



Flu Watch

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

Week Ending May 23, 2015 (MMWR Week 20)

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 20 at a Glance:

Influenza Activity Synopsis:

During the last MMWR week influenza activity decreased. ILI% fell below baseline again. South Carolina reported LOCAL activity for week 20.

Laboratory surveillance:

- 131 laboratory-confirmed cases of influenza were reported from 17 counties. This includes positive rapid tests, cultures, RT-PCRs, DFAs, and IFAs. This compares to 47 cases this time last year.
- 74,285 laboratory-confirmed cases have been reported this season, with cases identified in 45 counties. This compares to 64,518 cumulative cases this time last year.
- 59,016 (79.5%) of all laboratory-confirmed cases this season are influenza A, 13,798 (18.6%) are influenza B, 1,202 (1.6%) are influenza A/B, and 269 (0.36%) are of unknown or other type.

ILI Activity (South Carolina baseline is 2.05%):

- Influenza-like illness activity at sentinel providers was below South Carolina's baseline (1.69%). 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:

- 5 lab confirmed hospitalizations were reported. 3,341 lab confirmed hospitalizations have been reported since 9/28/14.

Deaths:

- No lab confirmed deaths were reported. 155 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	1	1	--	1,184	750	▲ 57.9%
Number of positive rapid tests	130	188	▼ 30.9%	73,101	63,768	▲ 14.6%
Percent of ILI visits reported by ILINet providers	1.69%	2.08%	▼ 0.39%	--	--	--
Number of lab confirmed flu hospitalizations	5	7	▼ 63.2%	3,341	1,915	▲ 74.6%
Number of lab confirmed flu deaths	0	0	--	155	76	▲ 104%

I. Confirmatory testing

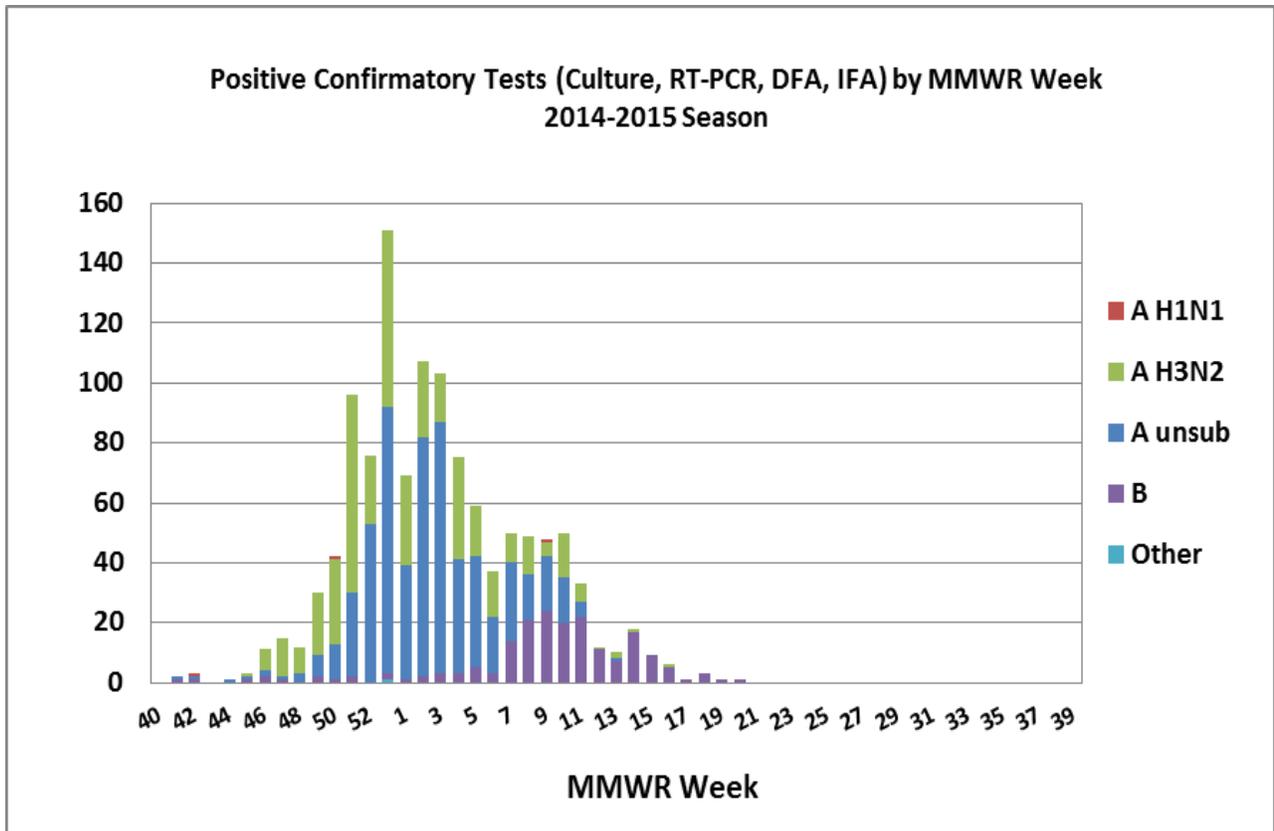
<i>Positive confirmatory influenza test results Current MMWR Week (5/17/15– 5/23/15)</i>	
	BOL and reference labs
Number of positive confirmatory tests	
Influenza A unsubtype	
Influenza A H1N1	
Influenza A H3N2	
Influenza B	1(100%)
Other	
Includes culture, RT-PCR, DFA, and IFA	

For the current MMWR reporting week, 1 positive confirmatory test was reported. So far this season 1,184 positive confirmatory tests have been reported.

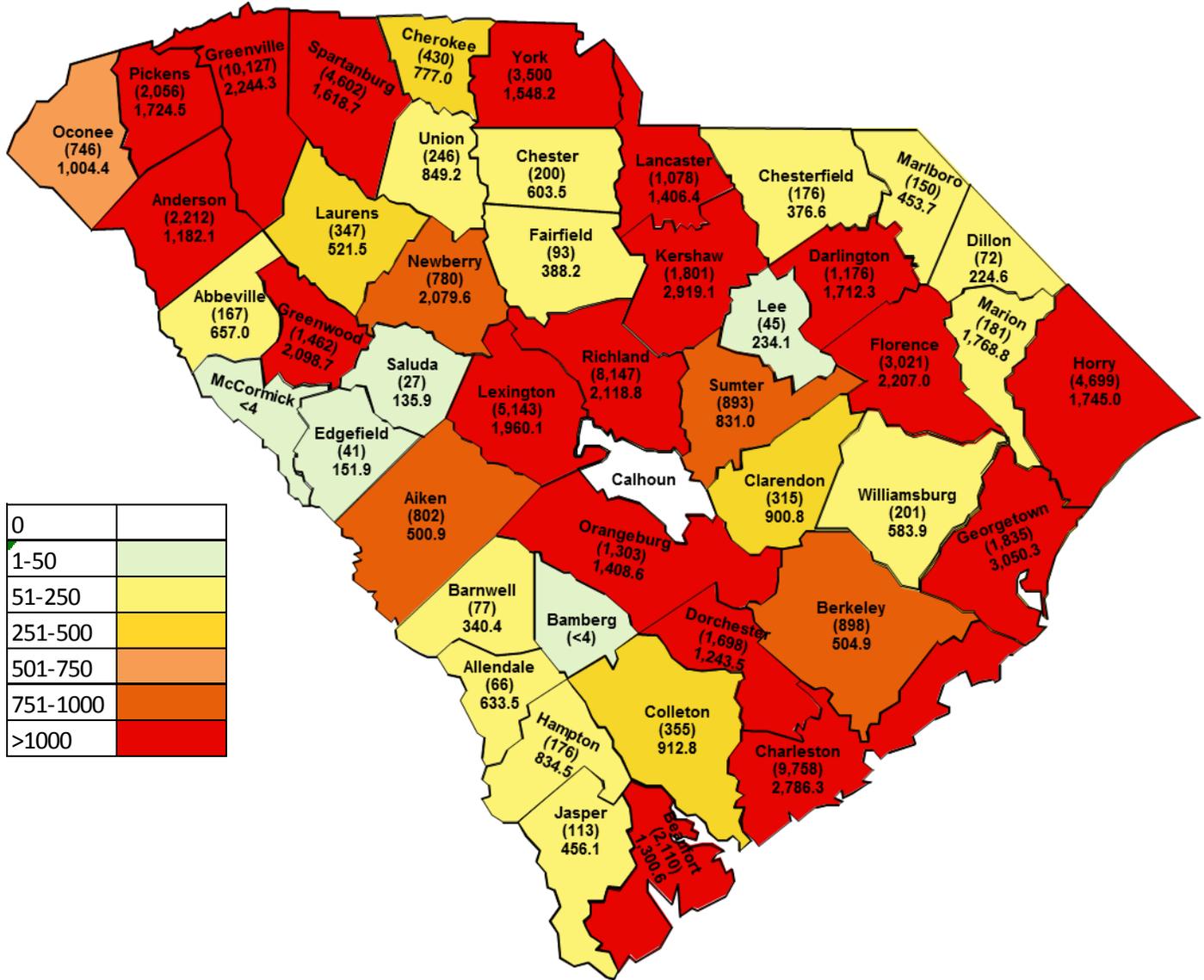
<i>Positive confirmatory influenza test results* Cumulative (09/28/14 – 5/23/15)</i>	
	BOL and reference labs
Number of positive confirmatory tests	1,184
Influenza A unsubtype	575 (48.6%)
Influenza A H1N1	3 (0.25%)
Influenza A H3N2	418 (35.3%)
Influenza B	186 (15.7%)
Unk/Other	2 (0.17%)
Includes culture, RT-PCR, DFA, and IFA	

**Positive Confirmatory Tests (Culture, RT-PCR, DFA, IFA)
by County
Current Week 5/17/15 – 5/23/15**

County	Positive Tests	County	Positive Tests	County	Positive Tests
Abbeville	0	Dillon	0	Marion	0
Aiken	0	Dorchester	0	Marlboro	0
Allendale	0	Edgefield	0	McCormick	0
Anderson	0	Fairfield	0	Newberry	0
Bamberg	0	Florence	0	Oconee	0
Barnwell	0	Georgetown	0	Orangeburg	0
Beaufort	0	Greenville	0	Pickens	0
Berkeley	0	Greenwood	0	Richland	<4
Calhoun	0	Hampton	0	Saluda	0
Charleston	0	Horry	0	Spartanburg	0
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	0		



Map of all Laboratory Confirmed Cases (n)* and
Population Case Rates/100,000 by County
Cumulative 09/28/14 – 5/23/15

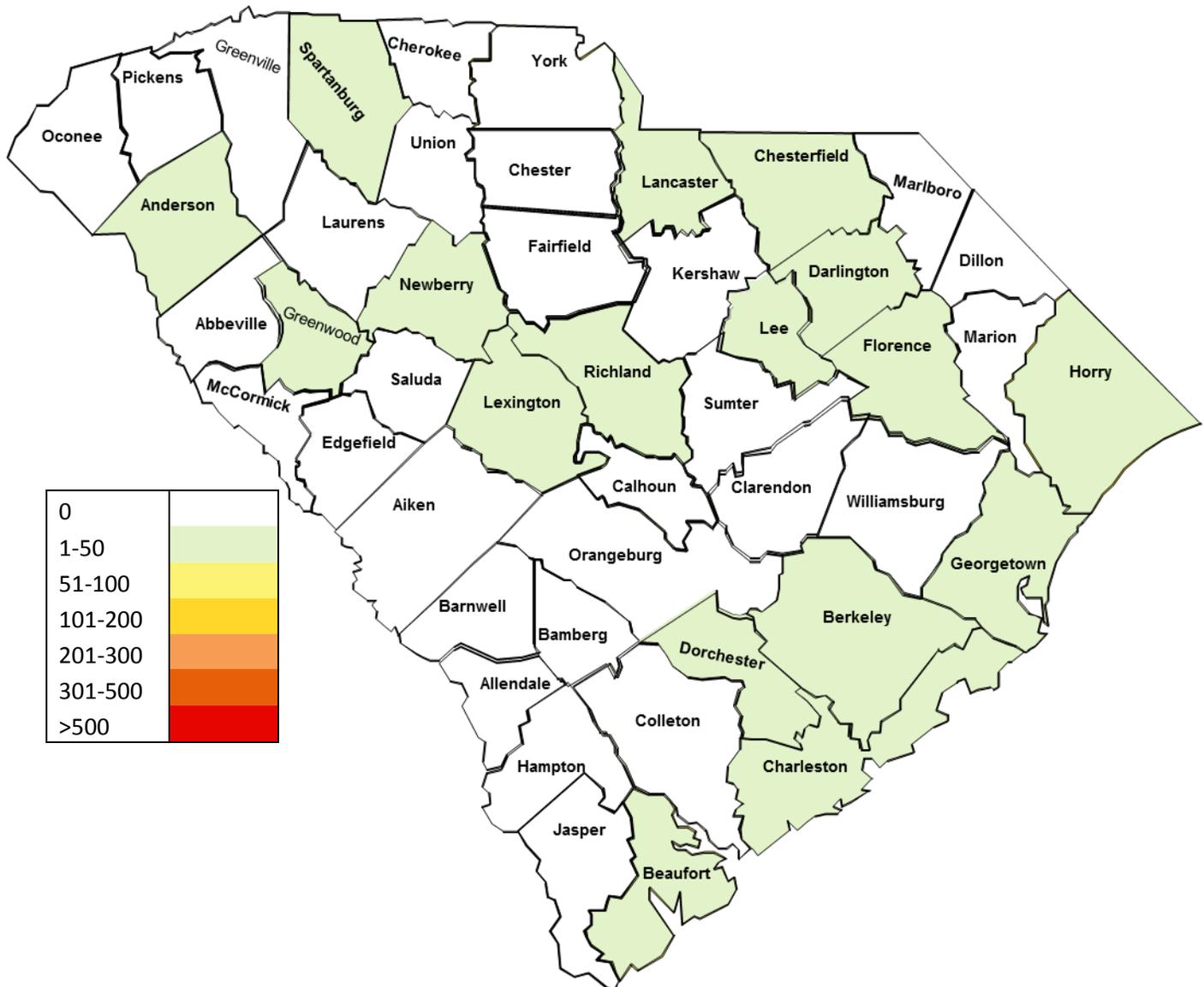


*Includes all laboratory tests (rapid antigen, culture, PCR, IFA, DFA.)

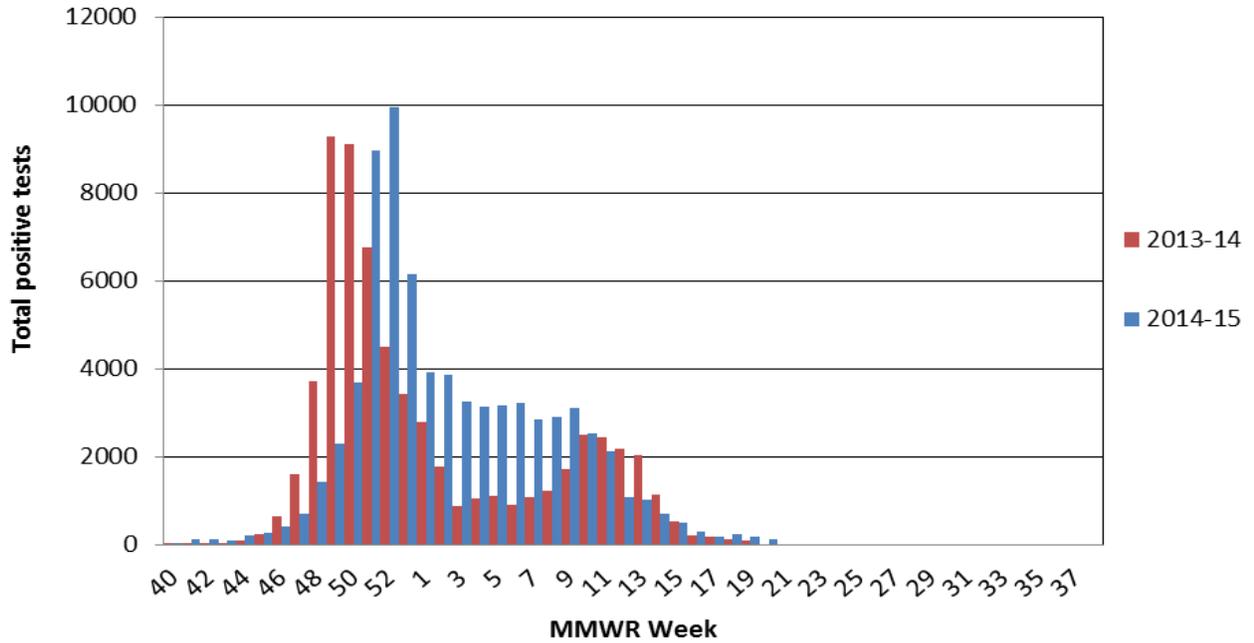
II. Positive Rapid Antigen Tests

For the current MMWR reporting week, 130 positive rapid antigen tests were reported. Of these, 72 were influenza A, 3 were influenza A/B, and 55 were influenza B. This compares to 44 this time last year. 73,101 positive rapid tests have been reported since 9/28/14.

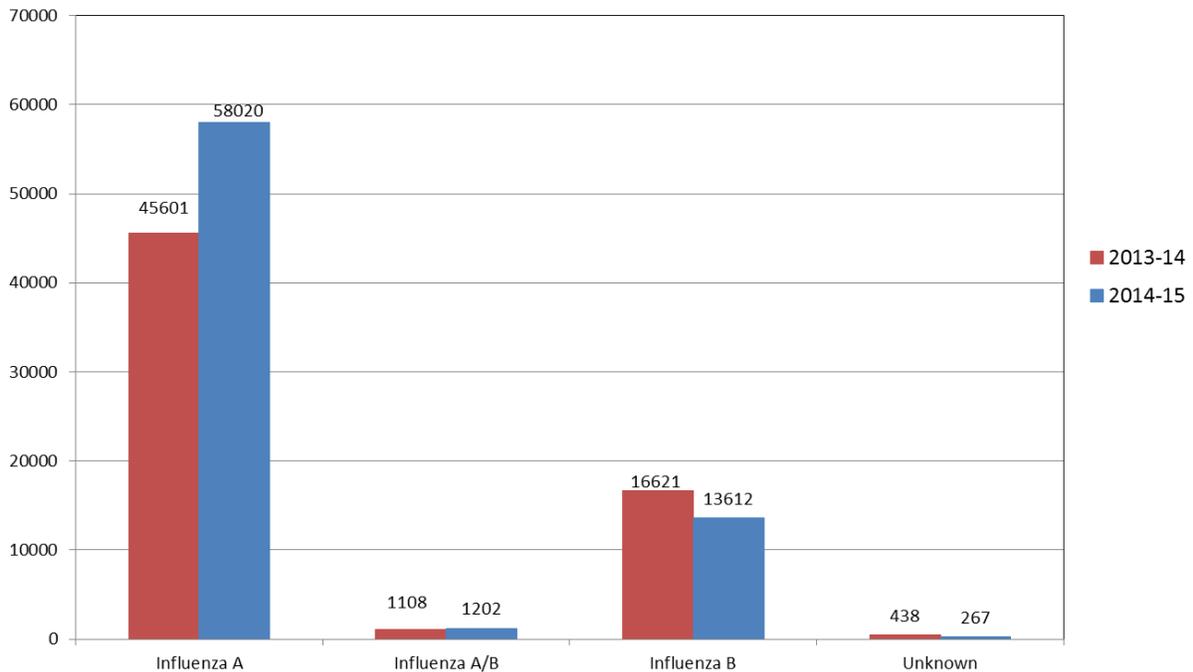
Map of Positive Rapid Influenza Tests by County
(Current Week 5/17/15 – 5/23/15)



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



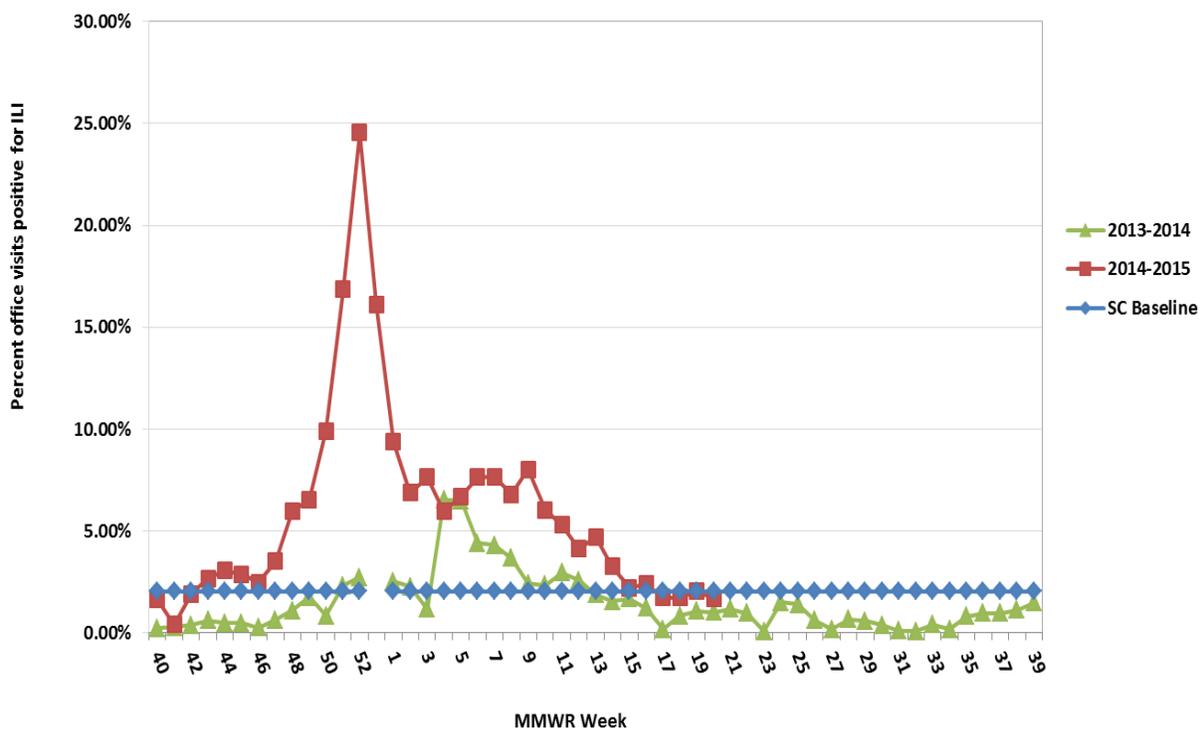
Positive Rapid Tests by Type 2013-14 vs 2014-15 September 28, 2014 - May 23, 2015



III. ILINet Influenza-Like Illness Surveillance

During the most recent MMWR week 1.69%* of patient visits to SC ILINet providers were due to ILI. This is below the state baseline (2.05%). This ILI percentage compares to 1.18% this time last year. Reports were received from providers in 5 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
May 17, 2015 – May 23, 2015

County	ILI %	County	ILI %
Abbeville	---	Greenwood	NR
Aiken	NR	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	2.34%	Marion	---
Cherokee	---	Marlboro	---
Chester	---	McCormick	NR
Chesterfield	---	Newberry	---
Clarendon	---	Oconee	---
Colleton	---	Orangeburg	---
Darlington	---	Pickens	0%
Dillon	NR	Richland	NR
Dorchester	NR	Saluda	0%
Edgefield	---	Spartanburg	NR
Fairfield	---	Sumter	NR
Florence	0%	Union	---
Georgetown	NR	Williamsburg	---
Greenville	0%	York	0%

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

IV. Influenza hospitalizations and deaths

For the current MMWR reporting week, 5 lab confirmed influenza hospitalizations were reported by 21 hospitals. No lab confirmed influenza deaths were reported.* So far this season, 3,341 lab confirmed hospitalizations and 155 lab confirmed deaths have been reported.

<i>Current MMWR Week (5/17/15 - 5/23/15)</i>							
	0-4	5-17	18-49	50-64	65+	Unk	Total
Hospitalizations			2	1	2		5
Deaths							0

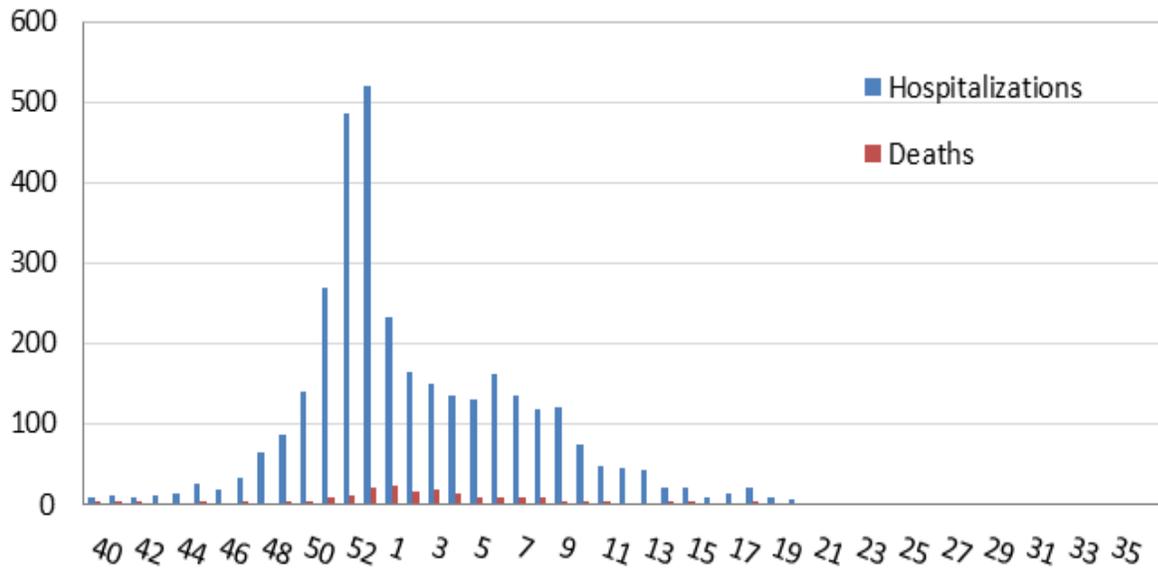
<i>Cumulative (9/28/14 - 5/23/15)</i>							
	0-4	5-17	18-49	50-64	65+	Unk	Total
Hospitalizations	184	121	381	593	2,060	2	3,341
Deaths		3	8	17	127		155

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

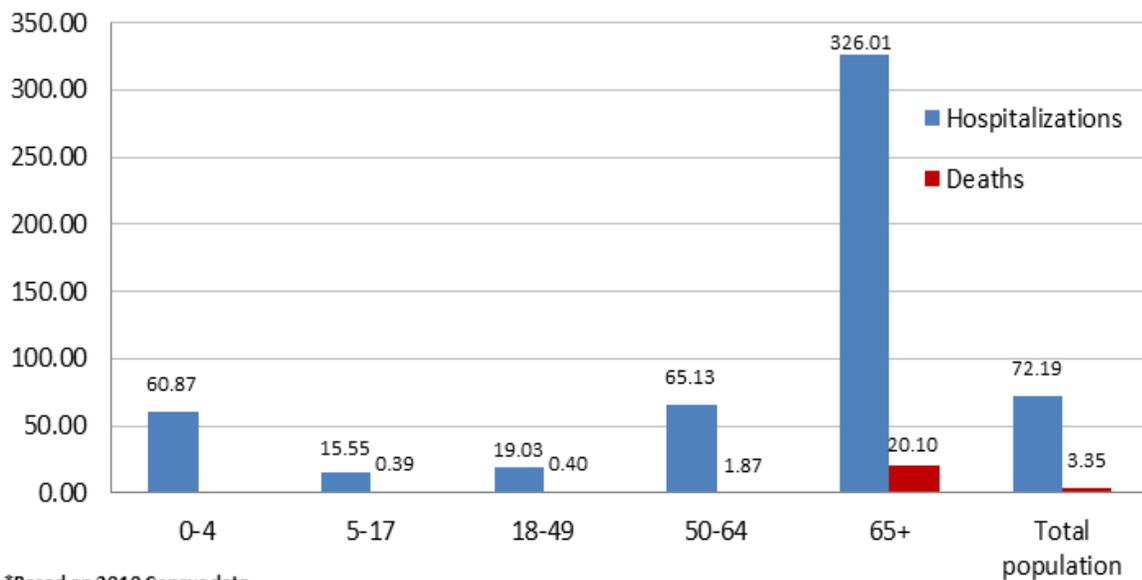
Laboratory Confirmed Influenza Deaths by County
9/28/14 - 5/23/15

County	Total Deaths
Abbeville	<4
Aiken	13
Anderson	8
Berkeley	<4
Beaufort	7
Charleston	7
Cherokee	<4
Colleton	<4
Darlington	4
Dillon	<4
Dorchester	4
Florence	9
Greenville	20
Greenwood	<4
Hampton	<1
Horry	7
Jasper	<4
Lancaster	4
Kershaw	<4
Laurens	9
Lee	<4
Lexington	10
Marion	<4
McCormick	<4
Newberry	<4
Oconee	<4
Pickens	4
Richland	11
Spartanburg	15
York	<4

**Reported Cases of Laboratory Confirmed Influenza
Hospitalizations and Deaths by MMWR week
September 28, 2014 - May 23, 2015**



**Laboratory Confirmed Influenza Case Rate/100,000*
Hospitalizations (n=3,341) and Deaths (n=155) by age group
September 28, 2014 - May 23, 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)

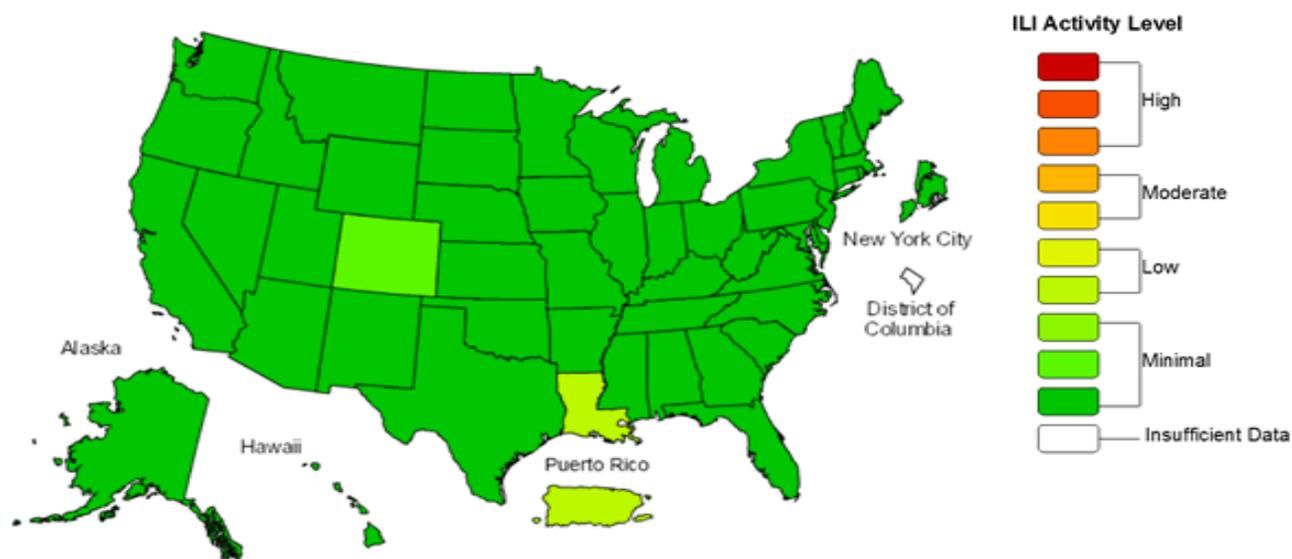
SC-DARTS is a collaborative network of syndromic surveillance systems within South Carolina. Currently our network contains the following data sources: SC Hospital Emergency Department (ED) chief-complaint data, Poison Control Center call data, Over-the-Counter (OTC) pharmaceutical sales surveillance, 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 19 (5/10- 5/16)

During week 19 (May 10-16, 2015), influenza activity continued to decrease in the United States.

- **Viral Surveillance:** Of 6,553 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 19, 228 (3.5%) 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:** Three influenza-associated pediatric deaths were reported, including two influenza-associated pediatric deaths that occurred during the 2013-14 season.
- **Influenza-associated Hospitalizations:** A cumulative rate for the season of 65.5 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 1.3%, which is below the national baseline of 2.0%. All 10 regions reported ILI below region-specific baseline levels. Puerto Rico and one state experienced low ILI activity; New York City and 49 states experienced minimal ILI activity; and the District of Columbia had insufficient data.
- **Geographic Spread of Influenza:** The geographic spread of influenza in one state was reported as widespread; Guam and one state reported regional activity; Puerto Rico and nine states reported local activity; the District of Columbia and 31 states reported sporadic activity; and the U.S. Virgin Islands and eight states reported no influenza activity.

Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet 2014-15 Influenza Season Week 19 ending May 16, 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