

**South Carolina Department of Health and Environmental Control**  
**Division of Acute Disease Epidemiology**  
**Week Ending December 28, 2013 (MMWR Week 52)**

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

# Flu Watch

**MMWR Week 52 at a Glance:**

**Influenza Activity Level: REGIONAL**

Note: Activity level definitions are found on page 14

**ILI Activity Status (South Carolina baseline is 2.05%\*):** The state ILI percentage was 2.72%. These data reflect reports from 11 (35.5%) providers.

**SC Viral Isolate and RT-PCR Activity:** 41 positive specimens were reported. Since 9/29/13, 185 positive specimens have been reported.

**Positive Rapid Flu Test Activity:** 3938 rapid tests were reported. Since 9/29/13, 13,781 positive rapid tests have been reported.

**Hospitalizations:** 190 lab confirmed hospitalizations were reported. Since 9/29/13, 785 lab confirmed hospitalizations have been reported.

**Deaths:** Three lab confirmed deaths were reported. Since 9/29/13, 9 lab confirmed deaths have been reported.

***In this issue:***

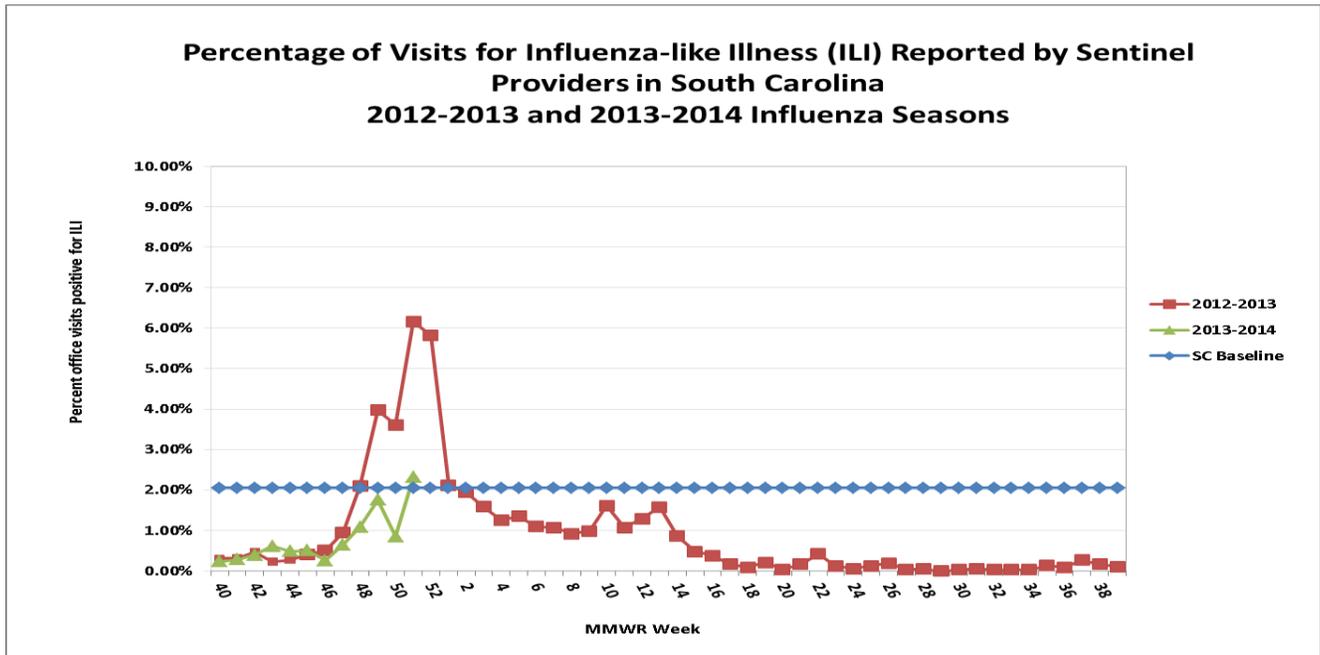
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**Summary of ILI Activity, Positive Confirmatory Tests, and Influenza Associated Hospitalizations and Deaths**

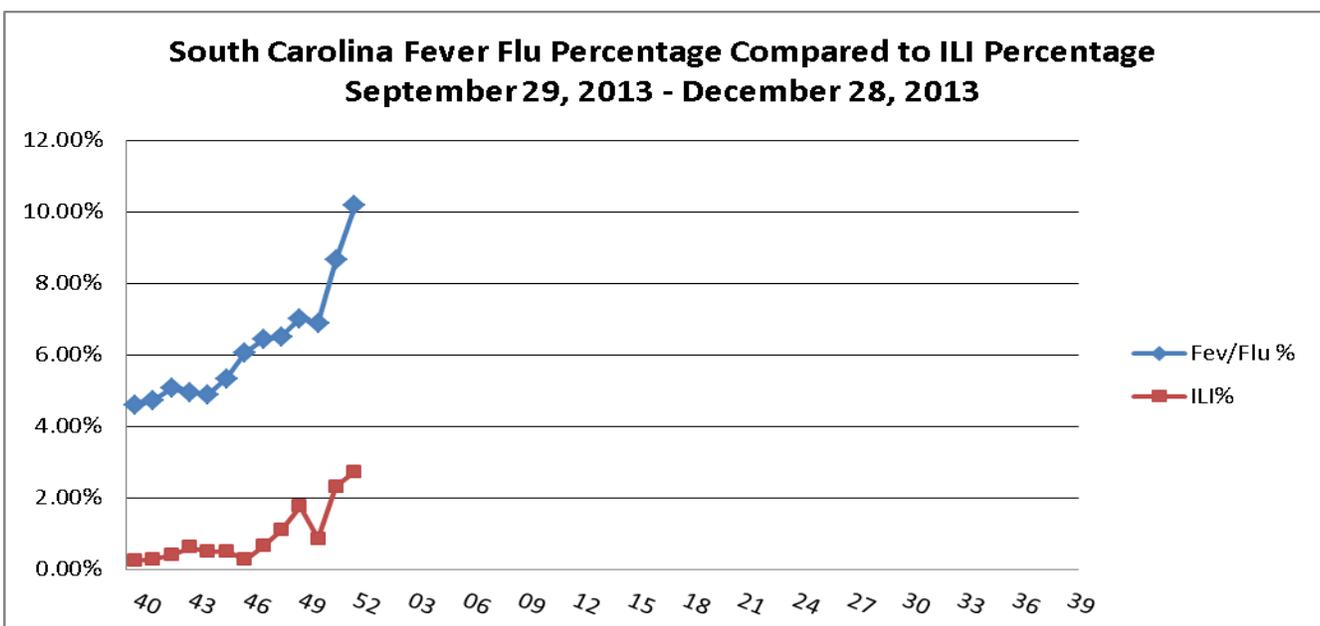
	<i>Season to date</i>	<i>Current week</i>	<i>Previous week</i>	<i>Change from previous week</i>
Percent of ILI visits reported by ILINet providers	-	2.72%	2.31%	▲ 0.41%
Percent of fever-flu ER visits reported by hospitals	-	10.17%	8.64%	▲ 1.53%
Number of positive confirmatory tests	185	41	36	▲ 5
Number of positive rapid tests	13,781	3938	2422	▲ 1516
Number of lab confirmed flu hospitalizations	785	190	156	▲ 31
Number of lab confirmed flu deaths	9	3	0	▲ 3

## I. ILINet Influenza-Like Illness Surveillance

During the most recent MMWR week, 2.72 % of patient visits to SC ILINet providers were due to ILI. This is above the state baseline (2.05%). This ILI percentage compares to 5.82 % this time last year. Reports were received from providers in 8 counties, representing all 4 of the 4 regions. The statewide percentage of ER visits with fever-flu syndrome was 10.17%.



\*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.

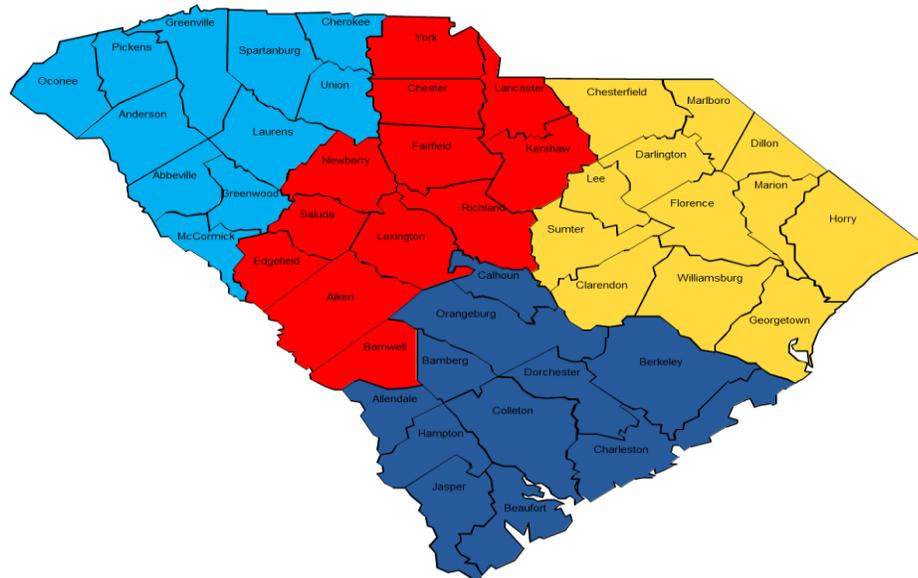


\*Only includes hospitals participating in SC syndromic surveillance

## Influenza-Like Illness Reported by Sentinel Providers December 22, 2013 – December 28, 2013

County	ILI %	County	ILI %
Abbeville	---	Greenwood	NR
Aiken	0.55%	Hampton	NR
Allendale	---	Horry	NR
Anderson	NR	Jasper	NR
Bamberg	---	Kershaw	NR
Barnwell	---	Lancaster	---
Beaufort	NR	Laurens	NR
Berkeley	21.43%	Lee	---
Calhoun	---	Lexington	NR
Charleston	NR	Marion	---
Cherokee	---	Marlboro	---
Chester	---	McCormick	1.04%
Chesterfield	---	Newberry	---
Clarendon	---	Oconee	---
Colleton	---	Orangeburg	---
Darlington	---	Pickens	0%
Dillon	NR	Richland	NR
Dorchester	NR	Saluda	0%
Edgefield	---	Spartanburg	0.93%
Fairfield	---	Sumter	NR
Florence	2.58%	Union	---
Georgetown	NR	Williamsburg	---
Greenville	2.92%	York	NR

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



\*County ILI percentages are affected by the number of reporting providers within that county.

## II. Virologic Surveillance

<i>Positive confirmatory influenza test results*</i> <i>Current MMWR Week (12/22/13 – 12/28/13)</i>		
	<b>BOL</b>	<b>Other clinical labs</b>
Number of specimens tested	14	-
Number of positive specimens	8	33
Influenza A unsubtype		4
Influenza A H1N1	8	29
Influenza A H3N2		
Influenza B		
Other		
Includes culture, RT-PCR, DFA, and IFA		

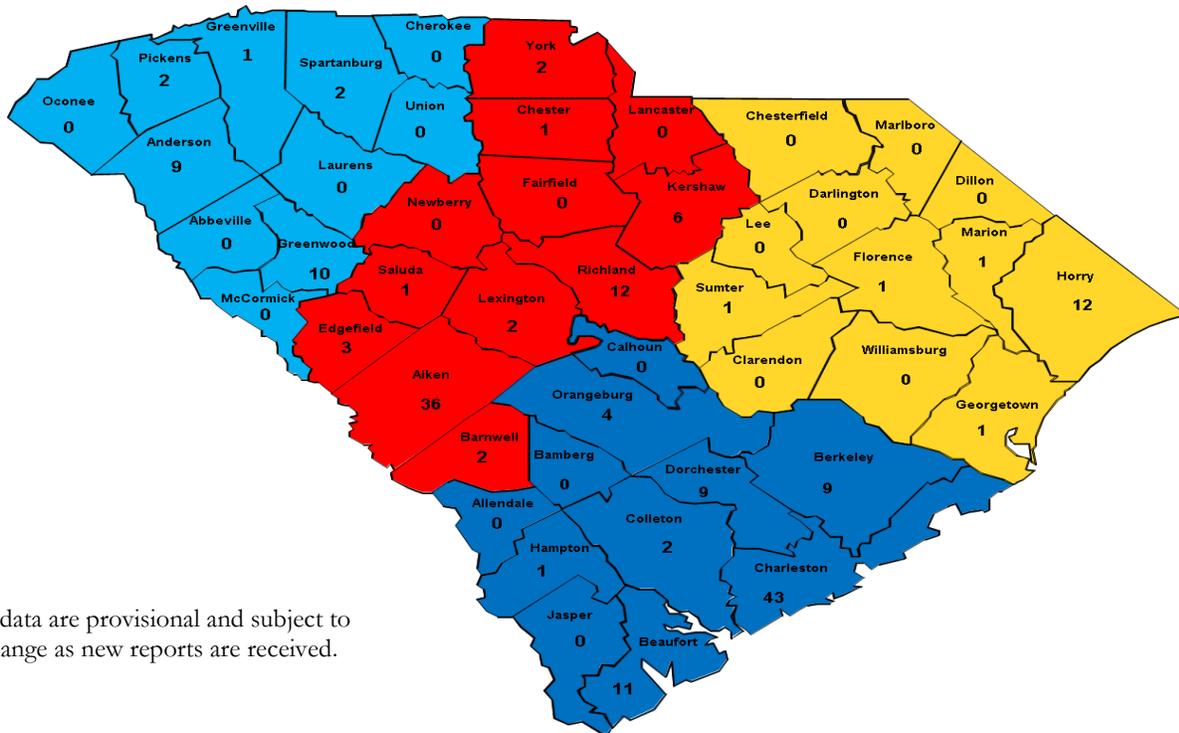
For the current MMWR reporting week, 41 positive specimens were reported.

<i>Positive confirmatory influenza test results*</i> <i>Cumulative (09/29/13 – 12/28/13)</i>		
	<b>BOL</b>	<b>Other clinical labs</b>
Number of specimens tested	122	NA
Number of positive specimens	53 (43.4%)	132
Influenza A unsubtype		12 (9.1%)
Influenza A H1N1	52 (98.1%)	117 (88.6%)
Influenza A H3N2	1 (1.9%)	
Influenza B		3 (2.3%)
Other		
Includes culture, RT-PCR, DFA, and IFA		

**Positive Confirmatory Tests by County  
Current Week 12/22/13 – 12/28/13**

County	Positive Tests	County	Positive Tests	County	Positive Tests
Abbeville		Dillon		Marion	1
Aiken	13	Dorchester	1	Marlboro	
Allendale		Edgefield	2	McCormick	
Anderson	1	Fairfield		Newberry	
Bamberg		Florence		Oconee	
Barnwell		Georgetown		Orangeburg	1
Beaufort	4	Greenville		Pickens	
Berkeley	4	Greenwood	3	Richland	2
Calhoun		Hampton		Saluda	
Charleston	2	Horry	3	Spartanburg	
Cherokee		Jasper		Sumter	
Chester		Kershaw	3	Union	
Chesterfield		Lancaster		Williamsburg	
Clarendon		Laurens		York	
Colleton	1	Lee		Unknown	
Darlington		Lexington			

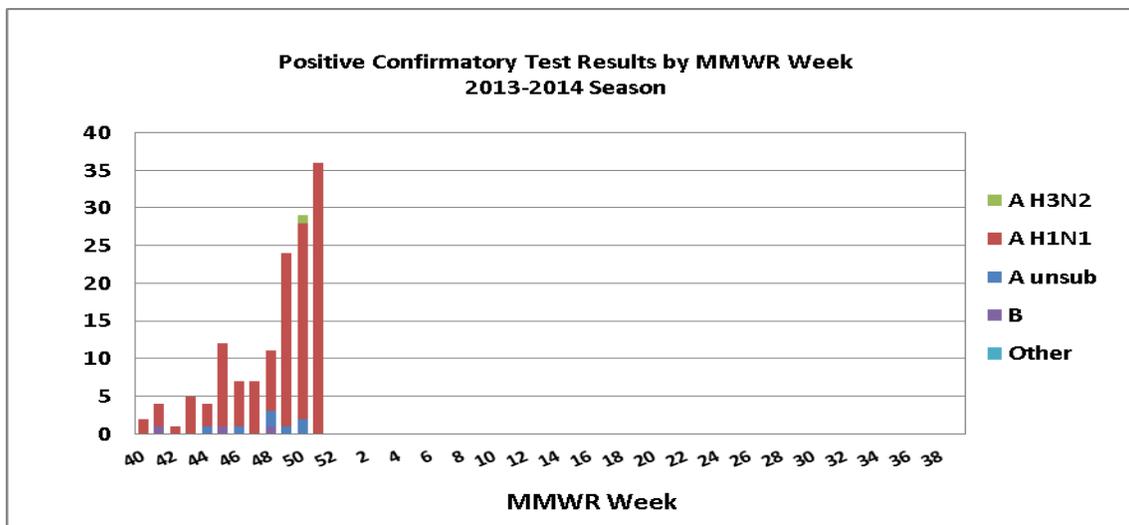
**Map of Positive Confirmatory Tests by County  
Cumulative 09/29/13 – 12/28/13**



All data are provisional and subject to change as new reports are received.

**Positive Confirmatory Tests by County and Type  
Cumulative 9/29/13 - 12/28/13**

	A H1N1	A H3N2	B	A Unsub	Unk		A H1N1	A H3N2	B	A Unsub	Unk
<b>Upstate</b>											
Abbeville						McCormick					
Anderson	8			1		Oconee					
Cherokee						Pickens	2				
Greenwood	10					Spartanburg	1			1	
Greenville				1		Union					
Laurens											
<b>Midlands</b>											
Aiken	35			1		Lancaster					
Barnwell	2					Lexington	2				
Chester	1					Newberry					
Edgefield	3					Richland	10			2	
Fairfield						Saluda	1				
Kershaw	6					York	2				
<b>Pee Dee</b>											
Chesterfield						Horry	12				
Clarendon						Lee					
Darlington						Marion				1	
Dillon						Marlboro					
Florence				1		Sumter	1				
Georgetown	1					Williamsburg					
<b>Low Country</b>											
Allendale						Colleton	2				
Bamberg						Dorchester	8			1	
Beaufort	10	1	1			Hampton	1				
Berkeley	8			1		Jasper					
Calhoun						Orangeburg	4				
Charleston	39		2	2							
<b>Unknown County</b>											

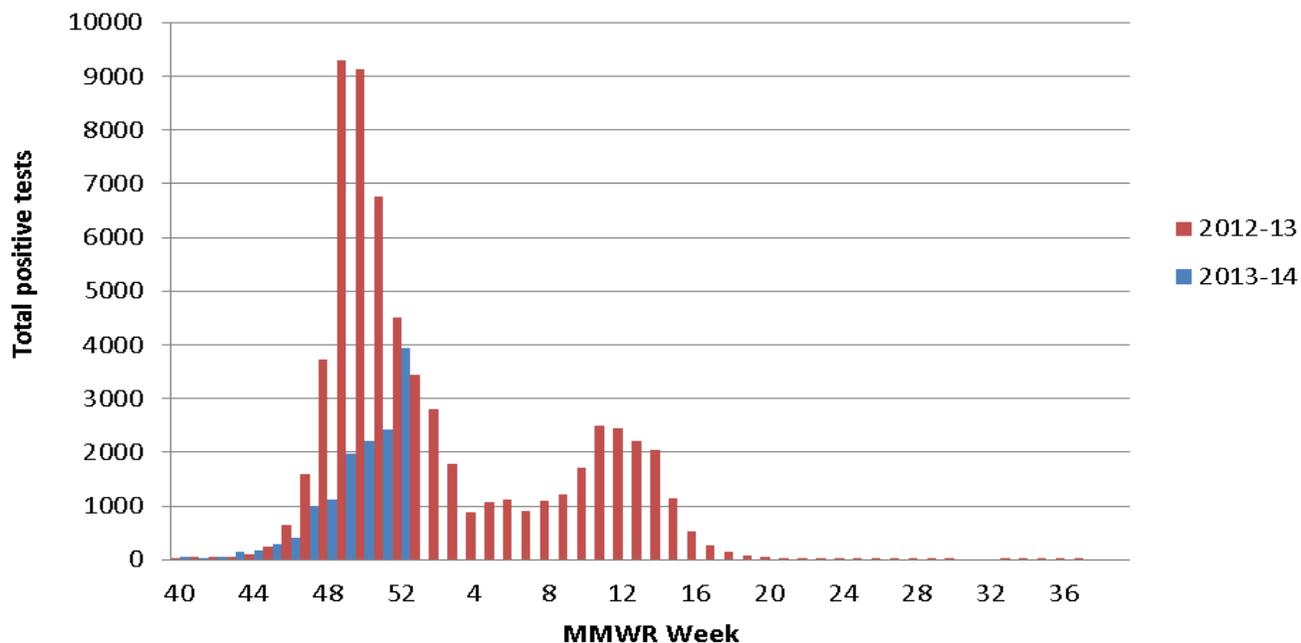


### III. Positive Rapid Antigen Tests

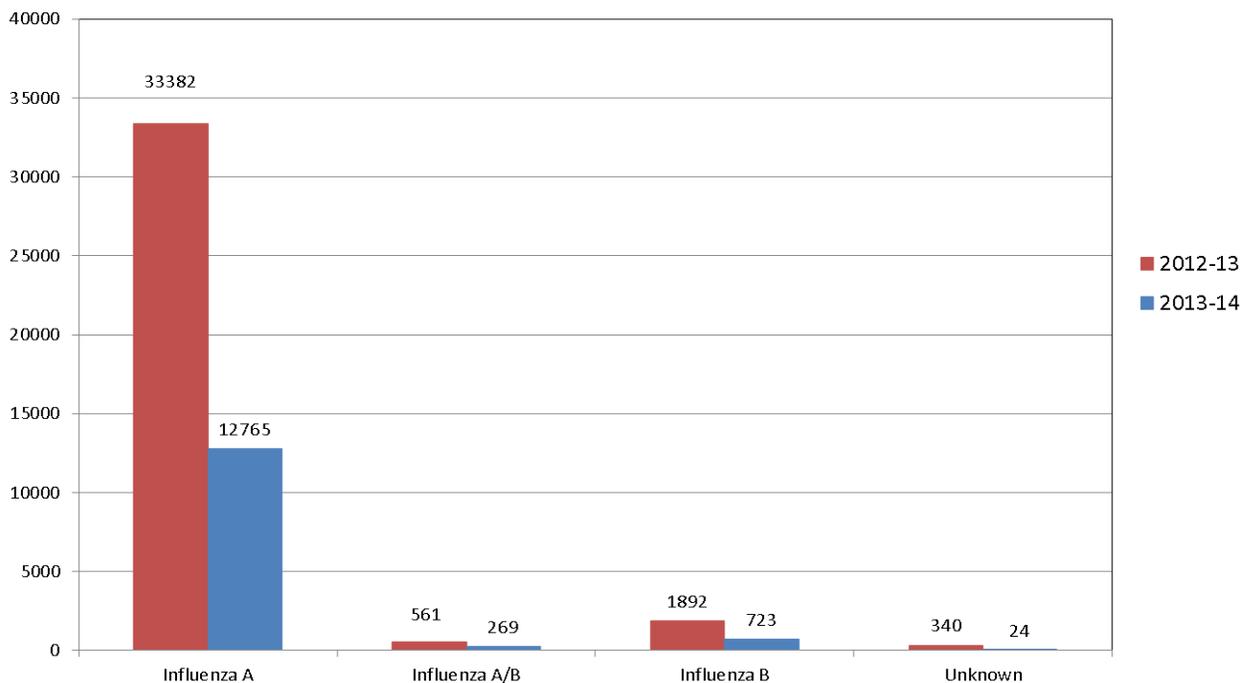
For the current MMWR reporting week, 3938 positive rapid antigen tests were reported. Of these, 3736 were influenza A, 45 were influenza A/B, 155 were influenza B, and 2 were unknown. This compares to 4503 this time last year.

Positive Rapid Flu Tests by County Current Week (12/22/13 – 12/28/13)					
County	Positive Tests	County	Positive Tests	County	Positive Tests
Abbeville	21	Dillon		Lexington	310
Aiken	218	Dorchester	89	Marion	40
Allendale		Edgefield		Marlboro	5
Anderson		Fairfield	7	McCormick	
Bamberg	3	Florence	195	Newberry	27
Barnwell		Georgetown	145	Oconee	82
Beaufort	106	Greenville	379	Orangeburg	66
Berkeley	55	Greenwood	103	Pickens	115
Calhoun		Hampton	6	Richland	363
Charleston	360	Horry	252	Saluda	
Cherokee	65	Jasper	2	Spartanburg	339
Chester	7	Kershaw	19	Sumter	32
Chesterfield	10	Lancaster	60	Union	9
Clarendon	15	Laurens	49	Williamsburg	19
Colleton	35	Lee	3	York	179
Darlington	148				

## Positive Rapid Tests by MMWR Week 2012-13 vs 2013-14



## Positive Rapid Tests by Type 2012-13 vs 2013-14 September 29, 2013 - December 28, 2013



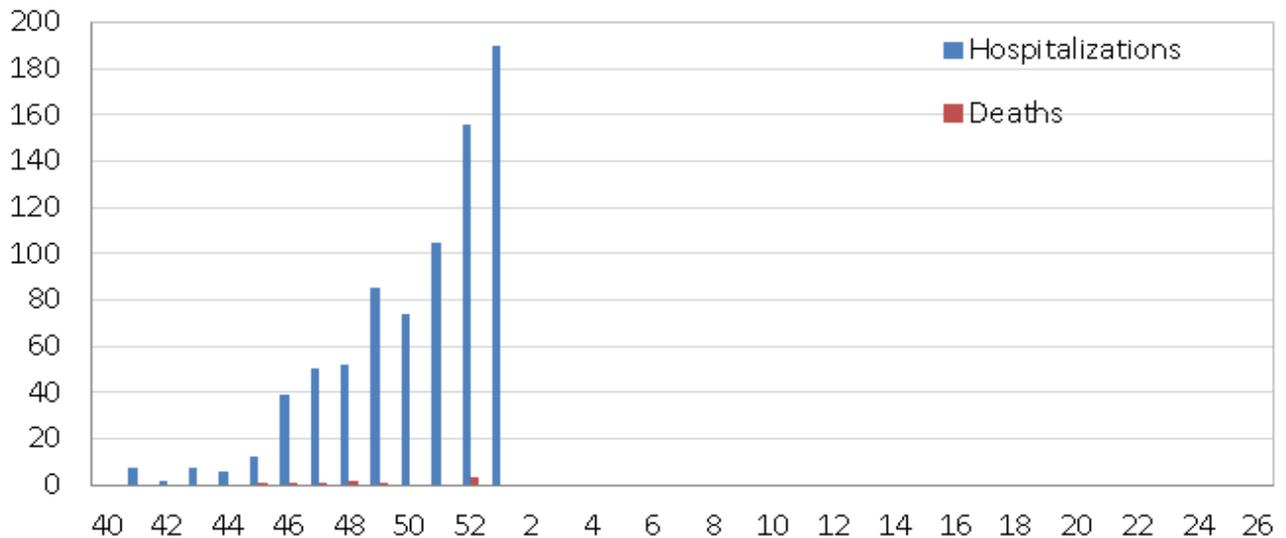
## IV. Influenza hospitalizations and deaths

For the current MMWR reporting week, 190 lab confirmed influenza hospitalizations were reported. Three lab confirmed influenza deaths were reported.\*

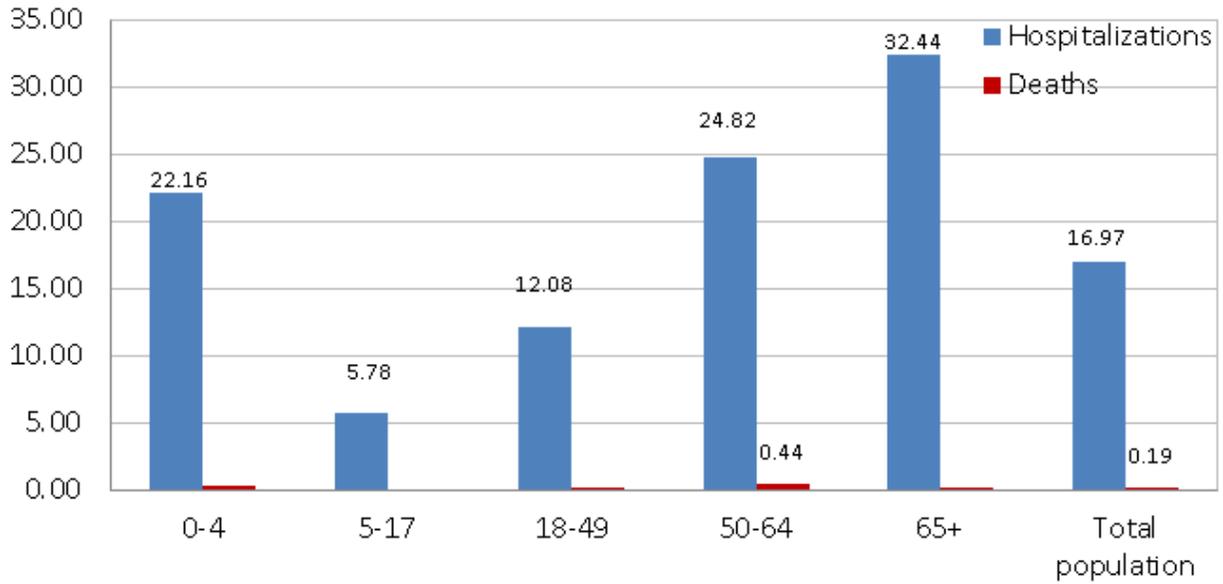
	Total number*	
Number of Reporting Hospitals (Current week)	53	
	<i>Current MMWR Week (12/22/13-12/28/13)</i>	<i>Cumulative (since 09/29/13)</i>
Hospitalizations	190	785
Deaths	3	9

\* 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 29, 2013 - December 28, 2013**



**Laboratory Confirmed Influenza Case rate/100,000  
Hospitalizations (n=785) and Deaths (n=9) by age group  
September 29, 2013 - December 28, 2013**



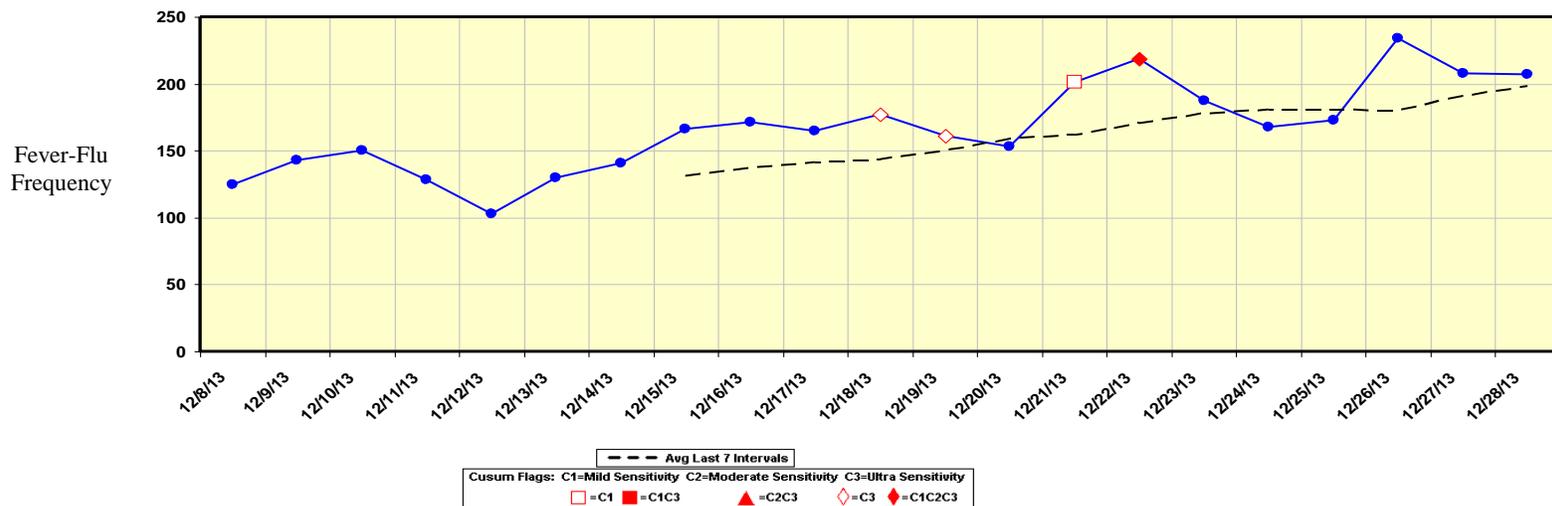
**Lab Confirmed Influenza Deaths by County  
September 29, 2013 – December 28, 2013**

County	Deaths
Beaufort	1
Berkeley	1
Charleston	3
Dorchester	1
Horry	1
Orangeburg	1
Richland	1
<b>Total Deaths</b>	<b>9</b>

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



### Statewide - Fever Flu Syndrome



#### Cumulative Sums Analysis (CUSUM):

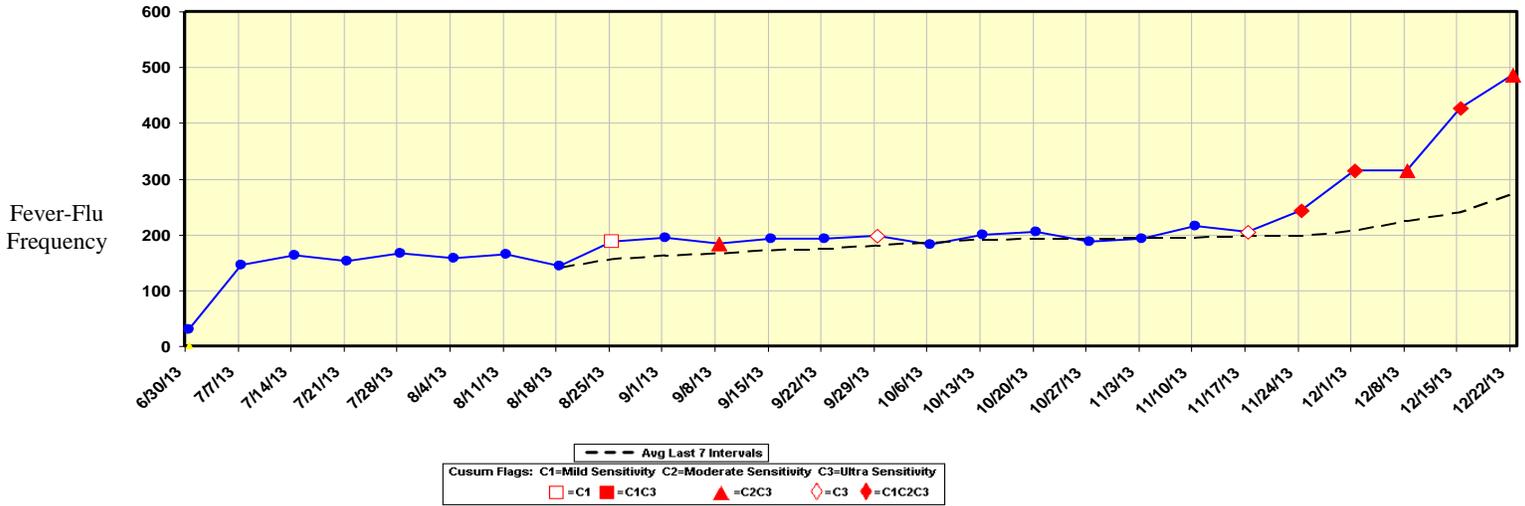
- C1 = Flags because of sharp rise in counts from 1 day to the next
- C2 = Flags because of aberrant, initial, rapid rise in counts and peak in counts
- C3 = Flags because of a gradual rise in counts over a short time

The SC Statewide Fever-Flu Syndrome graph above illustrates the daily counts of hospital emergency department (ED) visits with an Influenza-like Illness (ILI) for the past 21 days. A total of 22 hospital facilities are reporting to the SC-DARTS system. These 22 include: AnMed Health (Upstate Region); Self Regional (Upstate Region); Oconee Medical Center (Upstate Region); Palmetto Health Alliance (Upstate and Midlands Regions); Greenville Hospital System (Upstate Region); Kershaw Health (Midlands Region); McLeod Health (Pee Dee Region); Elgin Urgent Care (Midlands Region); Medical University of South Carolina (Low Country Region); Roper (Low Country Region); St. Francis (Low Country Region); Trident (Low Country Region); Colleton (Low Country Region); Hampton Regional (Low Country Region); and Mount Pleasant (Low Country Region).

#### Statewide CUSUM Flag Alerts Description:

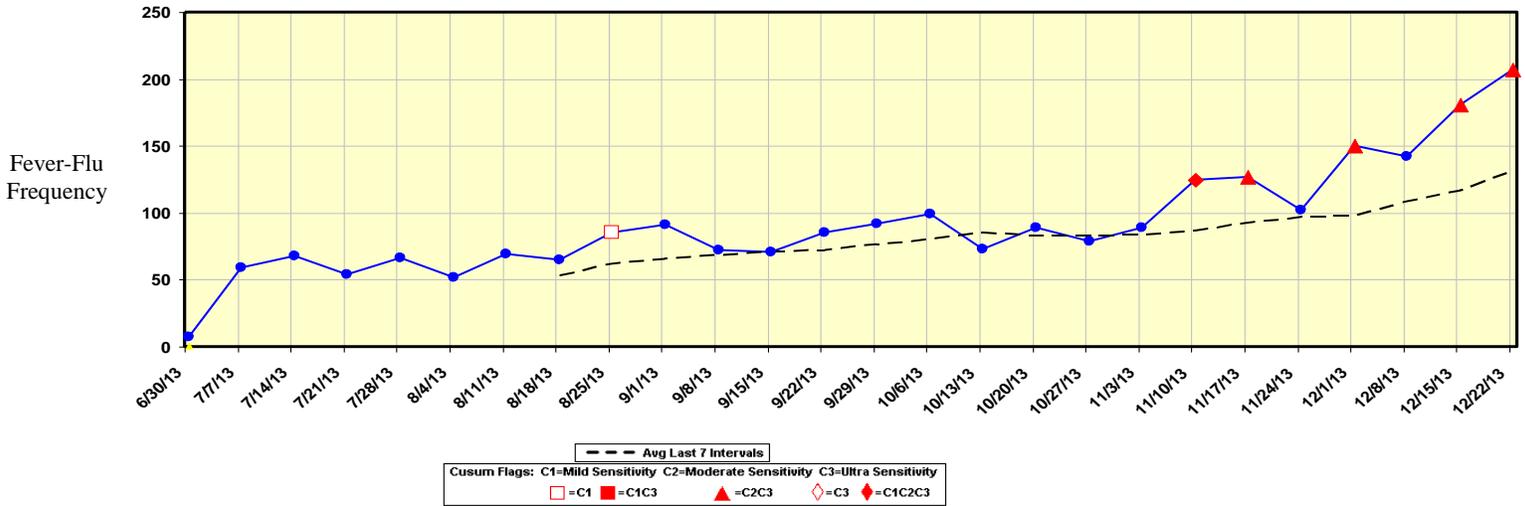
There were one C1 flag, two C3 flags, and one C1C2C3 flag for the past week. Below are the fever-flu syndrome graphs by Region for the past 180 days (weekly interval).

**Upstate Region - Fever Flu Syndrome**



Upstate Region Hospitals (# of Facilities): AnMed Health (3); Self-Regional (1); Oconee Medical Center (1); Greenville Hospital System (4); Palmetto Health Easley (1)

**Midlands Region - Fever Flu Syndrome**



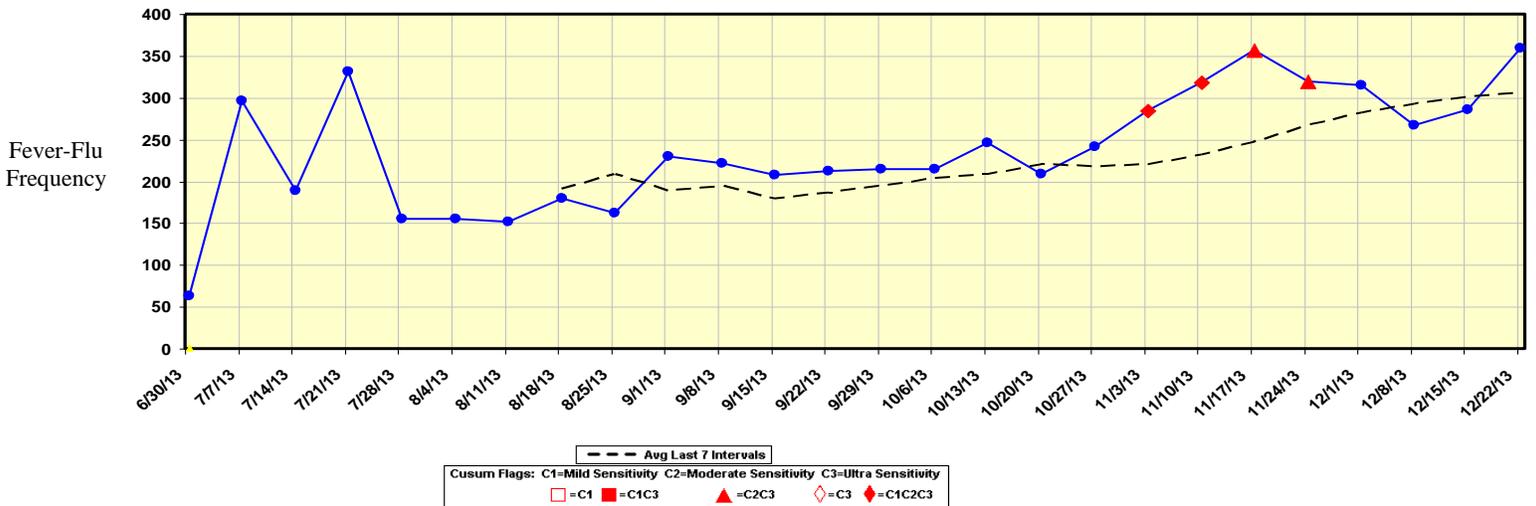
Midlands Region Hospitals (# of Facilities): Palmetto Health Baptist (1); Palmetto Health Richland (1); Kershaw Health (1); Elgin Urgent Care (1)

**Pee Dee Region - Fever Flu Syndrome**



**Pee Dee Region Hospitals (# of Facilities): McLeod Health (1)**

**Low Country Region - Fever Flu Syndrome**



**Low Country Region Hospitals (# of Facilities): Medical University of South Carolina (1); Roper (1); St. Francis (1); Trident (1); Hampton Regional (1); Colleton (1); Mount Pleasant (1);**

## VI. Influenza activity levels

Activity Level	ILI activity/Outbreaks		Laboratory data
<b>No activity</b>	Low	<b>And</b>	No lab confirmed cases
<b>Sporadic</b>	Not increased	<b>And</b>	Isolated lab-confirmed cases
	<b>OR</b>		
<b>Local</b>	Not increased	<b>And</b>	Lab confirmed outbreak in one institution
	Increased ILI in 1 region; ILI activity in other regions is not increased	<b>And</b>	Recent (within the past 3 weeks) lab evidence of influenza in region with increased ILI
<b>Local</b>	<b>OR</b>		
	2 or more institutional outbreaks (ILI or lab confirmed) in 1 region; ILI activity in other regions is not increased	<b>And</b>	Recent (within the past 3 weeks) lab evidence of influenza in region with the outbreaks; virus activity is no greater than sporadic in other regions
<b>Regional</b>	Increased ILI in 2-3 regions	<b>And</b>	Recent (within the past 3 weeks) lab confirmed influenza in the affected regions
	<b>OR</b>		
<b>Regional</b>	Institutional outbreaks (ILI or lab confirmed) in 2-3 regions	<b>And</b>	Recent (within the past 3 weeks) lab confirmed influenza in the affected regions
	<b>OR</b>		
<b>Widespread</b>	Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least 4 of the regions	<b>And</b>	Recent (within the past 3 weeks) lab confirmed influenza in the state.

## VII. 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 7 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 death reporting

Lab confirmed influenza deaths in adults should be reported to DHEC within 7 days. Lab confirmed influenza deaths in children under age 18 should be reported within 24 hours. These include results from viral culture, PCR, rapid flu tests, DFA, IFA or autopsy results consistent with influenza. Hospitals should report deaths to their regional health department by noon on Monday for the preceding week.

#### 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](mailto: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 of  $U \geq U100^{\circ}F$ ) 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.

To join the SC-DARTS system or for more information, please contact: **Kelly Johnson at 803-898-1588 or [johnsok@dhec.sc.gov](mailto:johnsok@dhec.sc.gov)**.

During week 51 (December 15-21, 2013), influenza activity continued to increase in the United States.

- **Viral Surveillance:** Of 6,813 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 51, 1,639 (24.1%) 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:** One influenza-associated pediatric death that occurred during the 2012-2013 season was reported.
- **Influenza-associated Hospitalizations:** A cumulative rate for the season of 4.3 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 3.0%, above the national baseline of 2.0%. Eight regions reported ILI at or above region-specific baseline levels. Six states experienced high ILI activity; eight states experienced moderate ILI activity; six states experienced low ILI activity; 28 states experienced minimal ILI activity, and the District of Columbia, New York City, and two states had insufficient data.
- **Geographic Spread of Influenza:** The geographic spread of influenza in 10 states was reported as widespread; Guam and 23 states reported regional influenza activity; 12 states reported local influenza activity; the District of Columbia, Puerto Rico, and four states reported sporadic influenza activity, and the U.S. Virgin Islands and one state did not report.

A description of surveillance methods is available at: <http://www.cdc.gov/flu/weekly/overview.htm>

