South Carolina Influenza Surveillance Components and Definitions

Influenza Surveillance Components

1. **Lab-Confirmed Influenza Cases** include positive tests for respiratory culture, rt-PCR, DFA, and/or IFA. Reporting is required to DHEC within 3 days by the South Carolina Disease and Outbreak Network (SCION) or DHEC 1129 card.

2. **Positive Rapid Antigen Detection Tests** include rapid diagnostic tests that detect flu viral particles reported by providers in weekly aggregate numbers. The reporting worksheet can be found at http://www.scdhec.gov/Health/DiseasesandConditions/InfectiousDiseases/Flu/ReportingFormsandWorksheets/

3. **Influenza-Like Illness Surveillance** Providers enrolled in the Center for Disease Control Influenza-Like Illness Network (ILINet) surveillance system report weekly aggregate numbers of patient visits, and of those visits the number of patients seen for an influenza-like illness by age group (i.e. 0-4, 5-24, 25-49, 50-64, ≥65).

4. **Influenza-Associated Hospitalizations** are reported weekly in aggregate numbers. Laboratory confirmation for hospitalizations include culture, rt-PCR, DFA, IFA, and rapid antigen detection testing. The reporting worksheet can be found at http://www.scdhec.gov/Health/DiseasesandConditions/InfectiousDiseases/Flu/ReportingFormsandWorksheets/

5. **Influenza-Associated Deaths** are reported for all ages. Laboratory confirmation for deaths include culture, rt-PCR, DFA, IFA, and rapid antigen detecting testing, or autopsy.

Influenza Surveillance Definitions

1. **Activity Level (Geographic Spread):** Indicator of the geographic spread of influenza activity, which is reported to CDC each week.
No activity: No increase in ILI activity and no laboratory-confirmed influenza cases.
Sporadic: No increase in ILI activity and isolated laboratory-confirmed influenza cases.
Local: Increased ILI or 2 or more institutional outbreaks in one DHEC PH region and laboratory-confirmed influenza cases within the past 3 weeks in the PH region with increased ILI or outbreaks.
Regional: Increased ILI or institutional outbreaks in 2-3 DHEC PH regions and laboratory-confirmed influenza cases within the past 3 weeks in the PH regions with increased ILI or outbreaks.

Widespread: Increased ILI and/or institutional outbreaks in at least 4 regions and laboratory-confirmed influenza in the state within the past 3 weeks.

2. **Activity Level (Influenza-like Illness):** Comparison of the current week mean reported percent of visits due to ILI to the non-influenza weeks mean reported percent of visits due to ILI. The activity level corresponds to the number of standard deviations below, at, or above the mean for the current week compared to the mean of the non-influenza weeks.

   Minimal: Less than 2 standard deviations above the mean.

   Low: 2 to less than 4 standard deviations above the mean.

   Moderate: 4 to less than 6 standard deviations above the mean.

   High: Greater than or equal to 6 standard deviations above the mean.

3. **Hospitalization and mortality rate:** The hospitalization and mortality rate, is the cumulative number of hospitalizations or deaths divided by the age group populace (U.S. Census Bureau 2016 Population Data) x 100,000.

4. **Influenza case rate:** The influenza case rate, incidence rate, is the weekly total number of reported influenza cases (lab-confirmed and positive rapid influenza detection tests) divided by the county population (U.S. Census Bureau 2016 population estimates) x 100,000.

5. **Influenza-like Illness (ILI):** Fever ≥ 100°F (37.8°C) AND cough AND/OR sore throat (without a known cause other than influenza). The SC baseline is the mean percentage of patient visits for ILI during non-influenza weeks (weeks when the percent of positive lab tests were less than 2% of the total season's positive lab tests for two consecutive weeks) for the previous three seasons plus two standard deviations.

6. **MMWR week:** Term for influenza surveillance week. Each week begins on Sunday and ends on Monday. Nationally, the influenza season begins with MMWR week 40 and ends with MMWR week 39. The 2017-18 influenza season began on October 1, 2017 and will end on September 29, 2018.

7. **Pneumonia and Influenza Mortality:** Data collected for this measure is obtained from the National Center for Health Statistics (NCHS). Death certificate data is collected by the NCHS from state vital statistics offices. There is a two-week lag time between date of death and release of information. The percentage of pneumonia and influenza (P&I) deaths are classified by ICD-10 death codes. The P&I seasonal baseline is calculated using data from the previous five years. The epidemic threshold is 1.645 standard deviations above the seasonal baseline. If the P&I percentage exceeds the epidemic threshold, this suggests that pneumonia and influenza deaths are significantly higher than expected without a considerable number of influenza-related deaths.