



# Flu Watch

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

**Week Ending April 21, 2012 (MMWR Week 16)**

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

**In this issue:**

ILINet	2
Virologic surveillance	4
Rapid antigen tests	6
Hospitalizations and deaths	9
Syndromic surveillance	11
Activity level definitions	15
SC influenza surveillance components	16
National influenza surveillance	17

**MMWR Week 16 at a Glance:**

**Influenza Activity Level: Sporadic**

Note: Activity level definitions are found on page 15

**ILI Activity Status (South Carolina baseline is 2.05%\*):** Below baseline in the Upstate (.08%) and the Midlands (1.25%). Above baseline along the Coast (2.66%). The state ILI percentage is .77%. These data reflect reports from 17 (53.1%) providers.

Note: See map of counties on page 3 for regional descriptions

**SC Viral Isolate and RT-PCR Activity:** Six positive specimens were reported. One hundred and six positive specimens have been reported this season.

**Positive Rapid Flu Test Activity:** Sixty-seven positive rapid tests were reported. So far this season, 2104 have been reported.

**Hospitalizations\*:** Four lab confirmed hospitalizations were reported. Ninety-three lab confirmed hospitalizations have been reported this season.

**Deaths\*:** No lab confirmed deaths were reported. One lab confirmed death has been reported this season.

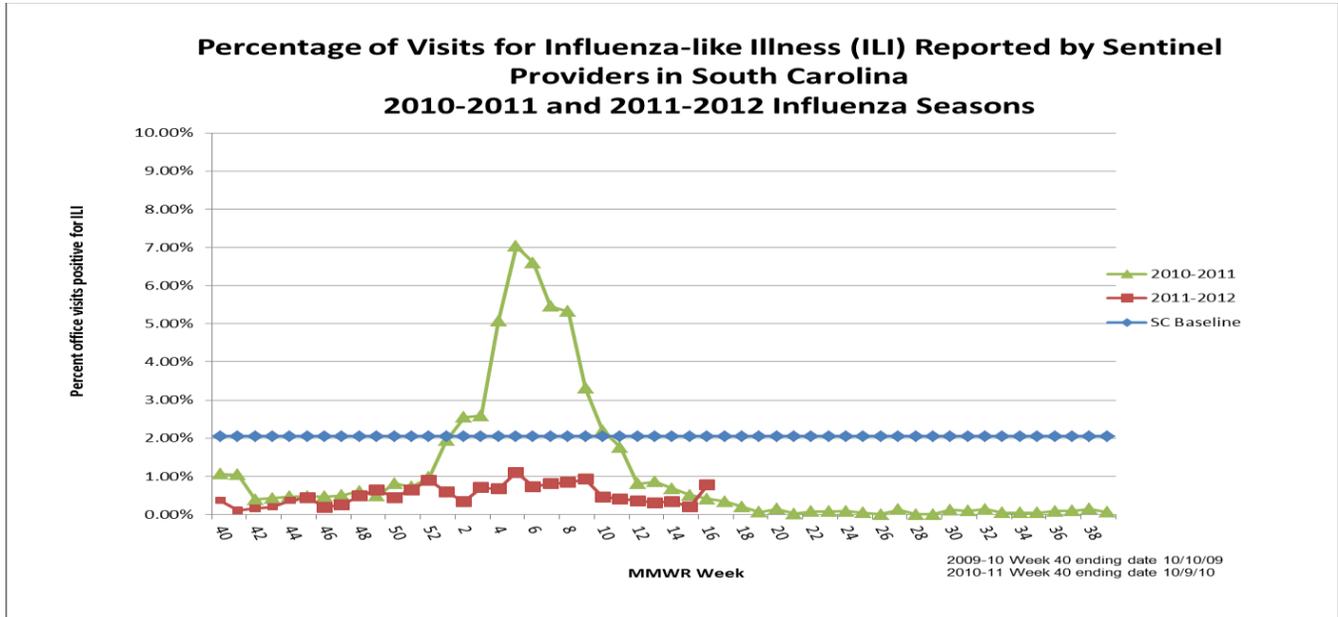
*\*Lab confirmation includes positive rapid tests, culture, PCR, DFA, or IFA.*

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

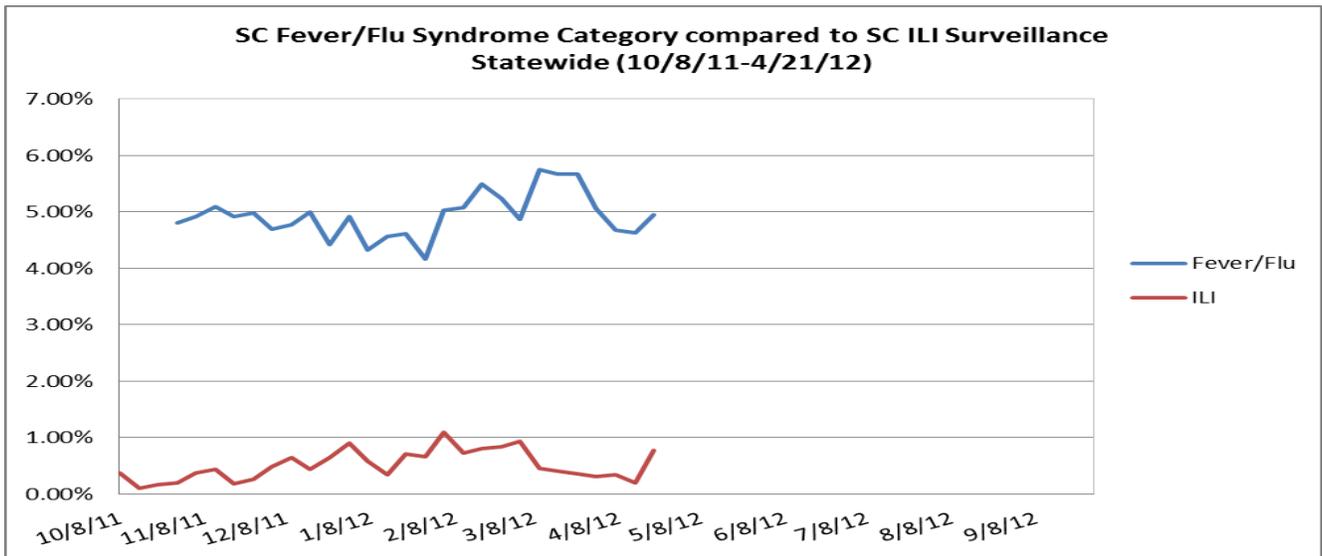
	<i>Current week</i>	<i>Previous week</i>	<i>Change From previous week</i>
Percent of visits to ILINet providers for ILI	.77	.20	▲.57
Number of positive confirmatory tests	6	4	▲ 2
Number of lab confirmed flu hospitalizations	4	2	▲ 2
Number of lab confirmed flu deaths	0	0	0

## I. ILINet Influenza-Like Illness Surveillance

During MMWR week 16, .77% of patient visits to SC ILINet providers were due to ILI. This is below the state baseline (2.05%). This ILI percentage compares to .41% this time last year. Reports were received from providers in 12 counties, representing 6 of the 8 regions. The statewide percentage of ER visits with fever-flu syndrome (only includes hospitals participating in SC syndromic surveillance) was 4.95%.



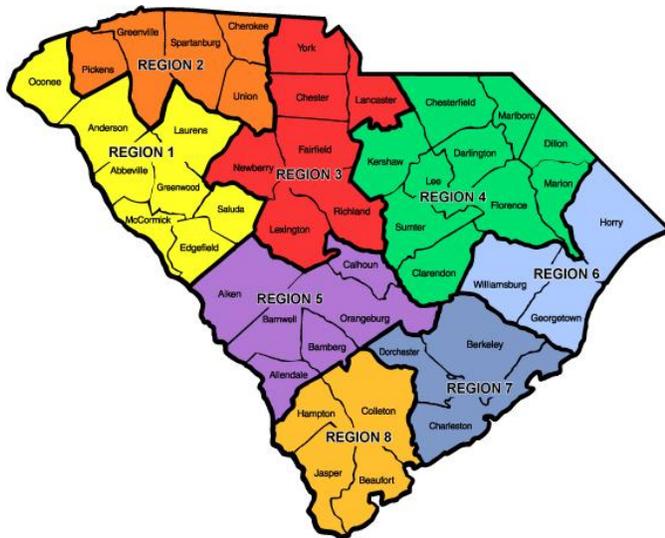
\*The SC baseline is the mean percentage of patient visits for ILI during non-influenza weeks (weeks when percent of positive lab tests was below 20%) for the previous three seasons plus two standard deviations.



**Reported Influenza-Like Illness by Sentinel Providers  
April 15, 2012 – April 21, 2012**

County	ILI %	County	ILI %
Abbeville	---	Greenwood	NR
Aiken	.30%	Hampton	NR
Allendale	---	Horry	NR
Anderson	1.96%	Jasper	NR
Bamberg	---	Kershaw	.30%
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	0%
Dillon	NR	Richland	2.22%
Dorchester	NR	Saluda	0%
Edgefield	---	Spartanburg	0%
Fairfield	0%	Sumter	NR
Florence	.74%	Union	---
Georgetown	2.66%	Williamsburg	---
Greenville	.08%	York	.80%

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



Geographic Region	ILI %	# of Reporters
Upstate-Regions 1 -2	.08	9
Midlands-Regions 3-5	1.25	7
Coastal-Regions 6-8	2.66	1

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

## II. Virologic Surveillance

### Positive confirmatory influenza test results\* Current MMWR Week (4/15/12 – 4/21/12)

	BOL	Other clinical labs
Number of specimens tested	7	NA
Number of positive specimens	4	2
Influenza A unsubtype		
Influenza A H1N1	2	1
Influenza A H3N2	1	1
Influenza B	1	
Other		

\*Includes culture, RT-PCR, DFA, and IFA

During MMWR week 16, 6 positive specimens were reported.

### Positive confirmatory influenza test results\* Cumulative (10/2/11 – 4/21/12)

	BOL	Other clinical labs
Number of specimens tested	151	NA
Number of positive specimens	73	33
Influenza A unsubtype		14
Influenza A H1N1	38	10
Influenza A H3N2	27	5
Influenza B	8	2
Other <sup>†</sup>		2

\*Includes culture, RT-PCR, DFA, and IFA

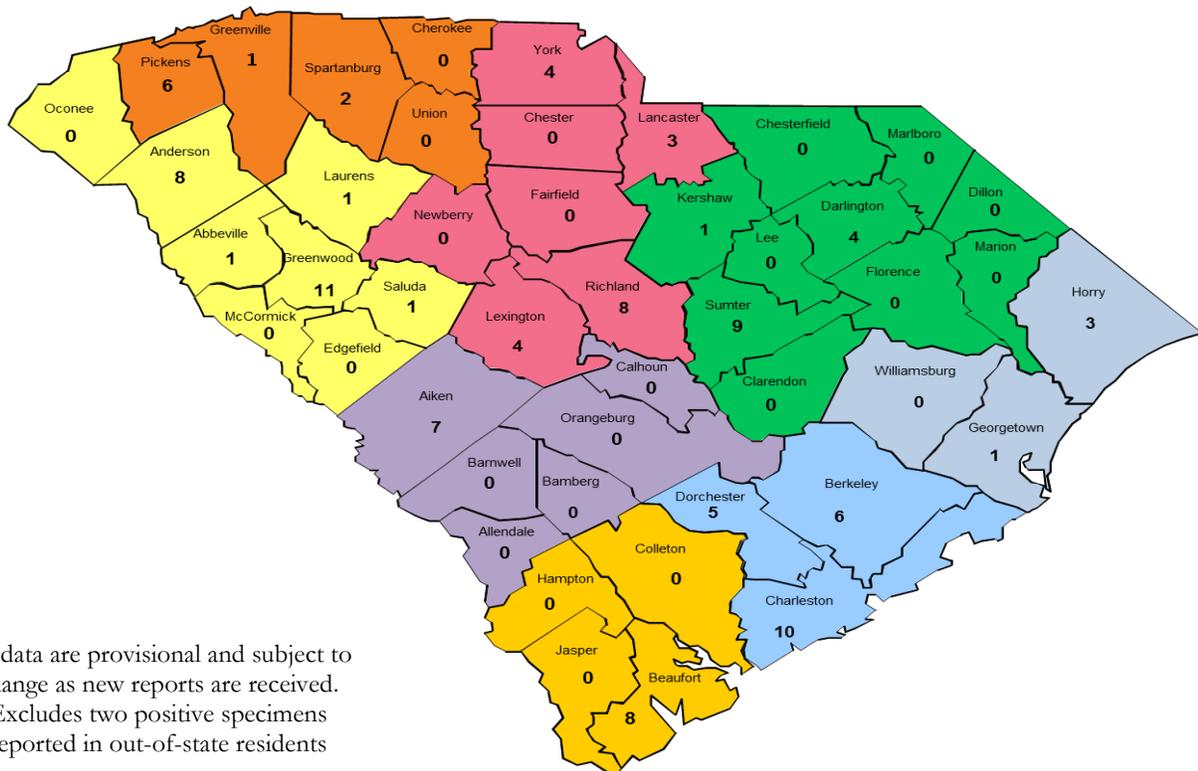
<sup>†</sup>Includes one unknown type and one influenza A and B coinfection

**Positive Confirmatory Tests by County  
Current Week 4/15/12 – 4/21/12**

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

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

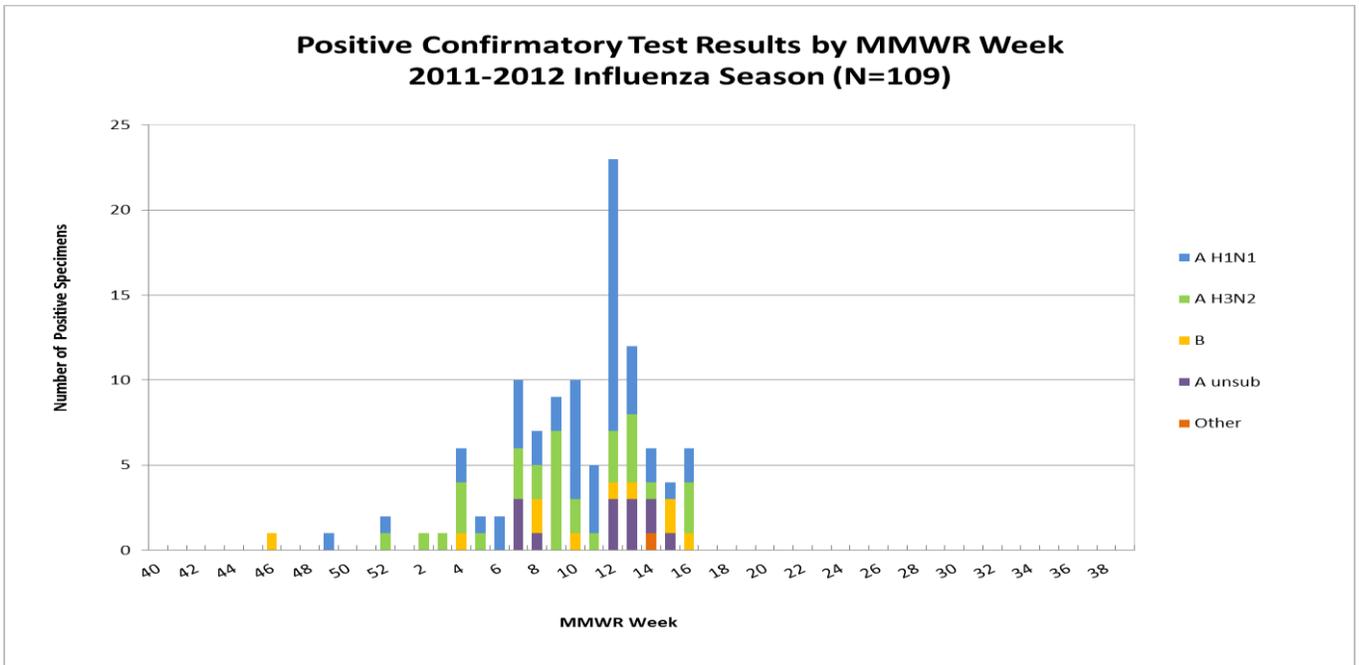
**Map of Positive Confirmatory Tests by County\*  
Cumulative 10/2/11 -4/21/12**



All data are provisional and subject to change as new reports are received.  
Excludes two positive specimens reported in out-of-state residents

**Positive Confirmatory Tests by County and Type  
Cumulative 10/2/11 – 4/21/12**

	A H1N1	A H3N2	B	A Unsub	Unk/Other	A H1 N1	A H3N2	B	A Unsub	Unk/Other
<b>Region 1</b>										
Abbeville	1									
Anderson		7		1						
Edgefield										
Greenwood	10	1								
Laurens		1								
McCormick										
Oconee										
Saluda	1									
<b>Region 2</b>										
Cherokee										
Greenville						1				
Pickens						6				
Spartanburg									2	
Union										
<b>Region 3</b>										
Chester										
Fairfield										
Lancaster	1			2						
Lexington	2	1	1							
Newberry										
Richland	5	2	1							
York	3	1								
<b>Region 4</b>										
Chesterfield								1		3
Clarendon										
Darlington										
Dillon										
Florence										
Kershaw							1			
Lee										
Marion										
Marlboro										
Sumter						5	1	2		1
<b>Region 5</b>										
Aiken				2	1					
Allendale				6						
Bamberg										
Barnwell										
Calhoun										
Orangeburg										
<b>Region 6</b>										
Georgetown						1				
Horry						2		1		
Williamsburg										
<b>Region 7</b>										
Berkeley	2	4								
Charleston	2	7		1						
Dorchester	3		2							
<b>Region 8</b>										
Beaufort						2	4	2		
Colleton										
Hampton										
Jasper										
<b>Non-resident</b>										2



### III. Positive Rapid Antigen Tests

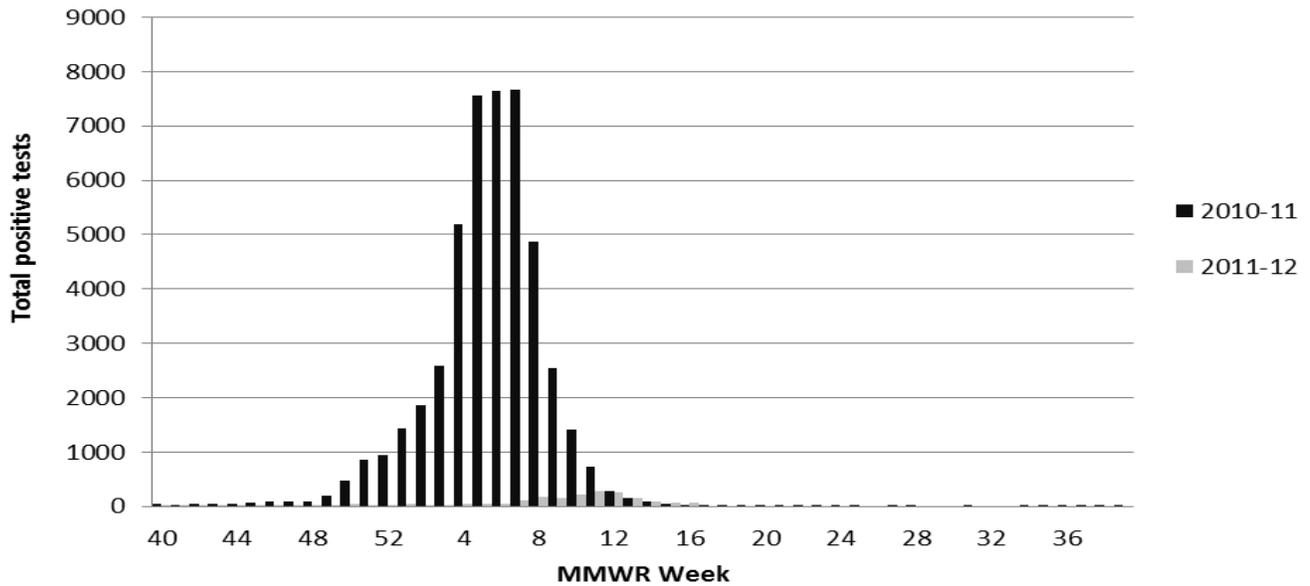
During MMWR week 16, 67 positive rapid antigen tests were reported. Of these, there were 53 influenza A, 13 influenza B, and 1 influenza A/B. During this MMWR week last year, 18 positive rapid tests were reported.

	Total Positive Rapid Antigen Tests				
	<i>Influenza A</i>	<i>Influenza B</i>	<i>Influenza A/B</i>	<i>Unk/Other</i>	<i>Total</i>
<b>Current MMWR (4/15- 4/21/12)</b>	53	13	1		67
<b>Cumulative (since 10/2/11)</b>	1680	296	115	13	2104

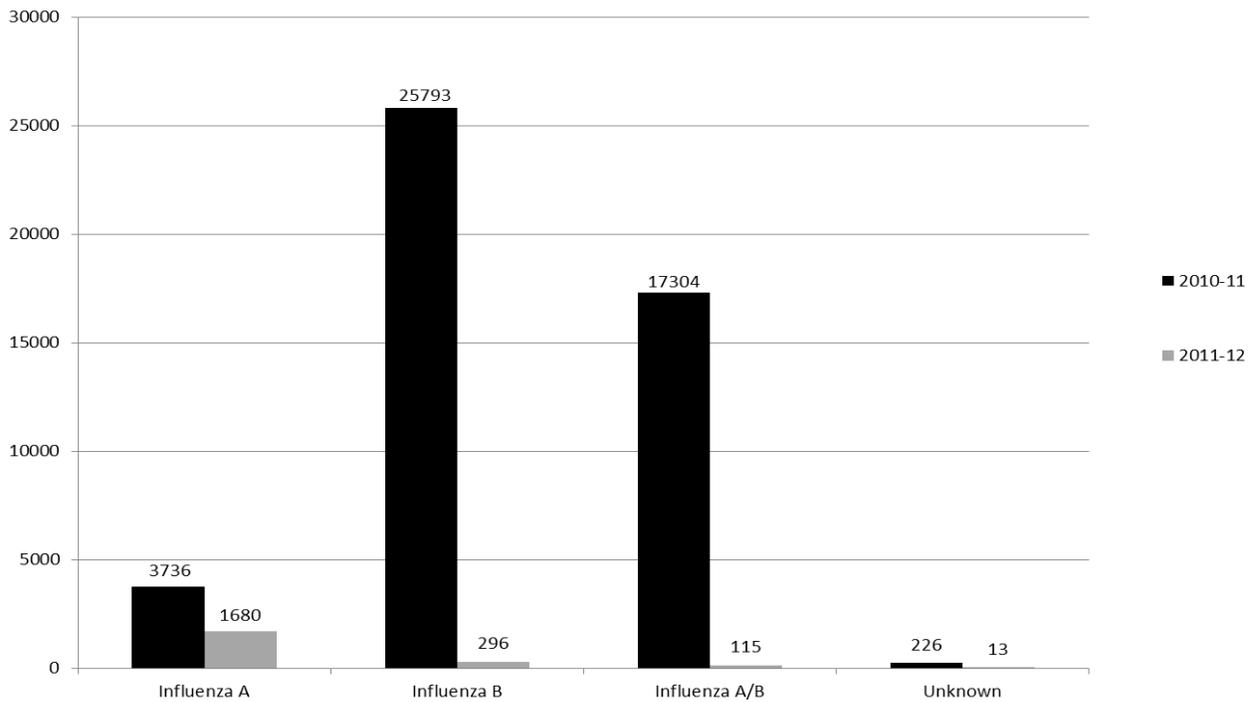
#### Positive Rapid Flu Tests by County Current Week 4/15/12 – 4/21/12

County	Positive Tests	County	Positive Tests	County	Positive Tests
Abbeville	1	Dillon		Lexington	2
Aiken	1	Dorchester	2	Marion	
Allendale		Edgefield		Marlboro	
Anderson	3	Fairfield		McCormick	
Bamberg		Florence	2	Newberry	1
Barnwell		Georgetown	1	Oconee	2
Beaufort	4	Greenville	8	Orangeburg	
Berkeley		Greenwood	1	Pickens	
Calhoun		Hampton		Richland	5
Charleston	12	Horry	5	Saluda	
Cherokee		Jasper		Spartanburg	1
Chester		Kershaw	2	Sumter	1
Chesterfield		Lancaster	1	Union	
Clarendon	2	Laurens		Williamsburg	
Colleton		Lee		York	6
Darlington	4				

## Positive Rapid Tests by MMWR Week 2010-11 vs 2011-12



## Positive Rapid Tests by Type 2011-12 MMWR Weeks 40-16



**Positive Rapid Tests by County and Type  
Cumulative 10/2/11 – 4/21/12**

	A	B	A/B	Unk		A	B	A /B	Unk
<b>Region 1</b>					<b>Region 2</b>				
Abbeville	27	6			Cherokee	2			
Anderson	109	12	5		Greenville	149	27	4	1
Edgefield					Pickens	46	6	1	
Greenwood	39	3	6		Spartanburg	136	2	3	
Laurens	18	3	2		Union	16		9	
McCormick	3				<b>Region 4</b>				
Oconee	37	7	1	1	Chesterfield	2			
Saluda	1	1			Clarendon	4	3		
<b>Region 3</b>					Darlington	46	4	1	5
Chester	55				Dillon				
Fairfield	1				Florence	58	9	12	
Lancaster	25	2			Kershaw	20	1	1	
Lexington	41	6	7		Lee				
Newberry	87				Marion	1			
Richland	101	30	3	5	Marlboro	1	1		
York	214	18	21	1	Sumter	36	2		
<b>Region 5</b>					<b>Region 6</b>				
Aiken	10	1			Georgetown	73	7		
Allendale					Horry	77	96	15	
Bamberg			1		Williamsburg		2	5	
Barnwell					<b>Region 8</b>				
Calhoun					Beaufort	54	9	1	
Orangeburg	5				Colleton	18	4		
<b>Region 7</b>					Hampton				
Berkeley	14	4	3		Jasper	5	1	1	
Charleston	176	20	12						
Dorchester	76	15							

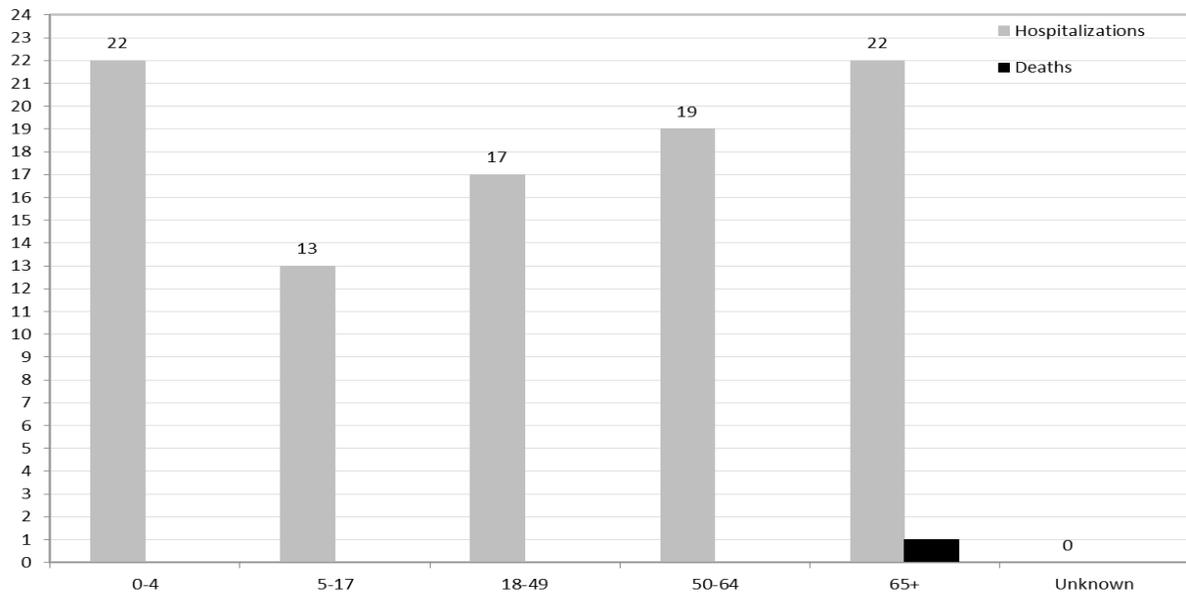
**IV. Influenza hospitalizations and deaths**

During MMWR week 16 four lab confirmed\* influenza hospitalizations were reported. No lab confirmed deaths were reported.

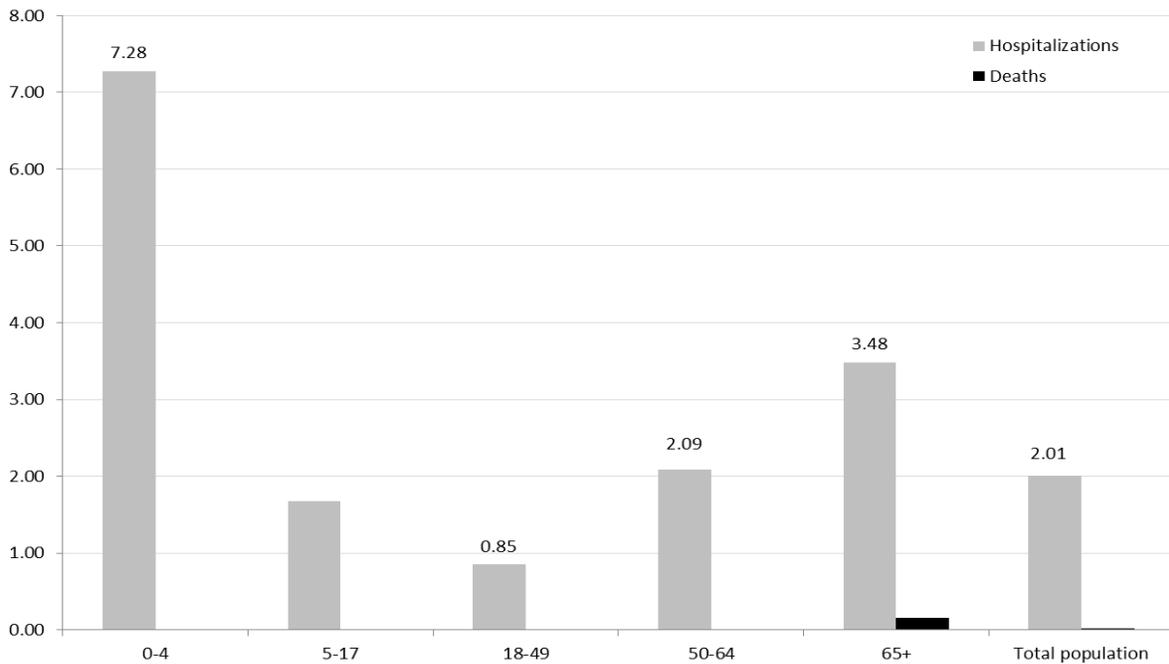
	Total number*	
Number of Hospitals Reporting (current week)	38	
	<i>Current MMWR (4/8/- 4/14/12)</i>	<i>Cumulative (since 10/2/11)</i>
Hospitalizations	4	93
Deaths	0	1

\*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 (n=93) and Deaths (n=1)  
October 2, 2011 - April 21, 2012**

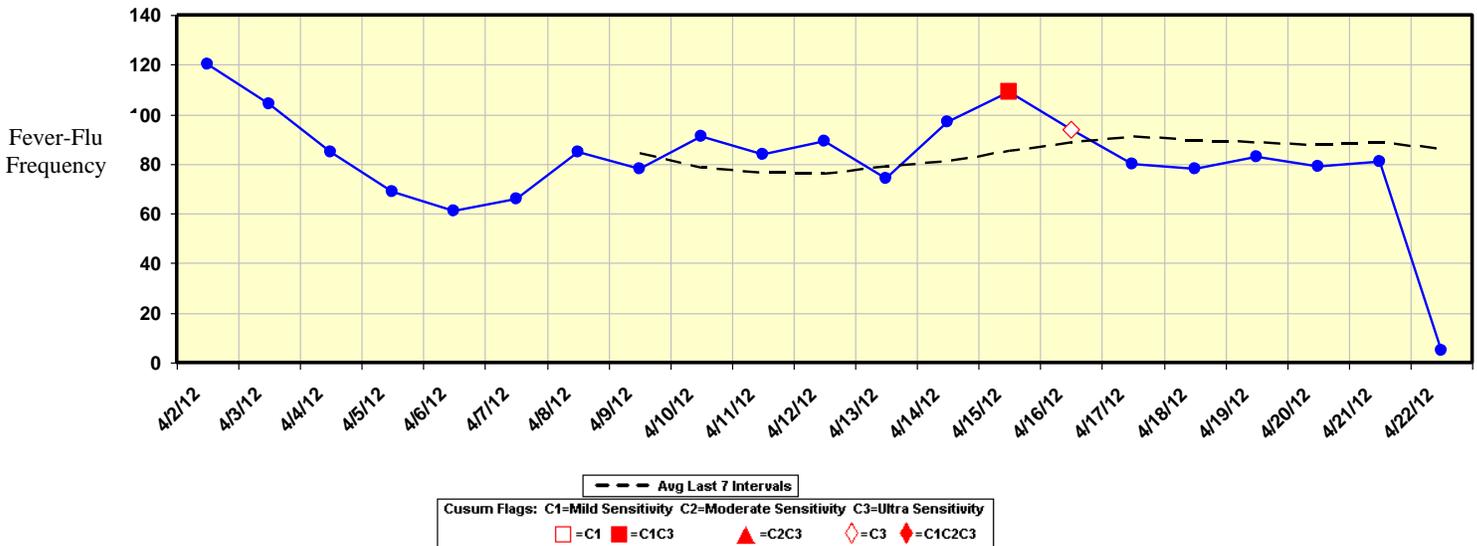


**Laboratory Confirmed Influenza Case rate/100,000  
Hospitalizations (n=93) and Deaths (n=1) by age group  
October 2, 2011 - April 21, 2012**



## 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

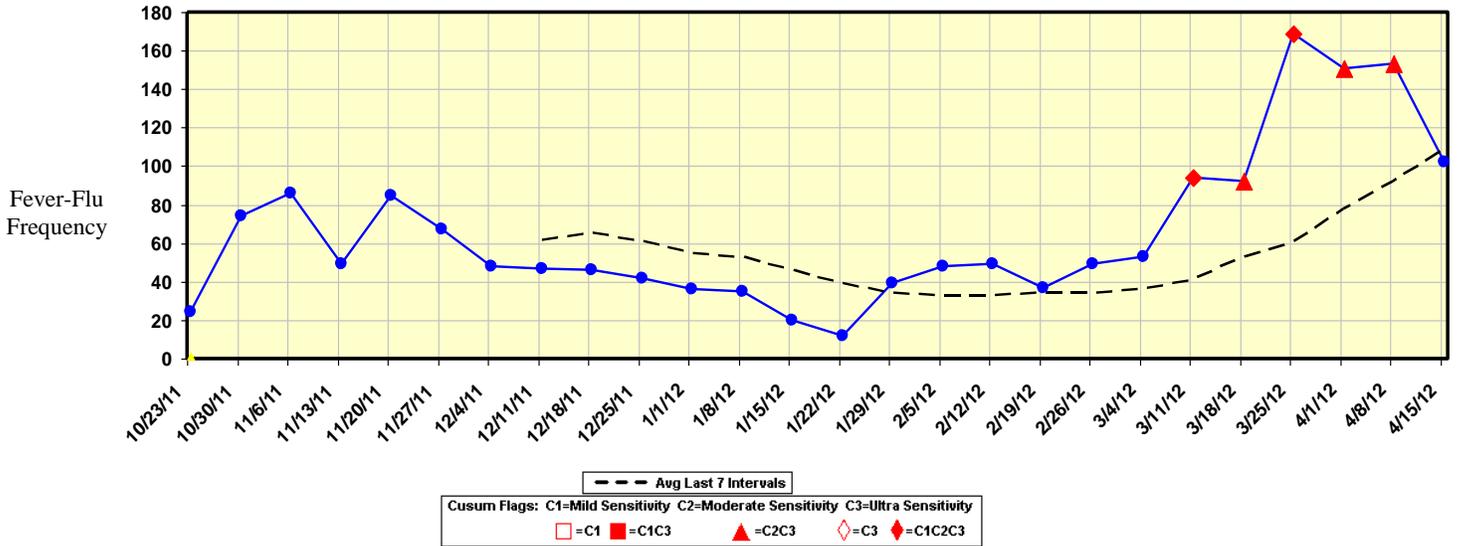
The SC Statewide Fever-Flu Syndrome graph above illustrates the daily counts of hospital emergency department (ED) visits with an Influenza-like Illness (ILI) for the past 21 days. A total of 21 hospital facilities are reporting to the SC-DARTS system. These 21 include: AnMed Health (Region 1); Self 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.

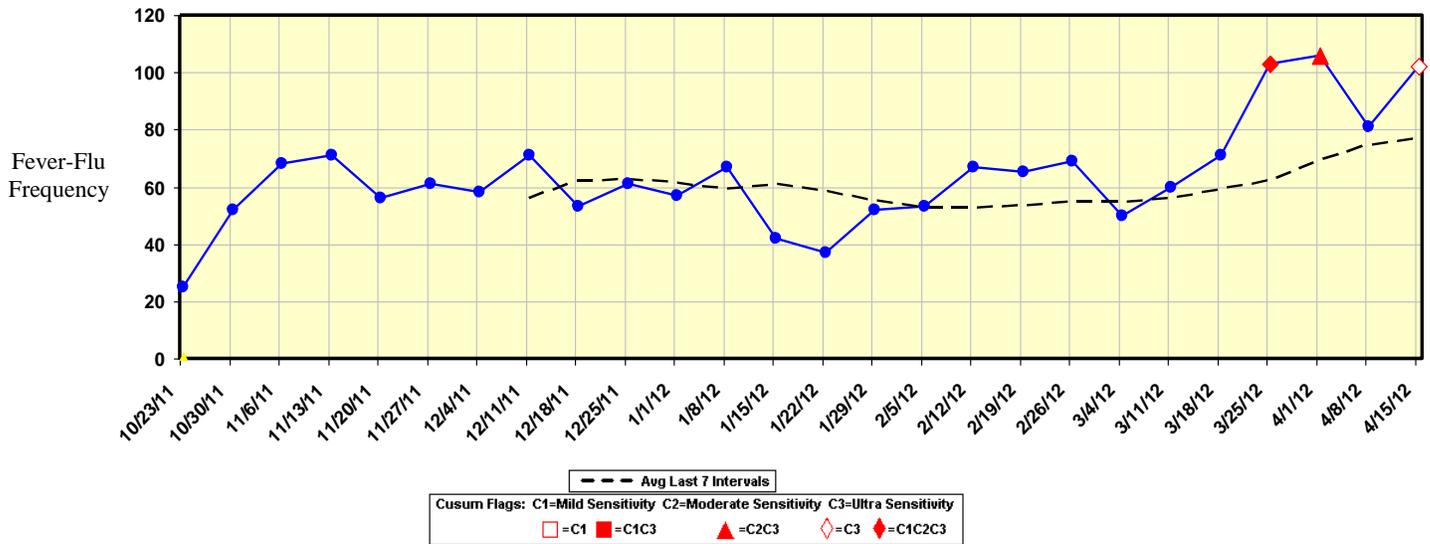
Below are the fever-flu syndrome graphs by Region for the past 180 days (weekly interval).

### Region 1 - Fever Flu Syndrome



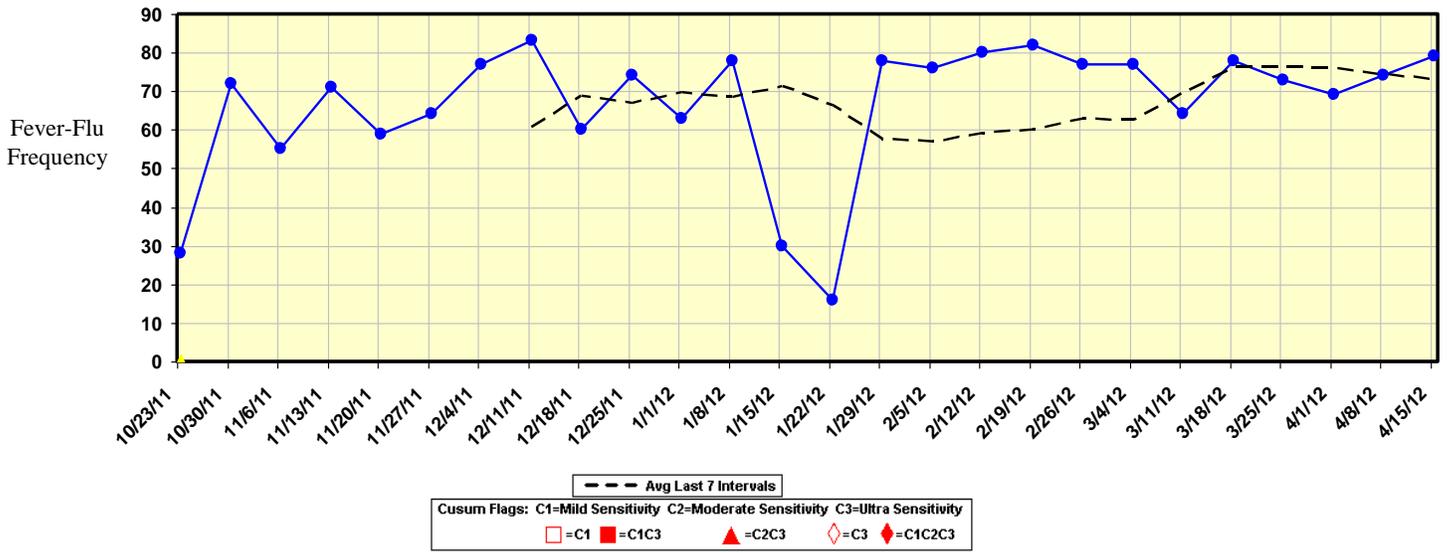
Region1 Hospitals (# of Facilities): AnMed Health (3); Self-Regional (1); Oconee Medical Center (1);

### Region 2 - Fever Flu Syndrome



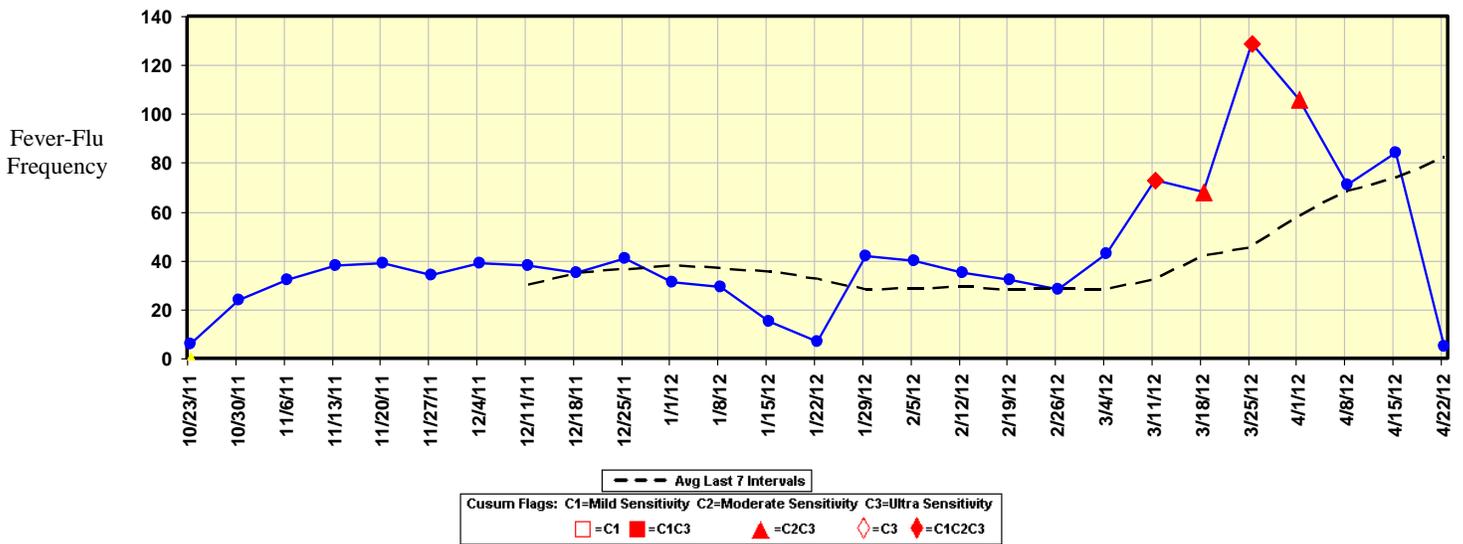
Region 2 Hospitals (# of Facilities): Greenville Hospital System (4); Palmetto Health Easley (1)

### Region 3 - Fever Flu Syndrome



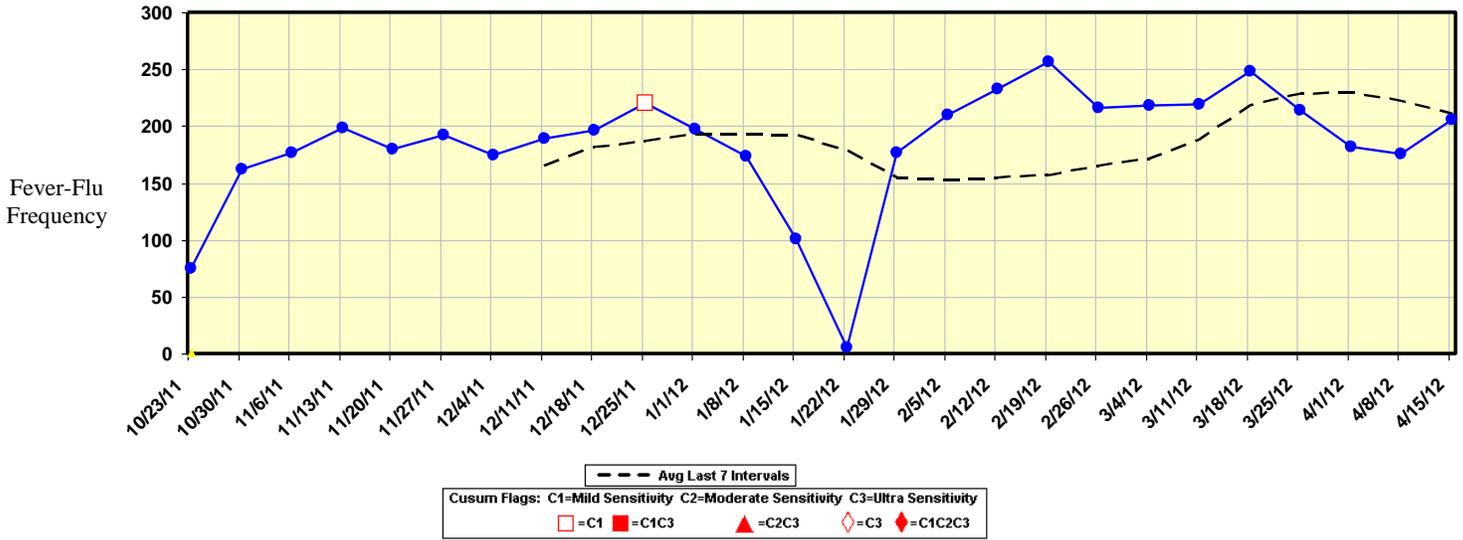
Region 3 Hospitals (# of Facilities): Palmetto Health Baptist (1), Palmetto Health Richland (1)

### Region 4 - Fever Flu Syndrome



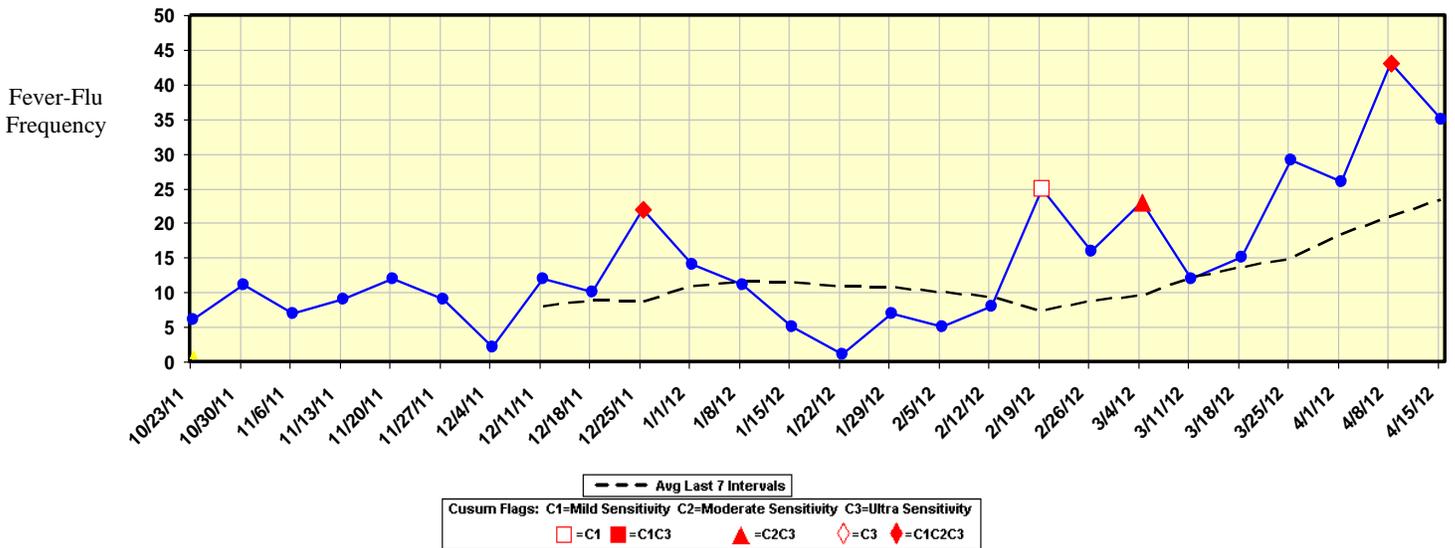
Region 4 Hospitals (# of Facilities): Kershaw Health (1); McLeod Health (1); Elgin Urgent Care (1)

### 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
<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>	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>OR</b>		
<b>Regional</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>OR</b>		
<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

#### Laboratory Viral Isolate Network

Viral isolate surveillance is essential for identifying circulating influenza strain subtype information, and the identification of new strains that may need to be included in the next year's influenza vaccine. Participating providers receive culture media, packaging, processing and shipping labels in order to submit a subset of specimens to the Bureau of Labs (BOL).

#### 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  $U \geq 100^{\circ}\text{F}$ ) 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.

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)**.

