



Flu Watch

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

Week Ending December 20, 2014 (MMWR Week 51)

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	12
VI. National surveillance	13
VII. Definitions for influenza surveillance	14

MMWR Week 51 at a Glance:

Influenza Activity Synopsis:

During the last MMWR week influenza activity in SC continued to increase, with the number of reported cases more than doubling the previous week. South Carolina reported WIDESPREAD activity for week 51.

Laboratory surveillance:

- 9,056 laboratory-confirmed cases of influenza were reported from 39 counties. This includes positive rapid tests, cultures, RT-PCRs, DFAs, and IFAs.
- 18,630 laboratory-confirmed cases have been reported this season, with cases identified in 42 counties. 17,087 (91.7%) of all laboratory-confirmed cases this season are influenza A, 968 (5.2%) are influenza B, 516 (2.8%) are influenza A/B, and 59 (.32%) are of unknown type.

ILI Activity (South Carolina baseline is 2.05%):

- Influenza-like illness activity at sentinel providers was above South Carolina's baseline (16.85%). 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:

- 269 lab confirmed hospitalizations were reported. Since 9/28/14, 783 lab confirmed hospitalizations have been reported.

Deaths:

- Four lab confirmed deaths were reported. Since 9/28/14, 12 lab confirmed deaths have been reported.

**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	89	42	▲ 111.9%	208	168	▲ 23.8%
Percent of ILI visits reported by ILINet providers	16.85%	9.91%	▲ 6.94%	--	--	--
Number of lab confirmed flu hospitalizations	269	177	▲ 52.0%	783	439	▲ 78.4%
Number of lab confirmed flu deaths	4	1	▲ 300%	12	7	▲ 71.4%

I. Confirmatory testing

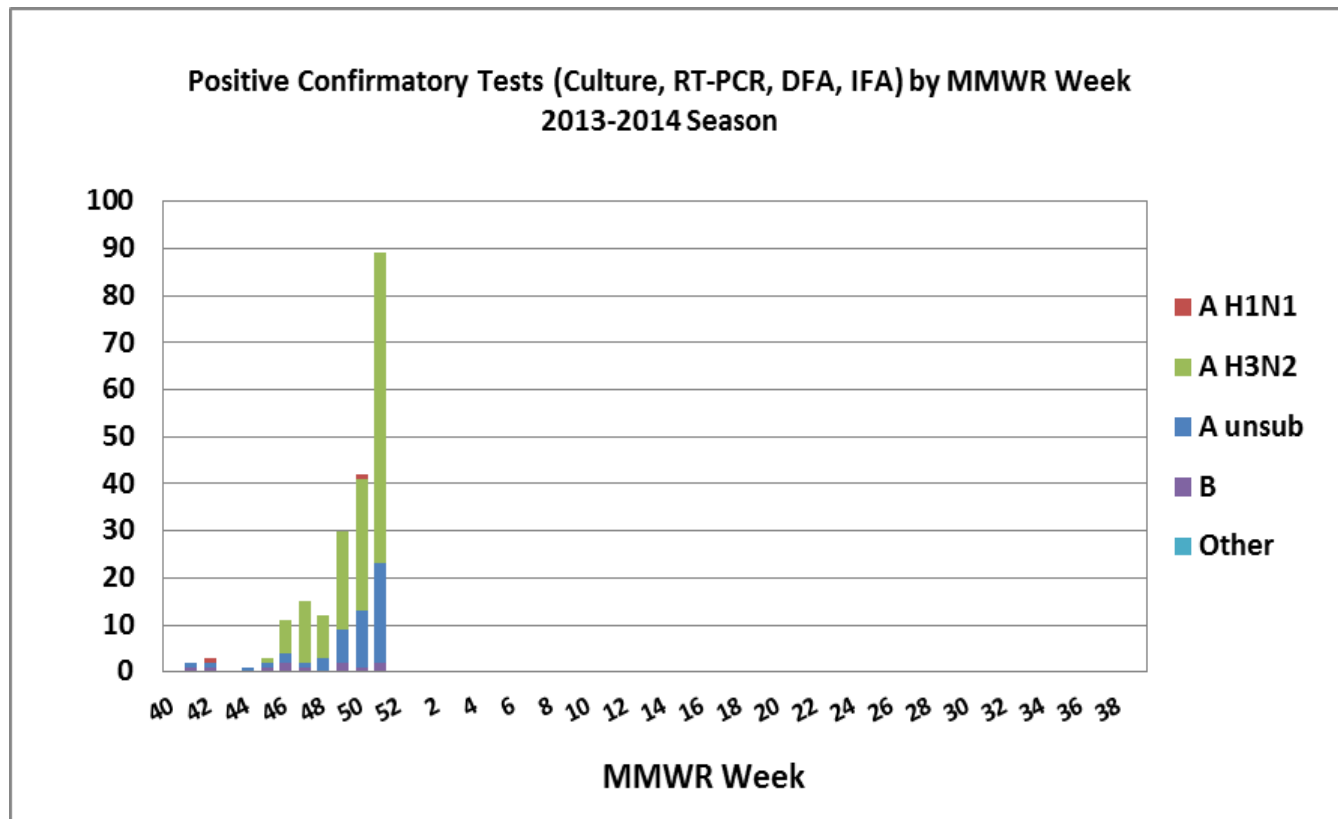
<i>Positive confirmatory influenza test results Current MMWR Week (12/14/14 – 12/20/14)</i>	
	BOL and reference labs
Number of positive confirmatory tests	89
Influenza A unsubtype	21
Influenza A H1N1	
Influenza A H3N2	66
Influenza B	2
Other	
Includes culture, RT-PCR, DFA, and IFA	

For the current MMWR reporting week, 89 positive confirmatory tests were reported. So far this season 208 positive confirmatory tests have been reported.

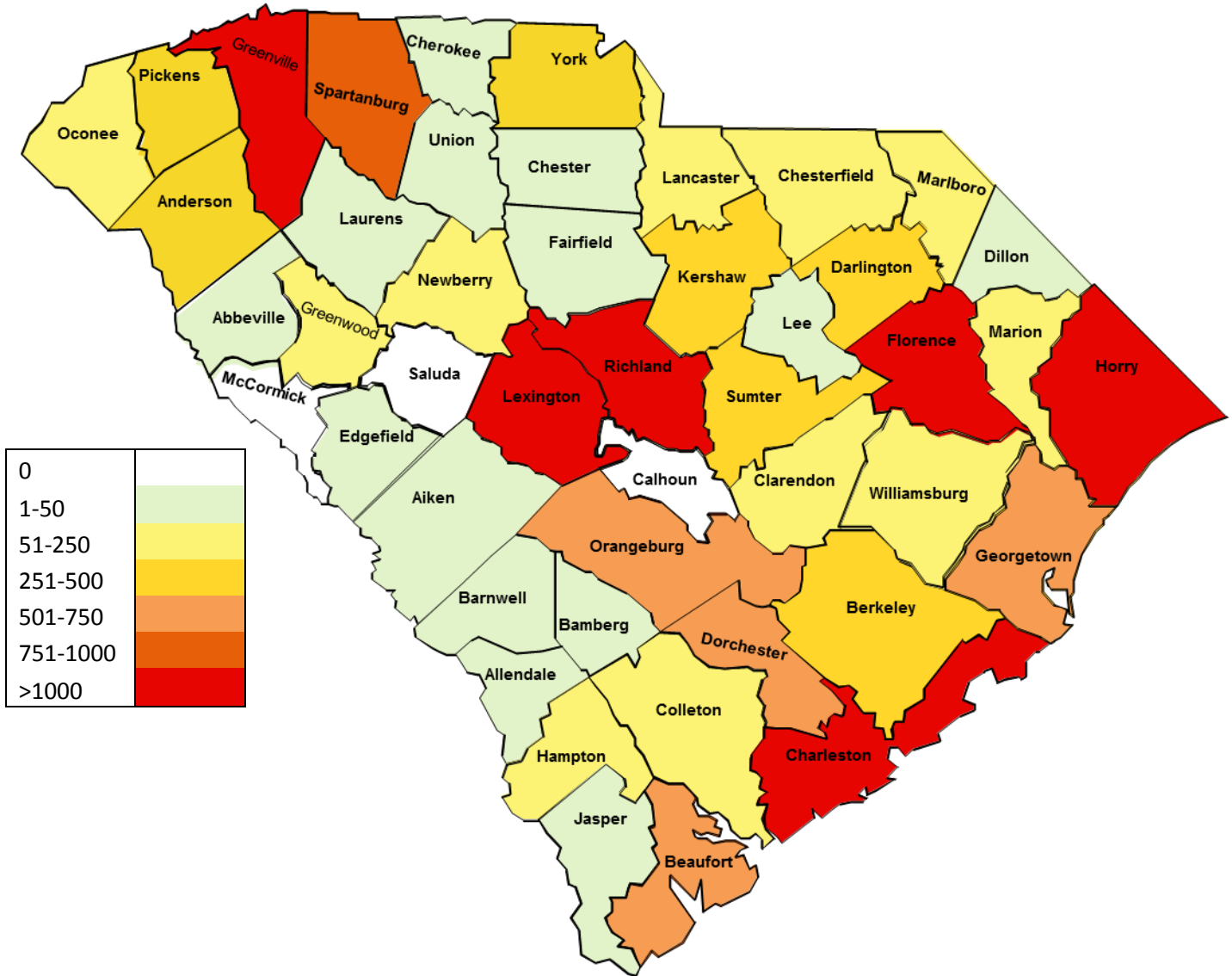
<i>Positive confirmatory influenza test results* Cumulative (09/28/14 – 12/20/14)</i>	
	BOL and reference labs
Number of positive confirmatory tests	208
Influenza A unsubtype	50 (24.0%)
Influenza A H1N1	2 (0.96%)
Influenza A H3N2	145 (69.7%)
Influenza B	11 (5.3%)
Unk/Other	
Includes culture, RT-PCR, DFA, and IFA	

**Positive Confirmatory Tests (Culture, RT-PCR, DFA, IFA)
by County
Current Week 12/14/14 – 12/20/14**

County	Positive Tests	County	Positive Tests	County	Positive Tests
Abbeville	<4	Dillon	0	Marion	0
Aiken	17	Dorchester	7	Marlboro	0
Allendale	0	Edgefield	<4	McCormick	0
Anderson	<4	Fairfield	0	Newberry	<4
Bamberg	0	Florence	0	Oconee	0
Barnwell	0	Georgetown	<4	Orangeburg	0
Beaufort	17	Greenville	<4	Pickens	0
Berkeley	<4	Greenwood	<4	Richland	<0
Calhoun	0	Hampton	0	Saluda	0
Charleston	24	Horry	6	Spartanburg	0
Cherokee	0	Jasper	0	Sumter	<4
Chester	0	Kershaw	0	Union	0
Chesterfield	0	Lancaster	0	Williamsburg	0
Clarendon	0	Laurens	0	York	<4
Colleton	0	Lee	0	Unknown	0
Darlington	0	Lexington	<4		0



Map of all Laboratory Confirmed Cases* by County
 Cumulative 09/28/14 – 12/20/14

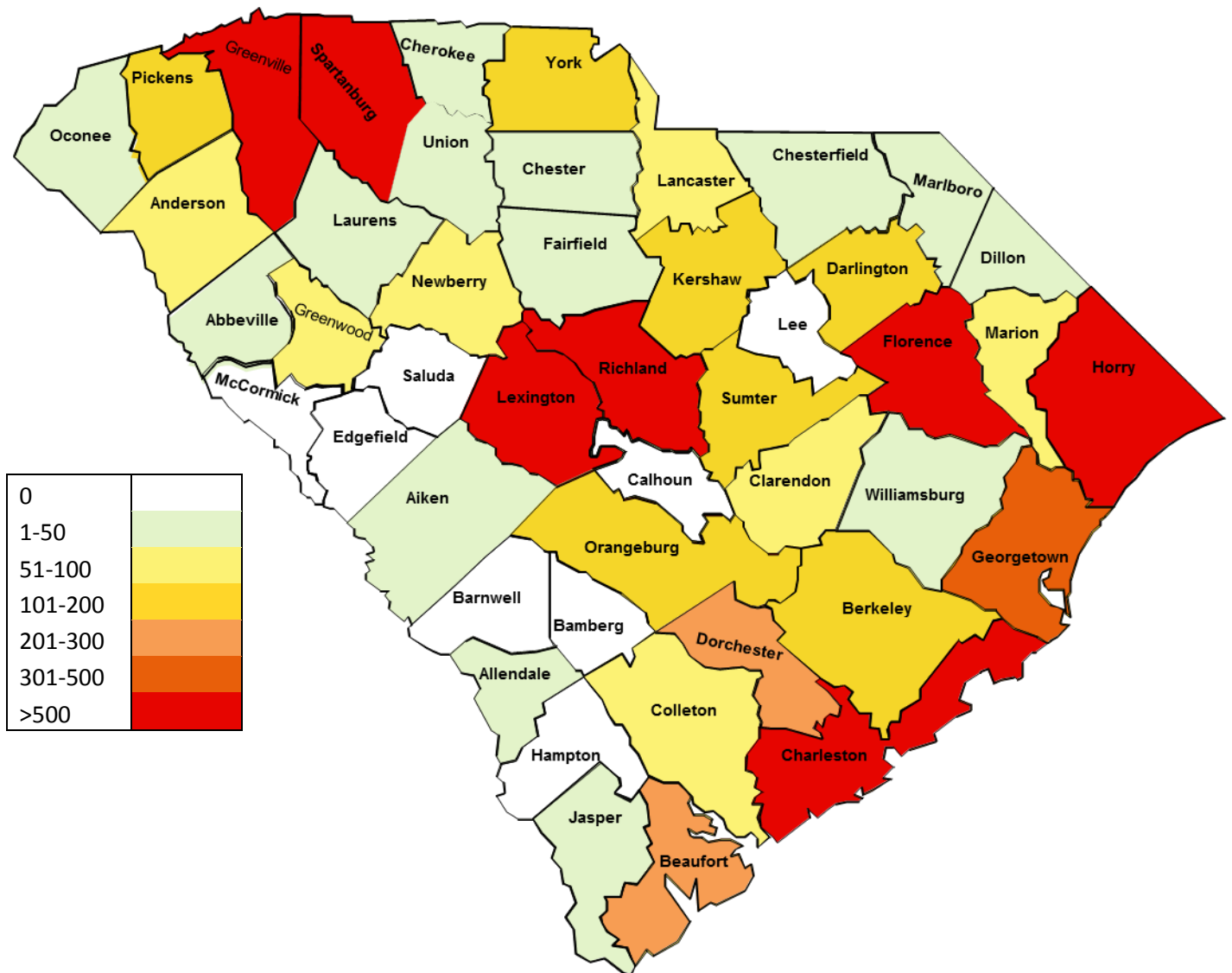


*Includes all laboratory tests (rapid antigen, culture, PCR, IFA, DFA.)

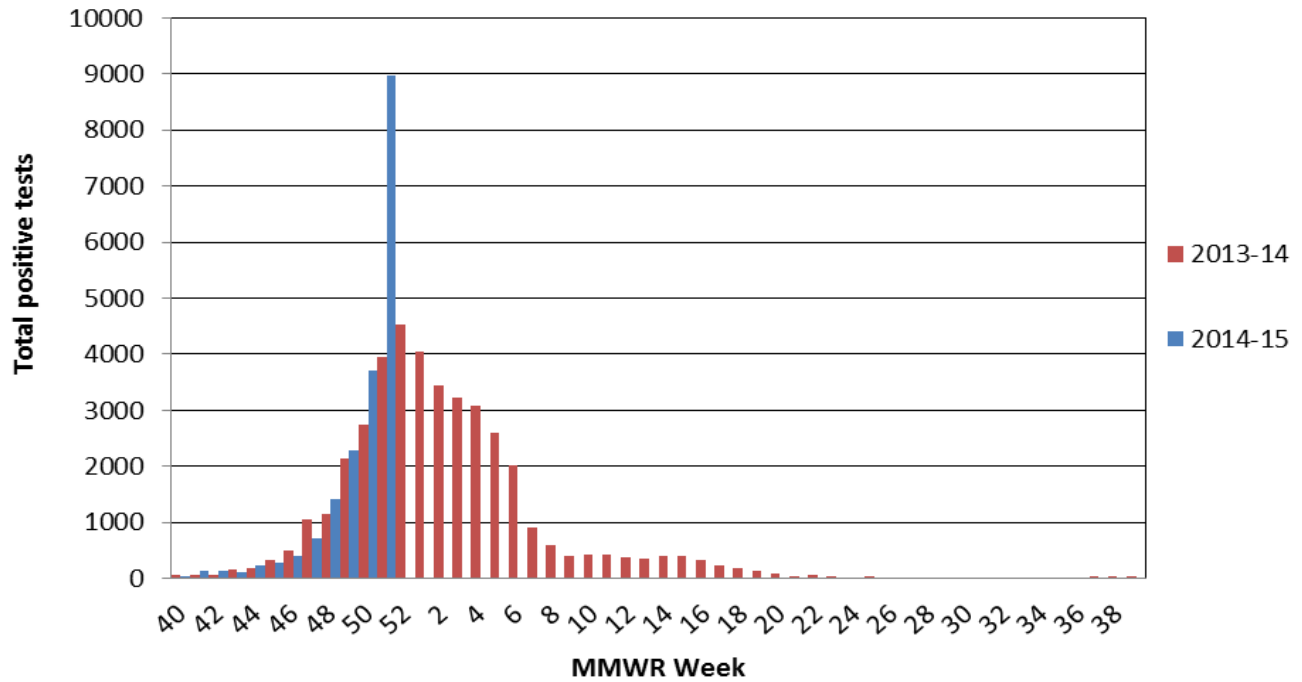
II. Positive Rapid Antigen Tests

For the current MMWR reporting week, 8,967 positive rapid antigen tests were reported. Of these, 8,539 were influenza A, 71 were influenza A/B, 316 were influenza B, and 41 were unknown type. This compares to 3,953 this time last year. 18,422 positive rapid tests have been reported since 9/28/14.

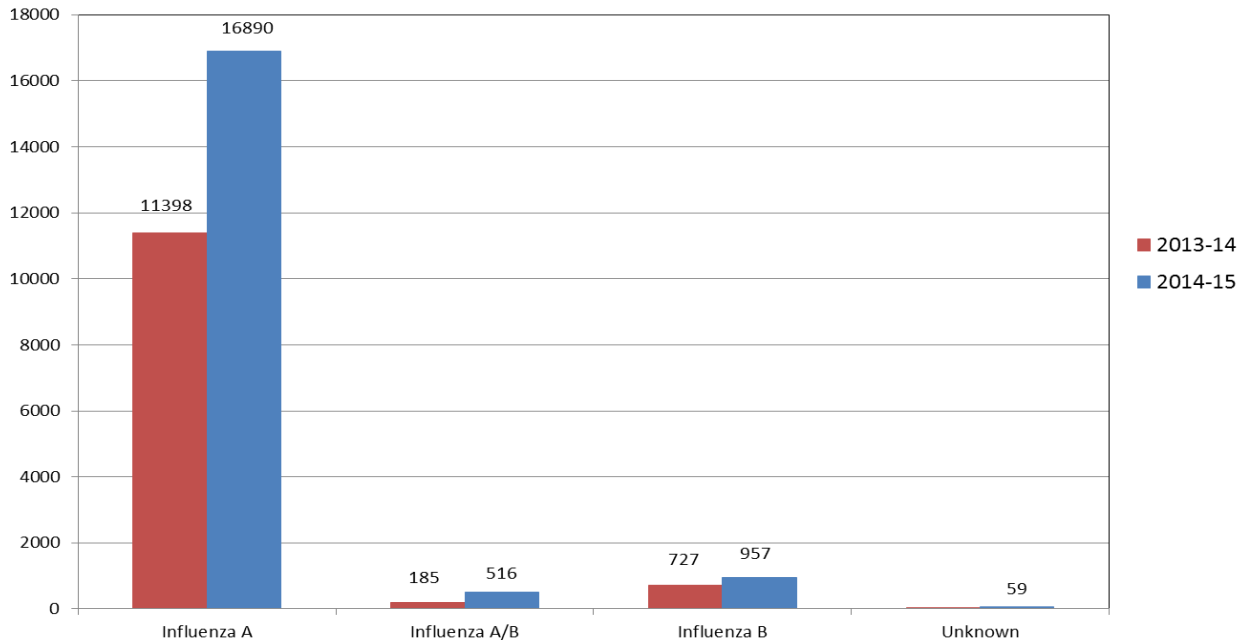
Map of Positive Rapid Influenza Tests by County
(Current Week 12/14/14 - 12/20/14)



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



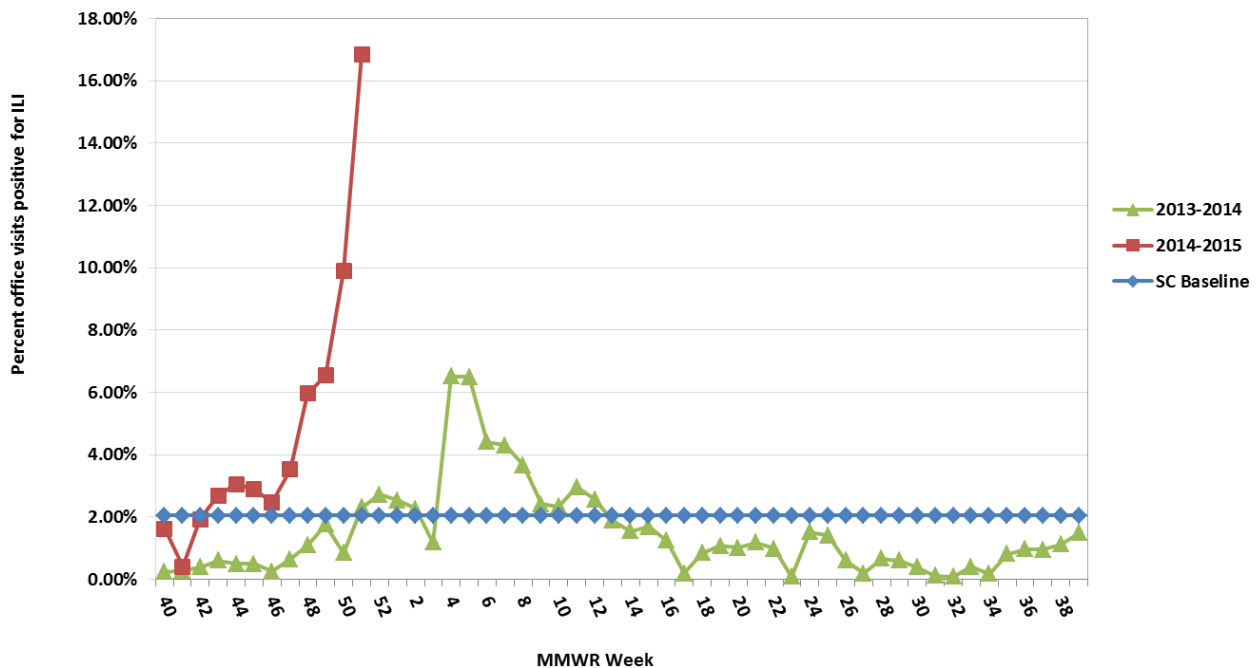
Positive Rapid Tests by Type 2012-13 vs 2013-14 September 28, 2014 - December 20, 2014



III. ILINet Influenza-Like Illness Surveillance

During the most recent MMWR week, 16.85%* of patient visits to SC ILINet providers were due to ILI. This is above the state baseline (2.05%). This ILI percentage compares to 2.31% this time last year. Reports were received from providers in 7 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
December 14, 2014 – December 20, 2014**

County	ILI %	County	ILI %
Abbeville	---	Greenwood	NR
Aiken	1.18%	Hampton	NR
Allendale	---	Horry	NR
Anderson	NR	Jasper	NR
Bamberg	---	Kershaw	NR
Barnwell	---	Lancaster	---
Beaufort	NR	Laurens	NR
Berkeley	NR	Lee	---
Calhoun	---	Lexington	NR
Charleston	35.57%	Marion	---
Cherokee	---	Marlboro	---
Chester	---	McCormick	NR
Chesterfield	---	Newberry	---
Clarendon	---	Oconee	---
Colleton	---	Orangeburg	---
Darlington	---	Pickens	NR
Dillon	NR	Richland	0.41%
Dorchester	NR	Saluda	0%
Edgefield	---	Spartanburg	NR
Fairfield	---	Sumter	NR
Florence	4.51%	Union	---
Georgetown	NA	Williamsburg	---
Greenville	4.42%	York	2.27%

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

IV. Influenza hospitalizations and deaths

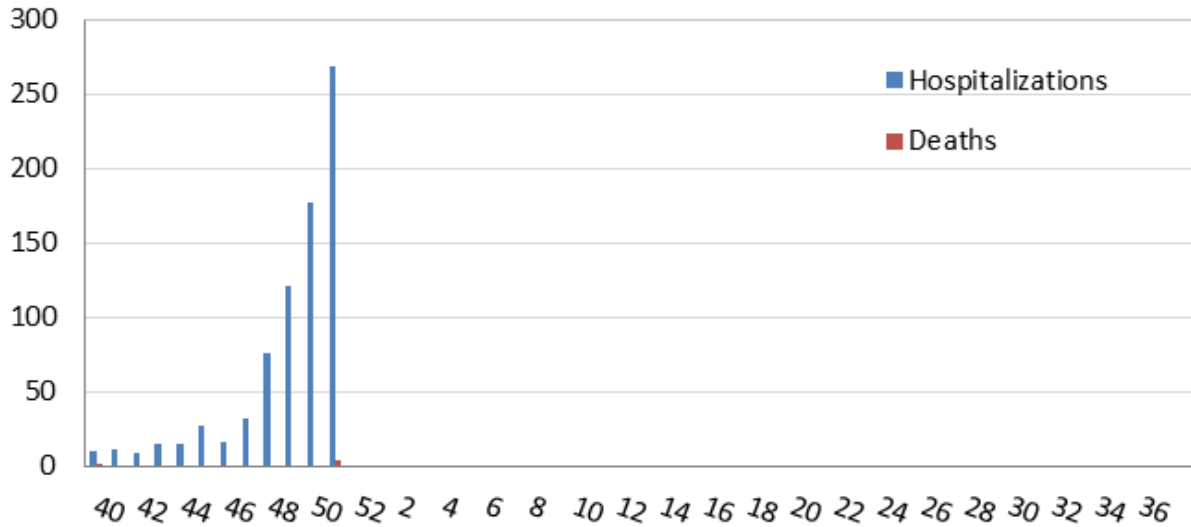
For the current MMWR reporting week, 269 lab confirmed influenza hospitalizations were reported by 63 hospitals. Four lab confirmed influenza deaths were reported.* So far this season, 783 lab confirmed hospitalizations and 12 lab confirmed deaths have been reported.

<i>Current MMWR Week (12/1/14 -12/20/14)</i>							
	0-4	5-17	18-49	50-64	65+	Unk	Total
Hospitalizations	18	13	37	46	155		269
Deaths					4		4

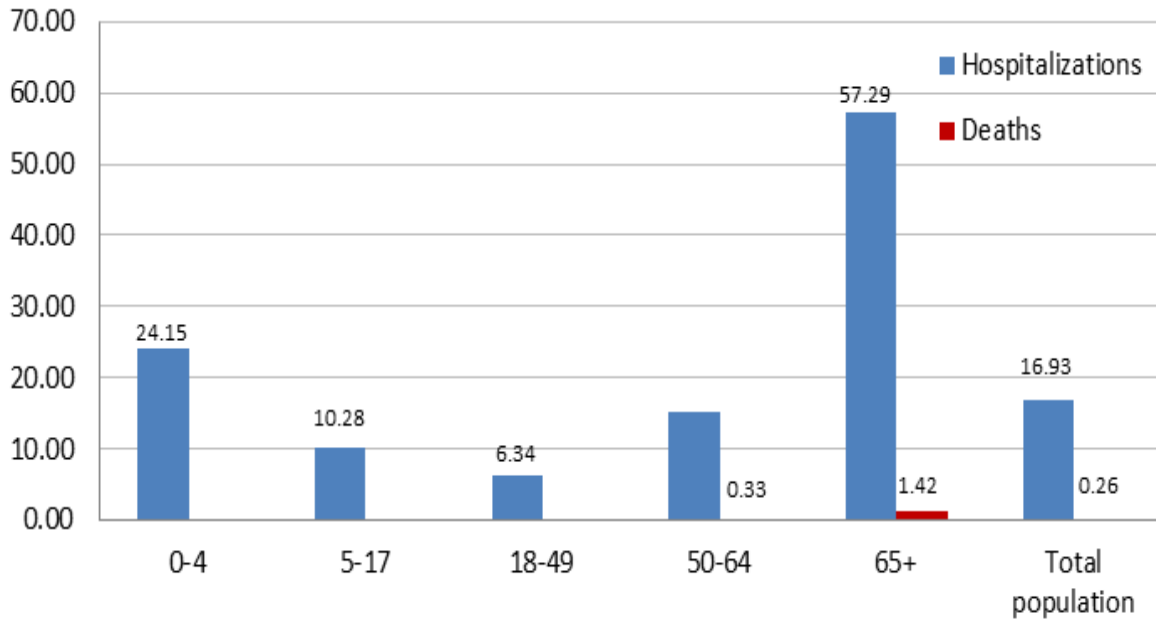
<i>Cumulative (9/28/14 -12/13/14)</i>							
	0-4	5-17	18-49	50-64	65+	Unk	Total
Hospitalizations	73	80	127	139	362	2	783
Deaths	0	0	0	3	9	0	12

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

**Reported Cases of Laboratory Confirmed Influenza
Hospitalizations and Deaths by MMWR week
September 28, 2014 - December 20, 2014**



**Laboratory Confirmed Influenza Case rate/100,000
Hospitalizations (n=783) and Deaths (n=12) by age group
September 28, 2014 - December 20, 2014**



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 lab confirmed influenza deaths in adults should 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 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)

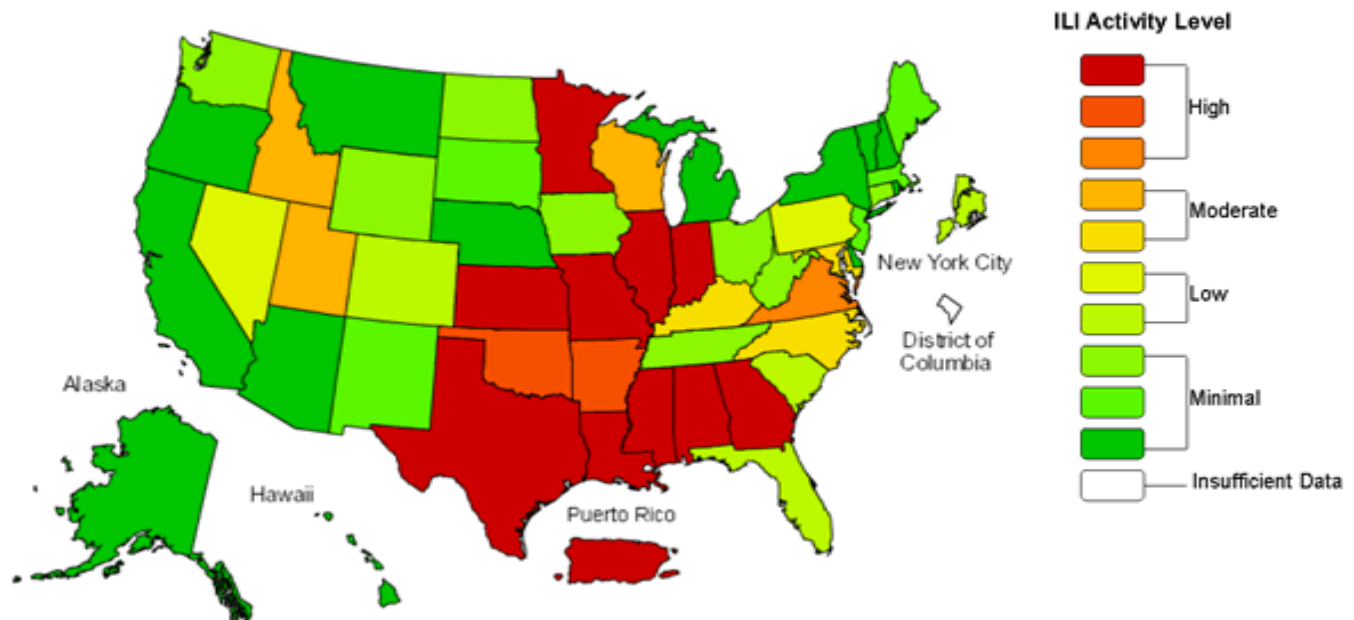
SC-DARTS is a collaborative network of syndromic surveillance systems within South Carolina. Currently our network contains the following data sources: SC Hospital Emergency Department (ED) chief-complaint data, Poison Control Center call data, Over-the-Counter (OTC) pharmaceutical sales surveillance, 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 50 (12/7– 12/13)

During week 50 (December 7-13, 2014), influenza activity continued to increase in the United States.

- **Viral Surveillance:** Of 20,064 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 50, 5,200 (25.9%) were positive for influenza.
- **Pneumonia and Influenza Mortality:** The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold.
- **Influenza-associated Pediatric Deaths:** Four influenza-associated pediatric deaths were reported.
- **Influenza-associated Hospitalizations:** A cumulative rate for the season of 6.2 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 3.7%, above the national baseline of 2.0%. Nine of 10 regions reported ILI at or above region-specific baseline levels. Puerto Rico and 13 states experienced high ILI activity; six states experienced moderate ILI activity; New York City and five states experienced low ILI activity; 26 states experienced minimal ILI activity; and the District of Columbia had insufficient data.
- **Geographic Spread of Influenza:** The geographic spread of influenza in Guam and 29 states was reported as widespread; Puerto Rico and 14 states reported regional activity; the District of Columbia, the U.S. Virgin Islands and five states reported local activity; and two states reported sporadic activity.

**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2014-15 Influenza Season Week 50 ending Dec 13, 2014**



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, 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