

Flu Watch

Week Ending February 23, 2013 (MMWR Week 8)

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:
<p>Influenza Activity Level: LOCAL Note: Activity level definitions are found on page 15</p> <p>ILI Activity Status (South Carolina baseline is 2.05%*): Below baseline in the Upstate (.25%) and in the Midlands (.88%). Above baseline along the Coast (4.42%). The state ILI percentage was .92%. These data reflect reports from 15 (46.9%) providers.</p> <p>SC Viral Isolate and RT-PCR Activity: 13 positive specimens were reported. Since 9/30/12, 943 positive specimens have been reported.</p> <p>Positive Rapid Flu Test Activity: 907 positive rapid tests were reported. Since 9/30/12, 44,832 positive rapid tests have been reported.</p> <p>Hospitalizations: 15 lab confirmed hospitalizations were reported. Since 9/30/12, 1441 hospitalizations have been reported.</p> <p>Deaths: No lab confirmed deaths were reported. Since 9/30/12, 38 deaths have been reported.</p>

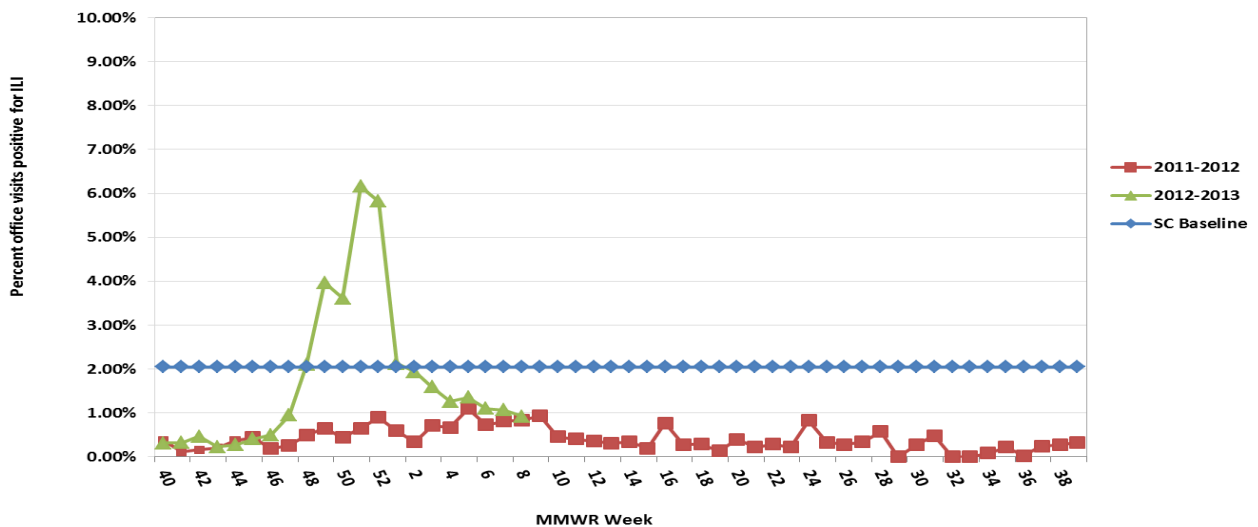
Summary of ILI Activity, Positive Confirmatory Tests, and Influenza Associated Hospitalizations and Deaths

	<i>Current week</i>	<i>Previous week</i>	<i>Change from previous week</i>
Percent of ILI visits reported by ILINet providers	.92%	1.07%	▼ .15
Number of positive confirmatory tests	13	24	▼ 11
Number of lab confirmed flu hospitalizations	15	29	▼ 14
Number of lab confirmed flu deaths	0	0	0

I. ILINet Influenza-Like Illness Surveillance

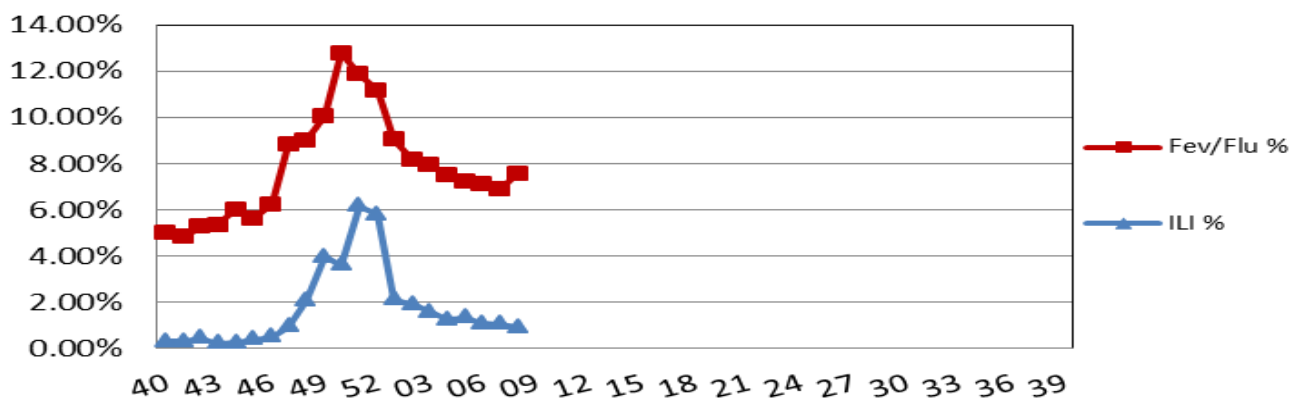
During the most recent MMWR week, .92% of patient visits to SC ILINet providers were due to ILI. This is below the state baseline (2.05%). This ILI percentage compares to .84 % this time last year. Reports were received from providers in 10 counties, representing 6 of the 8 regions. The statewide percentage of ER visits with fever-flu syndrome was 7.58%.

**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 - February 23, 2013**

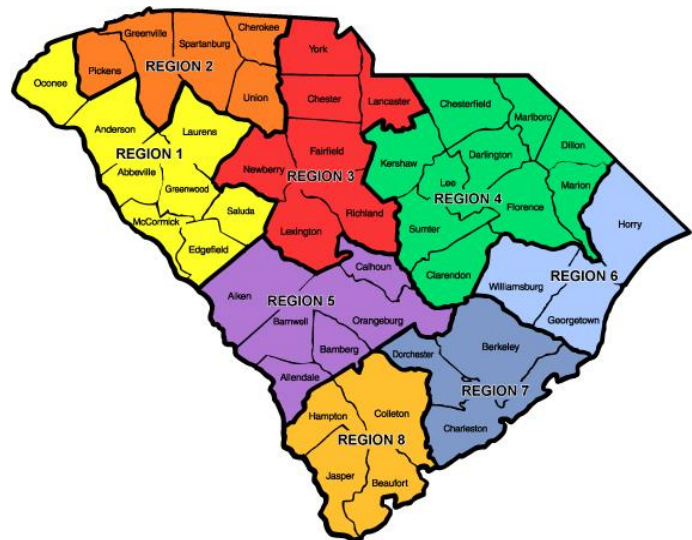


*Only includes hospitals participating in SC syndromic surveillance

**Influenza-Like Illness Reported by Sentinel Providers
February 17, 2013 – February 23, 2013**

County	ILI %	County	ILI %
Abbeville	---	Greenwood	NR
Aiken	0%	Hampton	NR
Allendale	---	Horry	NR
Anderson	0%	Jasper	NR
Bamberg	---	Kershaw	.97%
Barnwell	---	Lancaster	---
Beaufort	NR	Laurens	NR
Berkeley	NR	Lee	---
Calhoun	---	Lexington	NR
Charleston	NR	Marion	---
Cherokee	---	Marlboro	---
Chester	---	McCormick	1.69%
Chesterfield	---	Newberry	---
Clarendon	---	Oconee	---
Colleton	---	Orangeburg	---
Darlington	---	Pickens	1.00%
Dillon	NR	Richland	1.09%
Dorchester	NR	Saluda	0%
Edgefield	---	Spartanburg	.40%
Fairfield	---	Sumter	NR
Florence	1.00%	Union	---
Georgetown	4.42%	Williamsburg	---
Greenville	.13%	York	.60%

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



Geographic Region	ILI %	# of Reporters
Upstate-Regions 1 -2	.25	8
Midlands-Regions 3-5	.88	6
Coastal-Regions 6-8	4.42	1

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

II. Virologic Surveillance

<i>Positive confirmatory influenza test results* Current MMWR Week (2/17/13 – 2/23/13)</i>		
	BOL	Other clinical labs
Number of specimens tested	11	NA
Number of positive specimens	5	8
Influenza A unsubtype		1
Influenza A H1N1	1	
Influenza A H3N2		1
Influenza B	4	6
Other		

Includes culture, RT-PCR, DFA, and IFA

During the previous MMWR week, 13 positive specimens were reported.

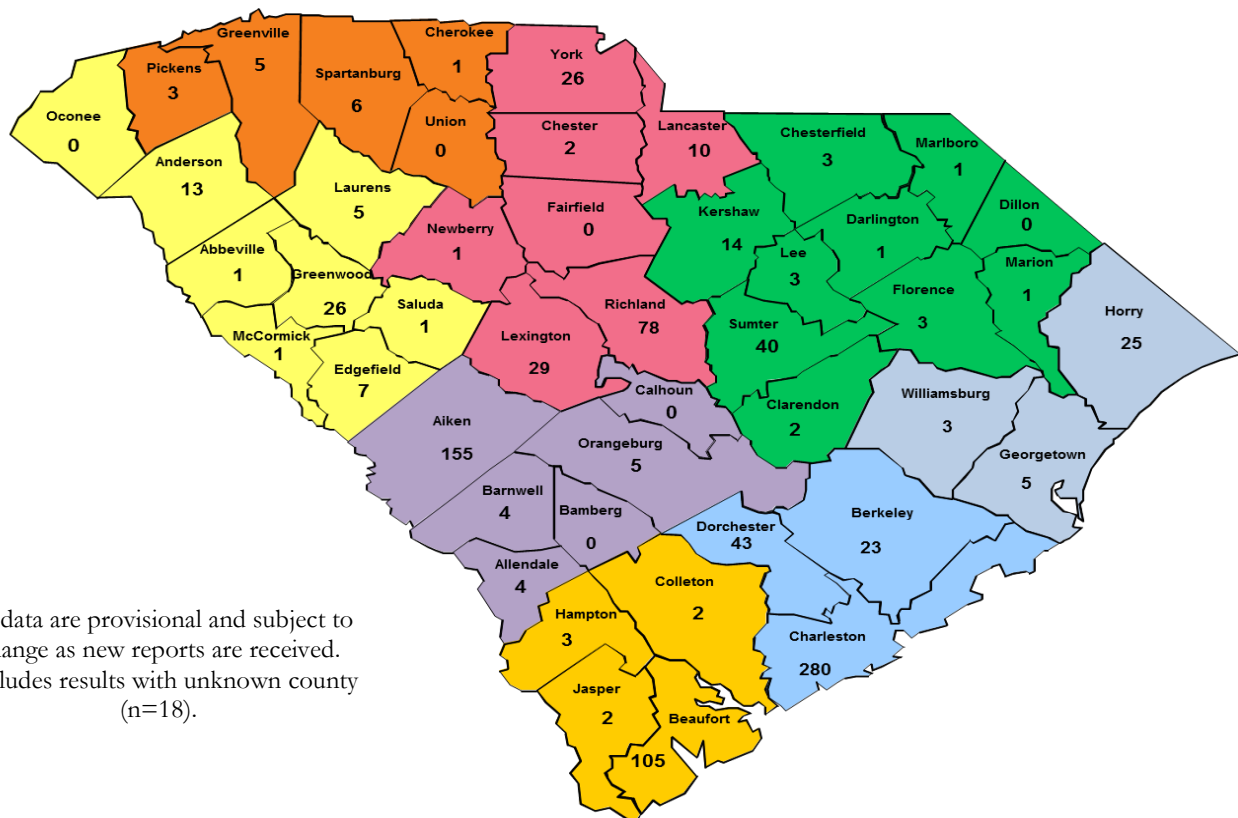
<i>Positive confirmatory influenza test results* Cumulative (09/30/12 – 2/23/13)</i>		
	BOL	Other clinical labs
Number of specimens tested	409	NA
Number of positive specimens	279 (68.2%)	664
Influenza A unsubtype		305 (45.9%)
Influenza A H1N1	20 (7.2%)	9 (1.4)
Influenza A H3N2	240 (86.0%)	305 (45.9%)
Influenza B	19 (6.8%)	44 (6.6%)
Other		1 (.15%)

Includes culture, RT-PCR, DFA, and IFA

Positive Confirmatory Tests by County
Current Week 2/17/13 – 2/23/13

County	Positive Tests	County	Positive Tests	County	Positive Tests
Abbeville		Dillon		Marion	
Aiken	6	Dorchester		Marlboro	
Allendale		Edgefield		McCormick	
Anderson		Fairfield		Newberry	
Bamberg		Florence		Oconee	
Barnwell		Georgetown	1	Orangeburg	
Beaufort	2	Greenville		Pickens	
Berkeley		Greenwood		Richland	
Calhoun		Hampton		Saluda	
Charleston	1	Horry		Spartanburg	
Cherokee		Jasper		Sumter	2
Chester		Kershaw	1	Union	
Chesterfield		Lancaster		Williamsburg	
Clarendon		Laurens		York	
Colleton		Lee		Unknown	
Darlington		Lexington			

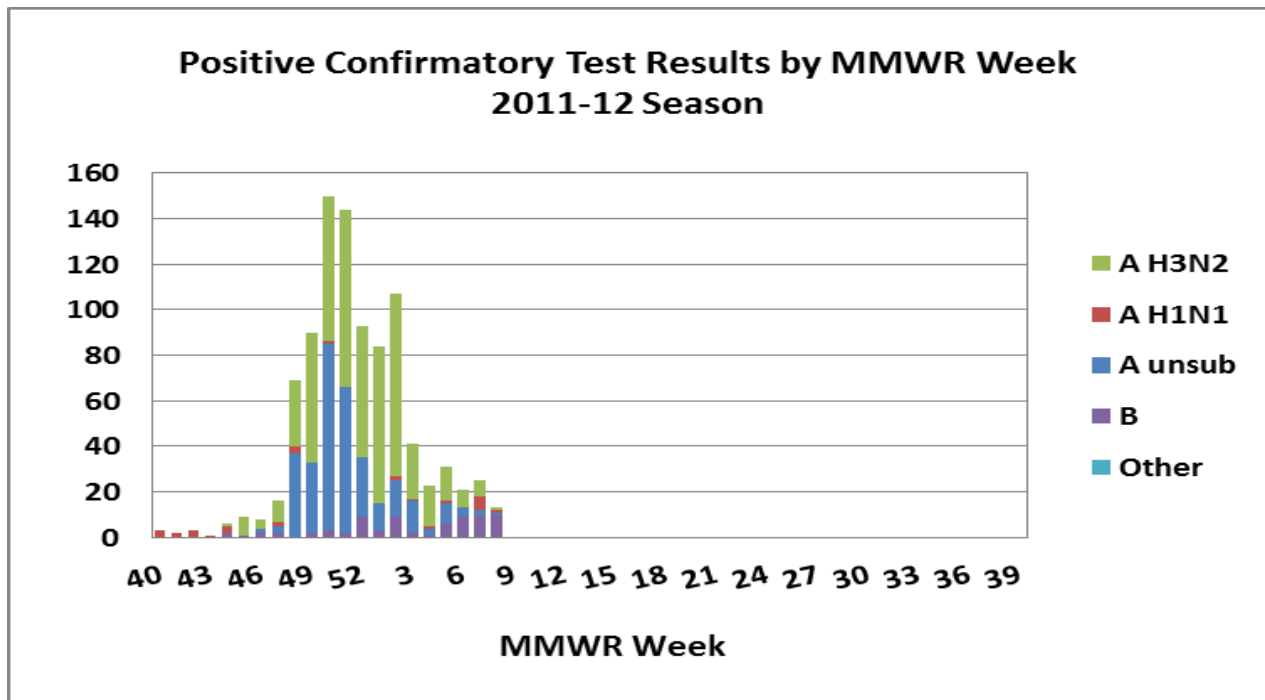
Map of Positive Confirmatory Tests by County
Cumulative 09/30/12 – 2/23/13



All data are provisional and subject to change as new reports are received. Excludes results with unknown county (n=18).

**Positive Confirmatory Tests by County and Type
Cumulative 9/30/12 – 2/23/13**

	A H1N1	A H3N2	B	A Unsub	Unk		A H1N1	A H3N2	B	A Unsub	Unk
Region 1						Region 2					
Abbeville		1				Cherokee					1
Anderson		8	1	5		Greenville		2			5
Edgefield		1		6		Pickens		3			
Greenwood		22	1	3		Spartanburg			2		4
Laurens		2		4		Union					
McCormick		1				Region 4					
Oconee						Chesterfield		1	1		1
Saluda		1				Clarendon	1	1			3
Region 3						Darlington		1			1
Chester				2		Dillon					
Fairfield						Florence		1	1		5
Lancaster		3		7		Kershaw	2	8			4
Lexington		5		24		Lee		2			1
Newberry				1		Marion			1		
Richland	1	14	8	55		Marlboro		1			
York		10	3	13		Sumter		32	7		3
Region 5						Region 6					
Aiken	1	3	14	136	1	Georgetown		4	1		
Allendale	4					Horry		19	1		5
Bamberg						Williamsburg					3
Barnwell			1	3		Region 8					
Calhoun				1		Beaufort	16	78	3		8
Orangeburg		4		3		Colleton			2		
Region 7						Hampton		1			2
Berkeley		17	6			Jasper		2			
Charleston	3	212	9	8		Unknown		16	1		1
Dorchester		38	5								

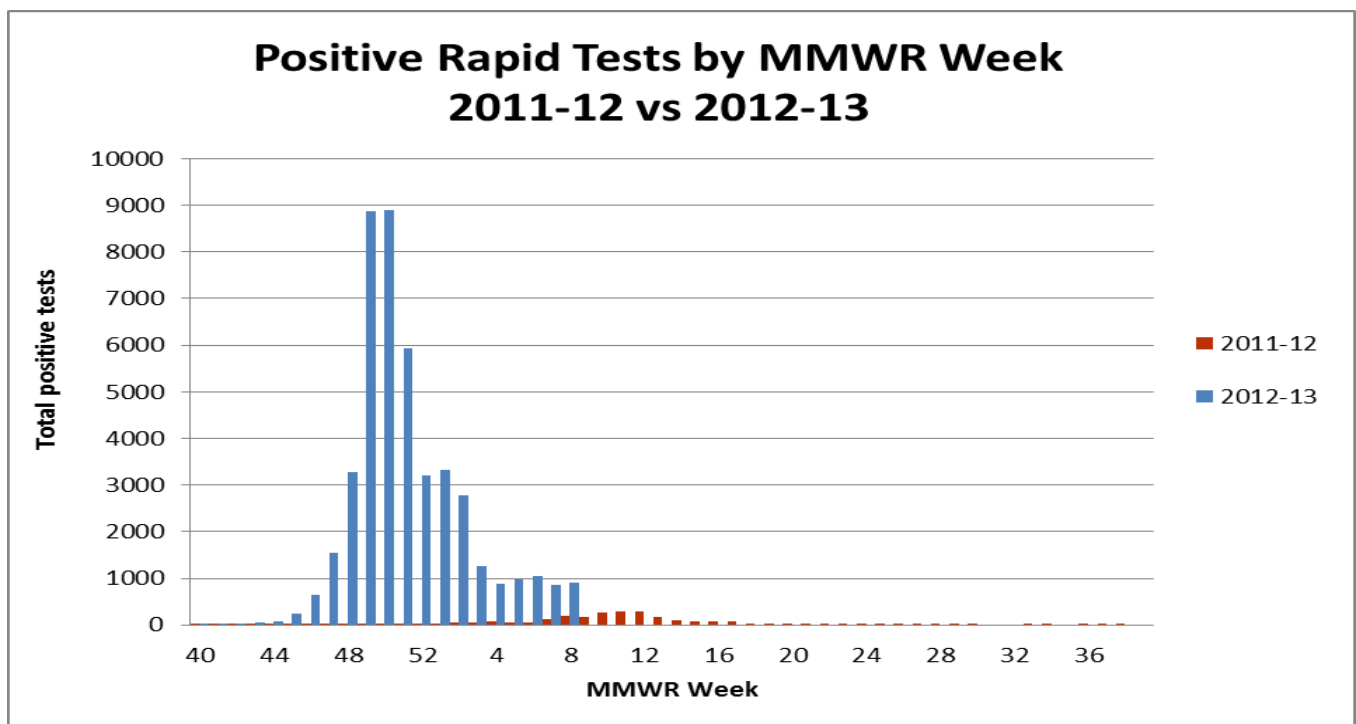


III. Positive Rapid Antigen Tests

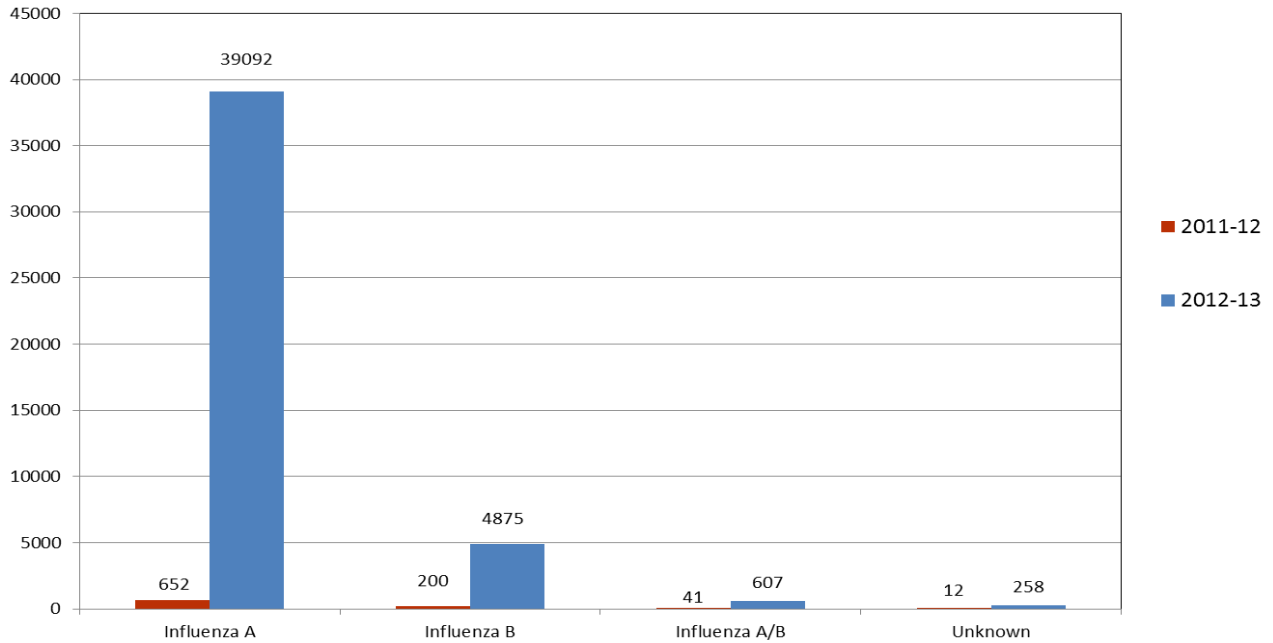
During the past MMWR week, 907 positive rapid antigen tests were reported. Of these, 286 were influenza A, 605 were influenza B, and 16 were influenza A/B. This compares to 198 this time last year. 42,553 positive rapid tests have been reported this year.

Positive Rapid Flu Tests by County February 17, 2013 – February 23, 2013

County	Positive Tests	County	Positive Tests	County	Positive Tests
Abbeville		Dillon		Lexington	101
Aiken	4	Dorchester	39	Marion	21
Allendale	8	Edgefield		Marlboro	1
Anderson	29	Fairfield	9	McCormick	
Bamberg		Florence	48	Newberry	17
Barnwell	18	Georgetown	81	Oconee	
Beaufort	20	Greenville	74	Orangeburg	14
Berkeley	17	Greenwood		Pickens	3
Calhoun		Hampton	14	Richland	89
Charleston	98	Horry	50	Saluda	
Cherokee	2	Jasper	2	Spartanburg	23
Chester		Kershaw	13	Sumter	15
Chesterfield	2	Lancaster	7	Union	
Clarendon	9	Laurens		Williamsburg	
Colleton	3	Lee		York	
Darlington	20				



**Positive Rapid Tests by Type
2011-12 vs 2012-13
September 30 - February 23 , 2013**



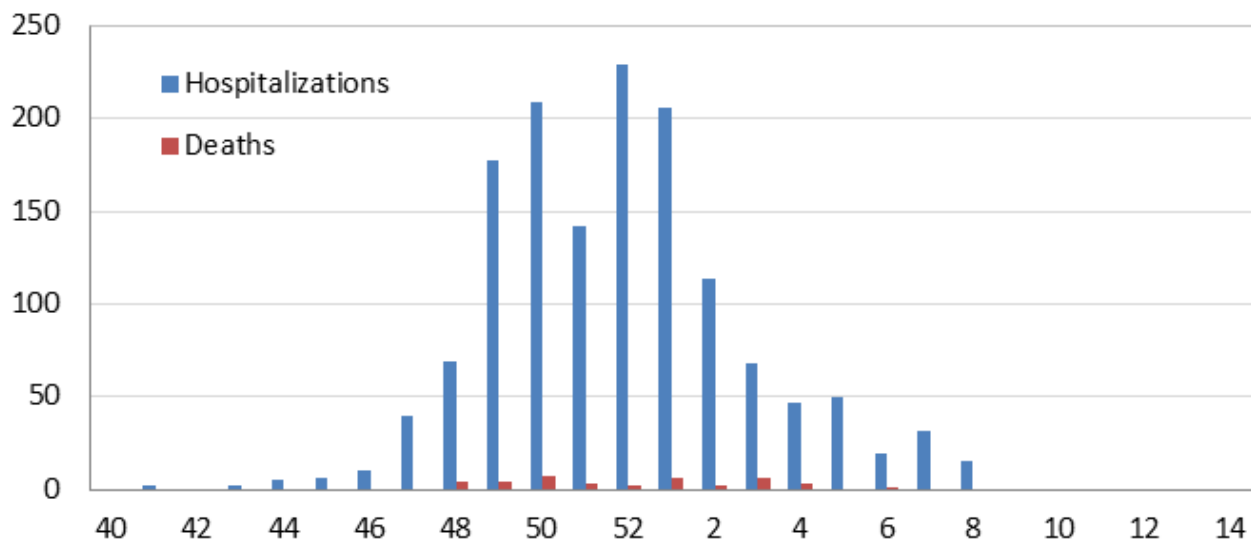
IV. Influenza hospitalizations and deaths

During the past MMWR week, 15 lab confirmed* influenza hospitalizations were reported. No lab confirmed deaths were reported.

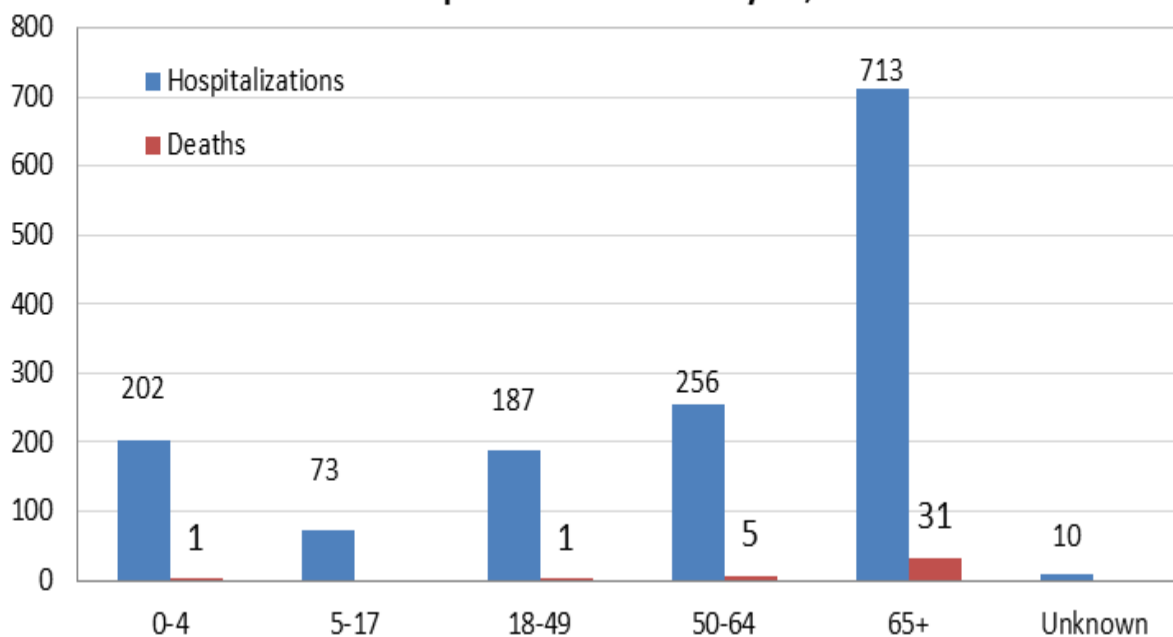
	Total number*	
Number of Reporting Hospitals (Current week)	36	
	<i>Current MMWR Week (2/17/13-2/23/13)</i>	<i>Cumulative (since 09/30/12)</i>
Hospitalizations	15	1441
Deaths	0	38

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

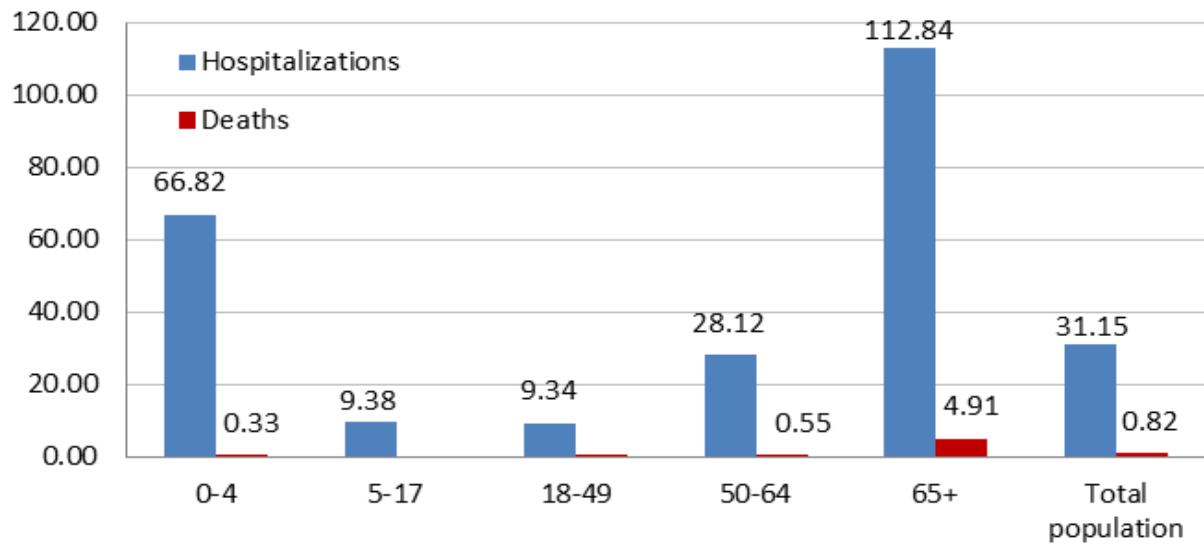
**Reported Cases of Laboratory Confirmed Influenza
Hospitalizations and Deaths
by MMWR week
September 30, 2012 - February 23, 2013**



**Reported Cases of Laboratory Confirmed Influenza
Hospitalizations (n=1441) and Deaths (n=38)
September 30 - February 23, 2013**



**Laboratory Confirmed Influenza Case rate/100,000
Hospitalizations (n=1441) and Deaths (n=38) by age group
September 30, 2012 - February 23, 2013**

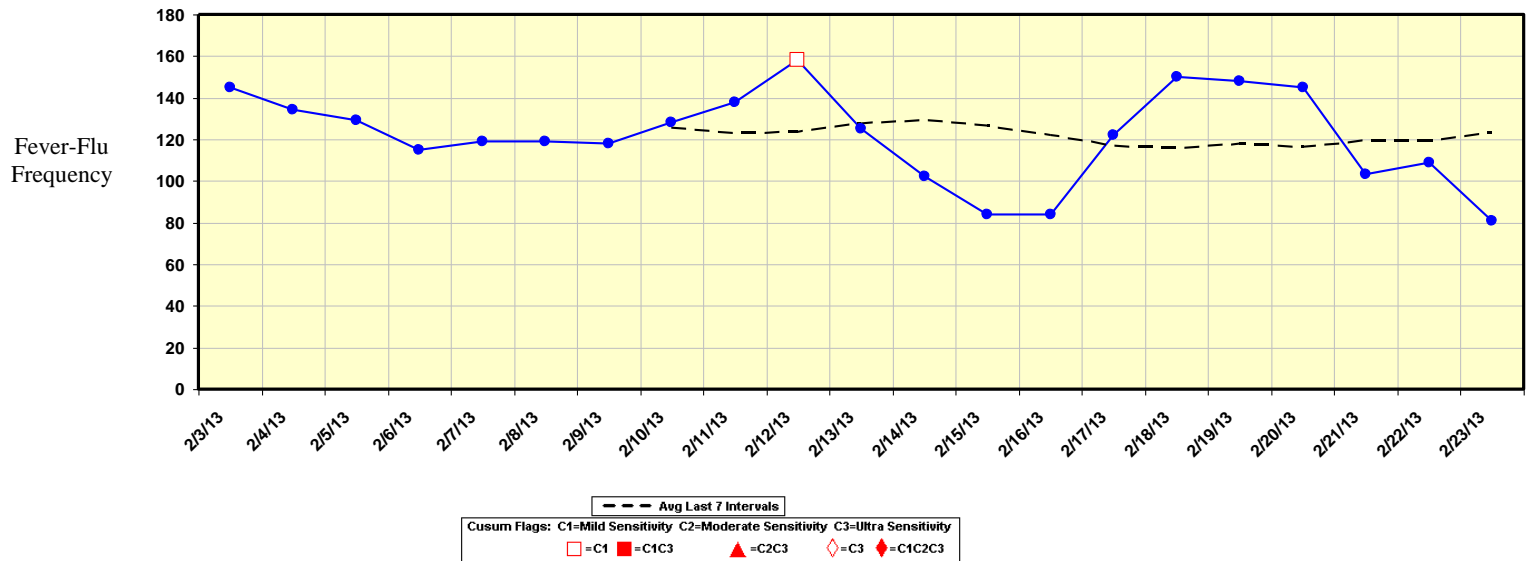


**Lab Confirmed Influenza Deaths by County
September 30, 2012 – February 23, 2013**

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	3
Georgetown	1	Spartanburg	2
Greenville	5	Sumter	1
Horry	1	Williamsburg	1
Jasper	1	York	2
Total Deaths		38	

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

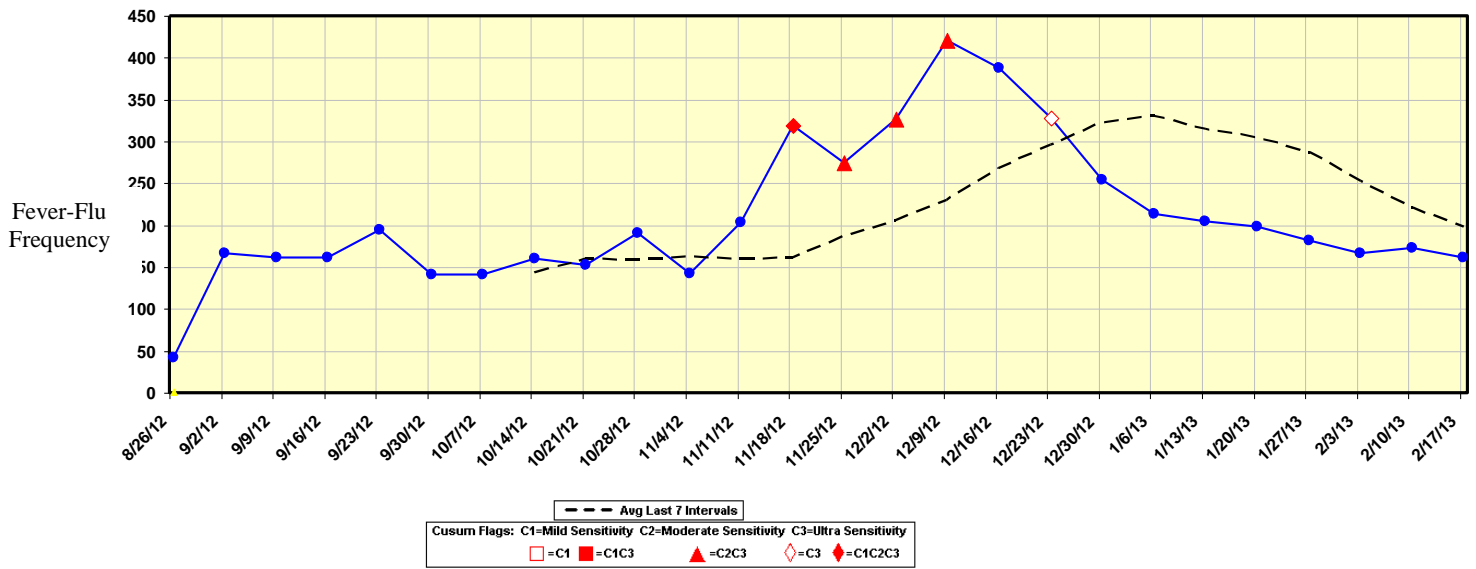
The SC Statewide Fever-Flu Syndrome graph above illustrates the daily counts of hospital emergency department (ED) visits with an Influenza-like Illness (ILI) for the past 21 days. A total of 21 hospital facilities are reporting to the SC-DARTS system. These 21 include: AnMed Health (Region 1); Self Regional (Region 1); Oconee Medical Center (Region 1); Palmetto Health Alliance (Region 2 & 3); Greenville Hospital System (Region 2); Kershaw Health (Region 4); McLeod Health (Region 4); Elgin Urgent Care (Region 4); Medical University of South Carolina (Region 7); Roper (Region 7); St. Francis (Region 7); Trident (Region 7); Colleton (Region 8); and Hampton Regional (Region 8).

Statewide CUSUM Flag Alerts Description:

No flags for the past week.

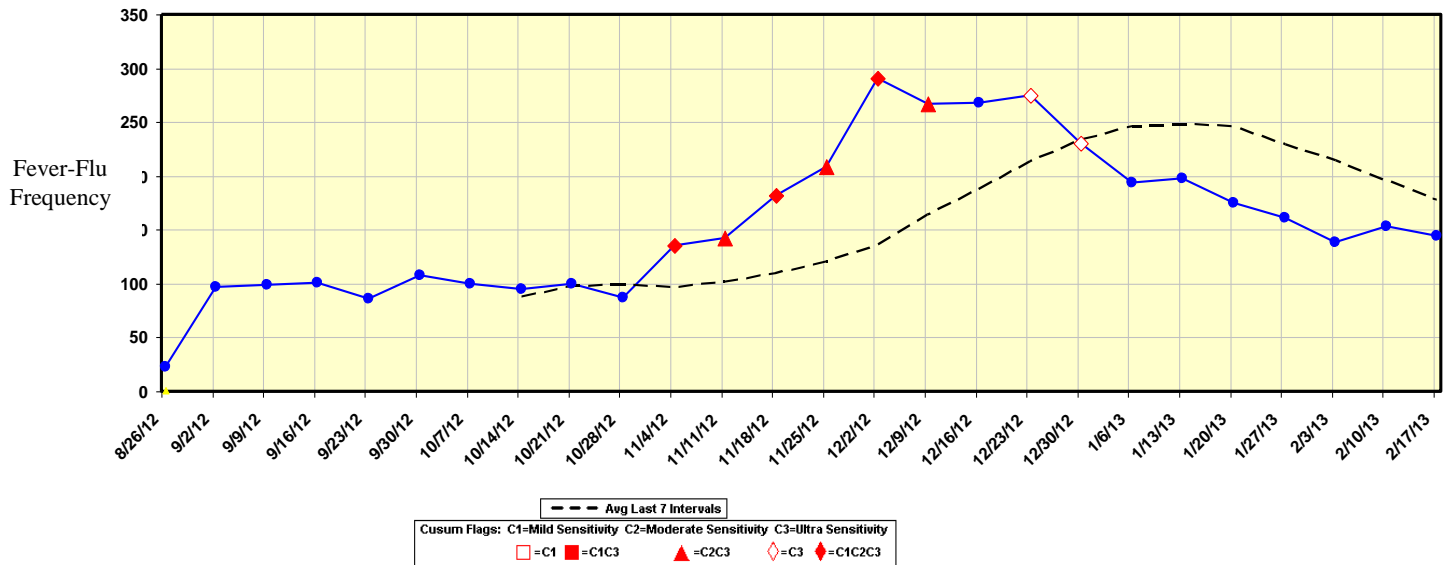
Below are the fever-flu syndrome graphs by Region for the past 180 days (weekly interval).

Region 1 - Fever Flu Syndrome



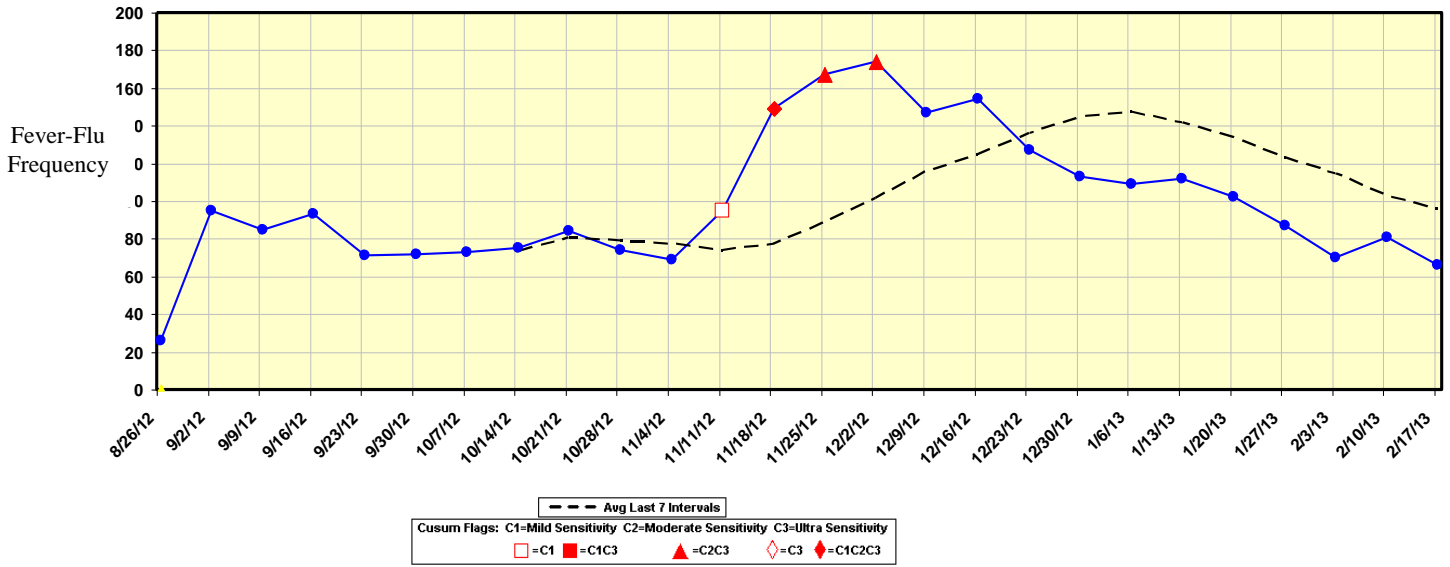
Region1 Hospitals (# of Facilities): AnMed Health (3); Self-Regional (1); Oconee Medical Center (1);

Region 2 - Fever Flu Syndrome



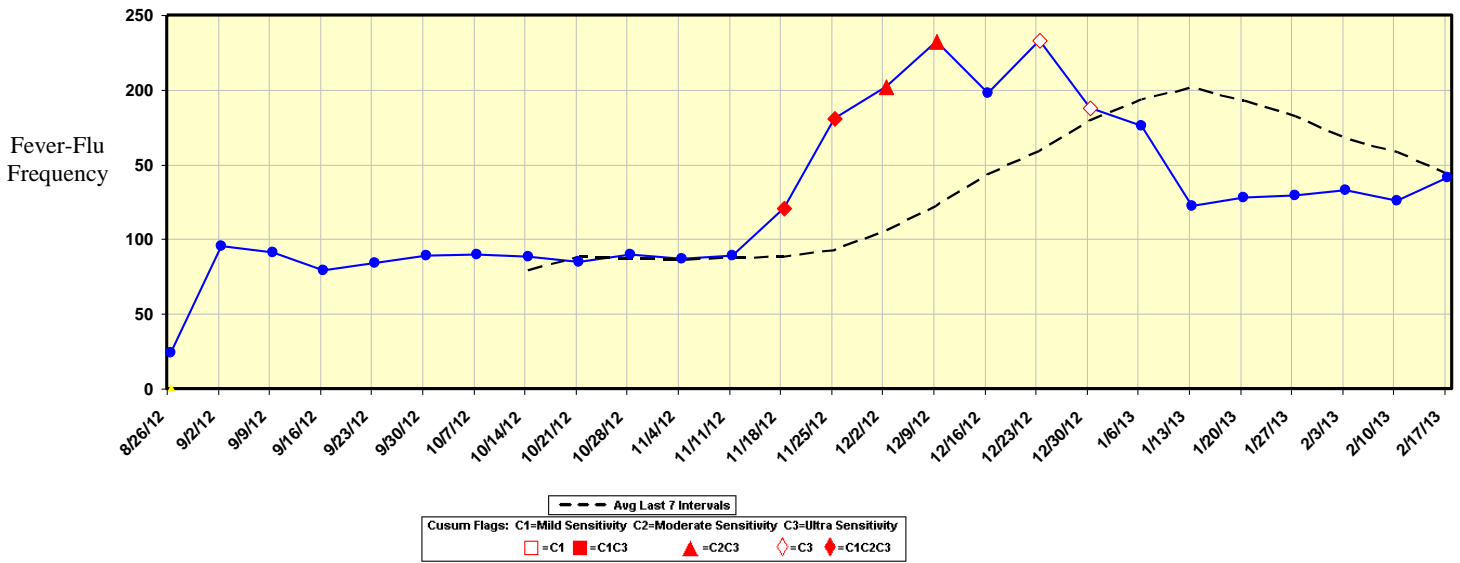
Region 2 Hospitals (# of Facilities): Greenville Hospital System (4); Palmetto Health Easley (1)

Region 3 - Fever Flu Syndrome



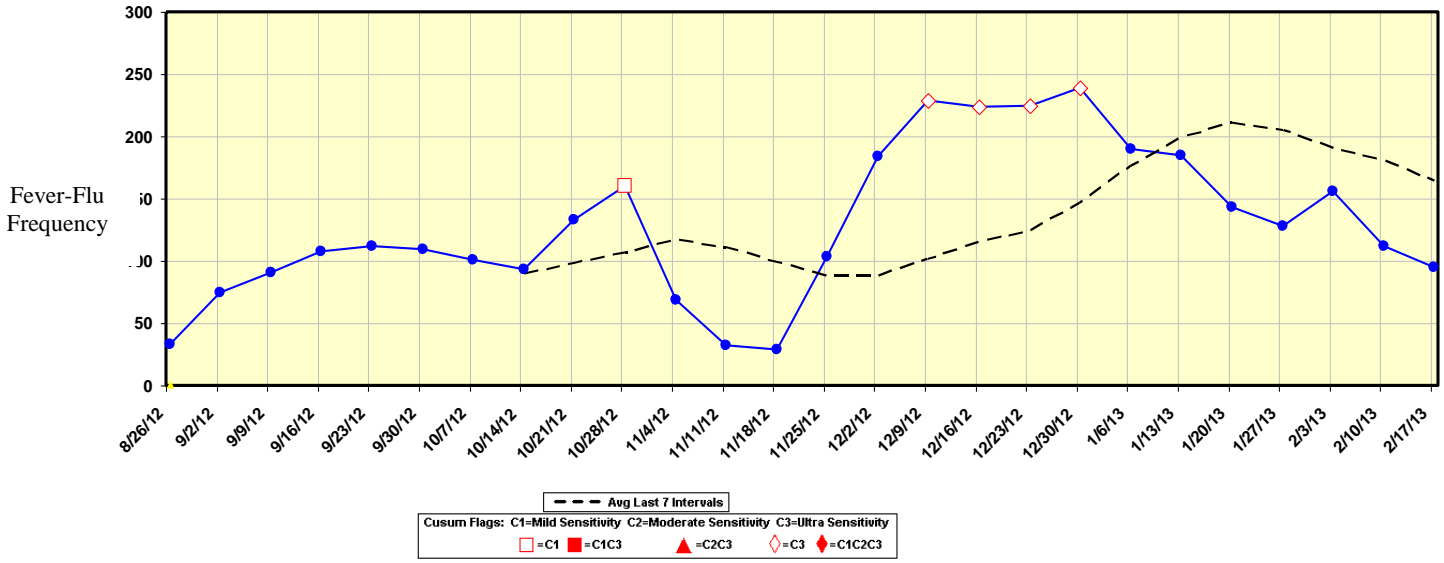
Region 3 Hospitals (# of Facilities): Palmetto Health Baptist (1), Palmetto Health Richland (1)

Region 4 - Fever Flu Syndrome



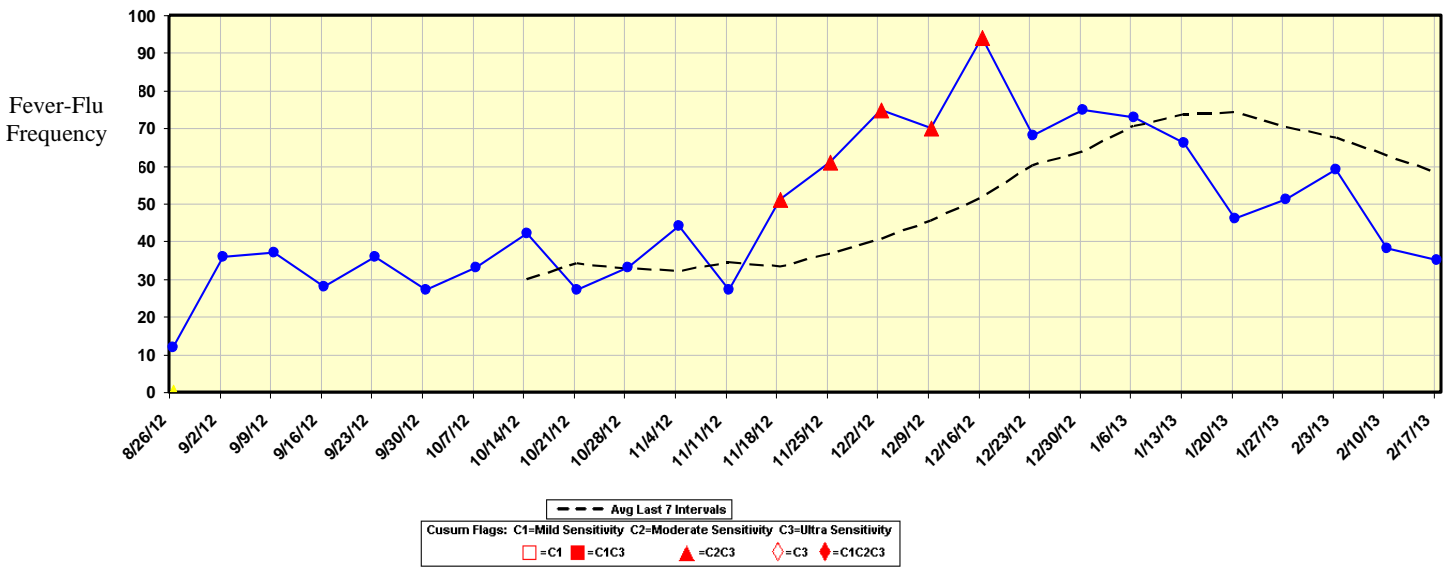
Region 4 Hospitals (# of Facilities): Kershaw Health (1); McLeod Health (1); Elgin Urgent Care (1)

Region 7 - Fever Flu Syndrome



Region 7 Hospitals (# of Facilities): Medical University of South Carolina (1), Roper (1), St. Francis (1), Trident (1)

Region 8 - Fever Flu Syndrome



Region 8 Hospitals (# of Facilities): Hampton Regional (1), Colleton (1)

VI. Influenza activity levels

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

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**.

VIII. National Surveillance MMWR Week 7 (2/10-2/16)

During week 7 (February 10 - 16, 2013), influenza activity remained elevated in the United States, but decreased in most areas.

- **Viral Surveillance:** Of 8,144 specimens tested and reported by collaborating laboratories, 1,371 (16.8%) 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:** Fourteen pediatric deaths were reported.
- **Influenza-Associated Hospitalizations:** A cumulative rate for the season of 34.2 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported. Of reported hospitalizations, more than 50% were among adults 65 years and older.
- **Outpatient Illness Surveillance:** The proportion of outpatient visits for influenza-like illness (ILI) was 2.8%. This is above the national baseline of 2.2%. All 10 regions reported ILI at or above region-specific baseline levels. Three states experienced high ILI activity; 13 states and New York City experienced moderate activity; 11 states experienced low activity; 23 states experienced minimal activity, and the District of Columbia had insufficient data.
- **Geographic Spread of Influenza:** Twenty-two states reported widespread influenza activity; Puerto Rico and 21 states reported regional influenza activity; the District of Columbia and 6 states reported local influenza activity; 1 state 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>

