



Flu Watch

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

Week Ending February 14, 2015 (MMWR Week 6)

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

<i>In this issue:</i>	
Summary	2
I. Confirmatory testing	3
II. Positive rapid antigen tests	6
III. ILINet	8
IV. Hospitalizations and deaths	10
V. SC influenza surveillance components	13
VI. National surveillance	14
VII. Definitions for influenza surveillance	15

MMWR Week 6 at a Glance:

Influenza Activity Synopsis:

During the last MMWR week overall influenza activity decreased. South Carolina reported WIDESPREAD activity for week 6.

Laboratory surveillance:

- 2,935 laboratory-confirmed cases of influenza were reported from 36 counties. This includes positive rapid tests, cultures, RT-PCRs, DFAs, and IFAs. This compares to 932 cases this time last year.
- 55,707 laboratory-confirmed cases have been reported this season, with cases identified in 45 counties. This compares to 48,845 cumulative cases this time last year.
- 50,920 (91.4%) of all laboratory-confirmed cases this season are influenza A, 3,680 (6.6%) are influenza B, 927 (1.7%) are influenza A/B, and 180 (0.32%) 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 (7.64%). 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:

- 158 lab confirmed hospitalizations were reported. 2,662 lab confirmed hospitalizations have been reported since 9/28/14.

Deaths:

- 5 lab confirmed deaths were reported. 120 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	37	59	▼ 37.3%	892	674	▲ 32.3%
Number of positive rapid tests	2,898	3,167	▼ 8.5%	54,815	48,171	▲ 13.8%
Percent of ILI visits reported by ILINet providers	7.64%	6.71%	▲ 0.93%	--	--	--
Number of lab confirmed flu hospitalizations	158	131	▲ 20.6%	2,662	1,625	▲ 63.8%
Number of lab confirmed flu deaths	5	6	▼ 16.6%	120	67	▲ 79.1%

I. Confirmatory testing

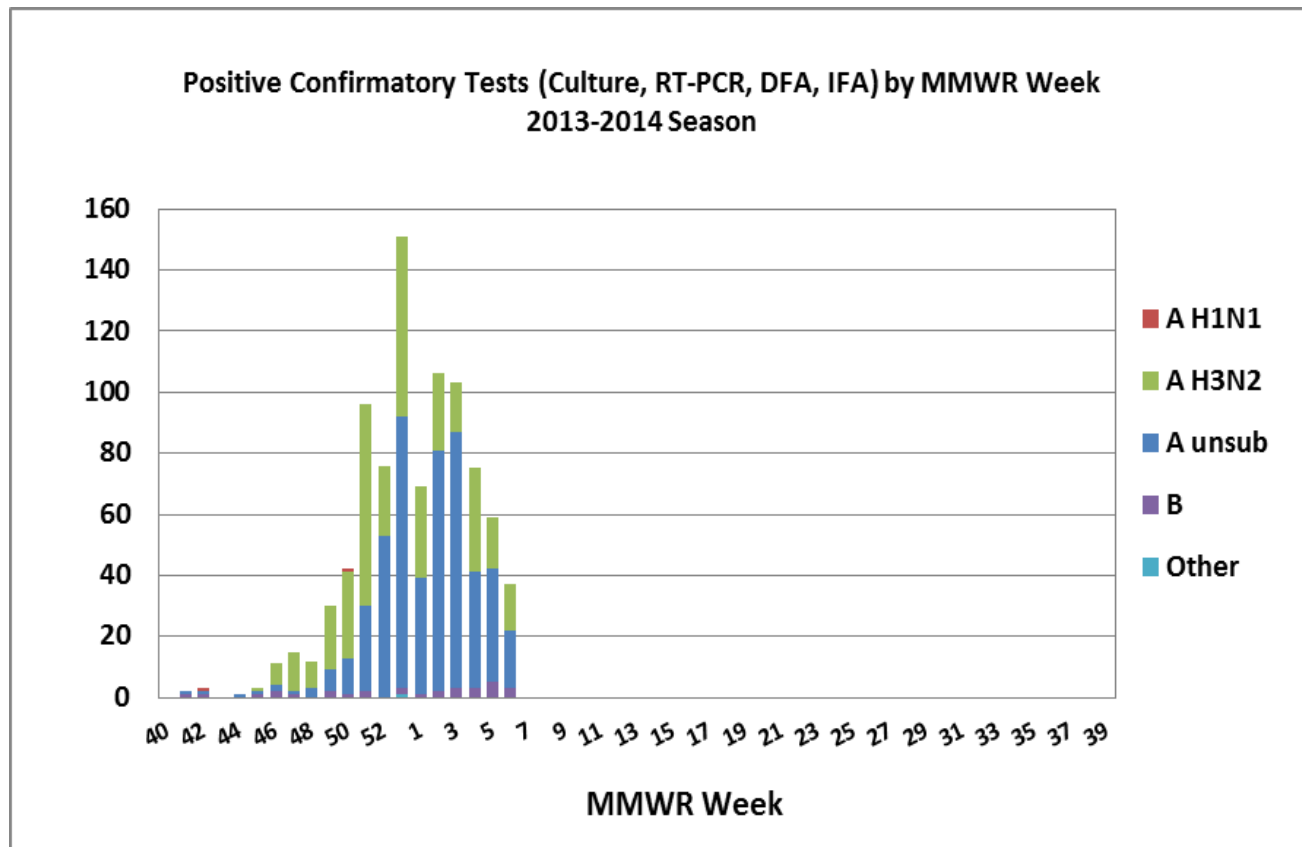
<i>Positive confirmatory influenza test results Current MMWR Week (2/8/15– 2/14/15)</i>	
	BOL and reference labs
Number of positive confirmatory tests	37
Influenza A unsubtype	19 (51.4%)
Influenza A H1N1	
Influenza A H3N2	15 (40.5%)
Influenza B	3 (8.1%)
Other	
Includes culture, RT-PCR, DFA, and IFA	

For the current MMWR reporting week, 37 positive confirmatory tests were reported. So far this season 892 positive confirmatory tests have been reported.

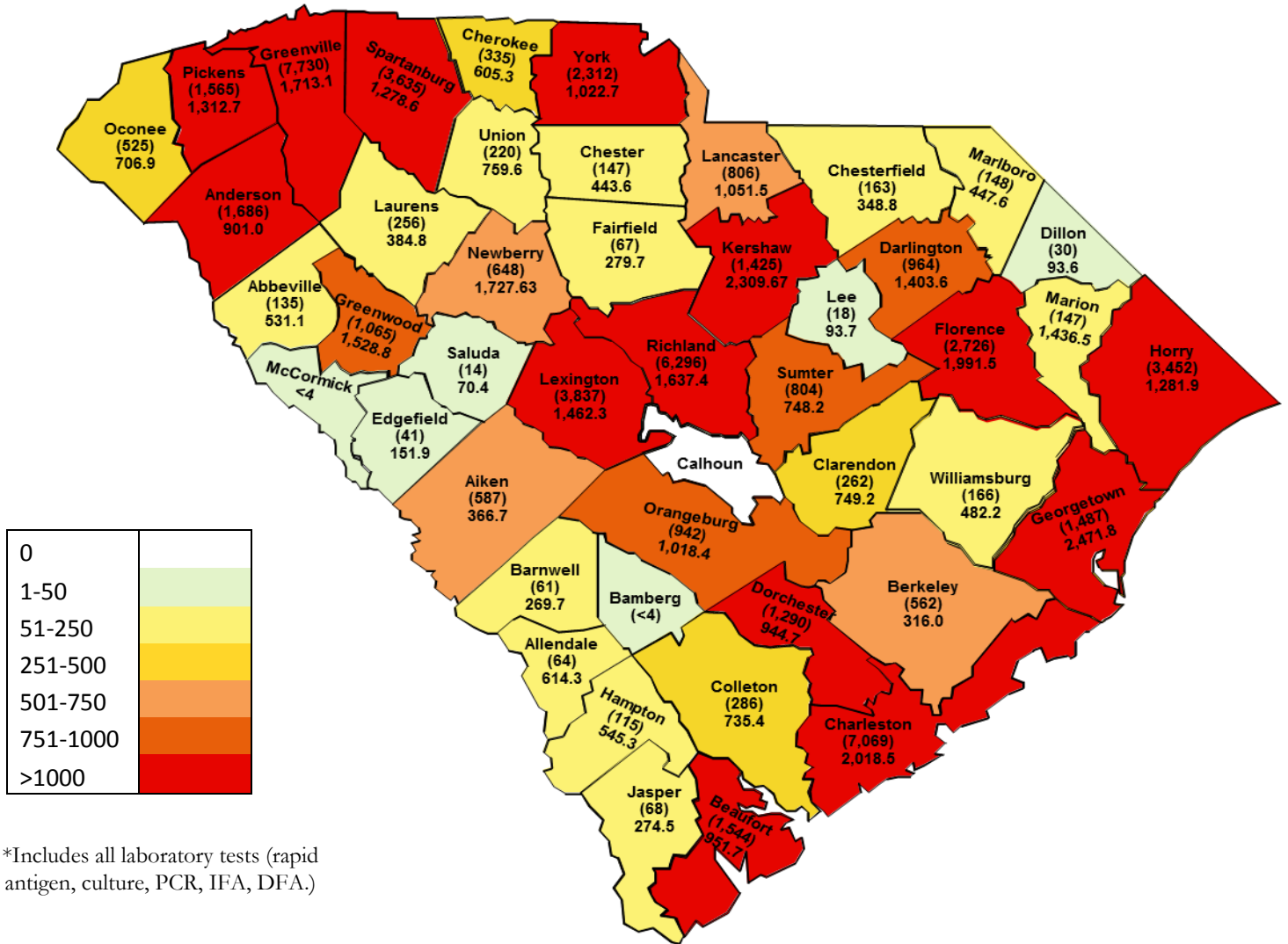
<i>Positive confirmatory influenza test results* Cumulative (09/28/14 – 2/14/15)</i>	
	BOL and reference labs
Number of positive confirmatory tests	892
Influenza A unsubtype	494 (55.3%)
Influenza A H1N1	2 (0.22%)
Influenza A H3N2	364 (40.8%)
Influenza B	30 (3.4%)
Unk/Other	2 (0.22%)
Includes culture, RT-PCR, DFA, and IFA	

**Positive Confirmatory Tests (Culture, RT-PCR, DFA, IFA)
by County
Current Week 2/8/15 – 2/14/15**

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	<4	Fairfield	0	Newberry	0
Bamberg	0	Florence	0	Oconee	<4
Barnwell	<4	Georgetown	0	Orangeburg	0
Beaufort	<4	Greenville	<4	Pickens	0
Berkeley	0	Greenwood	0	Richland	6
Calhoun	0	Hampton	0	Saluda	0
Charleston	<4	Horry	<4	Spartanburg	<4
Cherokee	0	Jasper	0	Sumter	<4
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	<4		0



Map of all Laboratory Confirmed Cases (n)* and
Population Case Rates/100,000 by County
Cumulative 09/28/14 – 2/14/15

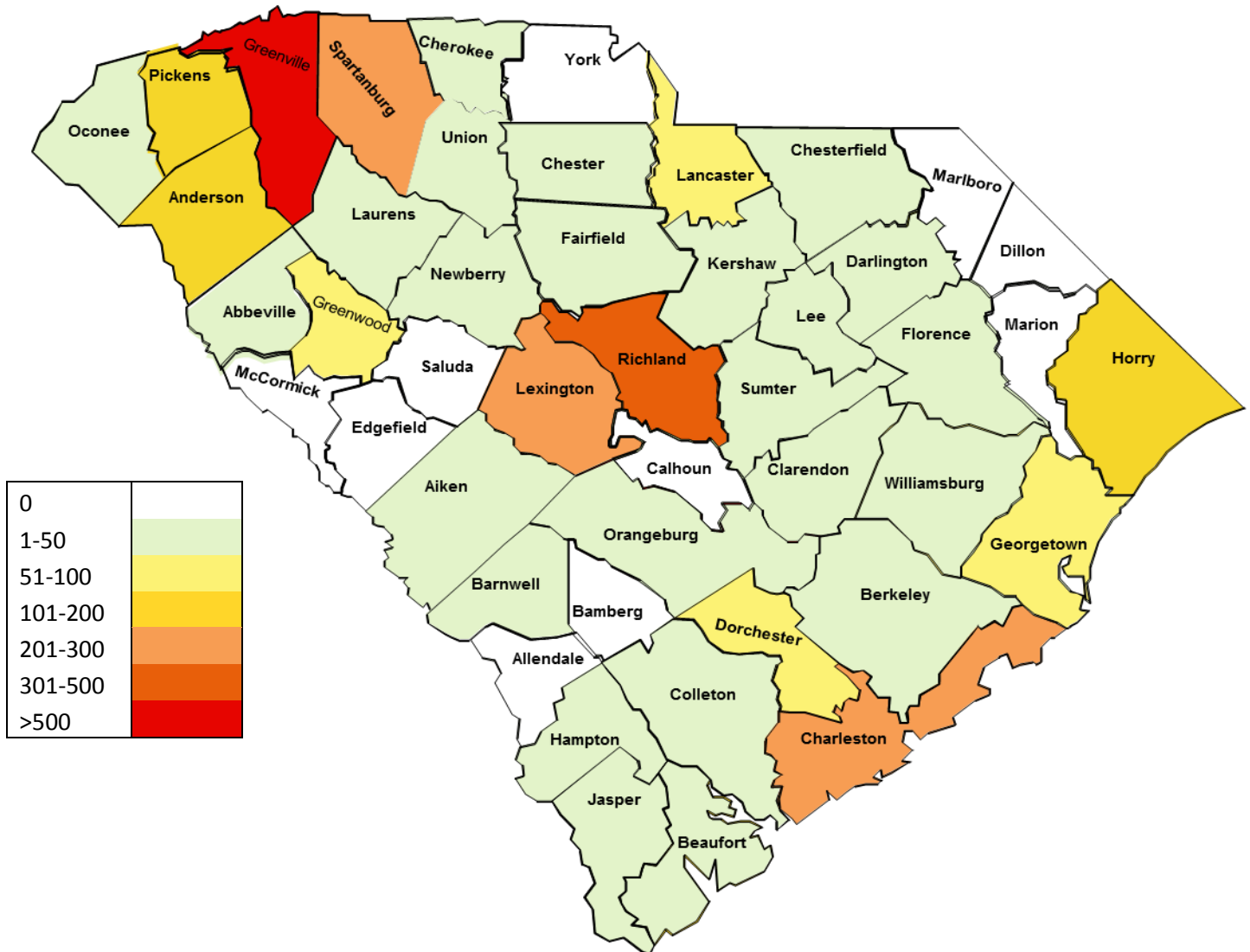


*Includes all laboratory tests (rapid antigen, culture, PCR, IFA, DFA.)

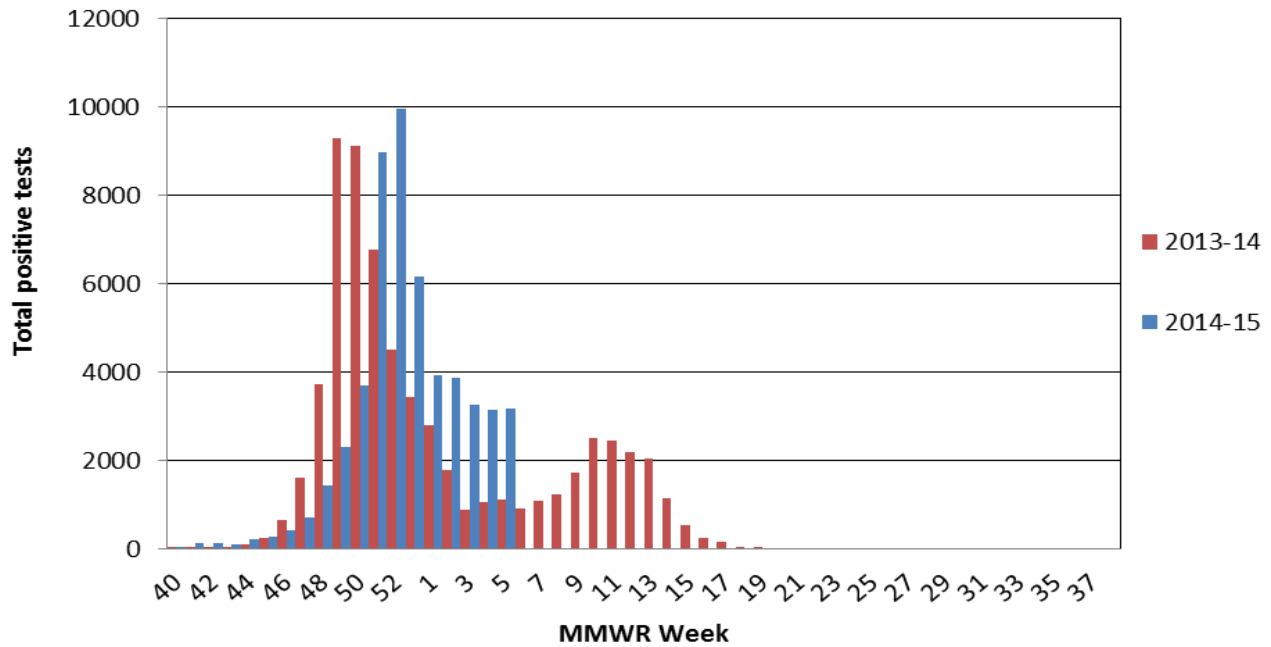
II. Positive Rapid Antigen Tests

For the current MMWR reporting week, 2,898 positive rapid antigen tests were reported. Of these, 2,285 were influenza A, 50 were influenza A/B, 559 were influenza B, and 4 were unknown type. This compares to 914 this time last year. 54,815 positive rapid tests have been reported since 9/28/14.

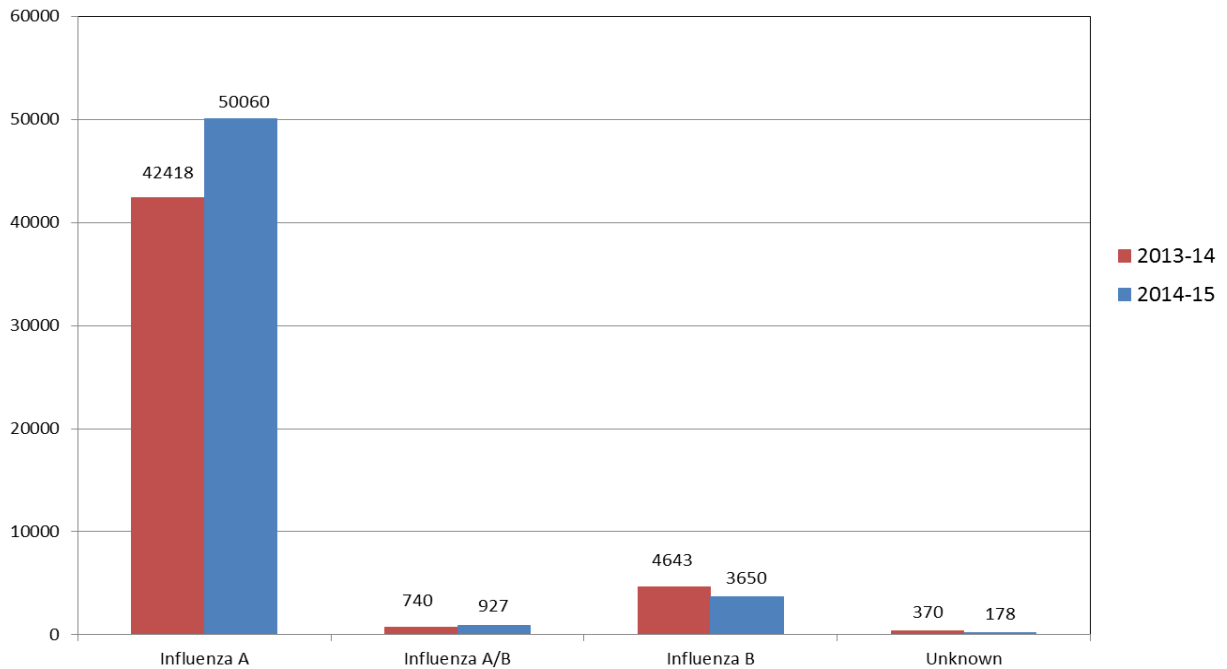
Map of Positive Rapid Influenza Tests by County
(Current Week 2/8/15 – 2/14/15)



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



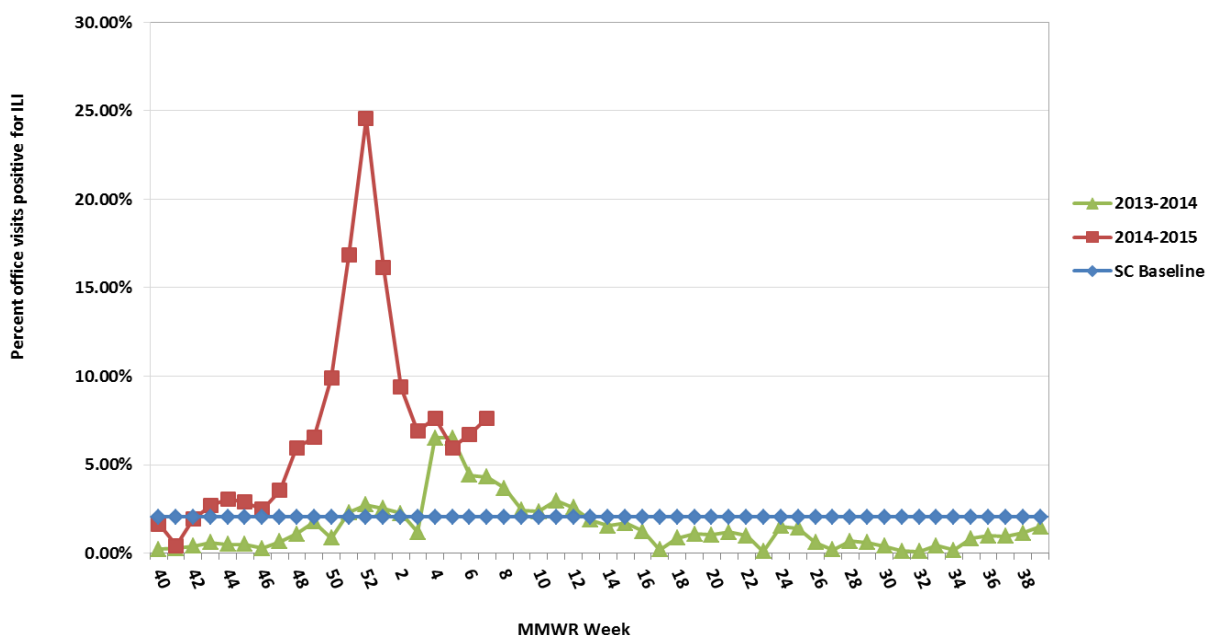
Positive Rapid Tests by Type 2013-14 vs 2014-15 September 28, 2014 - February 14, 2015



III. ILINet Influenza-Like Illness Surveillance

During the most recent MMWR week, 7.64%* of patient visits to SC ILINet providers were due to ILI. This is above the state baseline (2.05%). This ILI percentage compares to 4.31% this time last year. Reports were received from providers in 9 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
February 8, 2015 – February 14, 2015**

County	ILI %	County	ILI %
Abbeville	---	Greenwood	NR
Aiken	0.88%	Hampton	NR
Allendale	---	Horry	NR
Anderson	4.40%	Jasper	NR
Bamberg	---	Kershaw	NR
Barnwell	---	Lancaster	---
Beaufort	NR	Laurens	NR
Berkeley	NR	Lee	---
Calhoun	---	Lexington	NR
Charleston	17.08%	Marion	---
Cherokee	---	Marlboro	---
Chester	---	McCormick	NR
Chesterfield	---	Newberry	---
Clarendon	---	Oconee	---
Colleton	---	Orangeburg	---
Darlington	---	Pickens	0%
Dillon	NR	Richland	1.15%
Dorchester	NR	Saluda	0%
Edgefield	---	Spartanburg	NR
Fairfield	---	Sumter	NR
Florence	0.95%	Union	---
Georgetown	NR	Williamsburg	---
Greenville	1.53%	York	4.22%

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

IV. Influenza hospitalizations and deaths

For the current MMWR reporting week, 158 lab confirmed influenza hospitalizations were reported by 60 hospitals. 5 lab confirmed influenza deaths were reported.* So far this season, 2,662 lab confirmed hospitalizations and 120 lab confirmed deaths have been reported.

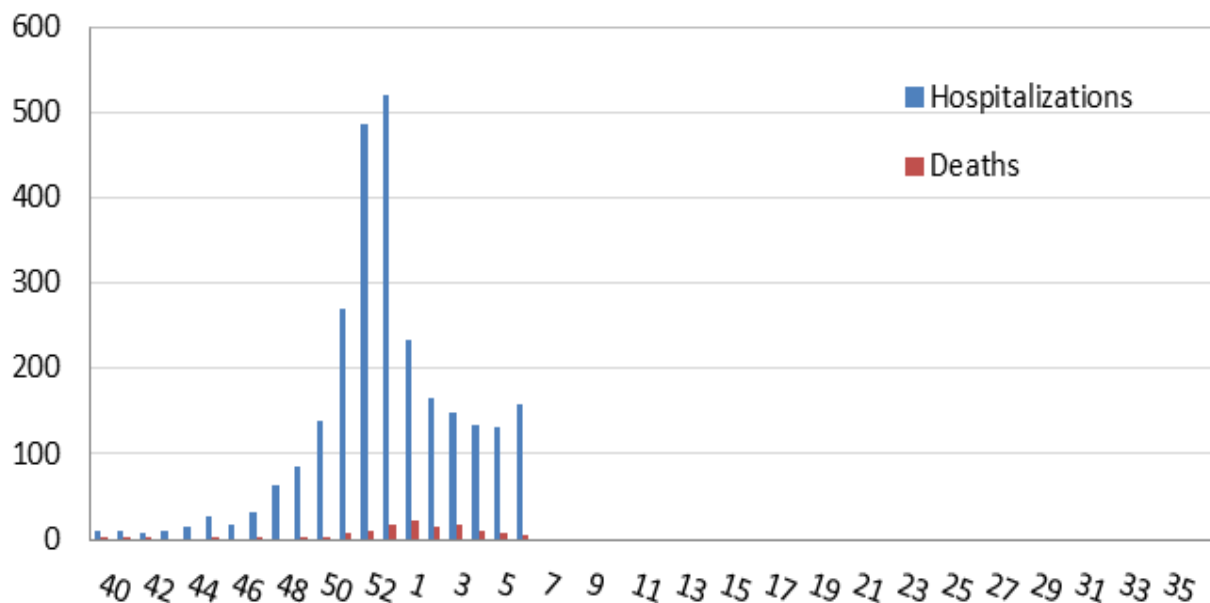
<i>Current MMWR Week (2/8/15 - 2/14/15)</i>							
	0-4	5-17	18-49	50-64	65+	Unk	Total
Hospitalizations	10	2	8	24	114		158
Deaths		1	1	1	2		5

<i>Cumulative (9/28/14 - 2/14/15)</i>							
	0-4	5-17	18-49	50-64	65+	Unk	Total
Hospitalizations	137	94	306	453	1,670	2	2,662
Deaths		3	6	12	99		120

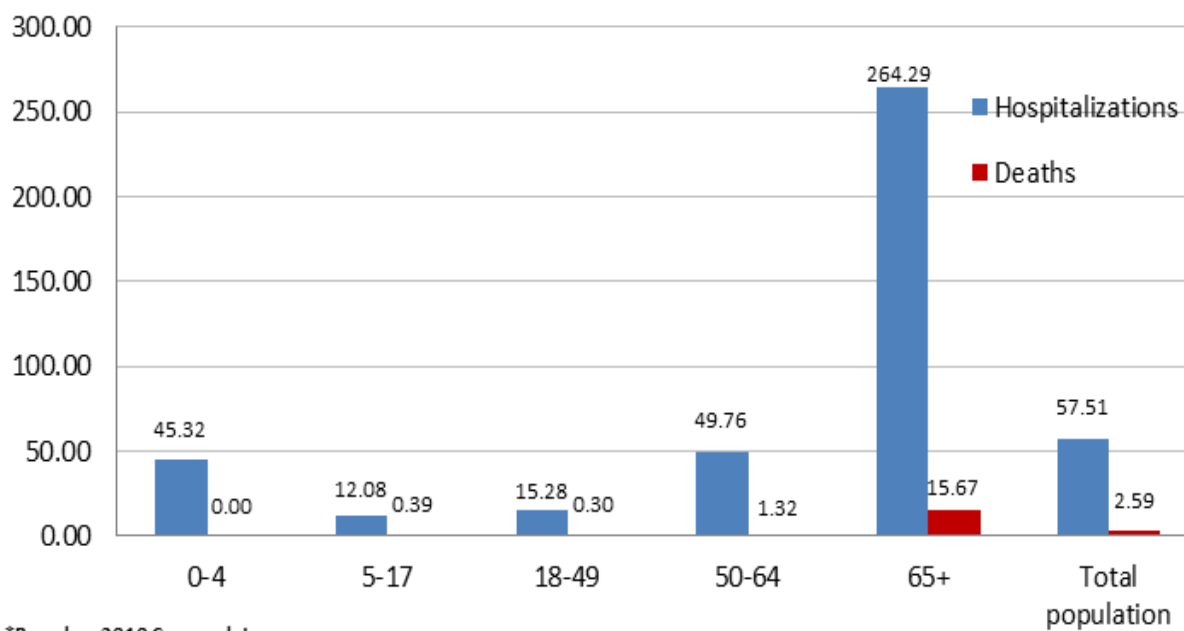
* Lab confirmation for hospitalizations and deaths includes culture, PCR, DFA, IFA, and rapid test.

Laboratory Confirmed Influenza Deaths by County	
County	Total Deaths
Abbeville	<4
Aiken	9
Anderson	4
Beaufort	7
Charleston	7
Cherokee	<4
Darlington	4
Dillon	<4
Dorchester	<4
Florence	7
Greenville	16
Greenwood	<4
Horry	<4
Jasper	<4
Lancaster	4
Laurens	9
Lee	<4
Lexington	7
McCormick	<4
Newberry	<4
Pickens	<4
Richland	11
Spartanburg	13
York	<4

**Reported Cases of Laboratory Confirmed Influenza
Hospitalizations and Deaths by MMWR week
September 28, 2014 - February 14, 2015**



**Laboratory Confirmed Influenza Case Rate/100,000*
Hospitalizations (n=2,662) and Deaths (n=120) by age group
September 28, 2014 - February 14, 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)

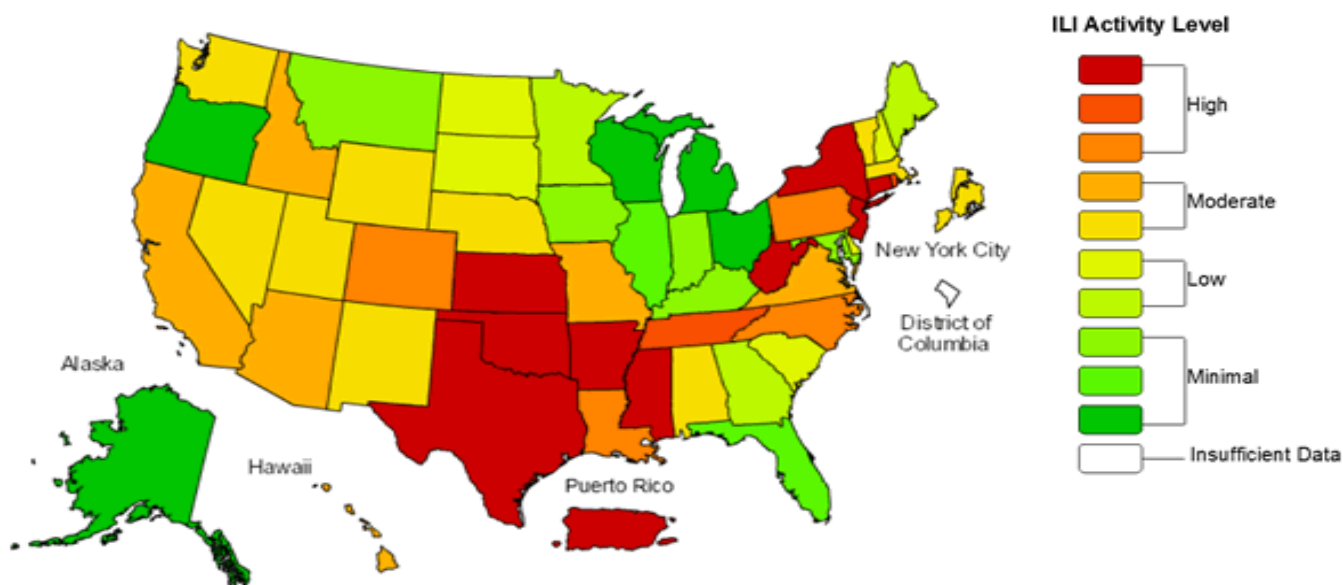
SC-DARTS is a collaborative network of syndromic surveillance systems within South Carolina. Currently our network contains the following data sources: SC Hospital Emergency Department (ED) chief-complaint data, Poison Control Center call data, Over-the-Counter (OTC) pharmaceutical sales surveillance, 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.

VI. National Surveillance MMWR Week 5 (2/1– 2/7)

During week 5 (February 1-7, 2015), influenza activity decreased, but remained elevated in the United States.

- **Viral Surveillance:** Of 21,340 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 5, 3,174 (14.9%) were positive for influenza.
- **Pneumonia and Influenza Mortality:** The proportion of deaths attributed to pneumonia and influenza (P&I) was above the epidemic threshold.
- **Influenza-associated Pediatric Deaths:** Eleven influenza-associated pediatric deaths were reported.
- **Influenza-associated Hospitalizations:** A cumulative rate for the season of 44.1 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 3.8%, above the national baseline of 2.0%. All 10 regions reported ILI at or above region-specific baseline levels. Puerto Rico and 15 states experienced high ILI activity; New York City and 15 states experienced moderate ILI activity; eight states experienced low ILI activity; 12 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 32 states was reported as widespread; Guam, the U.S. Virgin Islands, and 16 states reported regional activity; and the District of Columbia and two states reported local activity.

**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2014-15 Influenza Season Week 5 ending Feb 07, 2015**



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