



Flu Watch

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

Week Ending March 5, 2016 (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 MMWR week 9 influenza activity in South Carolina increased. South Carolina reported REGIONAL activity.

Laboratory surveillance:

- 4154 laboratory-confirmed cases of influenza were reported from 41 counties.
- Of the positive specimens reported this season, 11,369 (78.6%) are influenza A, 2,835 (19.7%) are influenza B, 193 (1.3%) are influenza A/B, and 70 (0.5%) are influenza unknown subtype.

ILI Activity (South Carolina baseline is 2.05%):

- The percentage of visits to sentinel providers for influenza-like illness (16.04%) was above South Carolina's baseline. ILI percentages represent ILI activity reported by less than half of enrolled sentinel providers. Therefore, ILI percentages may not be representative of actual flu activity.

Hospitalizations:

- 183 laboratory confirmed influenza-associated hospitalizations were reported. Since October 4, 2015, 859 laboratory confirmed influenza associated hospitalizations have been reported.

Deaths:

- One laboratory confirmed influenza-associated deaths were reported. Since October 4, 2015 eighteen (18) laboratory confirmed influenza associated deaths have been reported.

Summary of Laboratory Confirmed Tests, ILI Activity, Influenza Associated Hospitalizations and Deaths Compared to Previous Week and Previous Season

	<i>Current week</i>	<i>Previous week</i>	<i>Change from previous week</i>	<i>Cumulative (2015-16)</i>	<i>Cumulative (2014-15)</i>	<i>Cumulative change 2015-16 compared to 2014-15</i>
Number of positive confirmatory tests (culture, RT-PCR, DFA, IFA)	128	114	▲ 12%	341	1,038	▼ 67%
Positive rapid antigen tests	3,986	3,465	▲ 15%	14,086	64,033	▼ 78%
Percent of ILI visits reported by ILINet providers	16.04%	12.16%	▲ 3.88%	--	--	--
Number of lab confirmed flu hospitalizations	183	167	▲ 9.6%	859	3,039	▼ 72%
Number of lab confirmed flu deaths	5	1	▲	18	142	▼ 87%

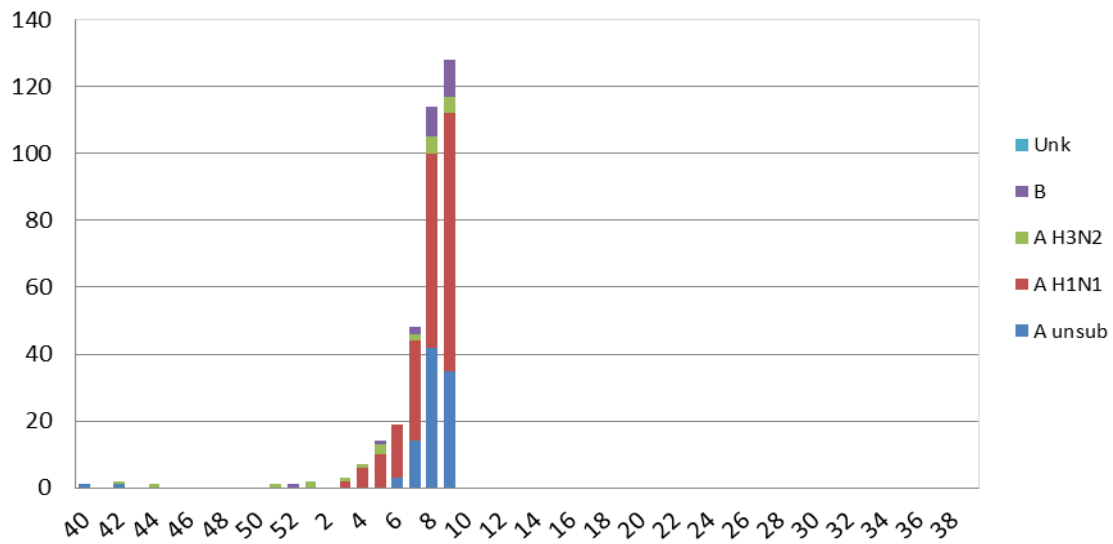
I. Confirmatory testing

<i>Positive confirmatory influenza test results*</i> <i>Current MMWR Week (2/28/16 – 3/5/16)</i>	
	BOL and reference labs
Number of positive confirmatory tests	128
Influenza A unsubtype	35
Influenza A H1N1	77
Influenza A H3N2	5
Influenza B	11
Other	0
Includes culture, RT-PCR, DFA, and IFA	

For the current MMWR reporting week, 128 positive confirmatory tests were reported.

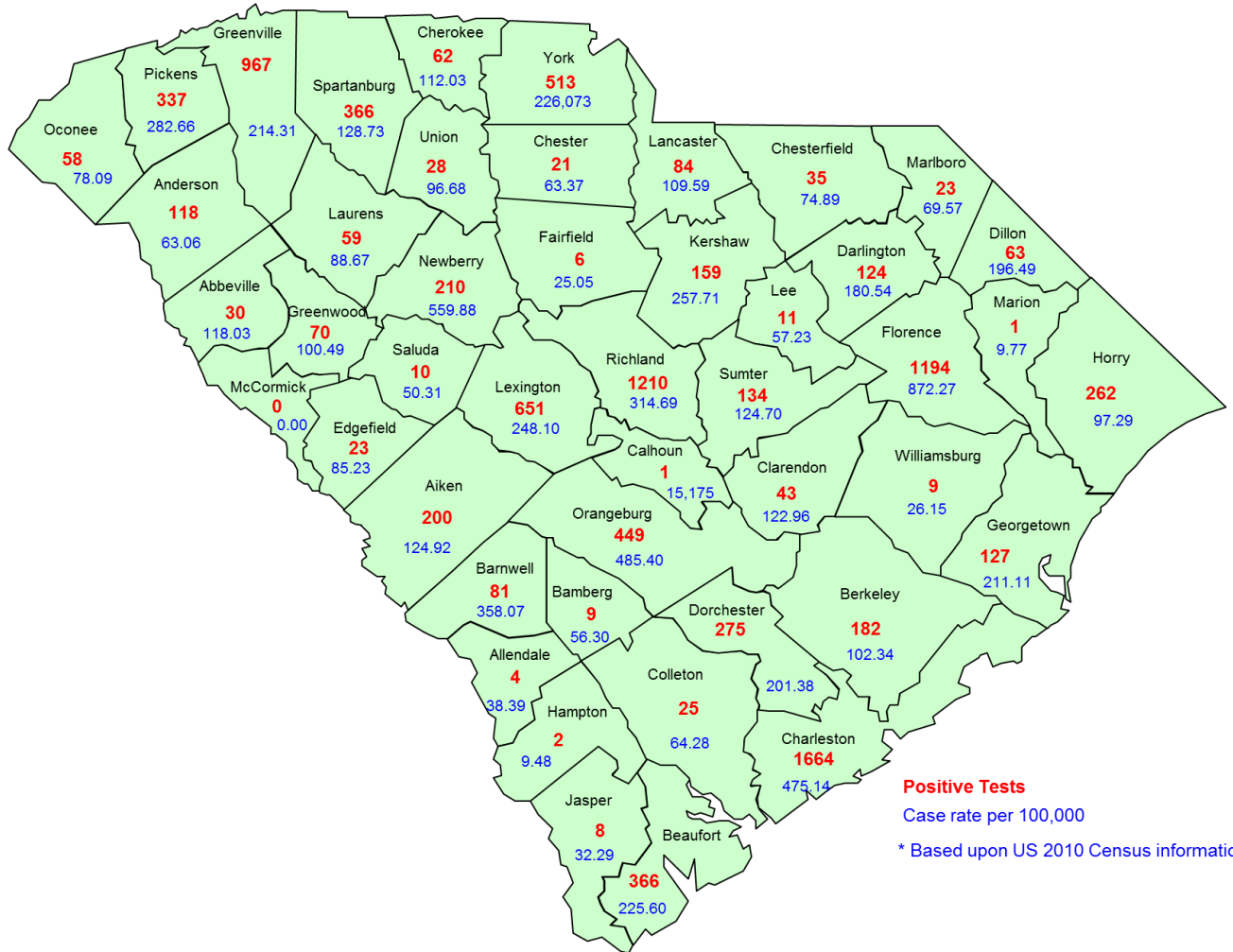
<i>Positive confirmatory influenza test results*</i> <i>Cumulative (10/4/15 – 3/5/16)</i>	
	BOL and reference labs
Number of positive confirmatory tests	341
Influenza A unsubtype	96
Influenza A H1N1	199
Influenza A H3N2	22
Influenza B	24
Other	0
Includes culture, RT-PCR, DFA, and IFA	

Positive Confirmatory Tests (Culture, RT-PCR, DFA, IFA) by MMWR Week
2015-2016 Season



*Includes culture, PCR, DFA, IFA

Map of all Laboratory Confirmed Cases (n) and Population Case Rates/100,000 by County
 October 4, 2015 - March 5, 2016

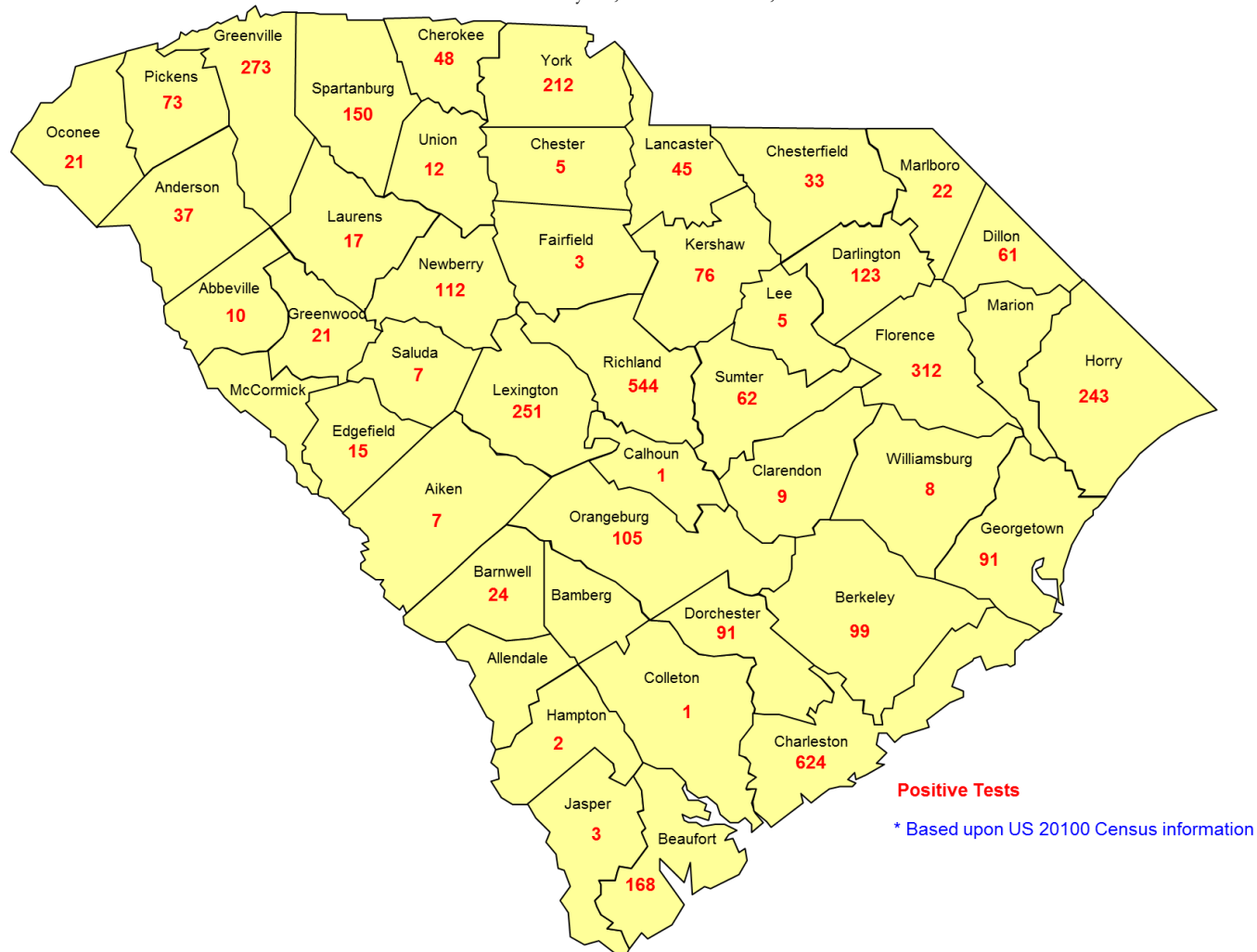


Positive Tests
 Case rate per 100,000
 * Based upon US 2010 Census information

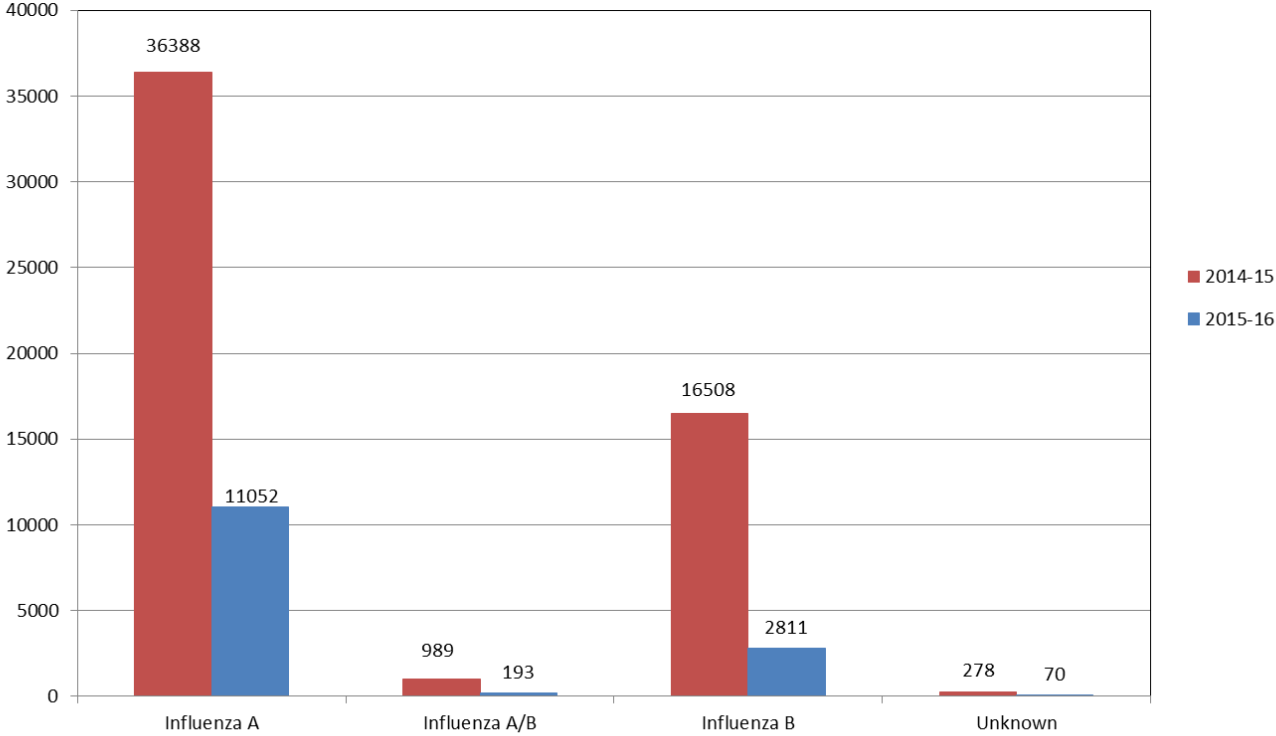
II. Positive Rapid Antigen Tests

During the most recent MMWR week, 4,026 positive rapid antigen tests were reported. Of these, 3,281 were influenza A, 727 were influenza B, 9 were influenza A/B, and 9 were other/unknown. This compares to 411 during this same week last year.

Map of Positive Rapid Influenza Tests, by County
February 28, 2016 - March 5, 2016

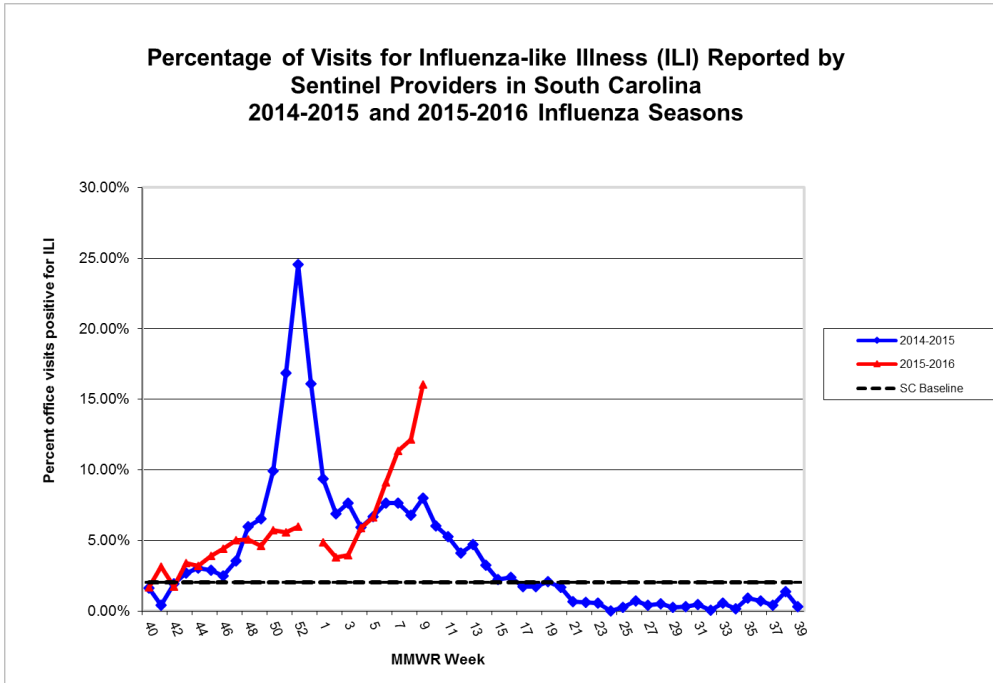


**Positive Rapid Tests by Type
2014-15 vs 2015-16
October 4, 2015 - March 5, 2016**

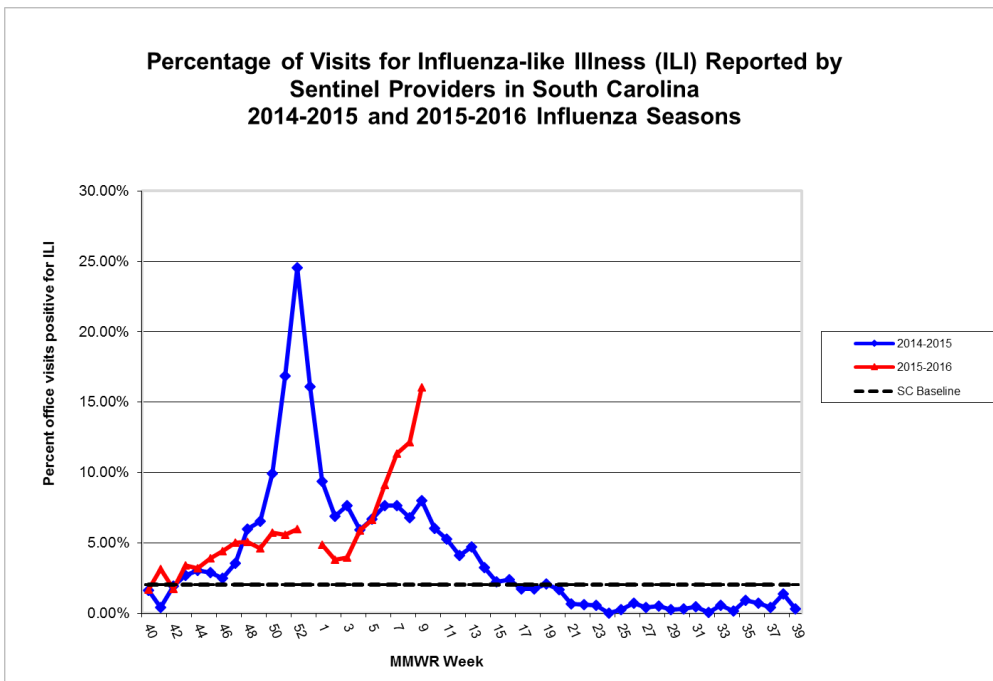


III. ILINet Influenza-Like Illness Surveillance

During the most recent MMWR week, 12.16%* of patient visits to SC ILINet providers were due to ILI. This is above the state baseline (2.05%). This ILI percentage compares to 8.02% this time last year. Reports were received from providers in 8 counties, representing all of the 4 regions. The statewide percentage of ER visits with fever-flu syndrome was 9.81%.



ILI percentage is dependent upon the number of reporting providers and can be greatly influenced by a single provider with high numbers of ILI.



The SC fever flu percentage only includes data from hospitals emergency departments and urgent care centers participating in SC syndromic surveillance.

Influenza-Like Illness Reported by Sentinel Providers
February 28, 2016 – March 5, 2016

County	ILI %	County	ILI %
Abbeville	---	Greenwood	NR
Aiken	0.49%	Hampton	NR
Allendale	---	Horry	--
Anderson	8.42%	Jasper	--
Bamberg	---	Kershaw	--
Barnwell	---	Lancaster	---
Beaufort	NR	Laurens	NR
Berkeley	8.24%	Lee	---
Calhoun	---	Lexington	NR
Charleston	20.58%	Marion	---
Cherokee	---	Marlboro	---
Chester	---	McCormick	NR
Chesterfield	---	Newberry	---
Clarendon	---	Oconee	---
Colleton	---	Orangeburg	---
Darlington	---	Pickens	0.00%
Dillon	---	Richland	NR
Dorchester	NR	Saluda	4.22%
Edgefield	---	Spartanburg	NR
Fairfield	---	Sumter	NR
Florence	2.94%	Union	---
Georgetown	NR	Williamsburg	---
Greenville	NR	York	1.99%

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

IV. Influenza-associated hospitalizations and deaths

For the current MMWR reporting week, 183 laboratory confirmed influenza-associated hospitalizations were reported by 48 hospitals. Five laboratory confirmed influenza-associated deaths were reported. Since October 4, 2015, 858 laboratory confirmed influenza-associated hospitalizations and 18 laboratory confirmed influenza-associated deaths have been reported. **Laboratory confirmation for hospitalizations and deaths includes culture, PCR, DFA, IFA, and rapid antigen detection test.**

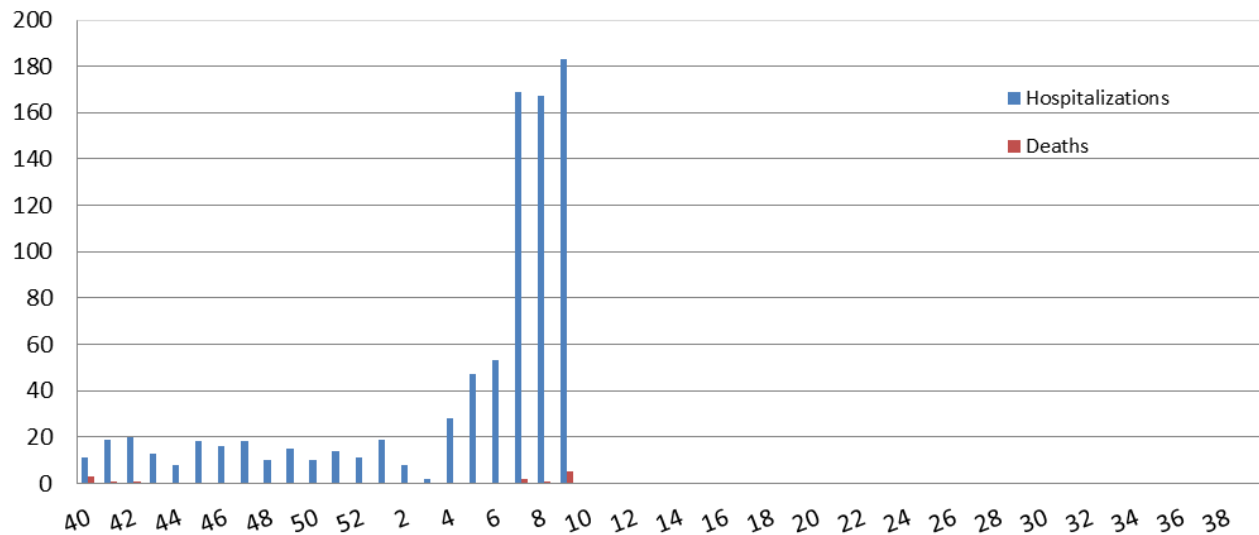
<i>Current MMWR Week (2/28/16 - 3/5/16)</i>							
	0-4	5-17	18-49	50-64	65+	Unknown	Total
Hospitalizations	23	8	49	52	51	0	158
Deaths			1	2	2		5

<i>Cumulative (10/4/15 -3/5/16)</i>							
	0-4	5-17	18-49	50-64	65+	Unknown	Total
Hospitalizations	93	53	195	231	286	1	859
Deaths	0	0	2	3	13		18

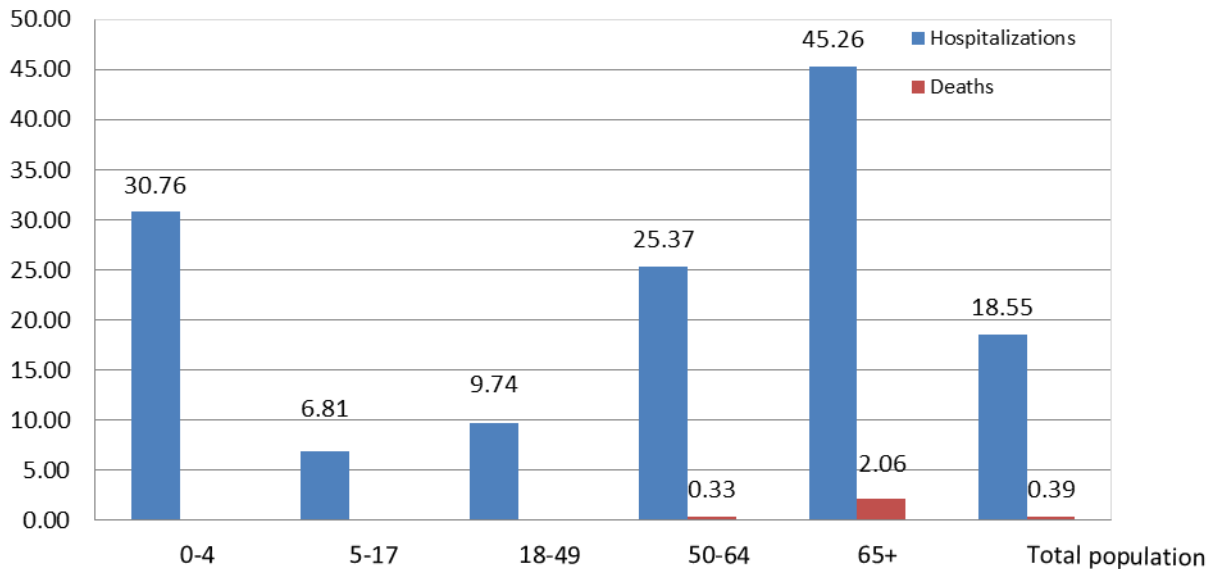
* Lab confirmation for hospitalizations and deaths includes culture, PCR, DFA, IFA, and rapid test.

Influenza associated deaths by Region	
Region	Total
Lowcountry	5
Midlands	<5
Pee Dee	<5
Upstate	>5

**Influenza-associated Hospitalizations and Deaths by MMWR week
October 4, 2015 - March 5, 2016**



**Influenza-associated Hospitalizations (n=858) and Deaths (n=18)
Case Rate/100,000* by age group
October 4, 2015 - March 5, 2016**



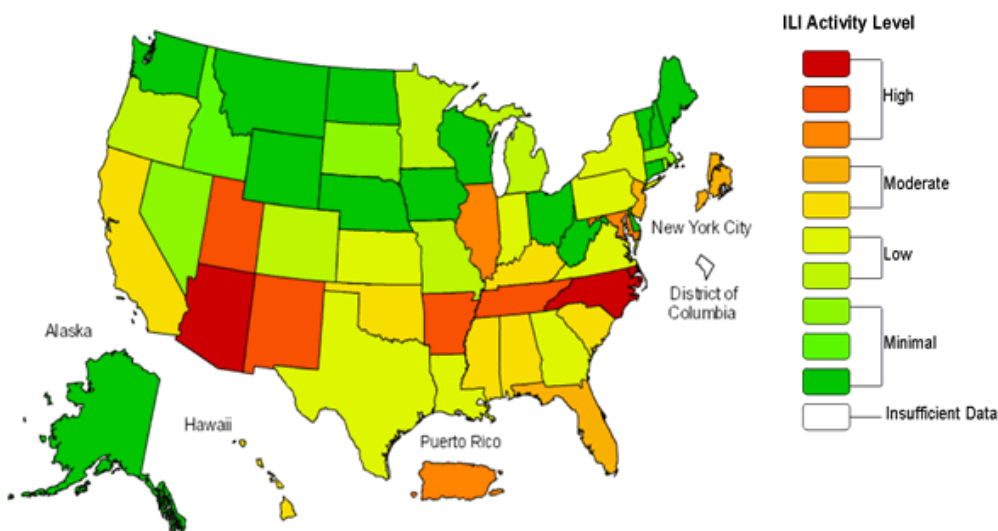
*Based on 2010 Census data
**Excludes one unk

V. National surveillance (2/20/16 – 2/27/16)

During week 8 (February 20 -February 27, 2016), influenza activity increased slightly in the United States.

- **Viral Surveillance:** The most frequently identified influenza virus type reported by public health laboratories during week 8 was influenza A, with influenza A (H1N1)pdm09 viruses predominating. The percentage of respiratory specimens testing positive for influenza in clinical laboratories increased.
- **Pneumonia and Influenza Mortality:** The proportion of deaths attributed to pneumonia and influenza (P&I) was below the system-specific epidemic threshold in the NCHS Mortality Surveillance System and above the system-specific epidemic threshold in the 122 Cities Mortality Reporting System.
- **Influenza-associated Pediatric Deaths:** Four influenza-associated pediatric deaths were reported.
- **Influenza-associated Hospitalizations:** A cumulative rate for the season of 7.8 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported.
- **Outpatient Illness Surveillance:** The proportion of outpatient visits for influenza-like illness (ILI) was 3.2%, which is above the national baseline of 2.1%. Nine of 10 regions reported ILI at or above region-specific baseline levels. Puerto Rico and eight states experienced high ILI activity; New York City and nine states experienced moderate ILI activity; 13 states experienced low ILI activity; 20 states experienced minimal ILI activity; and the District of Columbia had insufficient data.
- **Geographic Spread of Influenza:** The geographic spread of influenza in Puerto Rico and 33 states was reported as widespread; Guam and 14 states reported regional activity; the District of Columbia and one state reported local activity; and the U.S. Virgin Islands and two states reported sporadic activity.

**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2015-16 Influenza Season Week 8 ending Feb 27, 2016**



VI. 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 must be reported to DHEC within 3 days electronically via CHES or using a DHEC 1129 card.

Positive rapid antigen test reporting

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

Influenza deaths

All laboratory confirmed influenza deaths (adult and pediatric) must be reported to DHEC within 24 hours. These include results from viral culture, PCR, rapid flu tests, DFA, IFA or autopsy results consistent with influenza.

Influenza hospitalizations

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

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) (Syndromic surveillance)

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.

For additional information about SC-DARTS, contact the Syndromic Surveillance epidemiologist at cartere@dhec.sc.gov.

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

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

Fever-flu syndrome: Includes chief complaints with any of the following ICD codes or terms: flu, fev, high temp, temp10, feel hot, night sweat, FEB, shiver, FUO, chill, 780.6, 487, viral INF, pain all over, ILI, and body ache. Weekly fever flu count is the sum of all records, statewide, that were categorized into the fever flu syndrome. The state denominator is a broader modification of the respiratory syndrome that includes records that have fever flu chief complains and general respiratory illness complaints, which include: cough, coughing, URI, pneumonia, croup, bronchitis, and cold. The fever flu percentage equals (weekly fever flu count/weekly state denominator)*100.

Influenza-associated death: A death in which laboratory confirmation (see definition below) for influenza was reported, or for which an autopsy report consistent with influenza was provided, regardless of primary cause of death.

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

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 2015-16 influenza season began on October 4, 2015 and will end on October 1, 2016.

Laboratory-confirmation: Influenza positive resulting from one of the following methods:

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