

# Flu Watch

Week Ending March 2, 2013 (MMWR Week 9)

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

<i>In this issue:</i>	
I. ILINet	2
II. Virologic surveillance	4
III. Rapid antigen tests	7
IV. Hospitalizations and deaths	8
V. Syndromic surveillance	11
VI. Activity level definitions	15
VII. SC influenza surveillance components	16
VIII. National Surveillance	17

**MMWR Week 8 at a Glance:**

**Influenza Activity Level: LOCAL**  
 Note: Activity level definitions are found on page 15

**ILI Activity Status (South Carolina baseline is 2.05%\*):** Below baseline in the Upstate (.47%) and in the Midlands (.81%). Above baseline in the Pee Dee (2.62%). No reports from the Low Country. The state ILI percentage was .99%. These data reflect reports from 12 (37.5%) providers.

**SC Viral Isolate and RT-PCR Activity:** 32 positive specimens were reported. Since 9/30/12, 975 positive specimens have been reported.

**Positive Rapid Flu Test Activity:** 1057 positive rapid tests were reported. Since 9/30/12, 46,097 positive rapid tests have been reported.

**Hospitalizations:** 12 lab confirmed hospitalizations were reported. Since 9/30/12, 1453 hospitalizations have been reported.

**Deaths:** Two lab confirmed deaths were reported. Since 9/30/12, 40 deaths have been reported.

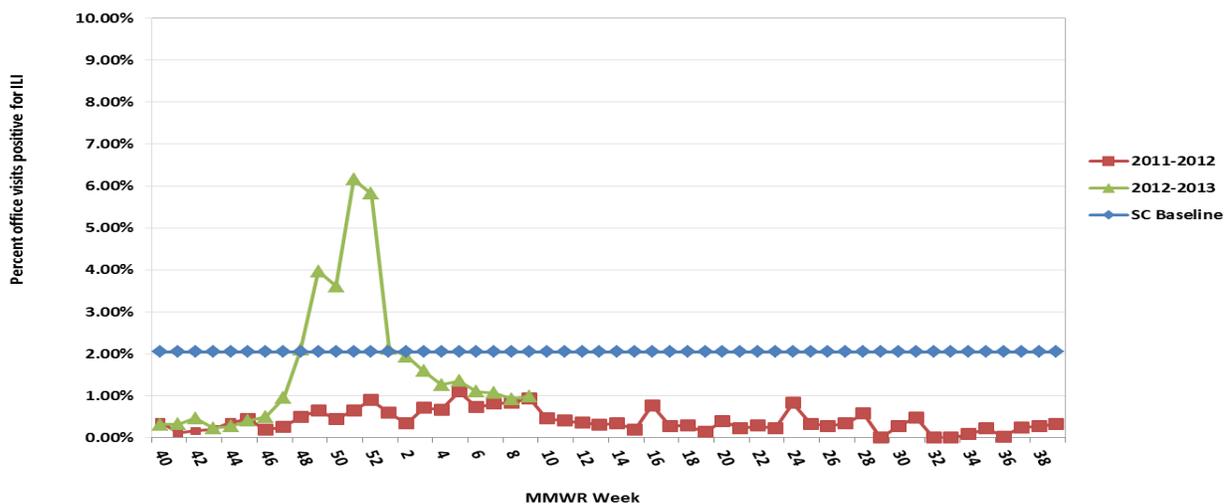
Summary of ILI Activity, Positive Confirmatory Tests, and Influenza Associated Hospitalizations and Deaths

	<i>Current week</i>	<i>Previous week</i>	<i>Change from previous week</i>
Percent of ILI visits reported by ILINet providers	.99%	.92%	▲ .07
Number of positive confirmatory tests	32	13	▲ 19
Number of lab confirmed flu hospitalizations	12	15	▼ 3
Number of lab confirmed flu deaths	2	0	▲ 0

## I. ILINet Influenza-Like Illness Surveillance

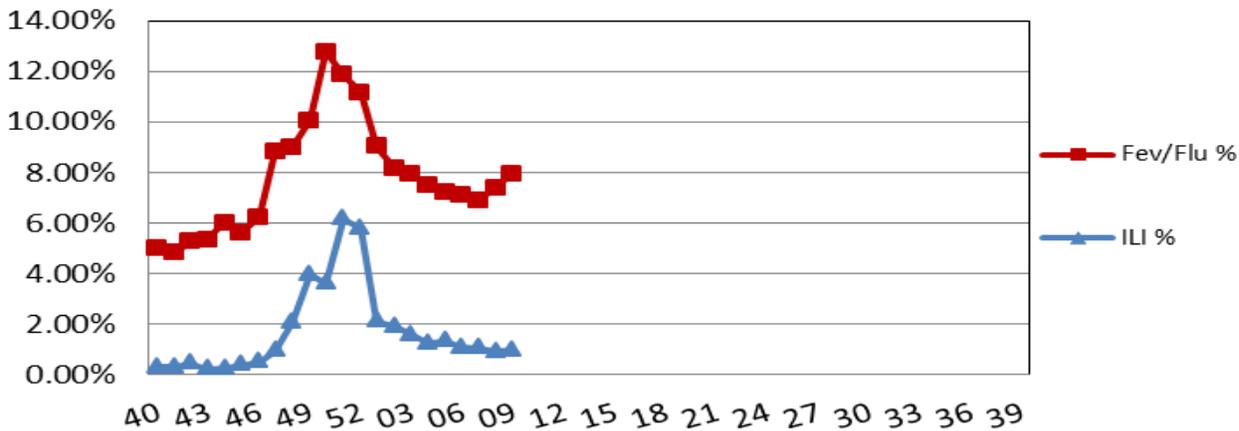
During the most recent MMWR week, .99% of patient visits to SC ILINet providers were due to ILI. This is below the state baseline (2.05%). This ILI percentage compares to .93 % this time last year. Reports were received from providers in 11 counties, representing 3 of the 4 regions. The statewide percentage of ER visits with fever-flu syndrome was 7.97%.

**Percentage of Visits for Influenza-like Illness (ILI) Reported by Sentinel Providers in South Carolina  
2011-2012 and 2012-2013 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.

**SC Fever Flu Percentage Compared to ILI Percentage  
September 30, 2012 - March 2, 2013**



\*Only includes hospitals participating in SC syndromic surveillance

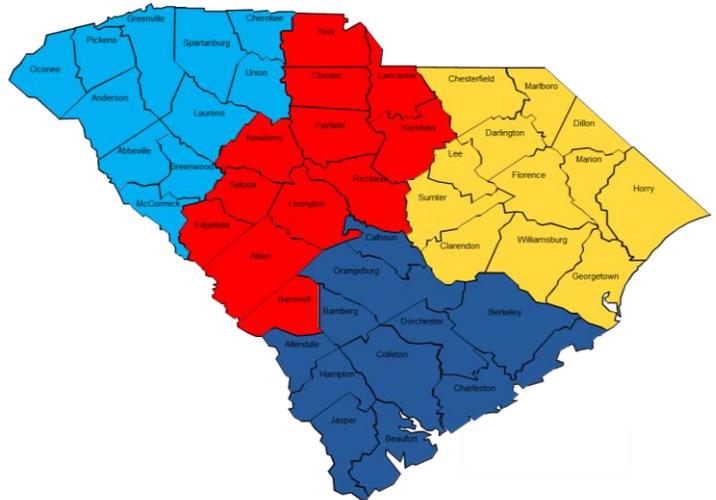
## Influenza-Like Illness Reported by Sentinel Providers February 24, 2013 – March 2, 2013

County	ILI %	County	ILI %
Abbeville	---	Greenwood	NR
Aiken	0%	Hampton	NR
Allendale	---	Horry	NR
Anderson	0%	Jasper	NR
Bamberg	---	Kershaw	0%
Barnwell	---	Lancaster	---
Beaufort	NR	Laurens	NR
Berkeley	NR	Lee	---
Calhoun	---	Lexington	NR
Charleston	NR	Marion	---
Cherokee	---	Marlboro	---
Chester	---	McCormick	NR
Chesterfield	---	Newberry	---
Clarendon	---	Oconee	---
Colleton	---	Orangeburg	---
Darlington	---	Pickens	1.00%
Dillon	NR	Richland	1.04%
Dorchester	NR	Saluda	0%
Edgefield	---	Spartanburg	.35%
Fairfield	---	Sumter	NR
Florence	.82%	Union	---
Georgetown	5.07%	Williamsburg	---
Greenville	.50%	York	1.81%

NR: No reports received

---: No enrolled providers

Region	ILI %	# of Reporters
Upstate (Light blue)	.47	5
Midlands (Red)	.81	4
Pee Dee (Yellow)	2.62	3
Coastal (Dark blue)	-	0



\*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 (2/24/13 – 3/2/13)</i>		
	<b>BOL</b>	<b>Other clinical labs</b>
<b>Number of specimens tested</b>	21	-
<b>Number of positive specimens</b>	11	21
<b>Influenza A unsubtype</b>		5
<b>Influenza A H1N1</b>	2	1
<b>Influenza A H3N2</b>	1	2
<b>Influenza B</b>	8	13
<b>Other</b>		

Includes culture, RT-PCR, DFA, and IFA

During the previous MMWR week, 32 positive specimens were reported.

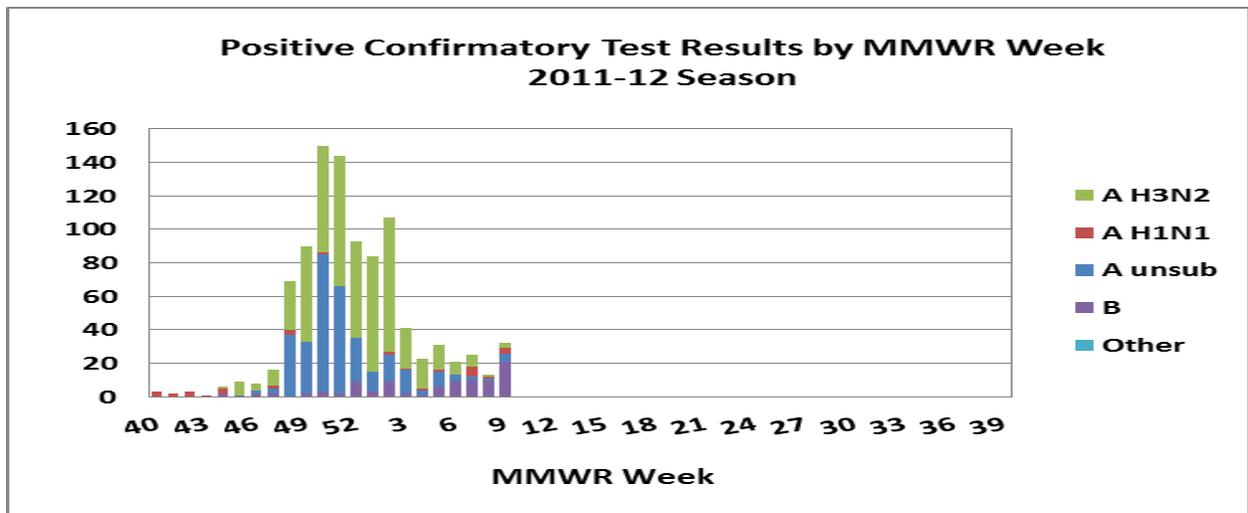
<i>Positive confirmatory influenza test results*</i> <i>Cumulative (09/30/12 – 3/2/13)</i>		
	<b>BOL</b>	<b>Other clinical labs</b>
<b>Number of specimens tested</b>	430	NA
<b>Number of positive specimens</b>	290 (67.4%)	685
<b>Influenza A unsubtype</b>		310 (45.3%)
<b>Influenza A H1N1</b>	22 (7.6%)	10 (1.5)
<b>Influenza A H3N2</b>	241 (83.1%)	307 (44.8%)
<b>Influenza B</b>	27 (9.3%)	57 (8.3%)
<b>Other</b>		1 (.15%)

Includes culture, RT-PCR, DFA, and IFA



**Positive Confirmatory Tests by County and Type  
Cumulative 9/30/12 – 3/2/13**

	A H1N1	A H3N2	B	A Unsub	Unk		A H1N1	A H3N2	B	A Unsub	Unk
<b>Upstate</b>											
Abbeville		1				McCormick		1			
Anderson		8	1	5		Oconee		1			
Cherokee				1		Pickens		3			
Greenwood		22	1	3		Spartanburg	1		2	4	
Greenville		2		5		Union					
Laurens		2		4							
<b>Midlands</b>											
Aiken	1	3	17	137	1	Lancaster		3			7
Barnwell			1	3		Lexington		5			24
Chester				2		Newberry					1
Edgefield		1	1	6		Richland	2	16	14		569
Fairfield						Saluda					
Kershaw	2	8	1	4		York		10	3		13
<b>Pee Dee</b>											
Chesterfield		1	1	1		Horry		19	1		5
Clarendon	1	1		3		Lee		2			1
Darlington		1		1		Marion			1		
Dillon						Marlboro		1			
Florence		1	1	5		Sumter		32	8		3
Georgetown		4	7			Williamsburg					3
<b>Low Country</b>											
Allendale	4					Colleton				2	
Bamberg						Dorchester		38	5		
Beaufort	17	79	4	8		Hampton		1			2
Berkeley		17	6			Jasper		2			
Calhoun				1		Orangeburg		4			3
Charleston	3	212	10	8							
Unknown		16	2	1							

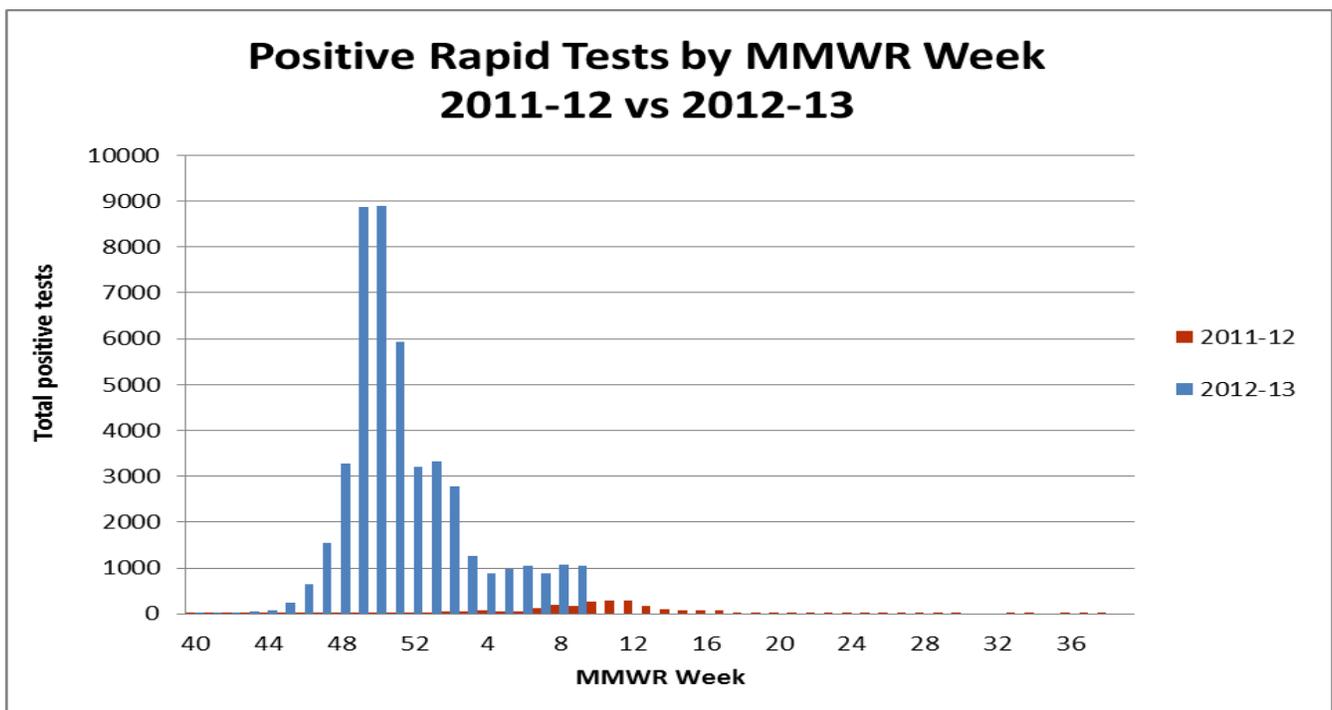


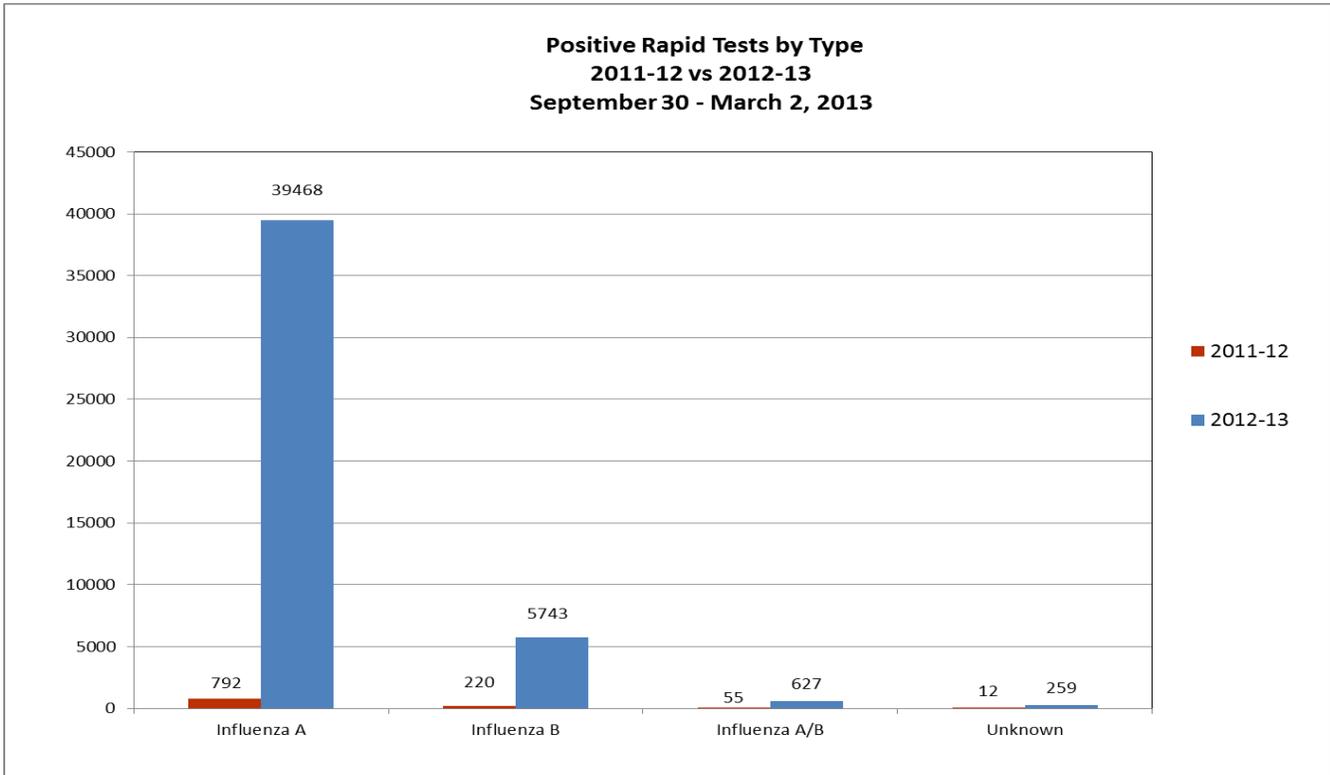
### III. Positive Rapid Antigen Tests

During the past MMWR week, 1057 positive rapid antigen tests were reported. Of these, 310 were influenza A, 735 were influenza B, and 12 were influenza A/B. This compares to 174 this time last year. 46,097 positive rapid tests have been reported this year.

#### Positive Rapid Flu Tests by County February 24, 2013 – March 2, 2013

County	Positive Tests	County	Positive Tests	County	Positive Tests
Abbeville		Dillon		Lexington	104
Aiken	10	Dorchester	59	Marion	2
Allendale	3	Edgefield		Marlboro	3
Anderson	28	Fairfield	13	McCormick	
Bamberg		Florence	73	Newberry	4
Barnwell	5	Georgetown	49	Oconee	2
Beaufort		Greenville	149	Orangeburg	
Berkeley	17	Greenwood	11	Pickens	4
Calhoun		Hampton		Richland	107
Charleston	67	Horry	185	Saluda	
Cherokee	1	Jasper		Spartanburg	9
Chester		Kershaw	24	Sumter	19
Chesterfield	2	Lancaster	24	Union	2
Clarendon	4	Laurens	4	Williamsburg	14
Colleton		Lee		York	45
Darlington	14				





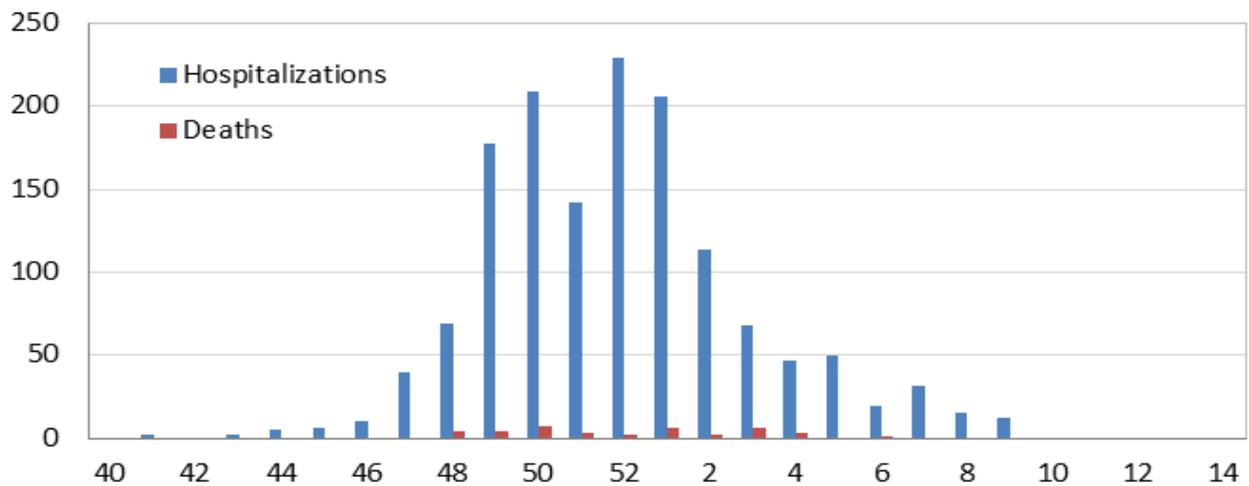
#### IV. Influenza hospitalizations and deaths

During the past MMWR week, 12 lab confirmed\* influenza hospitalizations were reported. No lab confirmed deaths were reported.

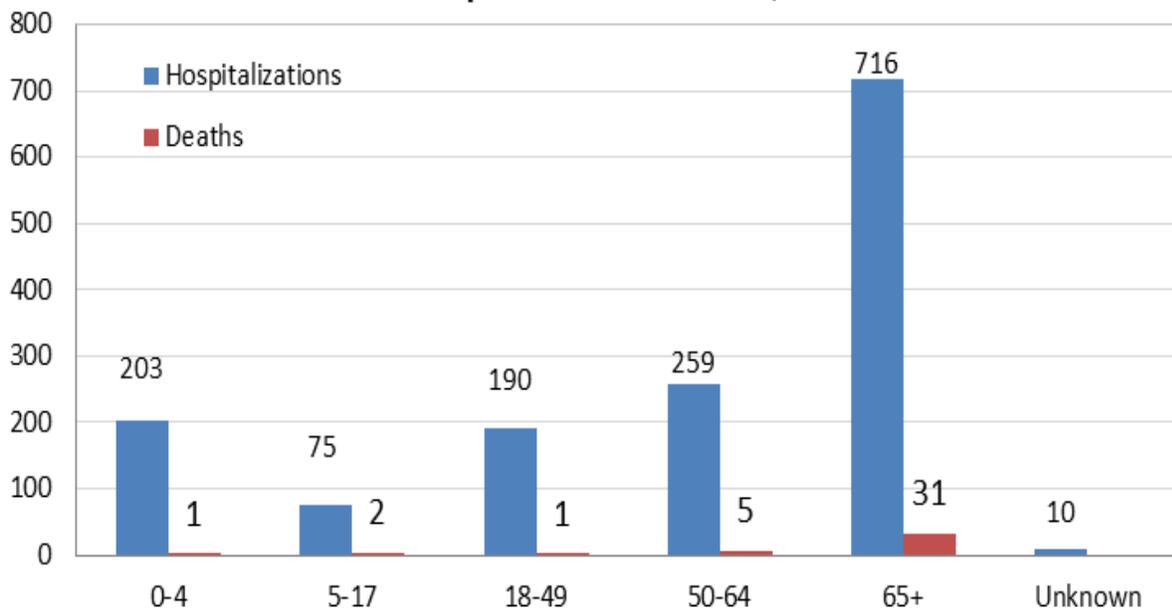
	Total number*	
Number of Reporting Hospitals (Current week)	45	
	<i>Current MMWR Week (2/17/13-2/23/13)</i>	<i>Cumulative (since 09/30/12)</i>
Hospitalizations	12	1453
Deaths	2	40

\*These data are provisional. Lab confirmation for hospitalizations and deaths includes culture, PCR, DFA, IFA, and rapid test.

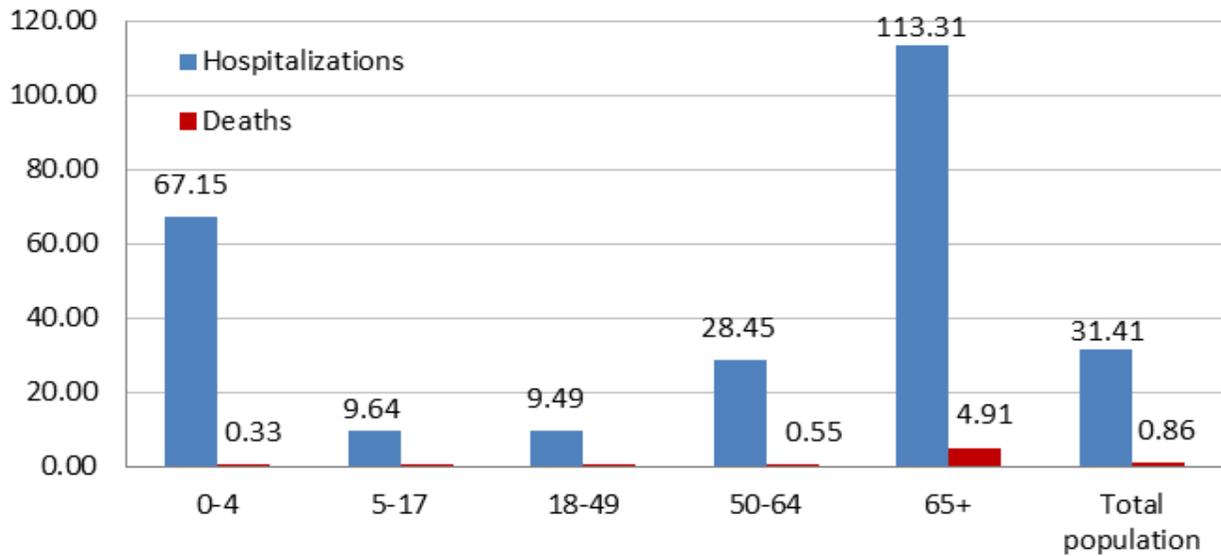
**Reported Cases of Laboratory Confirmed Influenza  
Hospitalizations and Deaths  
by MMWR week  
September 30, 2012 March 2, 2013**



**Reported Cases of Laboratory Confirmed Influenza  
Hospitalizations (n=1453) and Deaths (n=40)  
September 30 - March 2, 2013**



**Laboratory Confirmed Influenza Case rate/100,000  
Hospitalizations (n=1453) and Deaths (n=40) by age group  
September 30, 2012 - March 2, 2013**

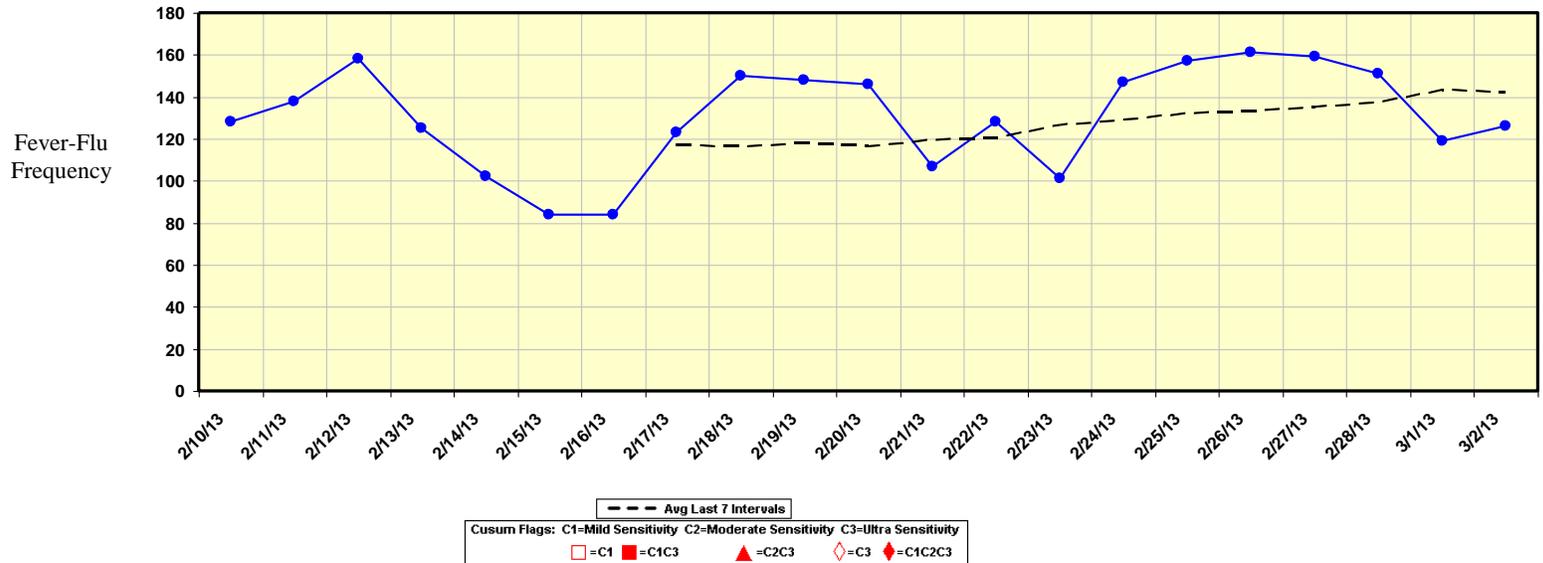


**Lab Confirmed Influenza Deaths by County  
September 30, 2012 – March 2, 2013**

County	Deaths	County	Deaths
Aiken	2	Lexington	4
Barnwell	1	McCormick	1
Beaufort	2	Newberry	1
Charleston	1	Oconee	4
Cherokee	1	Pickens	3
Clarendon	1	Richland	4
Georgetown	1	Spartanburg	2
Greenville	6	Sumter	1
Horry	1	Williamsburg	1
Jasper	1	York	2
<b>Total Deaths</b>		<b>40</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

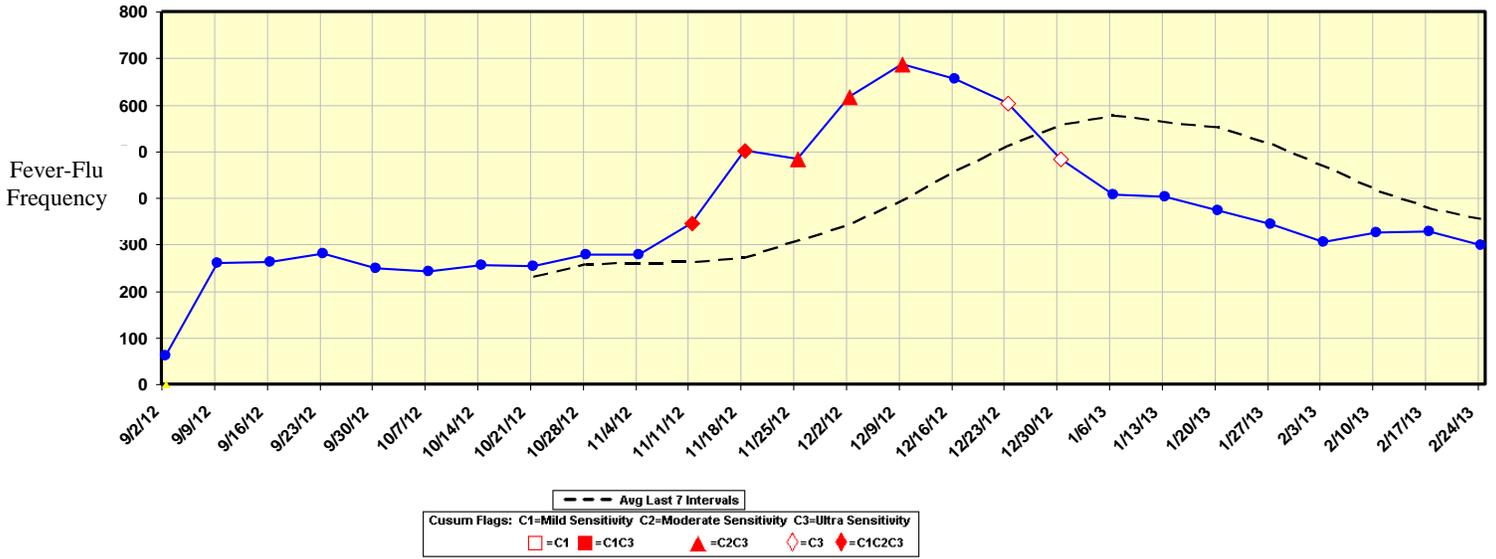
The SC Statewide Fever-Flu Syndrome graph above illustrates the daily counts of hospital emergency department (ED) visits with an Influenza-like Illness (ILI) for the past 21 days. A total of 21 hospital facilities are reporting to the SC-DARTS system. These 21 include: AnMed Health (Upstate Region); 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); and Hampton Regional (Low Country Region).

#### Statewide CUSUM Flag Alerts Description:

No flags for the past week.

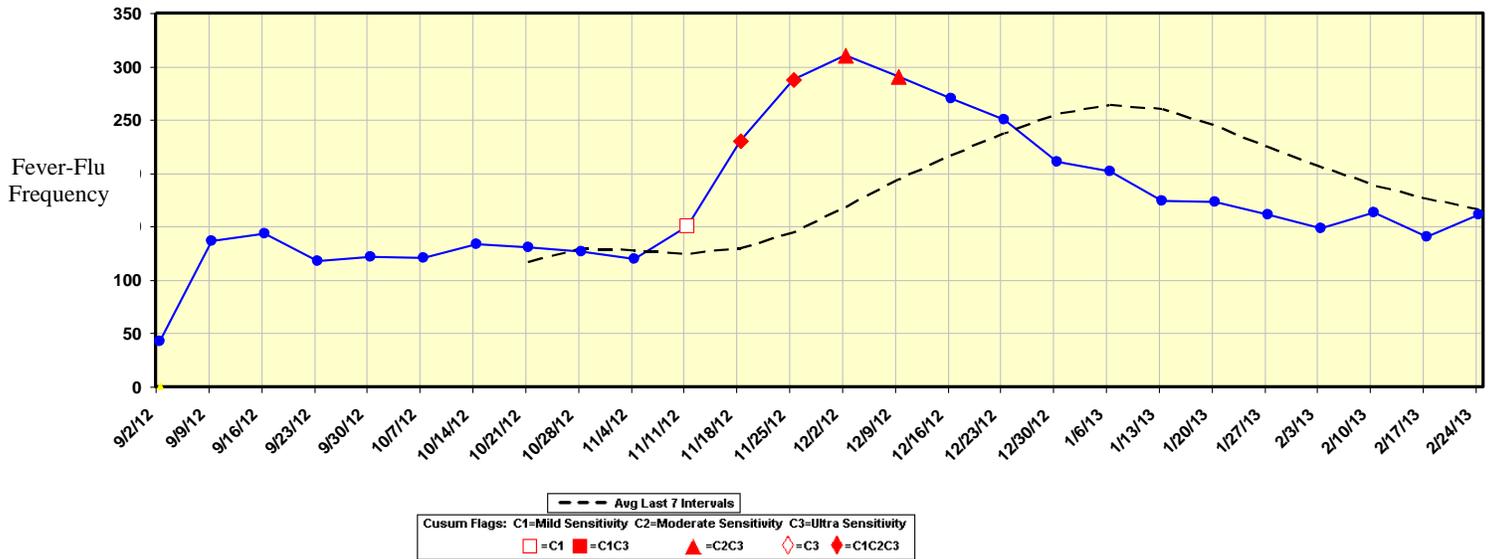
Below are the fever-flu syndrome graphs by Region for the past 180 days (weekly interval).

### Upstate Region - Fever Flu Syndrome



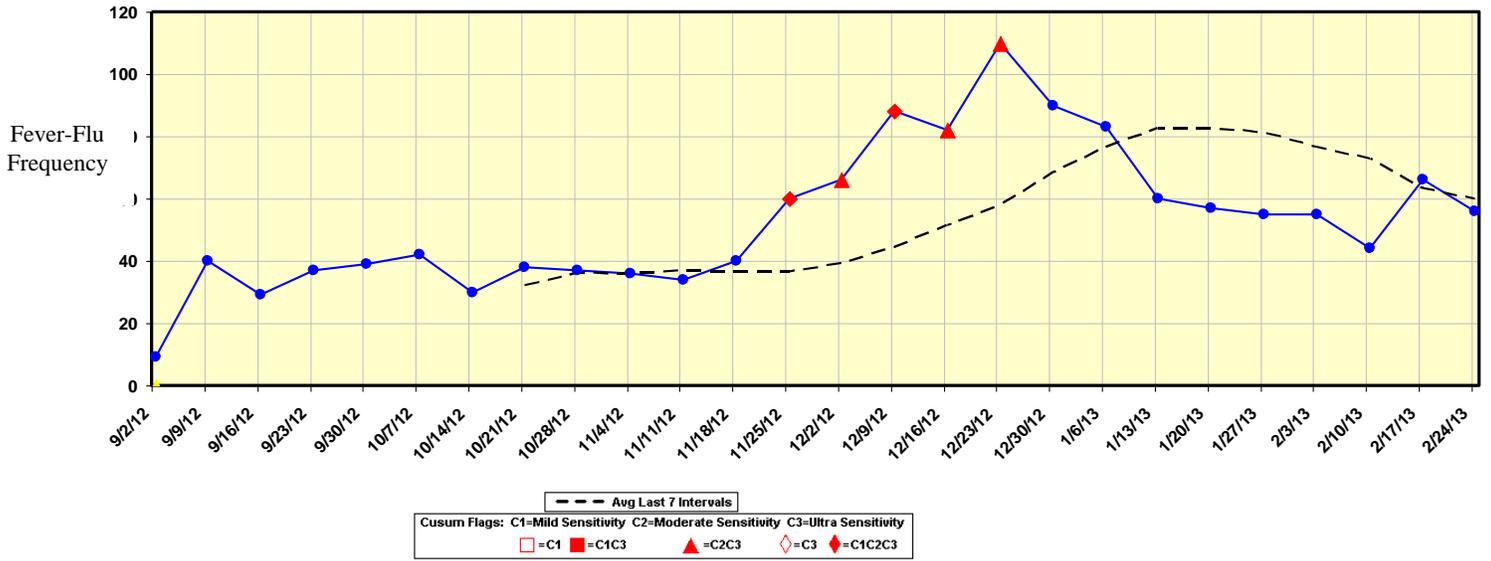
Upstate Region Hospitals (# of Facilities): AnMed Health (3); Self-Regional (1); Oconee Medical Center (1); Greenville Hospital System (4); Palmetto Health Easley (1)

### Midlands Region - Fever Flu Syndrome



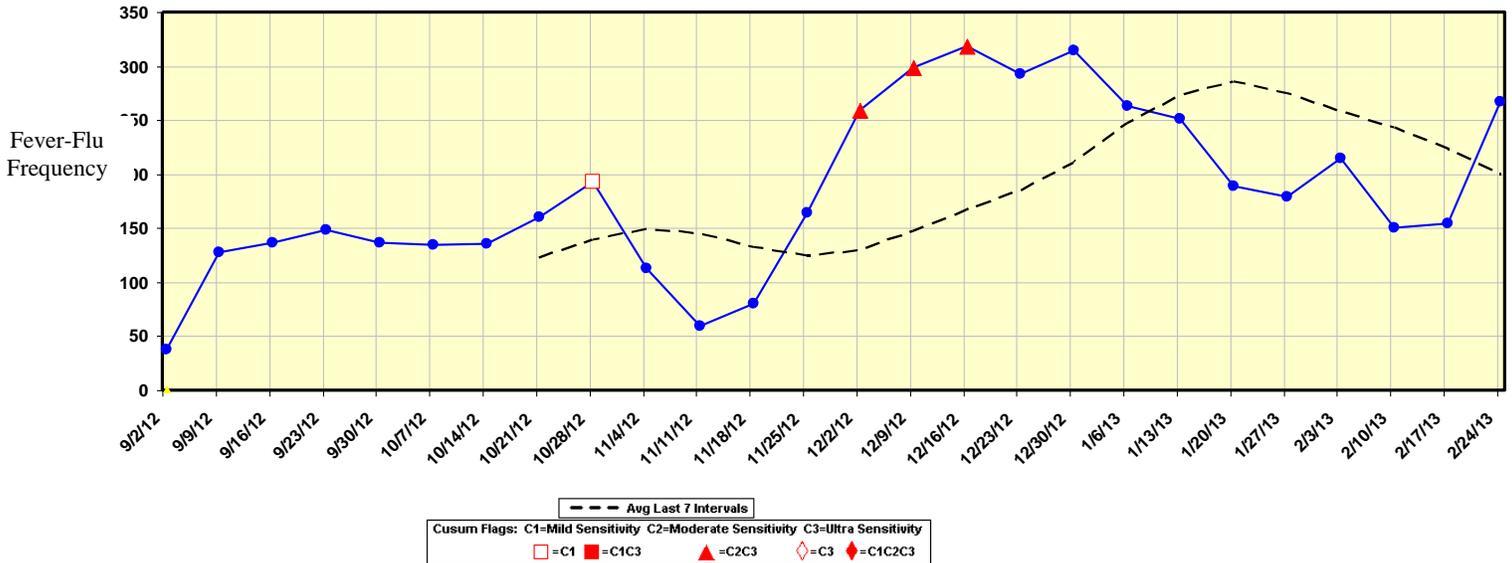
Midlands Region Hospitals (# of Facilities): Palmetto Health Baptist (1); Palmetto Health Richland (1); Kershaw Health (1); Elgin Urgent Care (1)

**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)**

## 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>		
	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>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: **Alecia Alianell at 803-898-0269 or [alianeat@dhec.sc.gov](mailto:alianeat@dhec.sc.gov)**.

## VIII. National Surveillance MMWR Week 8 (2/17-2/23)

During week 8 (February 17 - 23, 2013), influenza activity remained elevated in the United States, but decreased in most areas.

- **Viral Surveillance:** Of 7,609 specimens tested and reported by collaborating laboratories, 1,288 (16.9%) 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:** Three pediatric deaths were reported.
- **Influenza-Associated Hospitalizations:** A cumulative rate for the season of 36.7 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported. Of reported hospitalizations, over 51% were among adults 65 years and older.
- **Outpatient Illness Surveillance:** The proportion of outpatient visits for influenza-like illness (ILI) was 2.7%. This is above the national baseline of 2.2%. Eight of 10 regions reported ILI at or above region-specific baseline levels. Twelve states and New York City experienced moderate activity; 15 states experienced low activity, and 23 states and the District of Columbia experienced minimal activity.
- **Geographic Spread of Influenza:** Twelve states reported widespread influenza activity; Puerto Rico and 28 states reported regional influenza activity; 7 states and the District of Columbia reported local influenza activity; 3 states reported sporadic influenza activity; Guam reported no influenza activity, and the U.S. Virgin Islands did not report.

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

