



Flu Watch

South Carolina Department of Health and Environmental Control
Division of Acute Disease Epidemiology

Week Ending March 7, 2015 (MMWR Week 9)

All data are provisional and may change as more reports are received.

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MMWR Week 9 at a Glance:

Influenza Activity Synopsis:

During the last MMWR week influenza activity increased slightly; however, South Carolina reported REGIONAL activity for week 9.

Laboratory surveillance:

- 3,160 laboratory-confirmed cases of influenza were reported from 42 counties. This includes positive rapid tests, cultures, RT-PCRs, DFAs, and IFAs. This compares to 1,734 cases this time last year.
- 65,071 laboratory-confirmed cases have been reported this season, with cases identified in 45 counties. This compares to 52,939 cumulative cases this time last year.
- 56,055 (86.1%) of all laboratory-confirmed cases this season are influenza A, 7,767 (11.9%) are influenza B, 1,013 (1.6%) are influenza A/B, and 236 (0.36%) are of unknown or other type.

ILI Activity (South Carolina baseline is 2.05%):

- Influenza-like illness activity at sentinel providers was above South Carolina's baseline (8.02%). ILI percentages represent ILI activity reported by sentinel providers; however, due to the number of reporting providers and the definition of ILI, ILI percentages may not be representative of actual flu activity.

Hospitalizations:

- 121 lab confirmed hospitalizations were reported. 3,039 lab confirmed hospitalizations have been reported since 9/28/14.

Deaths:

- 1 lab confirmed deaths were reported. 142 lab confirmed deaths have been reported since 9/28/14.

**Summary of ILI Activity, Positive Confirmatory Tests, and
Influenza Associated Hospitalizations and Deaths Compared to Previous Week and Season**

| | <i>Current week</i> | <i>Previous week</i> | <i>Change from previous week</i> | <i>Cumulative (2014-15)</i> | <i>Cumulative (2013-14)</i> | <i>Cumulative change 2014-15 compared to 2013-14</i> |
|--|---------------------|----------------------|----------------------------------|-----------------------------|-----------------------------|--|
| Number of positive cultures, RT-PCRs, DFAs, and IFAs | 46 | 49 | ▼ 0.61% | 1,038 | 723 | ▲ 43.6% |
| Number of positive rapid tests | 3,114 | 2,923 | ▲ 6.5% | 64,033 | 52,216 | ▲ 22.6% |
| Percent of ILI visits reported by ILINet providers | 8.02% | 6.79% | ▲ 1.2% | -- | -- | -- |
| Number of lab confirmed flu hospitalizations | 121 | 117 | ▲ 3.4% | 3,039 | 1,729 | ▲ 75.8% |
| Number of lab confirmed flu deaths | 1 | 7 | ▼ 85.7% | 142 | 73 | ▲ 94.5% |

I. Confirmatory testing

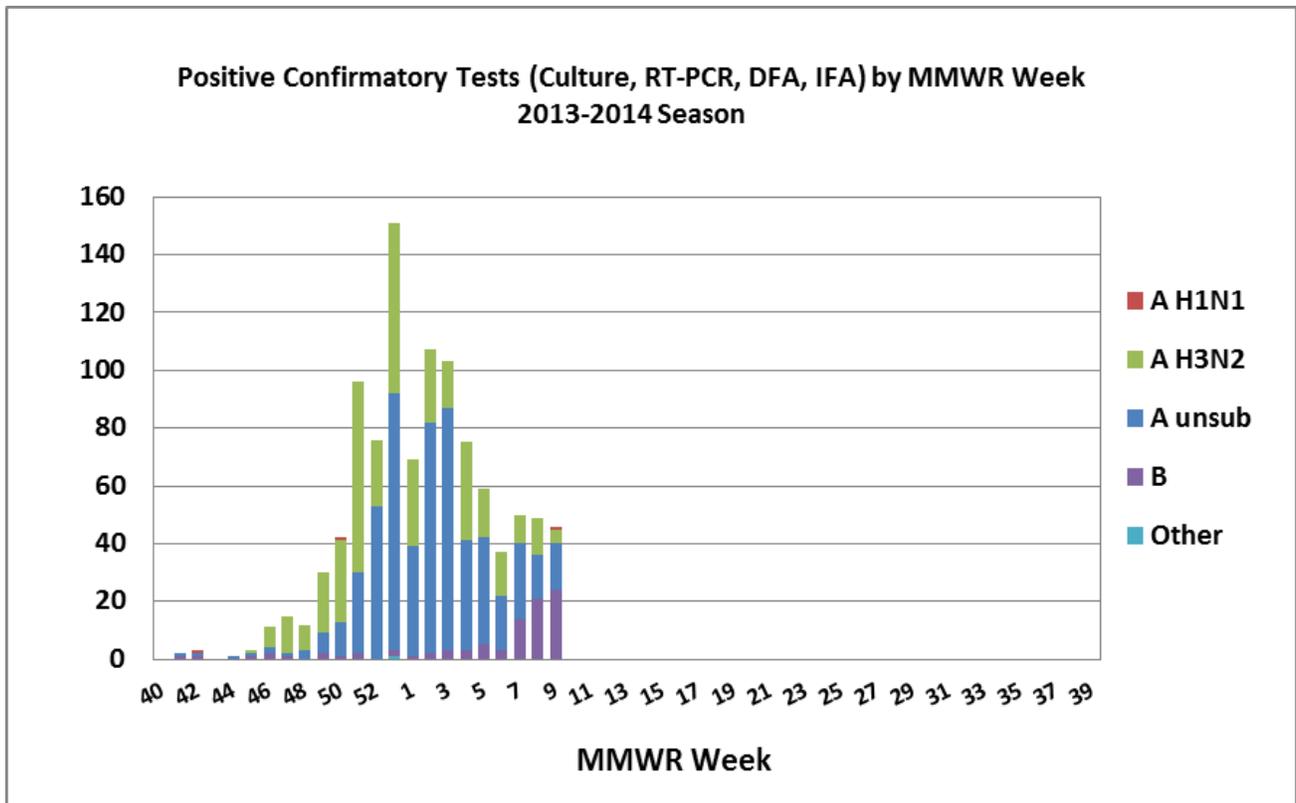
| <i>Positive confirmatory influenza test results Current MMWR Week (3/1/15– 3/7/15)</i> | |
|--|-------------------------------|
| | BOL and reference labs |
| Number of positive confirmatory tests | 46 |
| Influenza A unsubtype | 16 (34.8%) |
| Influenza A H1N1 | 1 (2.2%) |
| Influenza A H3N2 | 5 (10.8%) |
| Influenza B | 24 (52.2%) |
| Other | |
| Includes culture, RT-PCR, DFA, and IFA | |

For the current MMWR reporting week, 46 positive confirmatory tests were reported. So far this season 1,038 positive confirmatory tests have been reported.

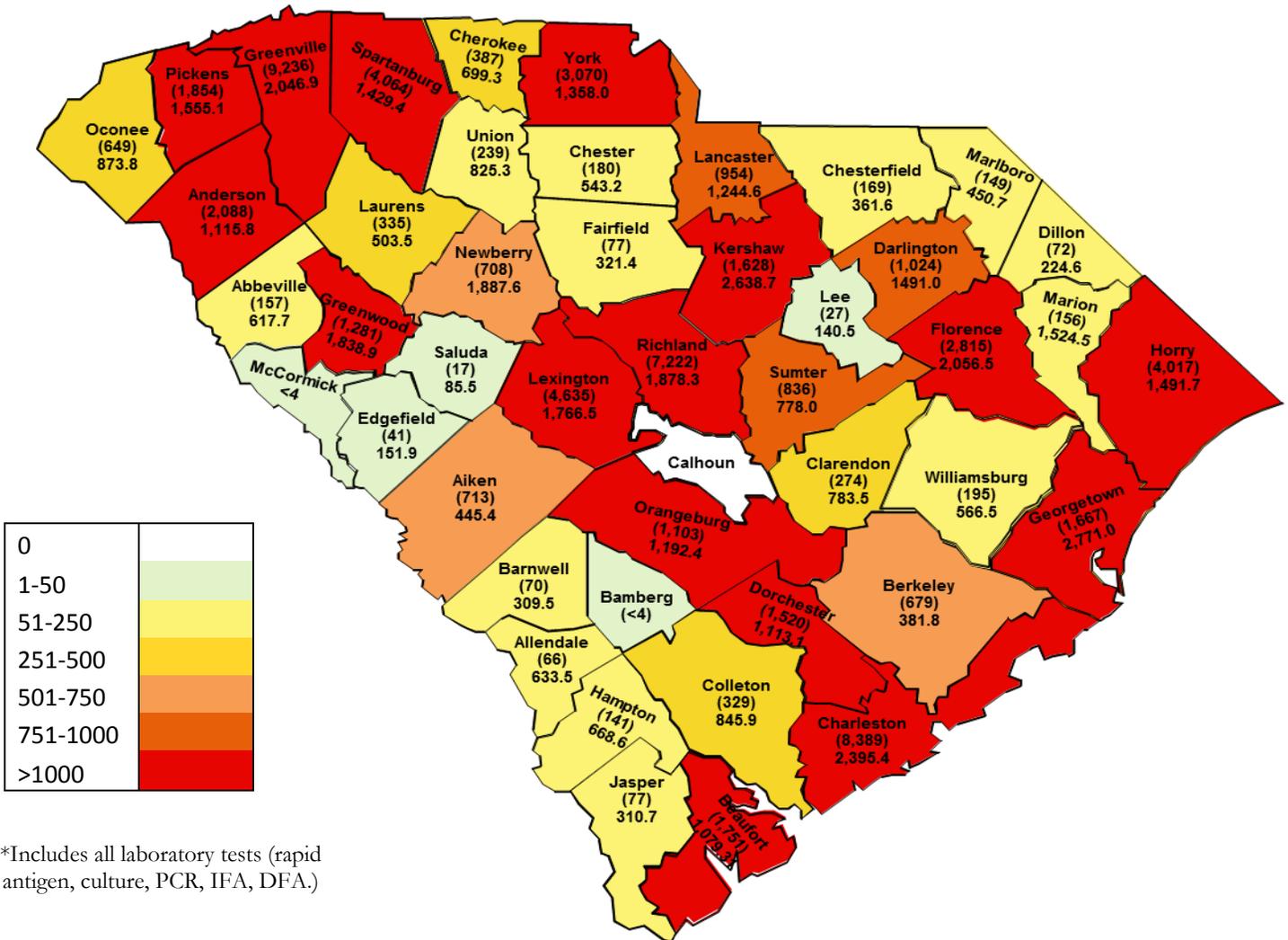
| <i>Positive confirmatory influenza test results* Cumulative (09/28/14 – 3/7/15)</i> | |
|---|-------------------------------|
| | BOL and reference labs |
| Number of positive confirmatory tests | 1,038 |
| Influenza A unsubtype | 552 (53.2%) |
| Influenza A H1N1 | 3 (0.29%) |
| Influenza A H3N2 | 392 (37.8%) |
| Influenza B | 89 (8.6%) |
| Unk/Other | 2 (0.14%) |
| Includes culture, RT-PCR, DFA, and IFA | |

**Positive Confirmatory Tests (Culture, RT-PCR, DFA, IFA)
by County
Current Week 3/1/15 – 3/7/15**

| County | Positive Tests | County | Positive Tests | County | Positive Tests |
|--------------|----------------|------------|----------------|--------------|----------------|
| Abbeville | 0 | Dillon | 0 | Marion | 0 |
| Aiken | 18 | Dorchester | 0 | Marlboro | 0 |
| Allendale | 0 | Edgefield | 0 | McCormick | 0 |
| Anderson | 0 | Fairfield | 0 | Newberry | 0 |
| Bamberg | 0 | Florence | 0 | Oconee | 0 |
| Barnwell | <4 | Georgetown | 0 | Orangeburg | 0 |
| Beaufort | <4 | Greenville | <4 | Pickens | 0 |
| Berkeley | 0 | Greenwood | <4 | Richland | <4 |
| Calhoun | 0 | Hampton | 0 | Saluda | 0 |
| Charleston | 6 | Horry | <4 | Spartanburg | <4 |
| Cherokee | 0 | Jasper | 0 | Sumter | 0 |
| Chester | 0 | Kershaw | 0 | Union | 0 |
| Chesterfield | 0 | Lancaster | 0 | Williamsburg | 0 |
| Clarendon | 0 | Laurens | 0 | York | 0 |
| Colleton | 0 | Lee | 0 | Unknown | 0 |
| Darlington | 0 | Lexington | 5 | | 0 |



Map of all Laboratory Confirmed Cases (n)* and
Population Case Rates/100,000 by County
Cumulative 09/28/14 – 3/7/15

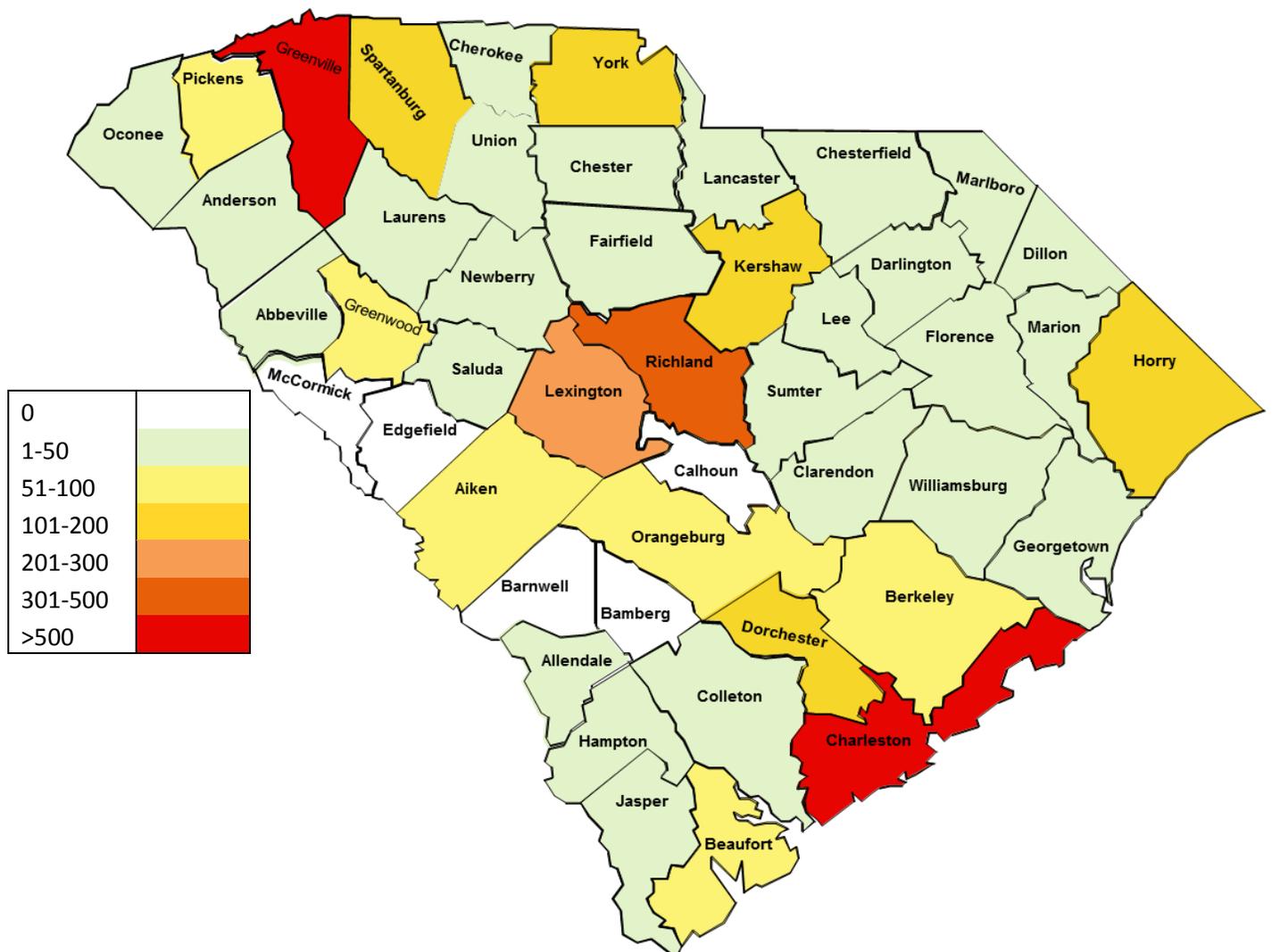


*Includes all laboratory tests (rapid antigen, culture, PCR, IFA, DFA.)

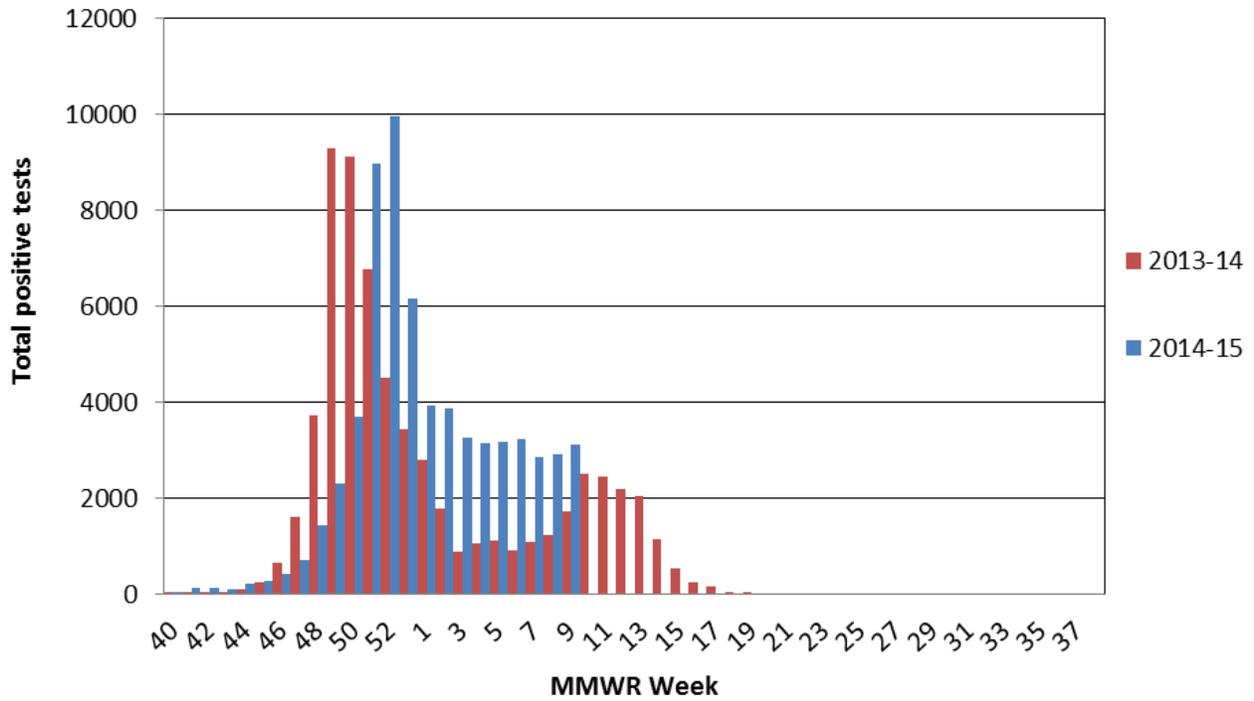
II. Positive Rapid Antigen Tests

For the current MMWR reporting week, 3,114 positive rapid antigen tests were reported. Of these, 1,292 were influenza A, 35 were influenza A/B, 1,770 were influenza B, and 17 were unknown type. This compares to 1,723 this time last year. 64,033 positive rapid tests have been reported since 9/28/14.

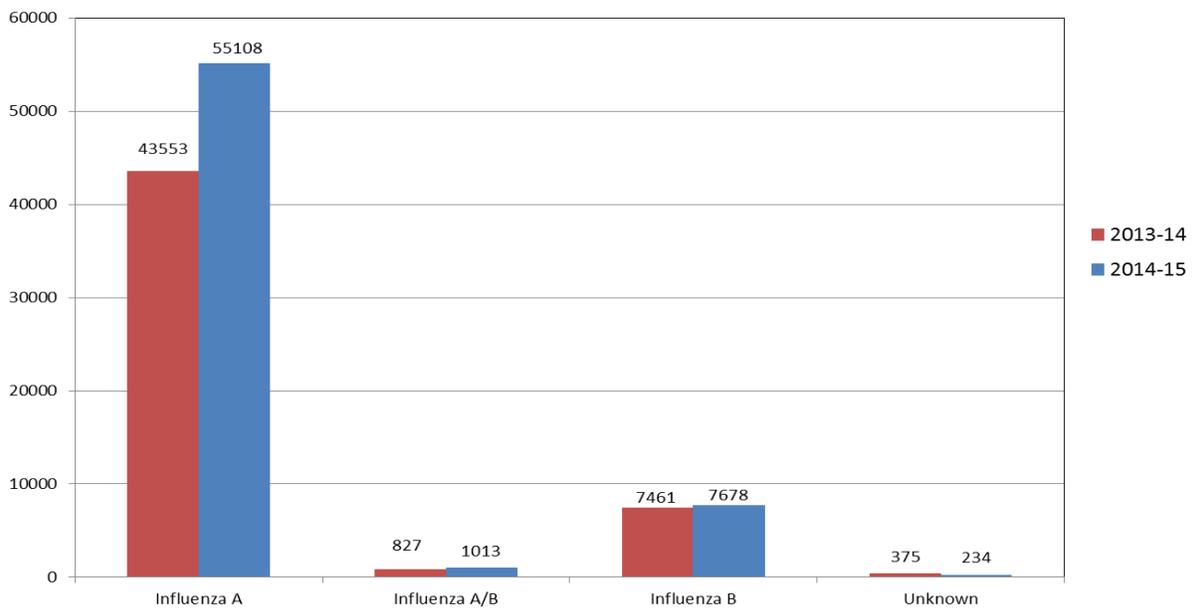
Map of Positive Rapid Influenza Tests by County
(Current Week 3/1/15 – 3/7/15)



Positive Rapid Tests by MMWR Week 2013-14 vs 2014-15



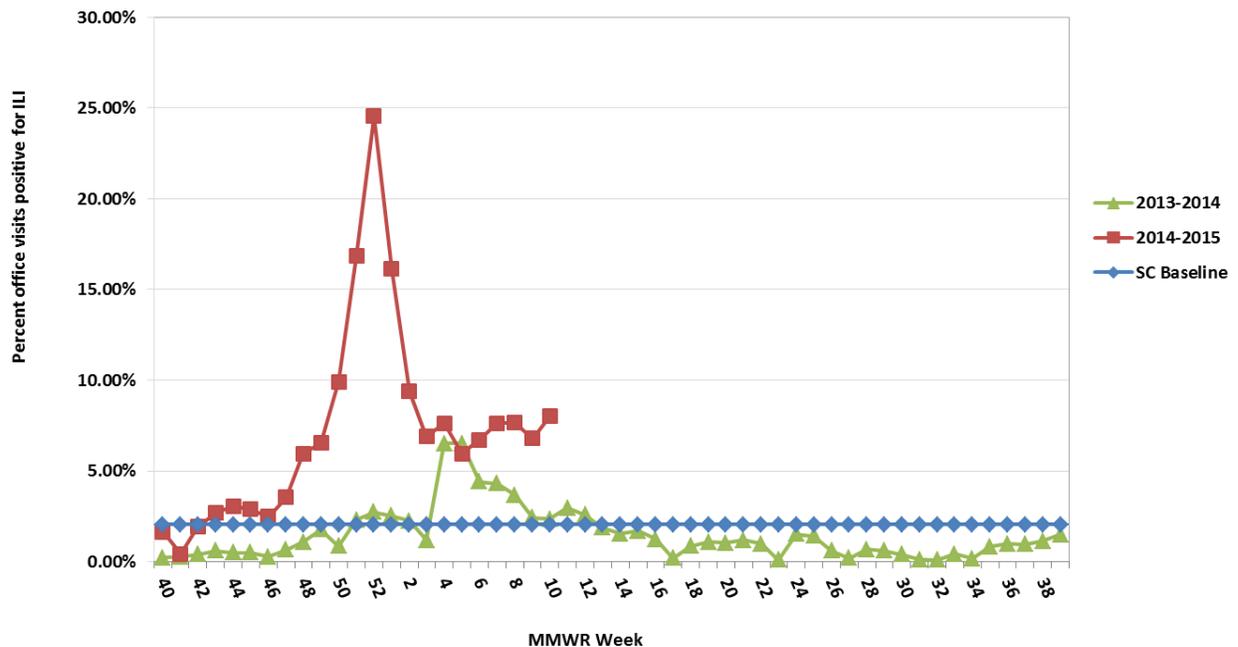
Positive Rapid Tests by Type 2013-14 vs 2014-15 September 28, 2014 - March 7, 2015



III. ILINet Influenza-Like Illness Surveillance

During the most recent MMWR week, 8.02%* of patient visits to SC ILINet providers were due to ILI. This is above the state baseline (2.05%). This ILI percentage compares to 2.96% this time last year. Reports were received from providers in 10 counties, representing all of the 4 regions.

Percentage of Visits for Influenza-like Illness (ILI) Reported by Sentinel Providers in South Carolina
2013-2014 and 2014-2015 Influenza Seasons



*The SC baseline is the mean percentage of patient visits for ILI during non-influenza weeks (weeks when percent of positive lab tests was below 20%) for the previous three seasons plus two standard deviations. * ILI percentage is dependent upon the number of reporting providers and can be greatly influenced by a single provider with high numbers of ILI.

**Influenza-Like Illness Reported by Sentinel Providers
March 1, 2015 – March 7, 2015**

| County | ILI % | County | ILI % |
|---------------|--------------|---------------|--------------|
| Abbeville | --- | Greenwood | NR |
| Aiken | 0.55% | Hampton | NR |
| Allendale | --- | Horry | NR |
| Anderson | 0% | Jasper | NR |
| Bamberg | --- | Kershaw | NR |
| Barnwell | --- | Lancaster | --- |
| Beaufort | NR | Laurens | NR |
| Berkeley | NR | Lee | --- |
| Calhoun | --- | Lexington | NR |
| Charleston | 17.74% | Marion | --- |
| Cherokee | --- | Marlboro | --- |
| Chester | --- | McCormick | NR |
| Chesterfield | --- | Newberry | --- |
| Clarendon | --- | Oconee | --- |
| Colleton | --- | Orangeburg | --- |
| Darlington | --- | Pickens | 0% |
| Dillon | NR | Richland | 0.89% |
| Dorchester | NR | Saluda | 0% |
| Edgefield | --- | Spartanburg | 0.34 |
| Fairfield | --- | Sumter | NR |
| Florence | 0.76% | Union | --- |
| Georgetown | NR% | Williamsburg | --- |
| Greenville | 2.60% | York | 3.62% |

NR: No reports received
 ---: No enrolled providers

IV. Influenza hospitalizations and deaths

For the current MMWR reporting week, 121 lab confirmed influenza hospitalizations were reported by 60 hospitals. 1 lab confirmed influenza death was reported.* So far this season, 3,039 lab confirmed hospitalizations and 142 lab confirmed deaths have been reported.

| <i>Current MMWR Week (3/1/15 - 3/7/15)</i> | | | | | | | |
|--|-----|------|-------|-------|-----|-----|-------|
| | 0-4 | 5-17 | 18-49 | 50-64 | 65+ | Unk | Total |
| Hospitalizations | 10 | 6 | 14 | 18 | 69 | | 121 |
| Deaths | | | | | 1 | | 1 |

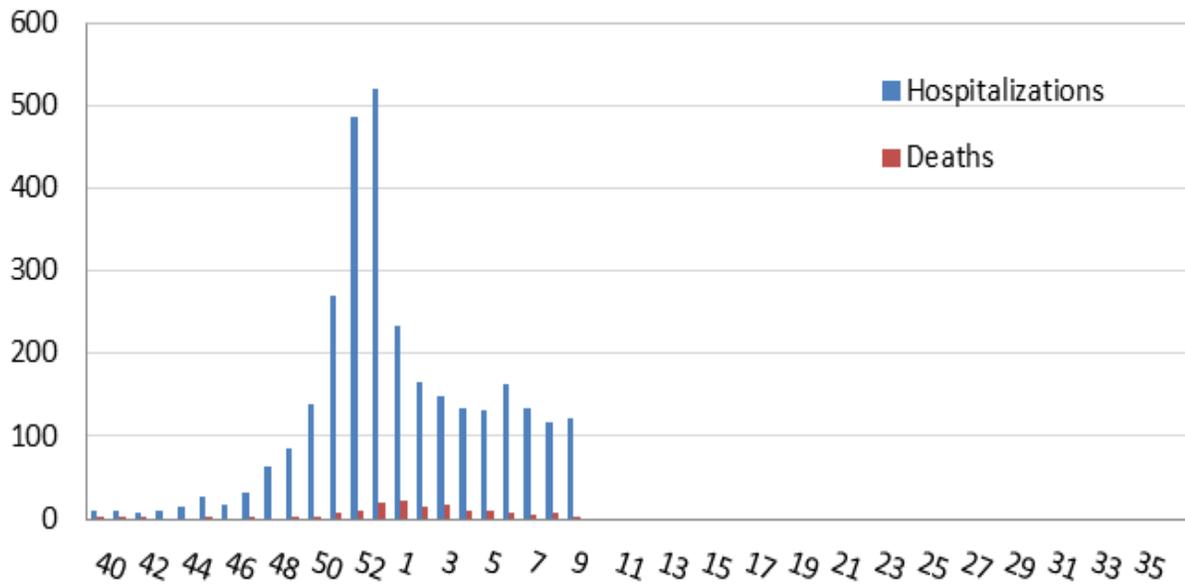
| <i>Cumulative (9/28/14 - 3/7/15)</i> | | | | | | | |
|--------------------------------------|-----|------|-------|-------|-------|-----|-------|
| | 0-4 | 5-17 | 18-49 | 50-64 | 65+ | Unk | Total |
| Hospitalizations | 159 | 110 | 341 | 528 | 1,899 | 2 | 3,039 |
| Deaths | | 3 | 7 | 14 | 118 | | 142 |

* Lab confirmation for hospitalizations and deaths includes culture, PCR, DFA, IFA, and rapid test.

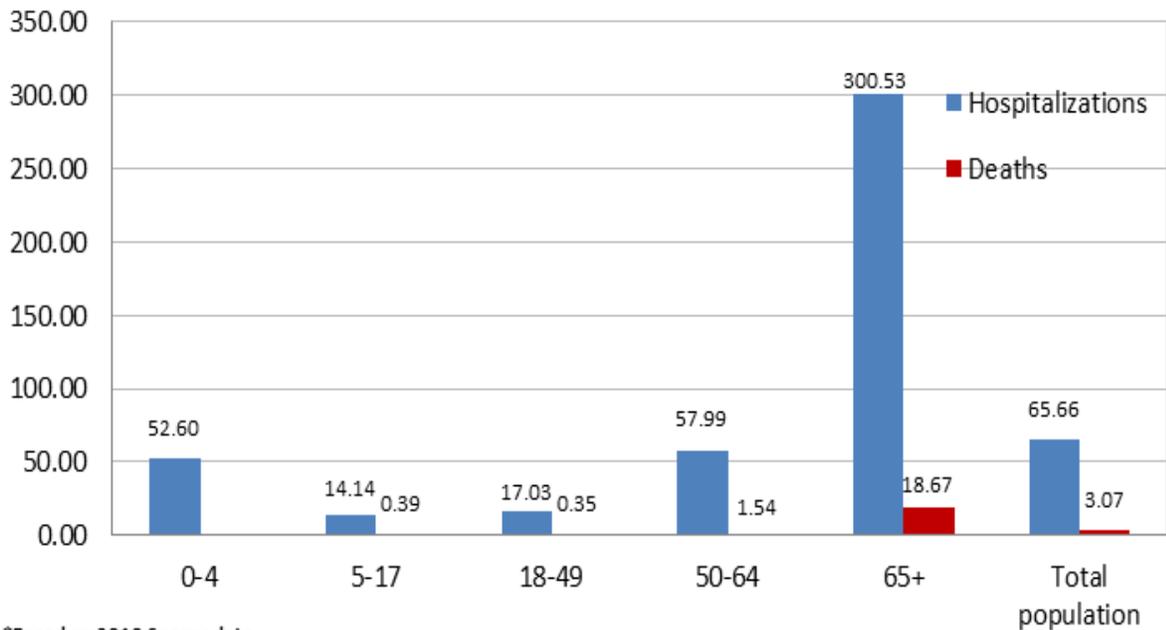
Laboratory Confirmed Influenza Deaths by County
9/28/14 - 3/7/15

| County | Total Deaths |
|---------------|---------------------|
| Abbeville | <4 |
| Aiken | 13 |
| Anderson | 8 |
| Beaufort | 7 |
| Charleston | 7 |
| Cherokee | <4 |
| Darlington | 4 |
| Dillon | <4 |
| Dorchester | <4 |
| Florence | 7 |
| Greenville | 19 |
| Greenwood | <4 |
| Hampton | <1 |
| Horry | 6 |
| Jasper | <4 |
| Lancaster | 4 |
| Laurens | 9 |
| Lee | <4 |
| Lexington | 8 |
| McCormick | <4 |
| Newberry | <4 |
| Oconee | <4 |
| Pickens | 4 |
| Richland | 11 |
| Spartanburg | 14 |
| York | <4 |

**Reported Cases of Laboratory Confirmed Influenza
Hospitalizations and Deaths by MMWR week
September 28, 2014 - March 7, 2015**



**Laboratory Confirmed Influenza Case Rate/100,000*
Hospitalizations (n=3,039) and Deaths (n=142) by age group
September 28, 2014 - March 7, 2015**



*Based on 2010 Census data
Excludes 2 hospitalizations with unknown age

V. South Carolina Influenza Surveillance Components

South Carolina influenza surveillance consists of mandatory and voluntary reporting systems for year-round influenza surveillance. These networks provide information on influenza virus strain and subtype and influenza disease burden.

Mandatory Reporting

Positive confirmatory test reporting

Positive influenza culture, PCR, DFA, and IFA results from commercial laboratories should be reported to DHEC within 3 days electronically via CHESS or using a DHEC 1129 card.

Positive rapid antigen test reporting

Summary numbers of positive rapid influenza tests and influenza type identified should be sent to the **regional** health department by fax or email before noon on Monday for the preceding week.

Influenza deaths

All (pediatric and adult) lab confirmed influenza deaths should be reported to DHEC within 24 hours. These include deaths confirmed by culture, PCR, rapid test, DFA, IFA or autopsy results consistent with influenza.

Influenza hospitalizations

DHEC requires weekly submission of laboratory confirmed influenza hospitalizations. Hospitals should report these to their **regional** health department by noon on Monday for the preceding week.

For additional information about ILINet or to become an ILINet provider, contact the Acute Disease Epidemiology influenza surveillance coordinator at springcb@dhec.sc.gov.

Voluntary Networks

Influenza-Like Illness (ILINet) Sentinel Providers Network

ILINet focuses on the number of patients presenting with influenza-like symptoms in the absence of another known cause. ILI is defined as fever (temperature $\geq 100^{\circ}\text{F}$) plus a cough and/or a sore throat in the absence of another known cause. Providers submit weekly reports to the CDC of the total number of patients seen in a week and the subset number of those patients with ILI symptoms by age group.

South Carolina Disease Alerting, Reporting & Tracking System (SC-DARTS)

SC-DARTS is a collaborative network of syndromic surveillance systems within South Carolina. Currently our network contains the following data sources: SC Hospital Emergency Department (ED) chief-complaint data, Poison Control Center call data, Over-the-Counter (OTC) pharmaceutical sales surveillance, and CDC's BioSense Biosurveillance system. The hospital ED syndromic surveillance system classifies ED chief complaint data into appropriate syndrome categories (ex: Respiratory, GI, Fever, etc.). These syndrome categories are then analyzed using the cumulative sum (CUSUM) methodology to detect any significant increases. Syndromic reports are distributed back to the hospital on a daily basis.

VII. Definitions for Influenza Surveillance

Activity level: 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 region and laboratory-confirmed influenza cases within the past 3 weeks in the region with increased ILI or outbreaks
- **Regional:** Increased ILI or institutional outbreaks in 2-3 regions and laboratory-confirmed influenza cases within the past 3 weeks in the regions with increased ILI or institutional 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

Note: For activity level classification purposes only, the state is divided into 8 reporting regions.

Confirmatory testing: Influenza testing which is considered to be confirmatory, such as a viral culture, RT-PCR, DFA, IFA

Influenza-like illness (ILI): Fever (temperature of 100°F [37.8°C] or greater) and cough and/or sore throat

MMWR week: Term for influenza surveillance week. Each week begins on Sunday and ends on Monday. The influenza season begins with MMWR week 40 and ends with MMWR week 39. The 2014-15 influenza season began on September 28, 2014 and will end on October 3, 2015.

Laboratory-confirmation: Positive influenza test resulting from one of the following laboratory tests:

- DFA
- IFA
- Rapid influenza antigen test
- RT-PCR
- Viral culture