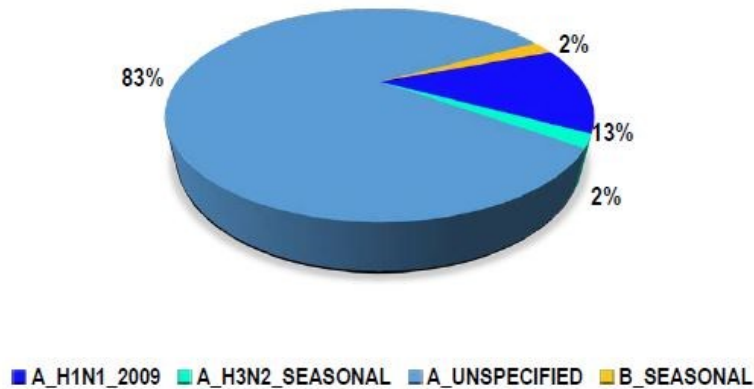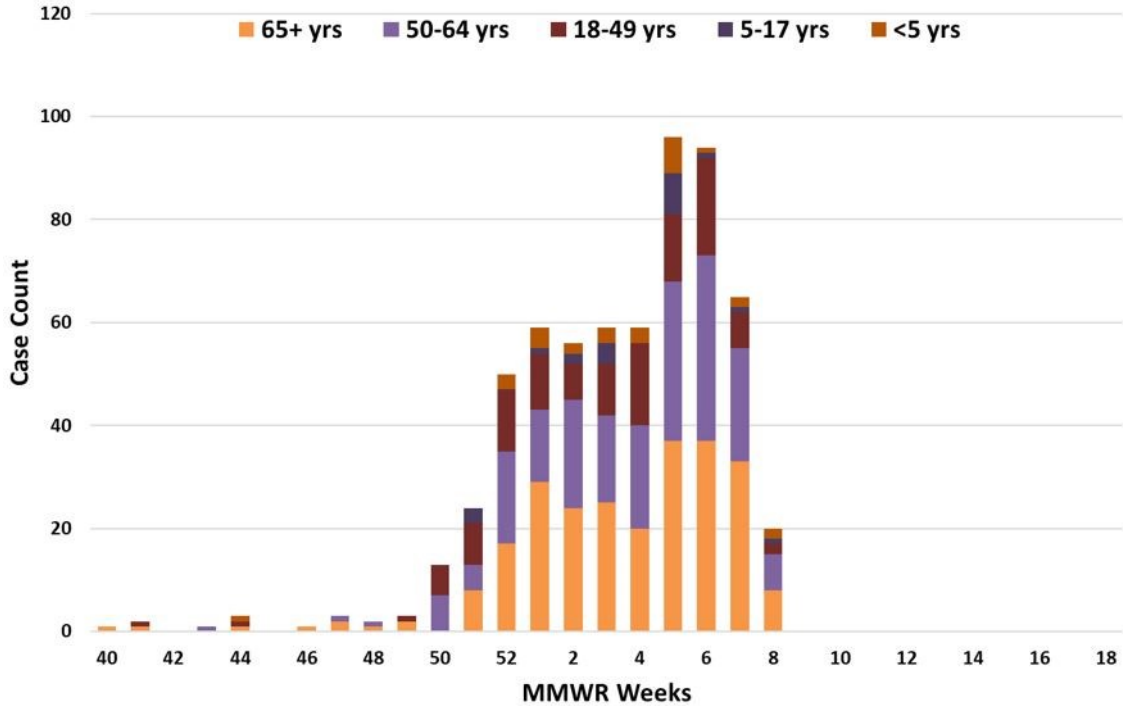

Figure 6. Proportion of Cumulative Positive Laboratory Tests (n = 4540) by Influenza Subtype, Connecticut, through 2/16/2019

Figure 7: Influenza-Associated Hospitalizations, by Age Group New Haven and Middlesex Counties, CT Emerging Infections Program 2018-2019 (preliminary through 2/20/19)

Figure 8: Influenza-Associated Hospitalizations, by Flu Type New Haven and Middlesex Counties, CT Emerging Infections Program 2018-19 (preliminary through 2/20/2019)
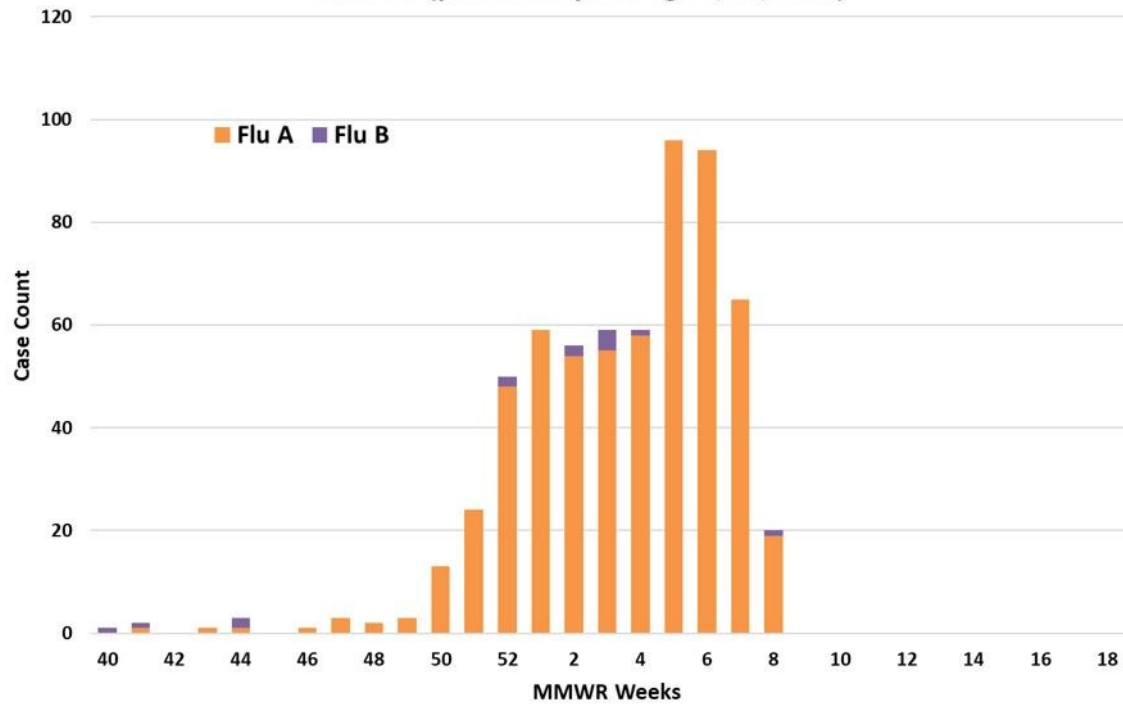
Figure 9: Influenza Hospitalizations, New Haven and Middlesex Counties CT Emerging Infections Program, 2016-17 through 2018-19 (preliminary through 2/20/2019)
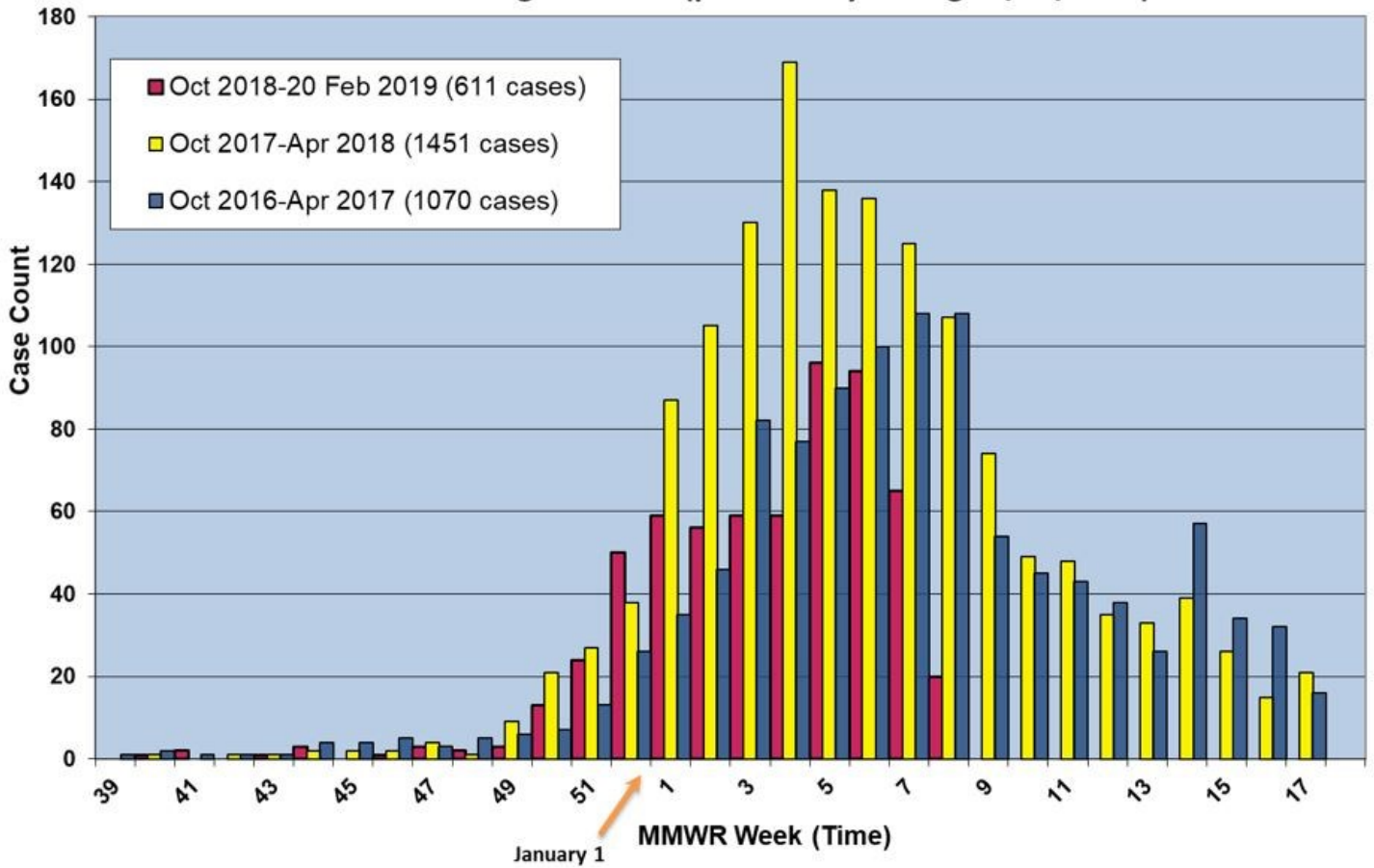
Influenza Surveillance System Definitions

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

Sentinel Provider Surveillance: 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 and/or sore throat in the absence of a known cause, and the presence of a fever $\geq 100^{\circ}$F.

Influenza-associated Hospitalizations and/or Deaths: Providers are required to report influenza-associated hospitalizations and influenza-associated deaths, they are not required to report any positive influenza test results. Data collected describe the more serious illnesses associated with influenza infections.

Laboratory Surveillance. In Connecticut, positive influenza results are reportable by the laboratory conducting the test. Rapid antigen results are only reportable by laboratories with electronic file reporting. These results are used to determine what types, subtypes, and strains are circulating.

Hospitalizations in residents of New Haven and Middlesex Counties: Three new figures are included in this week's update. Since 2003, the Connecticut Emerging Infections Program at the Yale School of Public Health conducts active surveillance for laboratory-confirmed, influenza-associated hospitalizations as part of the national FluSurv-NET system. EIP staff work with the Connecticut Department of Public Health (CTDPH), the Centers for Disease Control and Prevention (CDC), and local hospitals to conduct surveillance for hospitalized cases of influenza among residents of southern Connecticut. Together with other FluSurv-NET sites, these data provide near real time estimates of influenza severity in the US:
https://publichealth.yale.edu/eip/projects/flu.aspx