



# Flu Watch 2010-11 Season

South Carolina Department of Health and Environmental Control  
 Division of Acute Disease Epidemiology  
 Influenza Surveillance Weekly Report

<http://www.scdhec.gov/health/disease/acute/flu.htm>

## Week Ending March 19, 2011 (MMWR Week 11)

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

### Highlights:

#### Influenza Activity Level: Regional

Note: Activity level definitions are found on page 16

**ILI Activity Status (South Carolina baseline is 2.05%\*):** Below baseline in the Upstate (1.18%) and Midlands (.68%). Above baseline along the Coast (4.09%). The state ILI percentage was 1.76%. These data reflect reports from 18 (48.6%) providers.

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

**SC Viral Isolate and RT-PCR Activity:** Eight positive specimens were reported by the Bureau of Labs (BOL). Six positive specimens were reported by outside labs. Since October 3, 2010, 584 positive specimens have been reported.

**Positive Rapid Flu Test Activity:** There were 703 positive rapid tests reported.

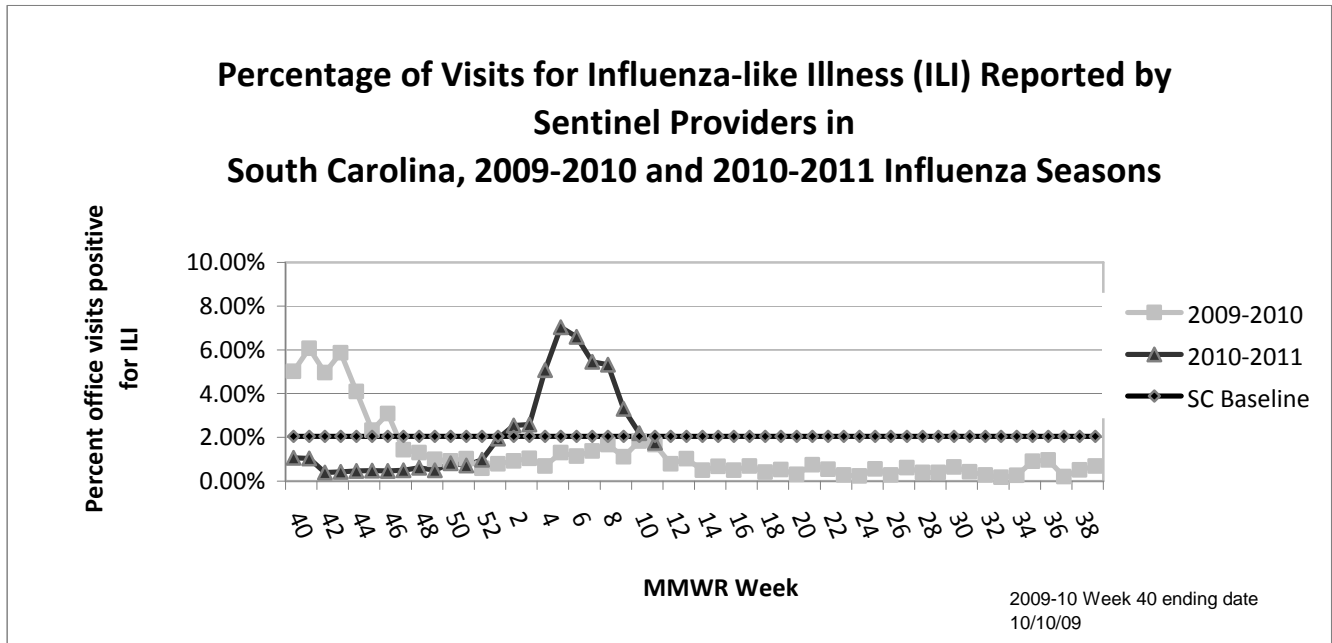
**Hospitalizations:** Twenty-five lab confirmed hospitalizations were reported. Lab confirmation includes culture, PCR, DFA, IFA, and rapid tests. There have been 966 reported this season.

**Deaths:** No lab confirmed deaths were reported. Lab confirmation includes culture, PCR, DFA, IFA, rapid tests, and autopsy results consistent with influenza. Twenty have been reported this season.

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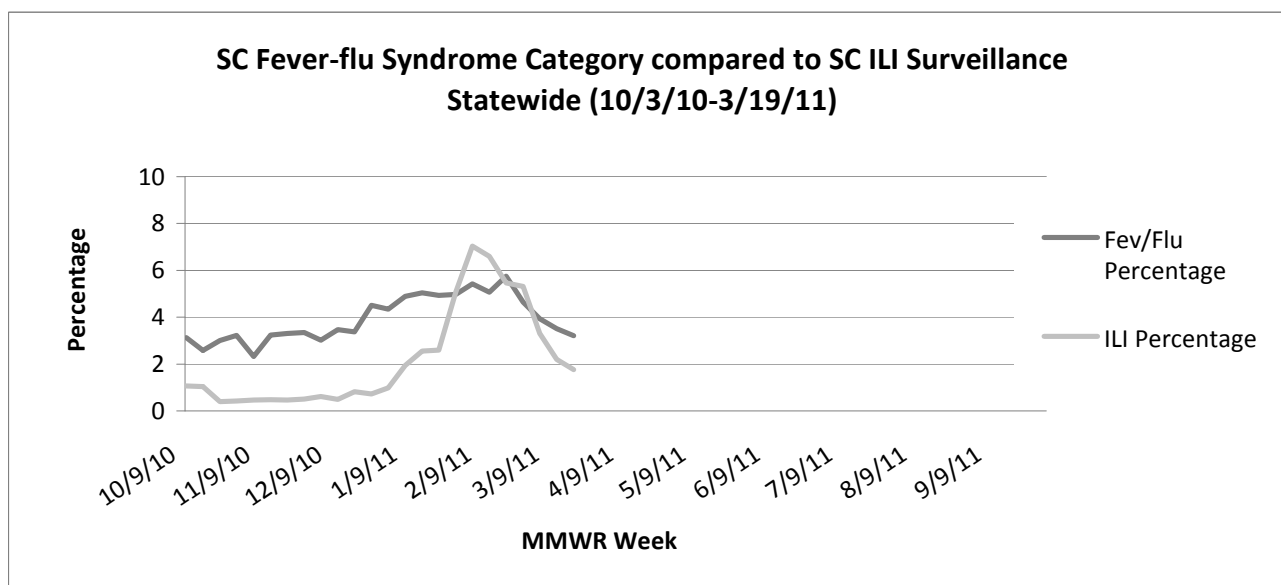
## I. ILINet Influenza-Like Illness Surveillance

During MMWR week 11 (3/13-3/19), 1.76% of patient visits to SC ILINet providers were due to ILI. This is below the state baseline (2.05%). This ILI percentage compares to 1.67% this time last year. Reports were received from providers in 14 counties, representing 7 of the 8 regions.



\*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.

The statewide percentage of ER visits with fever-flu syndrome (only includes hospitals participating in SC syndromic surveillance) was 3.22%.



Reported Influenza-Like Illness by Sentinel Providers  
March 13, 2011-March 19, 2011

County	ILI %	County	ILI %
Abbeville	---	Greenwood	NR
Aiken	.27%	Hampton	NR
Allendale	---	Horry	NR
Anderson	NR	Jasper	NR
Bamberg	---	Kershaw	0%
Barnwell	---	Lancaster	---
Beaufort	NR	Laurens	NR
Berkeley	11.76%	Lee	---
Calhoun	---	Lexington	NR
Charleston	1.78%	Marion	---
Cherokee	---	Marlboro	---
Chester	---	McCormick	.34%
Chesterfield	---	Newberry	---
Clarendon	---	Oconee	---
Colleton	---	Orangeburg	---
Darlington	---	Pickens	NR
Dillon	NR	Richland	.67%
Dorchester	3.53%	Saluda	0%
Edgefield	---	Spartanburg	.14%
Fairfield	3.40%	Sumter	NR
Florence	.62%	Union	---
Georgetown	5.94%	Williamsburg	---
Greenville	2.04%	York	0%

NR: No reports received

---: No enrolled providers



Geographic Region	ILI %	# of Reporters
Upstate-Regions 1-2	1.18	7
Midlands-Regions 3-5	.68	7
Coastal-Regions 6-8	4.09	4

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

## II. Virologic Surveillance

During MMWR week 11 (3/13-3/19), eight positive specimens were reported by the BOL. Six positive specimens were reported by outside labs. So far this season, 584 positive specimens have been reported.

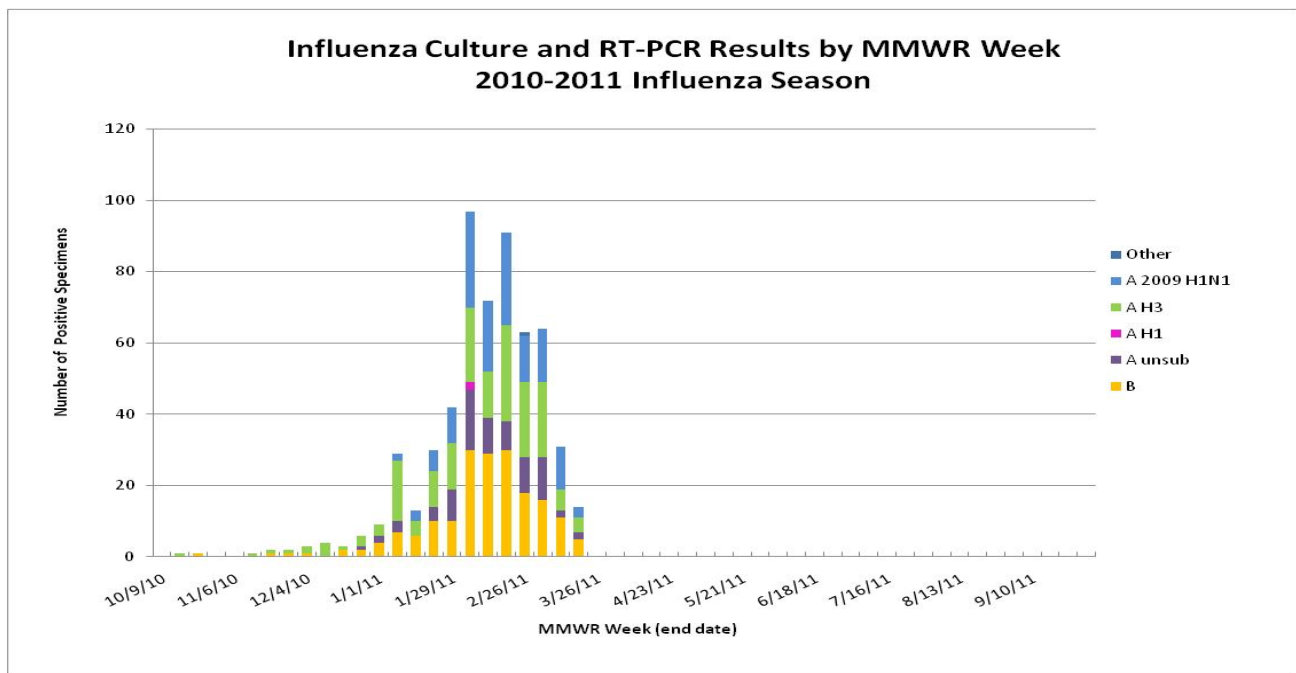
<b>Positive confirmatory influenza test results*</b> <b>Current MMWR Week (3/13-3/19/11)</b>		
	<b>BOL</b>	<b>Other clinical labs</b>
<b>Number of specimens tested</b>	22	-
<b>Number of positive specimens</b>	8	6
<b>Positive specimens by type/subtype</b>		
<b>A (H1)</b>		
<b>A (H3)</b>	2	2
<b>A (unsubtyped)</b>		2
<b>A (2009 H1N1)</b>	3	
<b>Influenza B</b>	3	2
<b>Other</b>		
<b>*Culture and/or RT-PCR</b>		

<b>Positive confirmatory influenza test results*</b> <b>Cumulative (10/3/10-3/19/11)</b>		
	<b>BOL</b>	<b>Other clinical labs</b>
<b>Number of specimens tested</b>	745	-
<b>Number of positive specimens</b>	347 (46.5%)	237
<b>Positive specimens by type/subtype</b>		
<b>Influenza A</b>		
<b>A (H1)</b>	1	1
<b>A (H3)</b>	131	44
<b>A (unsubtyped)</b>	2	77
<b>A (2009 H1N1)</b>	97	44
<b>Influenza B</b>	115	71
<b>Unk</b>		
<b>Other</b>	1	
<b>*Culture and/or RT-PCR</b>		

Positive Cultures and PCRs by County (2010-11)\*  
October 3, 2010-March 19, 2011

County	Total	County	Total
Abbeville	2	Hampton	3
Aiken	12	Horry	12
Allendale	1	Jasper	
Anderson	7	Kershaw	6
Bamberg	9	Lancaster	7
Barnwell	4	Laurens	13
Beaufort	41	Lee	4
Berkeley	16	Lexington	4
Calhoun		Marion	1
Charleston	76	Marlboro	3
Cherokee	1	McCormick	4
Chester	5	Newberry	1
Chesterfield	6	Oconee	5
Clarendon	8	Orangeburg	3
Colleton	3	Pickens	2
Darlington	19	Richland	44
Dillon	9	Saluda	
Dorchester	15	Spartanburg	21
Edgefield	1	Sumter	55
Fairfield		Union	
Florence	10	Williamsburg	1
Georgetown	3	York	46
Greenville	10	Unknown	71
Greenwood	16	Other	4

\*These data are provisional.



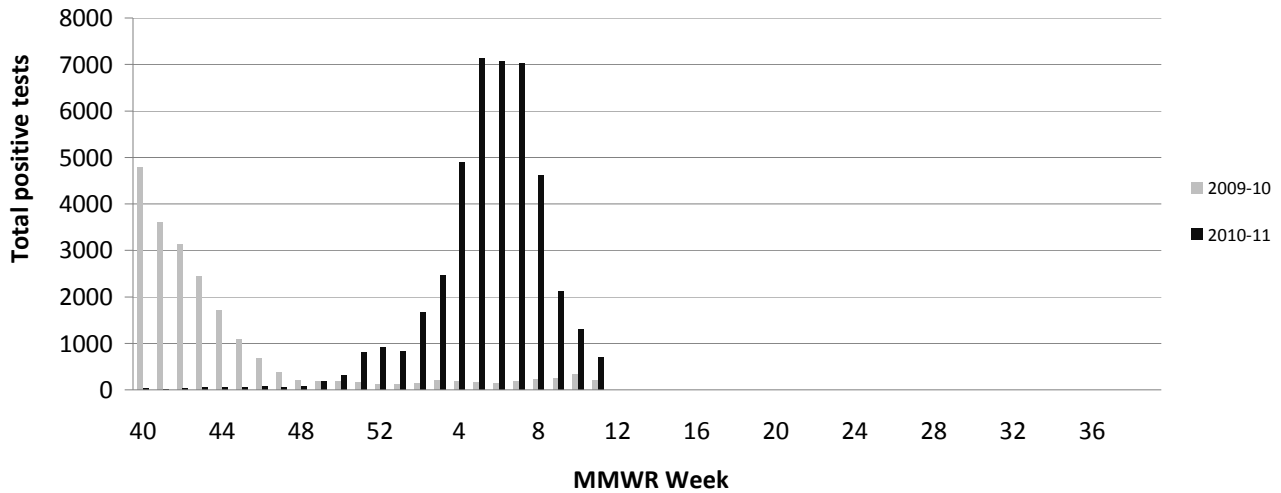
### III. Positive Rapid Antigen Tests

During MMWR week 11 (3/13-3/19), 703 positive rapid antigen tests were reported. Of these, 471 were influenza A, 18 were influenza A/B and 213 were influenza B. One with unknown type was reported. Since the beginning of the season, 42,500 positive rapid tests have been reported. This compares to 21,411 this time last year.

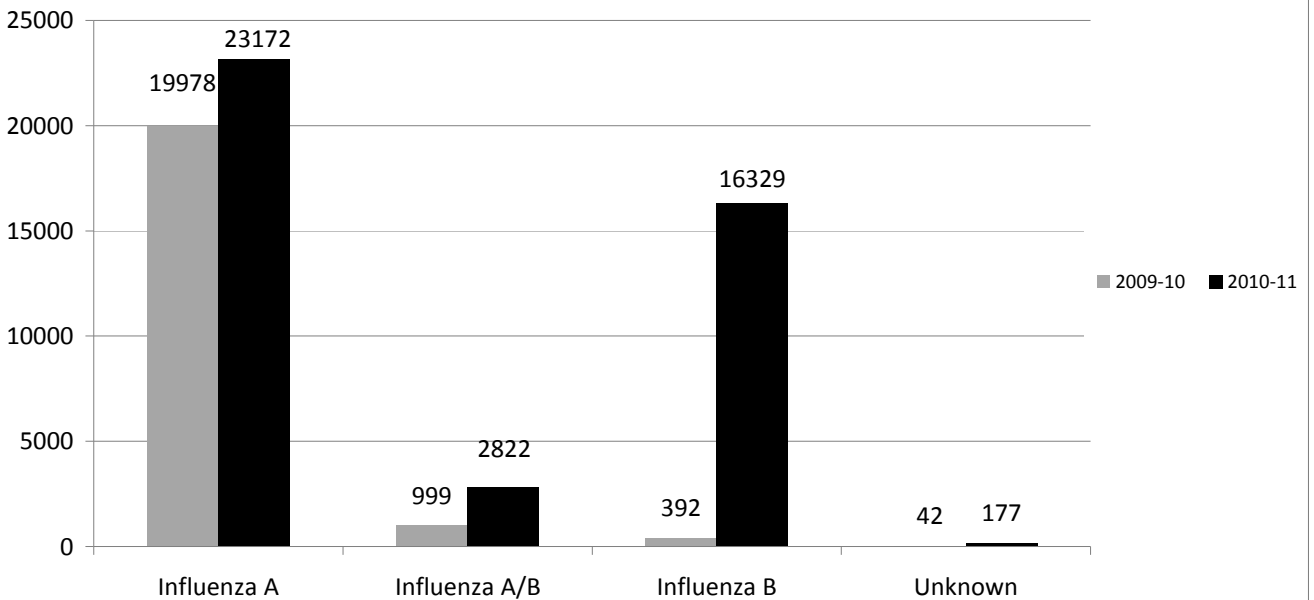
Positive Rapid Flu Tests by County  
March 13, 2011 – March 19, 2011

County	Positive Tests	County	Positive Tests
Abbeville		Greenwood	5
Aiken	9	Hampton	
Allendale		Horry	27
Anderson	12	Jasper	
Bamberg		Kershaw	16
Barnwell		Lancaster	1
Beaufort	6	Laurens	
Berkeley	14	Lee	
Calhoun		Lexington	37
Charleston	38	Marion	6
Cherokee	4	Marlboro	
Chester	5	McCormick	
Chesterfield	5	Newberry	3
Clarendon		Oconee	5
Colleton	2	Orangeburg	17
Darlington	20	Pickens	19
Dillon		Richland	144
Dorchester	15	Saluda	
Edgefield	3	Spartanburg	30
Fairfield	4	Sumter	50
Florence	43	Union	2
Georgetown	11	Williamsburg	2
Greenville	87	York	61

### Positive Rapid Tests by MMWR Week 2009-10 vs 2010-11



### Positive Rapid Tests by Type 2009-10 vs 2010-11 MMWR Week 40 through 11

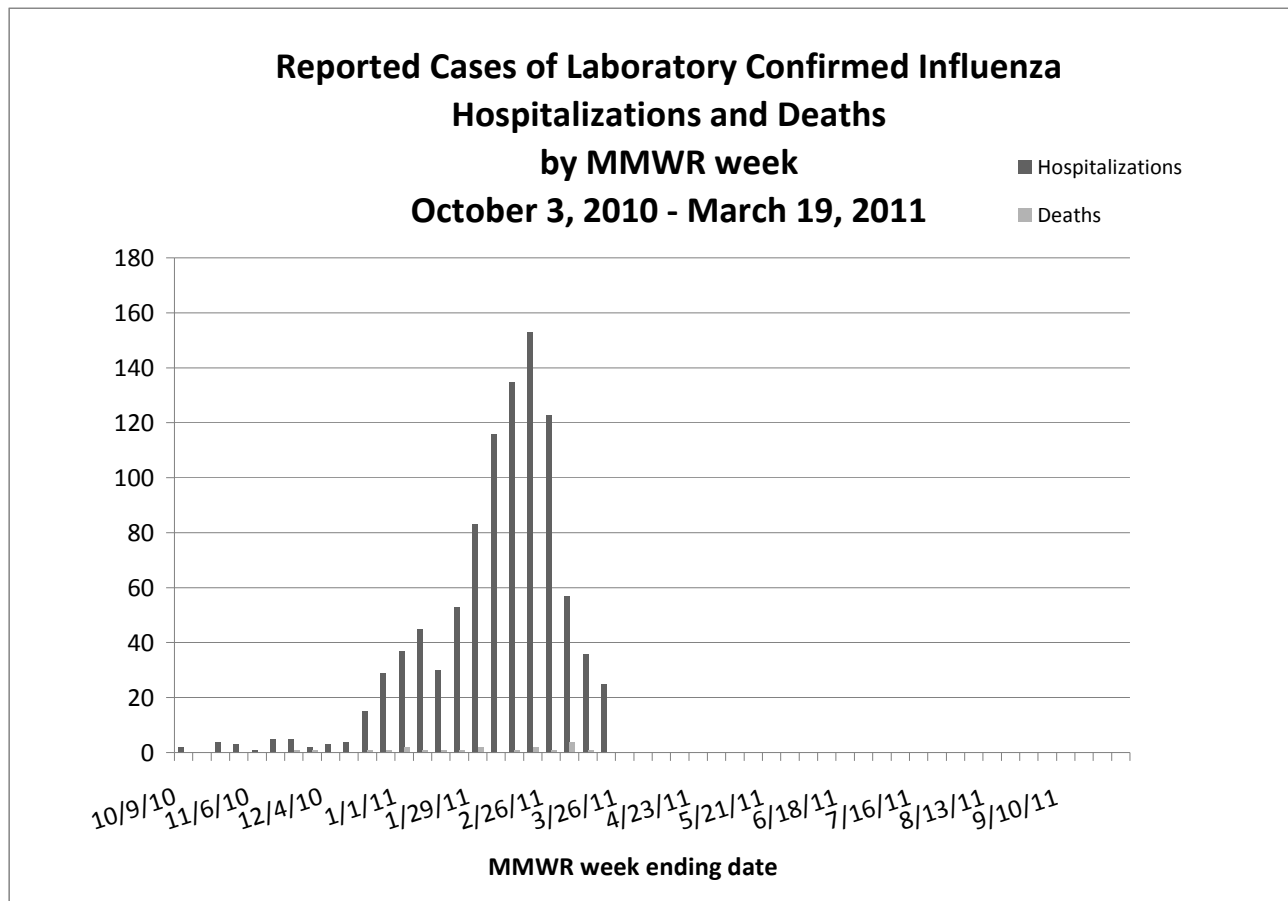


## IV. Influenza hospitalizations and deaths

During MMWR week 11 (3/13-3/19), 25 lab confirmed\* influenza hospitalizations were reported. No lab confirmed deaths were reported.

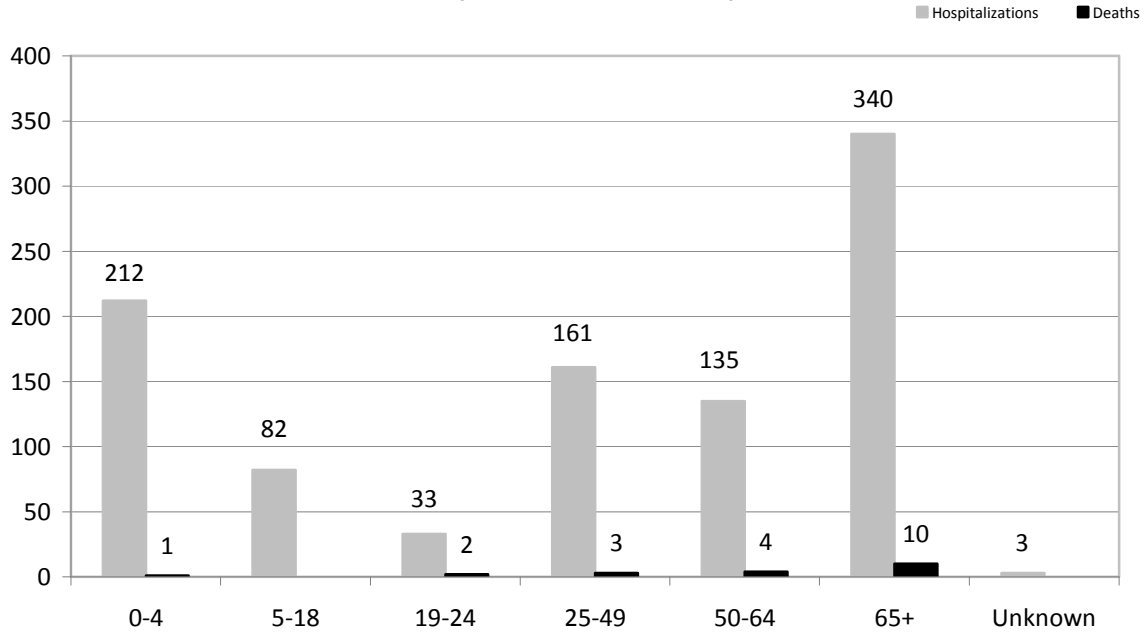
	Total number*	
<b>Number of Hospitals Reporting (current week)</b>	45	
	<i>Previous MMWR (3/13-3/19/11)</i>	<i>Cumulative (since 10/3/10)</i>
<b>Hospitalizations</b>	25	966
<b>Deaths</b>	0	20

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

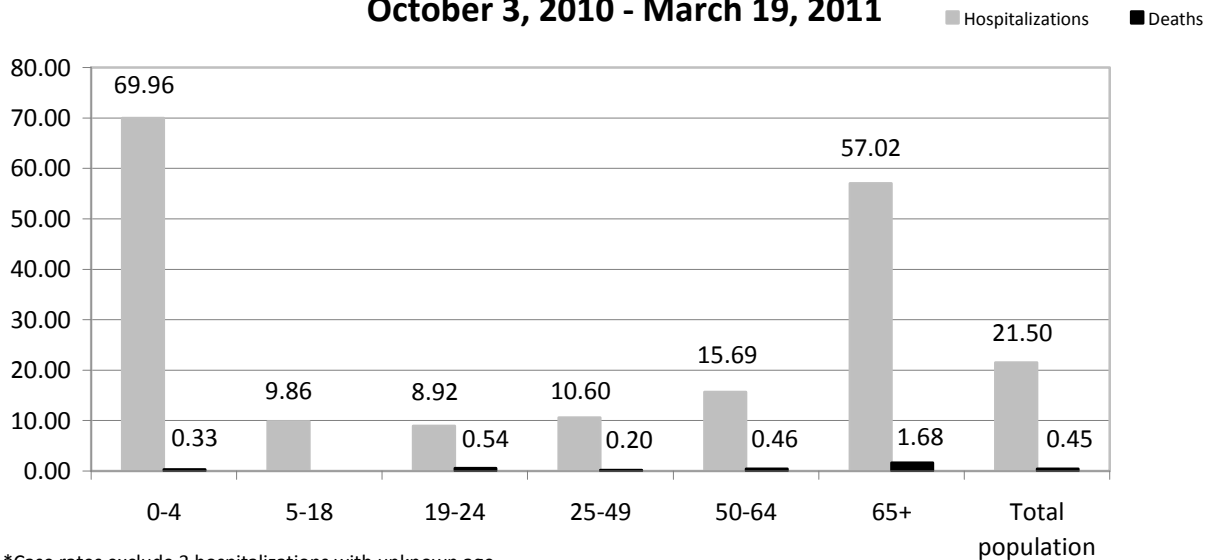




**Reported Cases of Laboratory Confirmed Influenza  
Hospitalizations (n=966) and Deaths (n=20)  
October 3, 2010 - March 19, 2011**

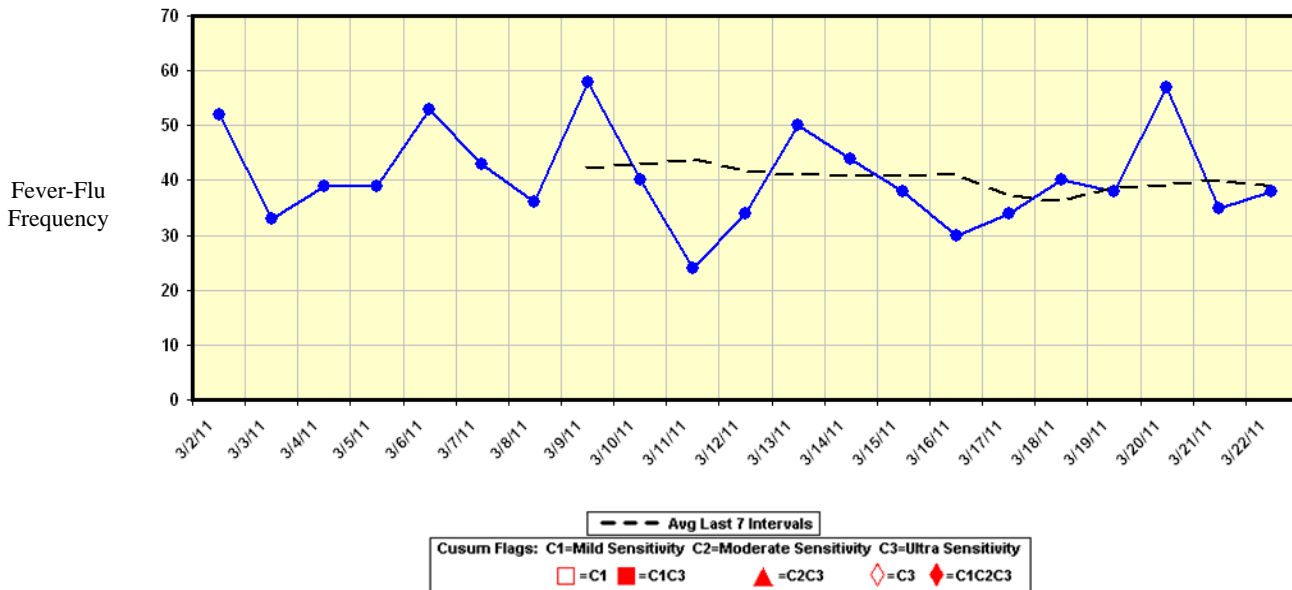


**Laboratory Confirmed Influenza Case rate/100,000  
Hospitalizations (n=966) and Deaths (n=20) by age group  
October 3, 2010 - March 19, 2011**



## V. South Carolina Disease Alerting, Reporting & Tracking System (SC-DARTS): Hospital ED Syndromic Surveillance Report

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

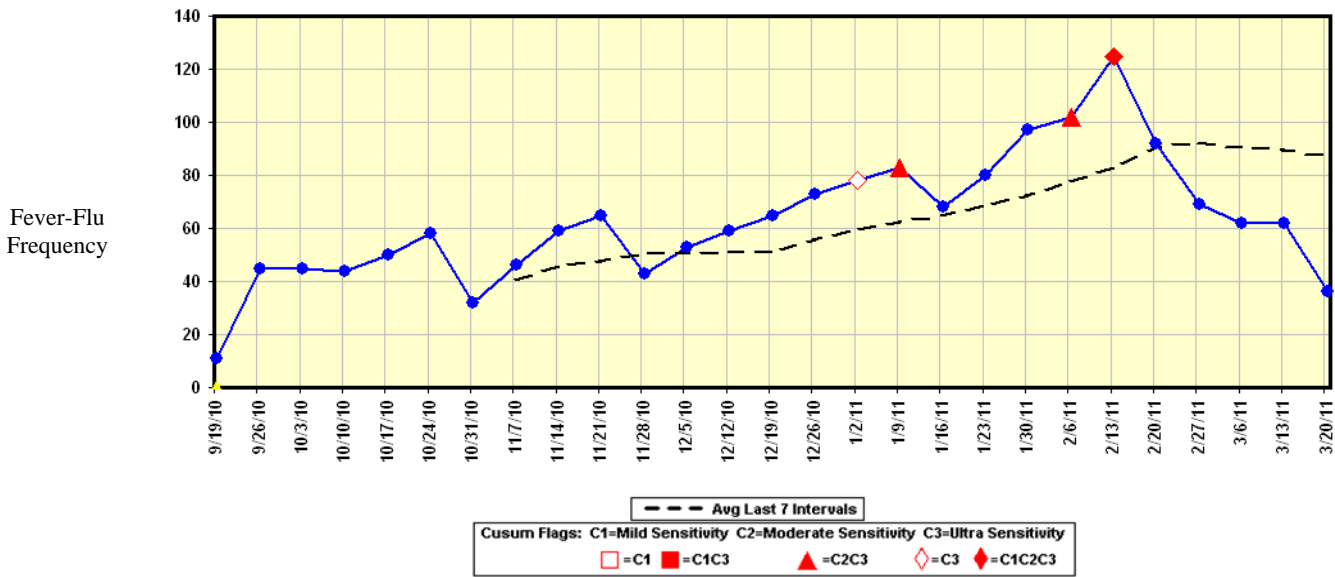
The SC Statewide Fever-Flu Syndrome graph above illustrates the daily counts of hospital emergency department (ED) visits with an Influenza-like Illness (ILI) for the past 21 days. A total of 18 hospital facilities are reporting to the SC-DARTS system. These 16 include: AnMed Health (Region 1); Self 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); Medical University of South Carolina (Region 7); Roper (Region 7); St. Francis (Region 7), and Hampton Regional (Region 8).

### Statewide CUSUM Flag Alerts Description:

No flags for this past week.

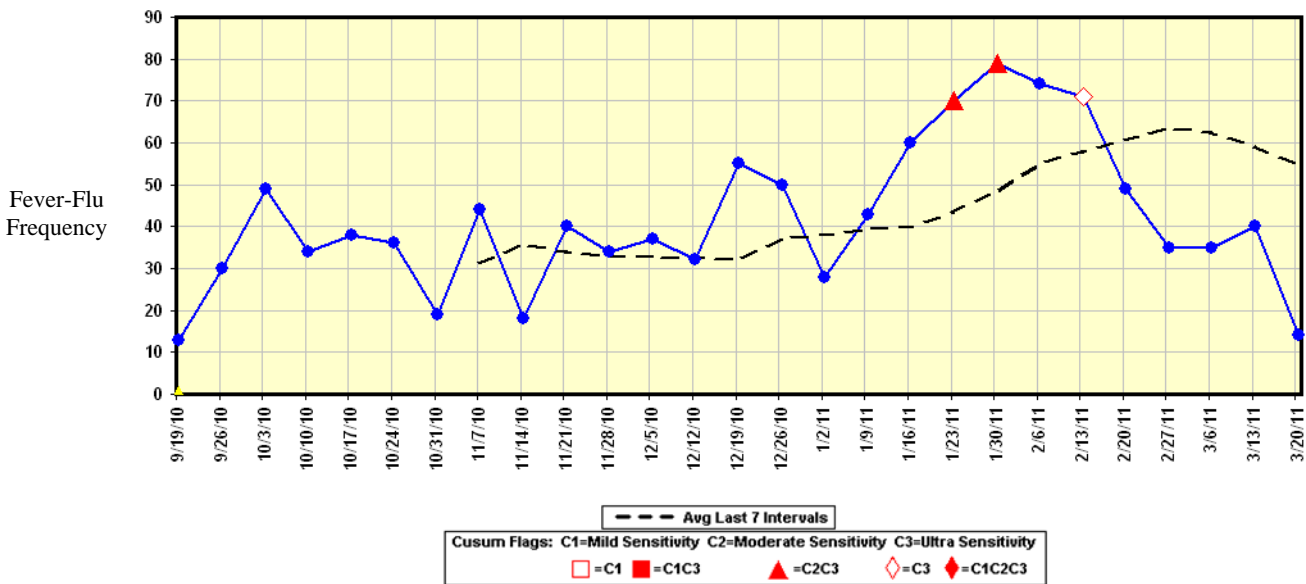
Below are the fever-flu syndrome graphs by Region for the past 180 days (weekly interval).

Region 1 - Fever Flu Syndrome



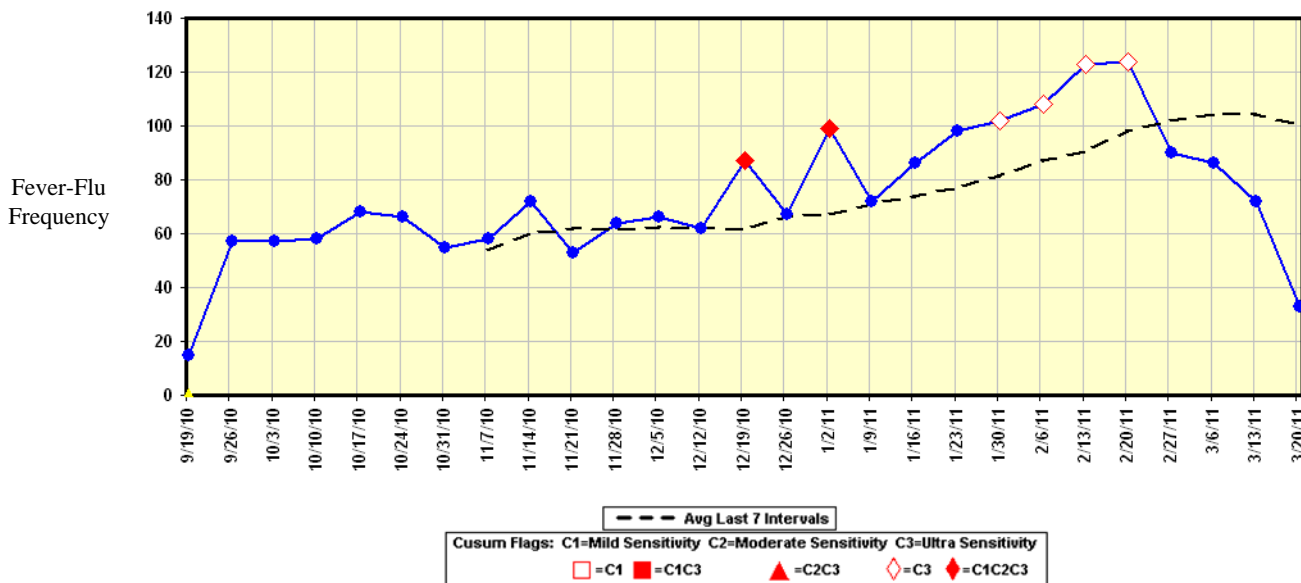
Region1 Hospitals (# of Facilities): AnMed Health (1); Self-Regional (1); Oconee Medical Center (1);

Region 2 - Fever Flu Syndrome



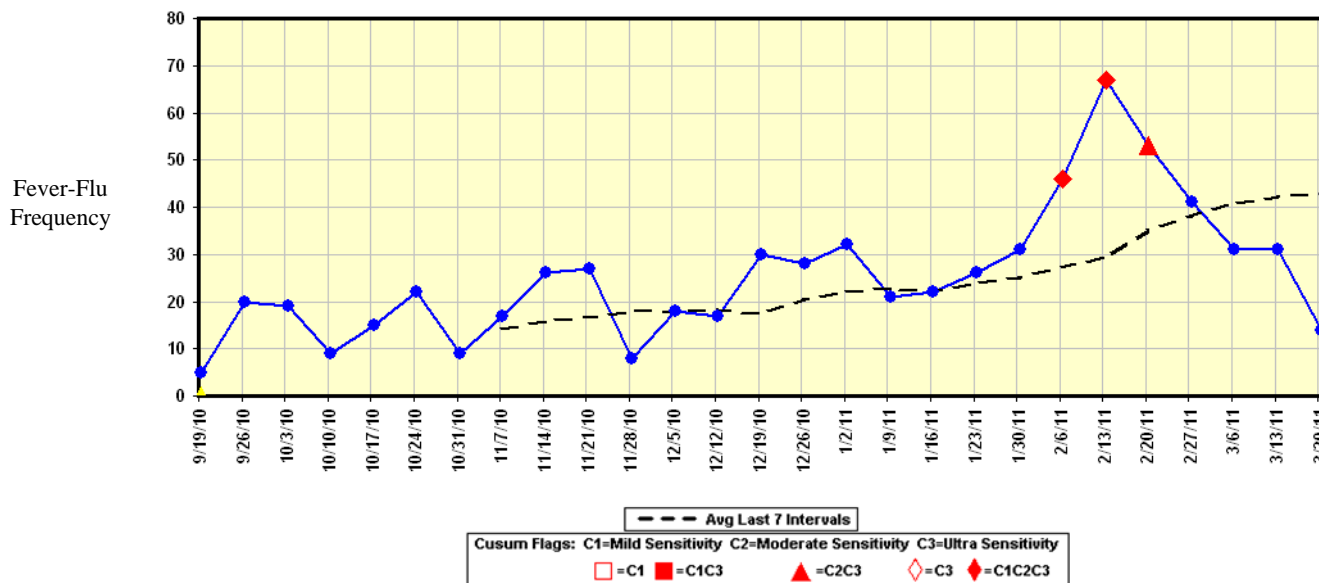
Region 2 Hospitals (# of Facilities): Greenville Hospital System (4); Palmetto Health Easley (1)

### Region 3 - Fever Flu Syndrome



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

### Region 4 - Fever Flu Syndrome

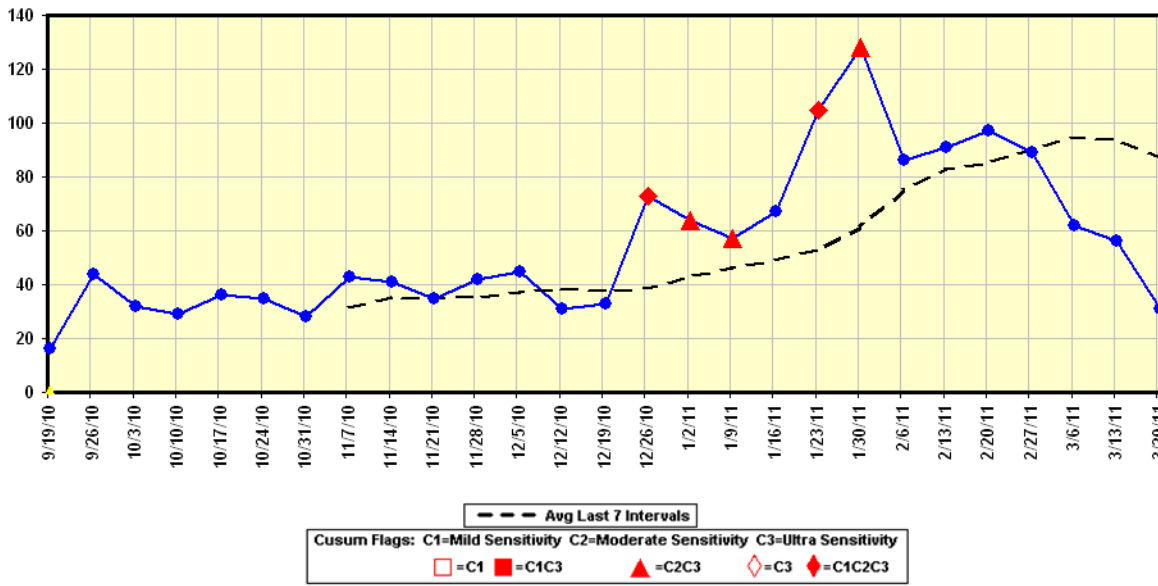


Region 4 Hospitals (# of Facilities): Kershaw Health (1); McLeod Health (1)

**Region 7 - Fever Flu Syndrome**



Fever-Flu Frequency

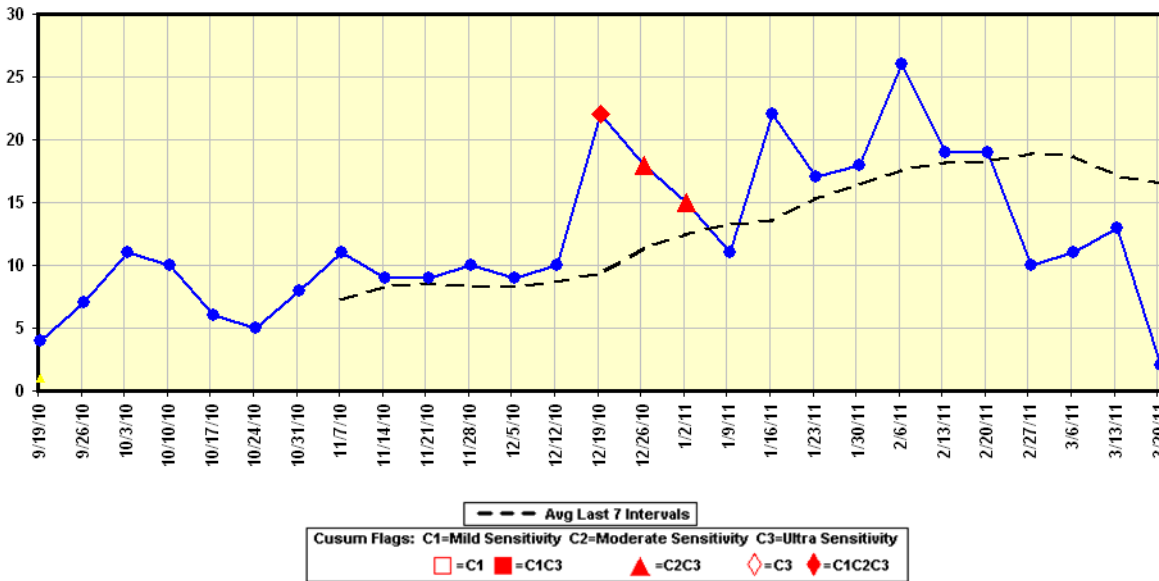


Region 7 Hospitals (# of Facilities): Medical University of South Carolina (1), Roper (1), St. Francis (1)

**Region 8 - Fever Flu Syndrome**



Fever-Flu Frequency



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

## VI. National influenza update (MMWR Week 10: 3/6-3/12)

During the week of **March 6-March 12**, 1,346 (21.1%) specimens tested by WHO and NREVSS labs were positive for influenza. The proportion of deaths attributed to pneumonia and influenza (P&I) was at or above the epidemic threshold for the seventh consecutive week. Eleven influenza-associated pediatric deaths were reported bringing the season total to 71. Four of these deaths were associated with an influenza B virus, three were associated with 2009 influenza A (H1N1) viruses, two were associated with influenza A (H3N2) viruses, and two were associated with an influenza A virus for which the subtype was not determined. The proportion of outpatient visits for influenza-like illness (ILI) was 3.0%, which is above the national baseline of 2.5%. Eight of the 10 regions (Regions 1, 2, 4, 5, 7, 8, 9 and 10) reported ILI at or above region-specific baseline levels. Four states experienced high ILI activity; six states experienced moderate ILI activity; 11 states experienced low ILI activity; 28 states and New York City experienced minimal ILI activity, and the District of Columbia and one state had insufficient data. The geographic spread of influenza in 31 states was reported as widespread; 15 states reported regional influenza activity; the District of Columbia and three states reported local influenza activity; Puerto Rico, the U.S. Virgin Islands and one state reported sporadic influenza activity, and Guam reported no influenza activity.

For more information, please visit <http://www.cdc.gov/flu/weekly/>.

## VII. South Carolina Influenza Surveillance Components

### What does influenza surveillance in South Carolina consist of?

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 CHESSE 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.

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

For additional information about ILINet or to become an ILINet provider, contact the Acute Disease Epidemiology influenza surveillance coordinator at **springcb@dhec.sc.gov**.

#### 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: Himel Dhotre at 803-898-1588 or **dhotrehc@dhec.sc.gov**.

## VIII. 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
	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.