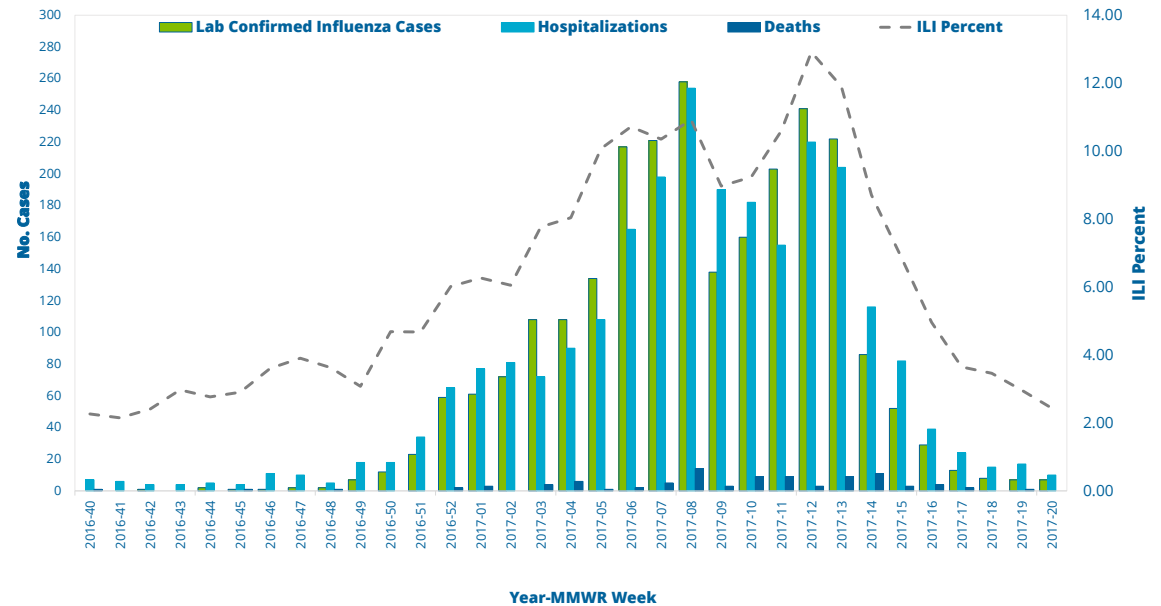


The end of season report provides a summary of South Carolina's influenza surveillance components acquired through both mandatory and voluntary reporting procedures. Mandatory reporting elements consist of positive lab-confirmed tests (i.e. culture, RT-PCRs, DFAs, and IFAs), positive rapid antigen testing, and laboratory-confirmed hospitalizations and deaths. Voluntary reporting is accomplished by sentinel provider participation in the U.S. Outpatient Influenza-like Illness Network (ILINet). Data in this report is provisional. This report reflects data collected from October 2, 2016 to May 20, 2017 (MMWR Week 40- MMWR Week 20).

The 2016-17 influenza season was 'moderate' in severity with widespread activity lasting for 13 consecutive weeks. There were two observed peaks this season; one occurred in late February and the other in late March. During this period, influenza A (H3) was the predominant circulating strain. Co-circulation of influenza B was noted throughout the season. There were 2,455 positive lab-confirmed tests reported.

Influenza-associated hospitalizations and deaths were higher as compared to the 2015-16 season, but lower than the 2014-15 season. A total of 2,490 hospitalizations and 94 deaths were reported. Figure 1 shows the total number of positive lab-confirmed tests, influenza-like illness percentage, and influenza-associated hospitalizations and deaths by MMWR week.

Figure 1: Summary of Influenza Surveillance Indicators



For the national surveillance end of season report, please visit <https://www.cdc.gov/mmwr/volumes/66/wr/mm6625a3.htm>



Laboratory-Confirmed Cases

Laboratory-Confirmed Cases include all positive influenza cultures, rt-PCR, DFA, and IFA. Results are received from the DHEC Public Health Lab (PHL) and clinical laboratories. PHL tested a total of 310 specimens of which 214 (70.4%) tested positive for influenza; 146 (68.2%) for influenza A and 68 (31.8%) for influenza B. Figure 2 shows the virus characterization of positive cases.

The average age of reported cases statewide was 28 years. Approximately, 44% of cases were between the ages of 5 to 24. African American and Caucasian individuals both accounted for 46% each of the total laboratory-confirmed cases; 8% of cases were either Asian, American Indian Alaskan Native, Other, or Unknown. Over 50% of reported cases occurred in females. In figure 3, the demographic characteristics of positive cases are listed by gender.

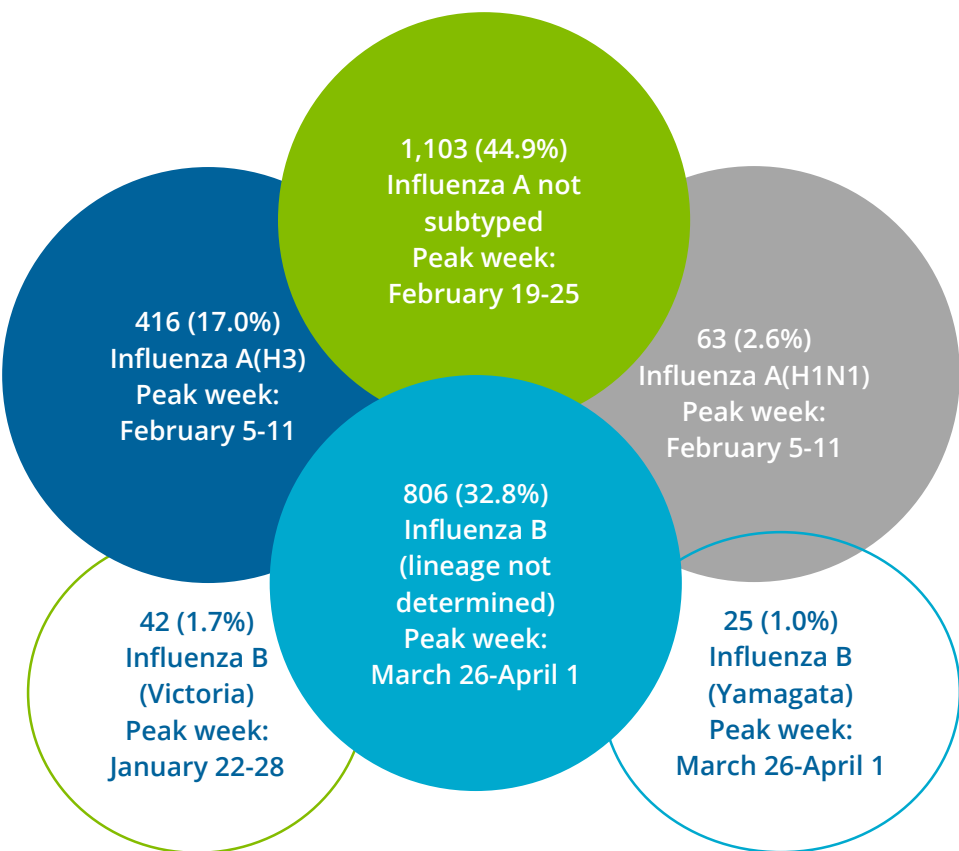


Figure 2: Virus Characterization of Positive Cases

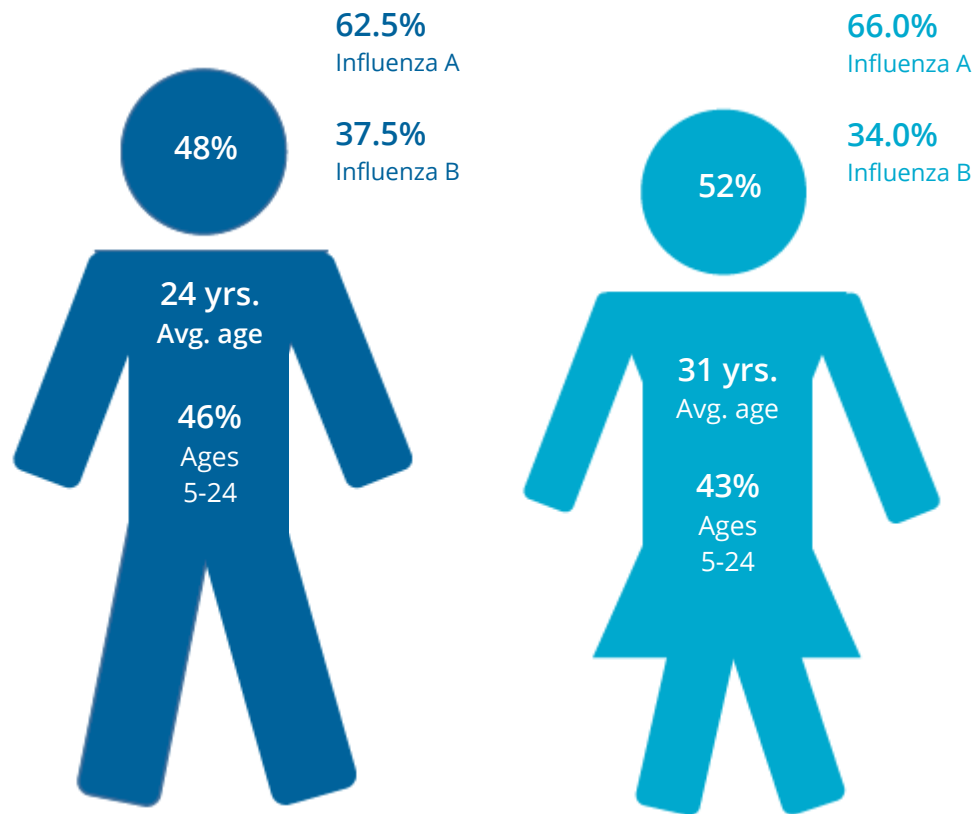


Figure 3: Demographics of Positive Cases by Gender



Regional Distribution and Positive Rapid Antigen Detection Tests

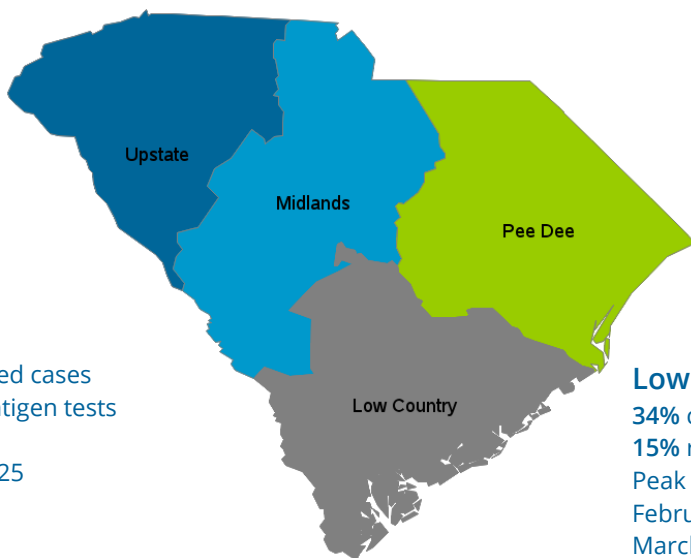
Upstate

13% confirmed cases
33% rapid antigen tests
Peak weeks:
February 19-25
March 19-25

Midlands

47% confirmed cases
30% rapid antigen tests
Peak weeks:
February 19-25
March 19-25

Figure 4: Public Health Regions



Pee Dee

6% confirmed cases
22% rapid antigen tests
Peak week:
February 19-25
March 26-April 1

Low Country

34% confirmed cases
15% rapid antigen tests
Peak weeks:
February 19-25
March 26-April 1

Regional Distribution

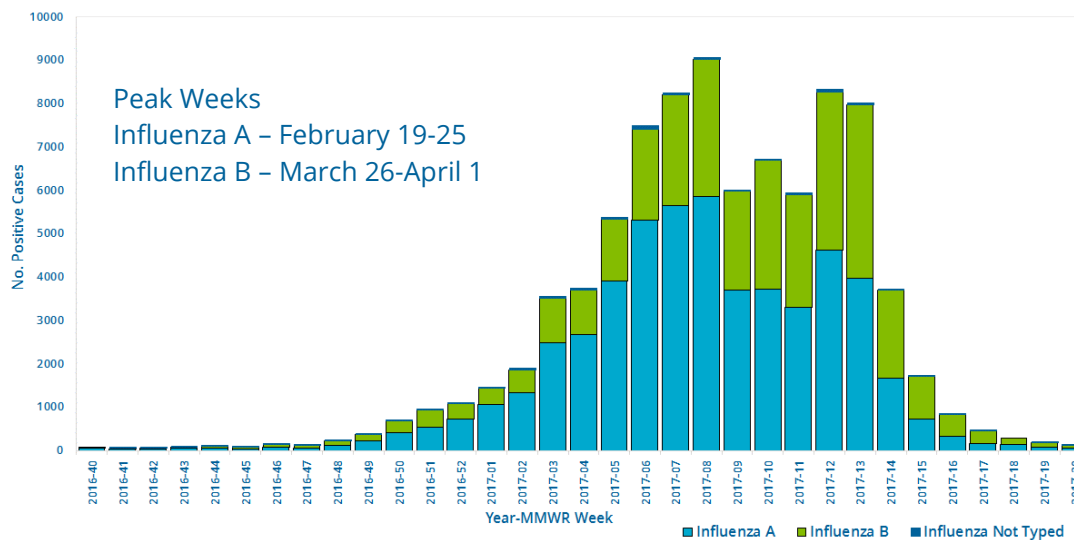
In figure 4, the regional distribution is displayed. The season percent totals of laboratory-confirmed cases and rapid antigen detection tests are shown along with the peak week of influenza activity.

Note: The number of reported influenza infections is dependent on the provider's discretion to test or not test.

Positive Rapid Antigen Detection Tests

Providers report aggregate numbers of positive results by influenza type on a weekly basis. Cumulatively, a total of 87,256 positive rapid antigen tests were reported. In figure 5, the number of positive rapid tests by MMWR week are depicted. Of the positive cases reported, 53,204 (60.9%) were influenza A, 33,415 (38.3%) were influenza B, and 637 (0.8%) were influenza not typed.

Figure 5: Positive Rapid Influenza Detection Tests Reported by Clinical Labs





Influenza-Like Illness Percentage and Visits

For the 2016-17 season two peaks for outpatient ILI percent were observed during week 8 and week 12. The maximum observed ILI percent was noted during week 12 at 12.9%. The ILI percent exceeded the state baseline level of 3.13% for 24 of the 33 weeks. Upon comparison to previous seasons, the maximum ILI percent was 16.0% during week 9 of the 2015 – 2016 season and 24.5% during week 52 of the 2014-15 season. Figure 6 shows the percentage of ILI visits reported by sentinel providers from 2012-13 to 2016-17.

Influenza-Like Illness Visits

There were 31 enrolled ILINet sentinel providers for the 2016 – 2017 season of which 22 (70.9%) reported. Sentinel providers reported 287,714 patient visits of which 18,490 (6.4%) were attributed to ILI. Figure 7 shows the age distribution of ILI visits. The age groups with the most reported ILI visits were 5-24 years and 25-49 years. Figure 8 shows the percentage of season total ILI visits by practice type. Over 80% of patient visits occurred in either an urgent care clinic or emergency department.

Figure 6: Percentage of Influenza-like Illness (ILI) Visits Reported by Sentinel Providers for Past and Current Seasons

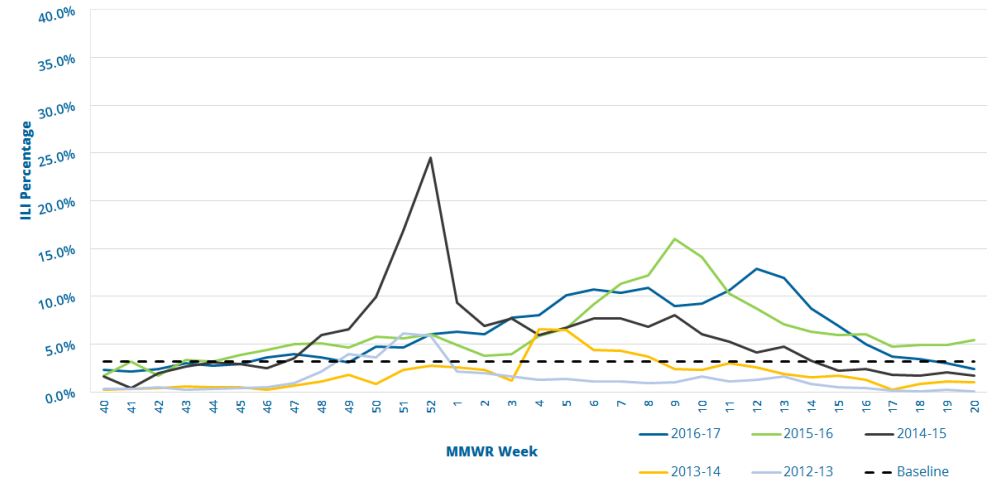
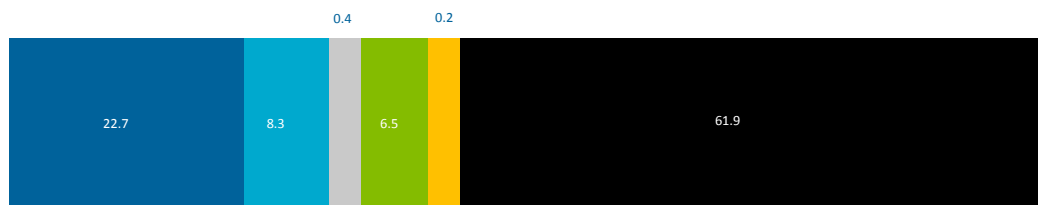


Figure 7: Age Distribution of Total ILI Visits

Age Groups	Total ILI Visits (%)
0-4	1340 (7.2%)
5-24	6834 (37.0%)
25-49	5943 (32.1%)
50-64	2471 (13.4%)
65 and older	1902 (10.3%)
Total	18490

Figure 8: Percentage of Season Total ILI Visits by Practice Type



■ Emergency Medicine ■ Family Practice ■ Internal Medicine ■ Student Health Clinics ■ Pediatrics ■ Urgent Care



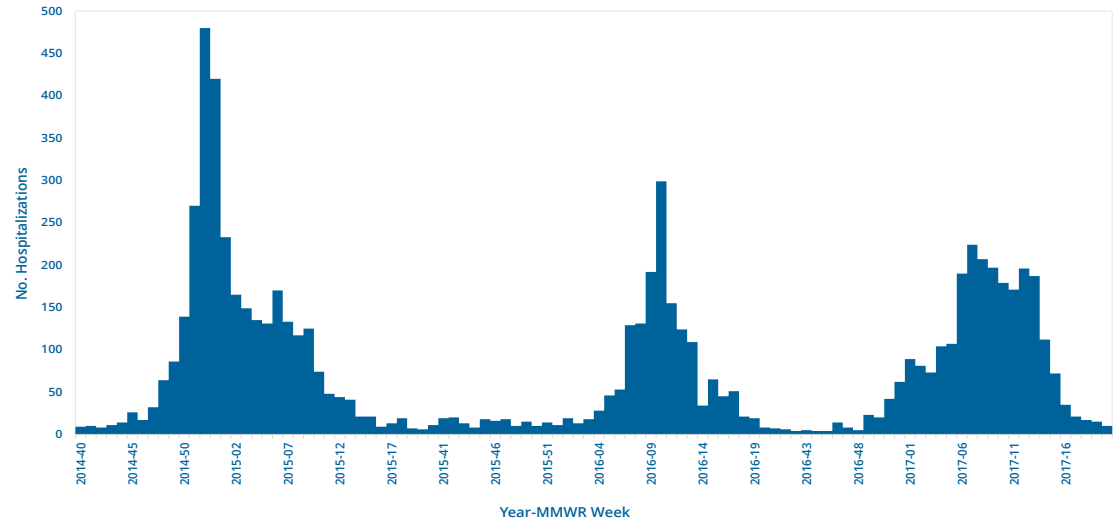
Influenza-Associated Hospitalizations and Deaths

Influenza-Associated Hospitalizations

During the 2016-2017 flu season, a total of 2,490 influenza-associated hospitalizations were reported. The highest number of hospitalizations (254) was reported during week 8. Of the 2,490 hospitalizations, 113 (4.5%) occurred in ages 0-4, 130 (5.2%) in ages 5-17, 336 (13.5%) in ages 18-49, 559 (22.5%) in ages 50-64, and 1352 (54.3%) in ages 65 and older.

The overall statewide cumulative hospitalization rate was 53.8 per 100,000 persons. The highest hospitalization rate of 214.0 per 100,000 was observed in individuals 65 years of age and older while the lowest rate, 16.7 was observed in both the 5-17 and 18-49 age groups. The hospitalization rate was 37.4 and 61.4 in ages 0-4 and 50-64, respectively. Upon comparison to previous seasons, the overall statewide hospitalization rate was lower than the 2014-15 season (72.2) and higher than the 2015-16 season (39.4). Figure 10 shows influenza-associated hospitalizations from season 2014-15 to present.

Figure 9: Reported Influenza-Associated Hospitalizations, 2014-15 Season to Present



Influenza-Associated Deaths

During the 2016-2017 flu season, a total of 94 influenza-associated deaths were reported. The average age of death associated with influenza was 71 years. Over 72% of deaths were among individuals aged 65 years and older. Of the deaths reported, influenza A and influenza B contributed to 69% and 31%, respectively. The number of deaths reported was higher among females (54%) statewide.

The overall statewide cumulative mortality rate was 2.1 per 100,000 persons. The highest mortality rate of 11.0 per 100,000 was reported in individuals 65 and older while the lowest rates were observed in the 0-4 (0.3) and 5-17 (0.1) age groups. In ages 18-49 and 50-64 the mortality rate was 0.4 and 1.7, respectively. Approximately 78% of influenza deaths were reported to have been diagnosed with one or more comorbidities. Upon comparison to previous seasons, the overall statewide mortality rate was lower than the 2014-15 season (3.4) and higher than the 2015-16 season (0.8).