

Flu Watch

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



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

Week Ending March 20, 2010 (MMWR Week 11)

Highlights:

Influenza Activity Level: Regional

Note: Activity level definitions are found on page 13

ILI Activity Status (HHS Region 4 ILI baseline is 2.0%*): Below baseline in the Upstate (.19%) and Midlands (1.13%). Above baseline along the Coast (3.47%). ILI activity decreased slightly. The state ILI is 1.67%. These data reflect reports from 23 (31.9%) providers.

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

SC Viral Isolate and RT-PCR Activity: During the past MMWR (11) week, 19 positive specimens were reported. Since October 4, 2009, 565 specimens tested by our Bureau of Labs (BOL) have been positive for influenza. A total of 351 positive specimens have been reported by other labs. So far this season, all subtyped influenza A viruses have been 2009 H1N1. One influenza B has been identified this season.

Positive Rapid Flu Test Activity: There were 167 positive tests reported.

Hospitalizations: 13 hospitalizations were reported. Since September 1, 2009, 1,056 laboratory confirmed hospitalizations have been reported.

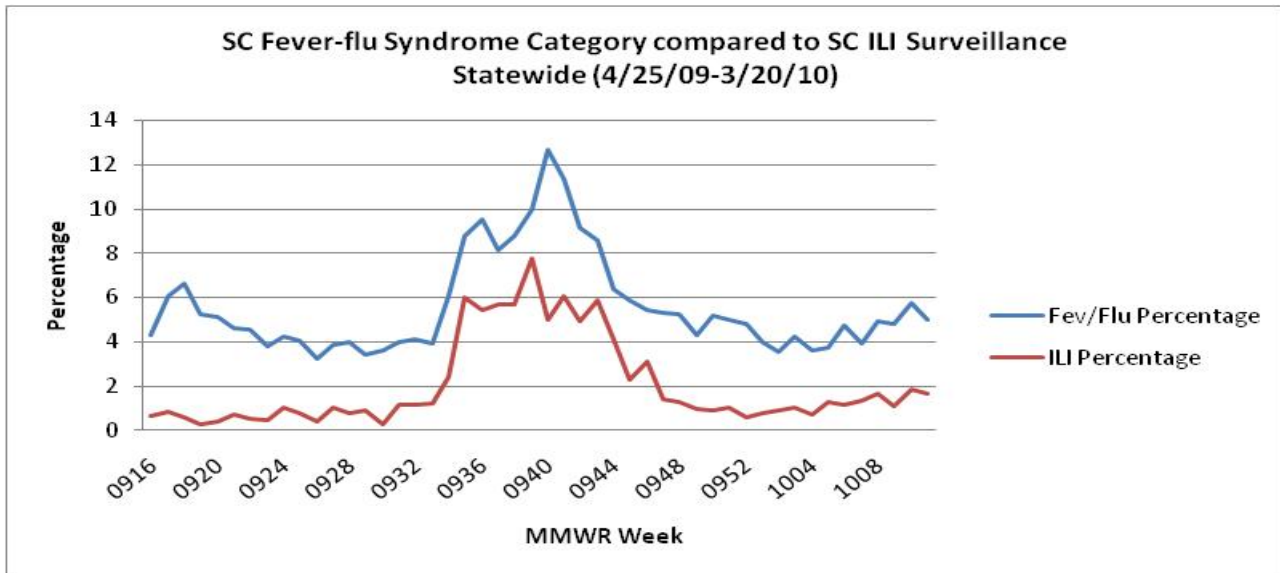
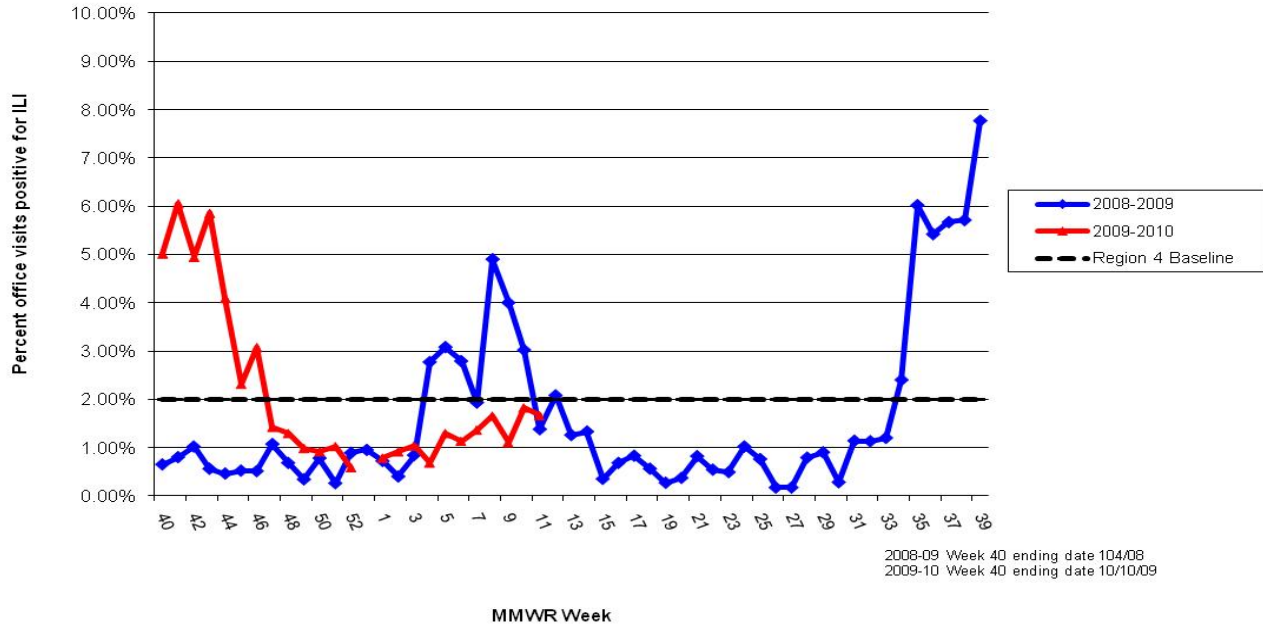
Deaths: No deaths were reported during MMWR week 11. Since September 1, 2009, 44 deaths have been reported.

In this issue:	
	Page
I. ILINet Influenza-Like Illness Surveillance <ul style="list-style-type: none">Graph of ILI comparing 08-09 and 09-10 seasonsGraph of Syndromic data compared to ILINet data *NEW*Table of ILI % by county, current MMWR weekILI by geographic region	2
II. Virologic surveillance <ul style="list-style-type: none">Table of confirmed culture and RT-PCR tests, current MMWR weekTable of confirmed culture and RT-PCR tests, year to dateTable of confirmed culture and RT-PCR tests by county, year to dateGraph of confirmed culture and RT-PCR tests by MMWR week, year to date	4
III. Rapid Antigen Tests <ul style="list-style-type: none">Table of positive rapid tests by county, current MMWR weekGraph of positive rapid tests by MMWR week, 08-09 vs 09-10	6
IV. Hospitalizations and Deaths <ul style="list-style-type: none">Table of influenza hospitalizations and deaths, year to dateGraph of influenza hospitalizations and deaths by MMWR weekGraph of influenza hospitalizations and deaths by age groupGraph of influenza hospitalizations and death case rates by age group	7
V. Hospital ED Syndromic Surveillance	9
VI. Description of SC influenza surveillance	12
VII. Influenza activity level definitions	13

I. ILINet Influenza-Like Illness Surveillance

During MMWR week 11 ending March 20, 2010, 1.67% of patient visits to SC ILNet providers were due to ILI. The state ILI decreased and remains below the regional (2.0%) and national (2.3%) baselines. This ILI percentage compares to 1.38% this time last year. Reports were received from providers in 18 counties, representing 7 of the 8 regions. The percentage of visits ranged from 0% to 6.02%.

Percentage of Visits for Influenza-like Illness (ILI) Reported by Sentinel Providers in South Carolina, 2009-2009 and 2009-2010 Influenza Seasons



*HHS Region 4 consists of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee. The baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons plus two standard deviations.

Reported Influenza-Like Illness by Sentinel Providers
March 14, 2010-March 20, 2010

County	ILI %	County	ILI %
Abbeville	NR	Greenwood	NR
Aiken	0%	Hampton	NR
Allendale	NR	Horry	0%
Anderson	0%	Jasper	NR
Bamberg	---	Kershaw	1.39%
Barnwell	NR	Lancaster	---
Beaufort	NR	Laurens	NR
Berkeley	3.55%	Lee	---
Calhoun	---	Lexington	0%
Charleston	6.02%	Marion	---
Cherokee	---	Marlboro	NR
Chester	---	McCormick	0%
Chesterfield	---	Newberry	---
Clarendon	---	Oconee	NR
Colleton	NR	Orangeburg	NR
Darlington	---	Pickens	0%
Dillon	NR	Richland	1.47
Dorchester	0%	Saluda	NR
Edgefield	---	Spartanburg	.58%
Fairfield	.94%	Sumter	1.29%
Florence	.99%	Union	---
Georgetown	1.54%	Williamsburg	---
Greenville	.17%	York	0%

NR: No reports received

---: No enrolled providers



Geographic Region	ILI %	# of Reporters
Upstate-Regions 1 -2	.19	7
Midlands-Regions 3-5	1.13	8
Coastal-Regions 6-8	3.47	8

II. Virologic Surveillance

During the past MMWR week (3/14-3/20), fifteen positive specimens were reported by the Bureau of Labs (BOL). Another four were reported by clinical labs. Since October 4, 2009, 916 specimens tested have been positive for influenza.

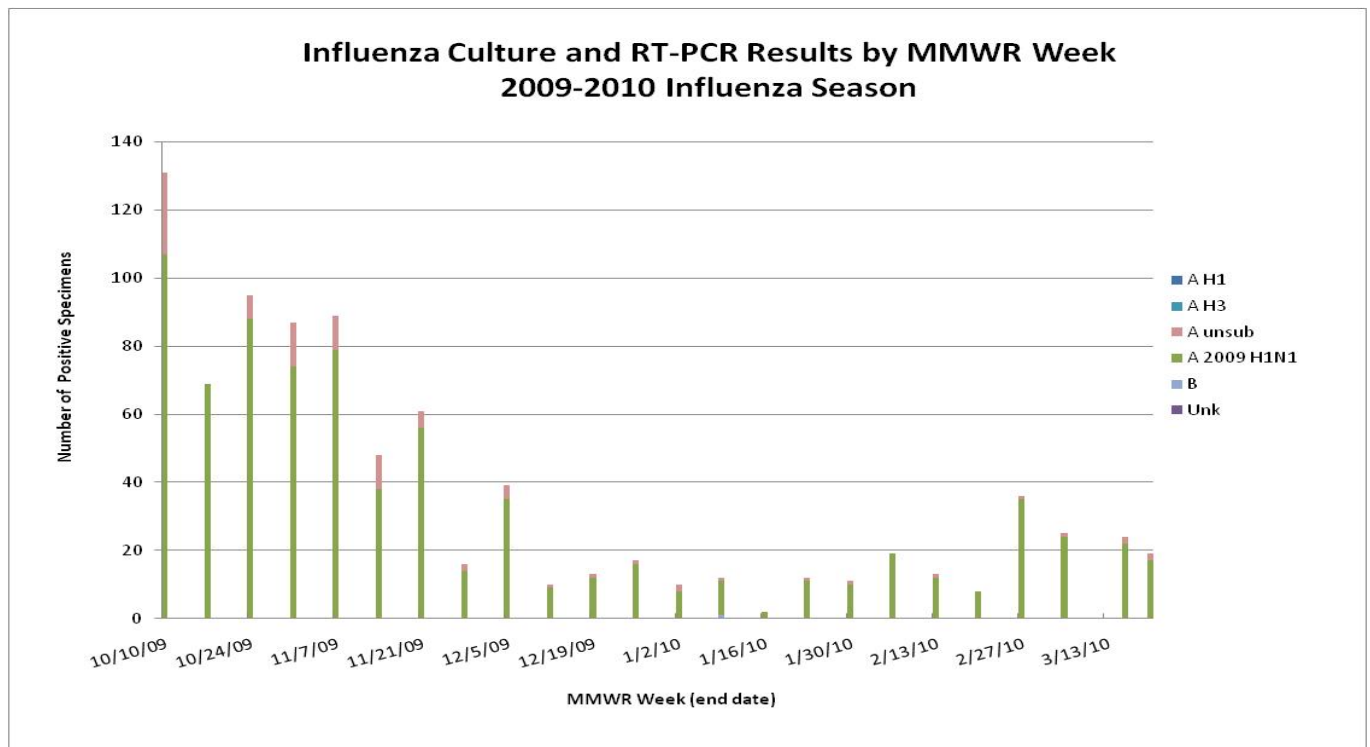
Positive confirmatory influenza test results Current MMWR Week (3/14/10-3/20/10)		
	BOL*	Other clinical labs
Number of specimens tested	48	-
Number of positive specimens	15	4
Positive specimens by type/subtype		
A (H1)		
A (H3)		
A (unsubtyped)		2
A (2009 H1N1)	15	2
Influenza B		
*Culture and/or RT-PCR		

Positive confirmatory influenza test results Cumulative (10/04/09-3/20/10)		
	BOL*	Other clinical labs
Number of specimens tested	2175	-
Number of positive specimens	565 (26%)	351
Positive specimens by type/subtype		
Influenza A		
A (H3)		
A (unsubtyped)		88 (25.1%)
A (2009 H1N1)	564 (99.8%)	263 (74.9%)
Influenza B	1 (.2%)	
Unk		
Other		
*Culture and/or RT-PCR		

Positive Confirmatory tests by County
October 4, 2009-March 20, 2010

County	Total	County	Total
Abbeville	3	Hampton	4
Aiken	18	Horry	32
Allendale		Jasper	2
Anderson	24	Kershaw	10
Bamberg	7	Lancaster	8
Barnwell	1	Laurens	10
Beaufort	75	Lee	8
Berkeley	17	Lexington	14
Calhoun	1	Marion	1
Charleston	48	Marlboro	2
Cherokee	8	McCormick	1
Chester	12	Newberry	8
Chesterfield	5	Oconee	12
Clarendon		Orangeburg	16
Colleton	26	Pickens	11
Darlington	25	Richland	81
Dillon	3	Saluda	1
Dorchester	20	Spartanburg	65
Edgefield	6	Sumter	7
Fairfield	1	Union	
Florence	37	Williamsburg	5
Georgetown	7	York	11
Greenville	65	Unknown	122
Greenwood	19	Other	9

*These data include cultures and RT-PCR and are provisional.

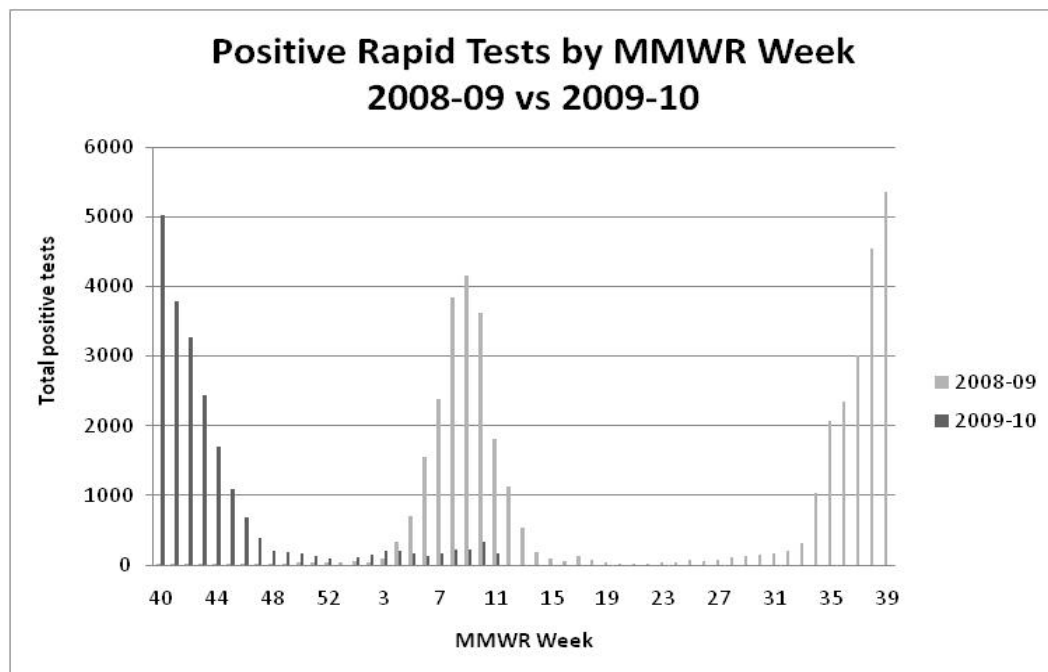


III. Positive Rapid Antigen Tests

There were 167 positive rapid antigen tests reported for the week ending March 20, 2010. Of these, 156 were influenza A, 6 were influenza A/B, and 4 were influenza B. Since October 4, 2009, 21,214 positive rapid antigen tests have been reported.

Positive Rapid Flu Tests by County
March 14, 2010 - March 20, 2010

County	Positive Tests	County	Positive Tests
Abbeville	1	Greenwood	3
Aiken		Hampton	
Allendale		Horry	
Anderson	8	Jasper	
Bamberg		Kershaw	
Barnwell		Lancaster	1
Beaufort	1	Laurens	
Berkeley	3	Lee	
Calhoun		Lexington	6
Charleston	15	Marion	
Cherokee		Marlboro	
Chester	2	McCormick	
Chesterfield		Newberry	
Clarendon	1	Oconee	2
Colleton		Orangeburg	6
Darlington	1	Pickens	
Dillon		Richland	30
Dorchester		Saluda	
Edgefield		Spartanburg	19
Fairfield		Sumter	9
Florence	8	Union	
Georgetown		Williamsburg	
Greenville	35	York	16
		Unk	

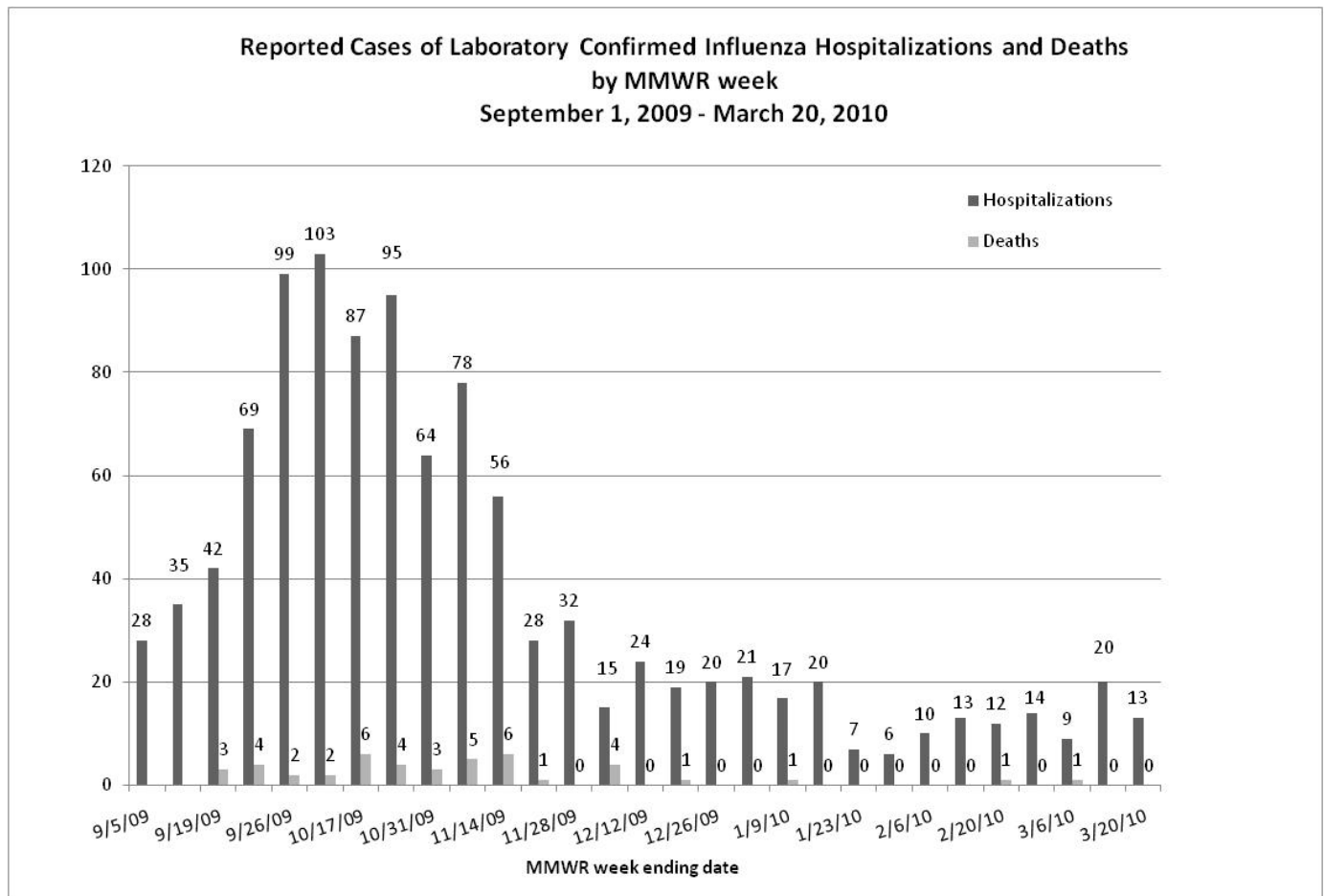


IV. Influenza hospitalizations and deaths

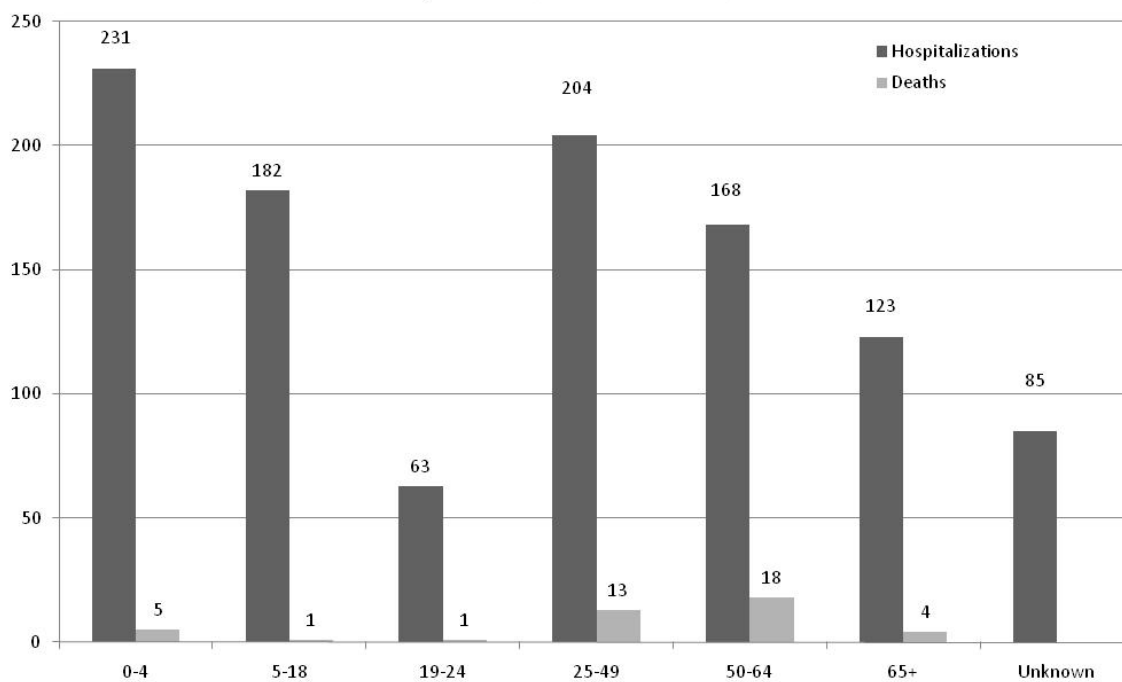
A total of 13 lab confirmed influenza hospitalizations were reported by 42 hospitals during the past week. No lab confirmed influenza deaths were reported. Since September 1, 2009, 1,056 lab confirmed hospitalizations and 44 lab confirmed deaths have been reported.

	Total number	
Number of Hospitals Reporting (current week)	42	
	<i>Previous MMWR (3/14-3/20)</i>	<i>Cumulative (since 9/1/09)</i>
Hospitalizations	13	1056
Deaths	0	44

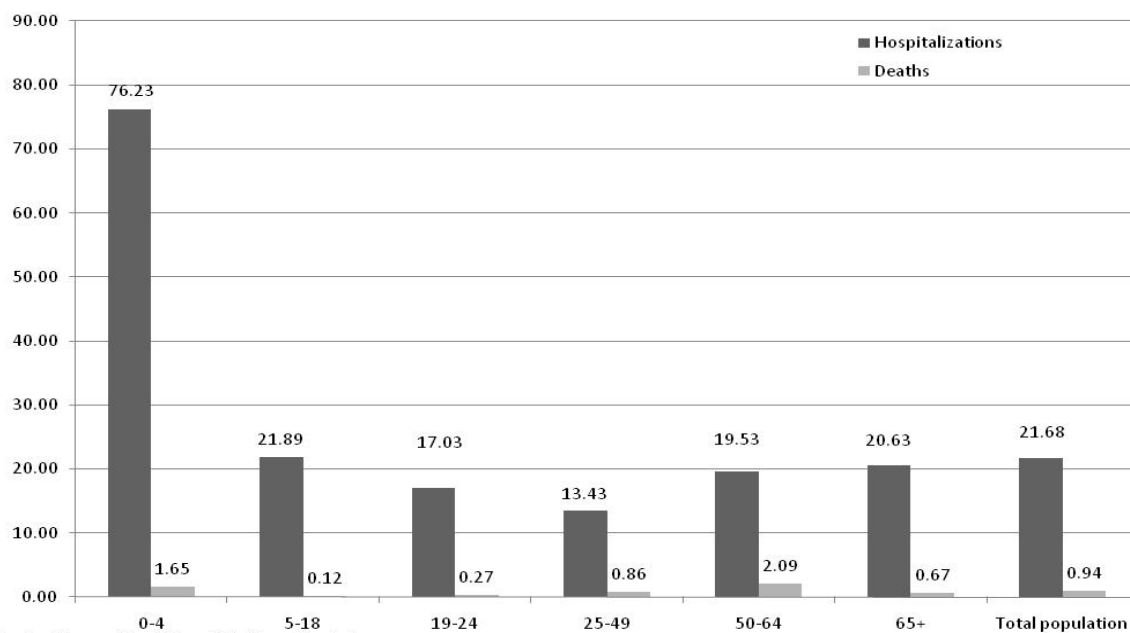
*These data are provisional



**Reported Cases of Laboratory Confirmed Influenza
Hospitalizations (n=1056) and Deaths (n=44) by agegroup
September 1, 2009 - March 20, 2010**

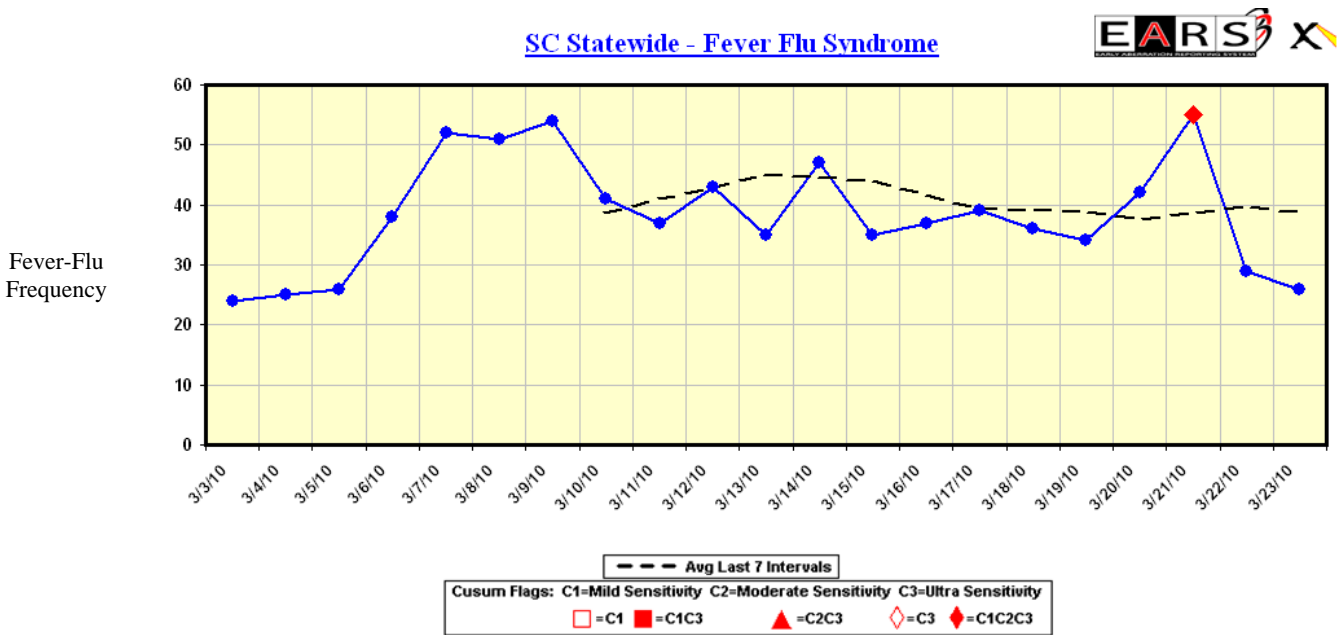


**Laboratory Confirmed Influenza Case rate/100,000
Hospitalizations (n=1056) and Deaths (n=44) by age group
September 1, 2009 - March 20, 2010**



*Rate calculation excludes 85 hospitalizations with missing age

Syndromic Report:



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

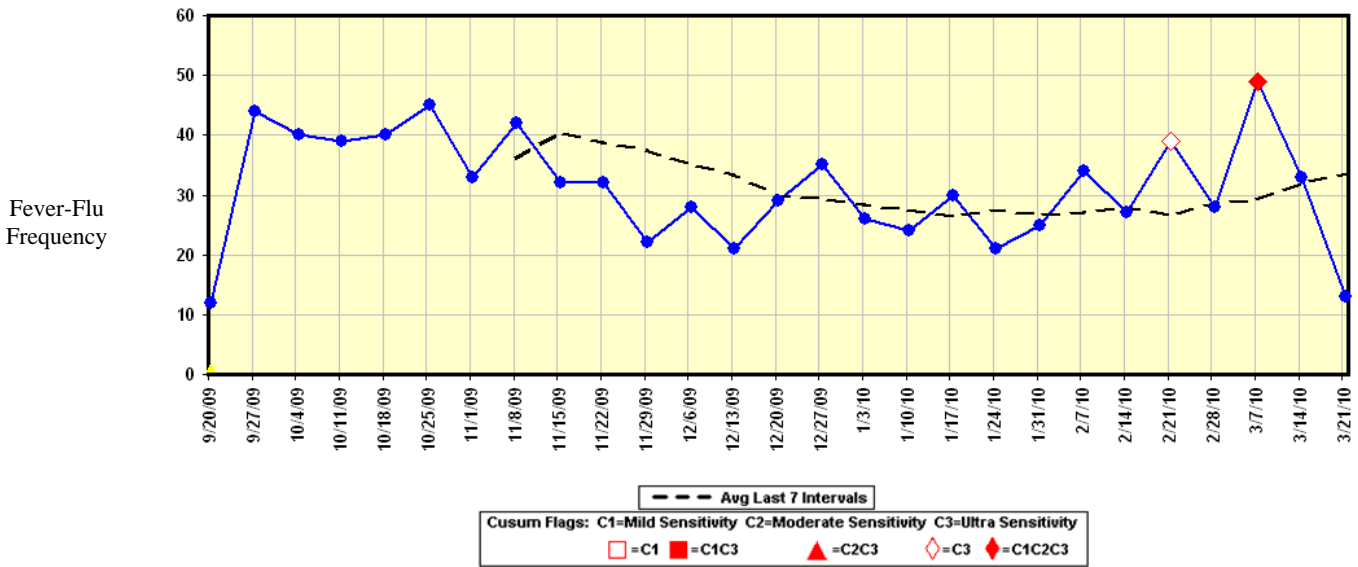
The SC Statewide Fever-Flu Syndrome graph above illustrates the daily counts of hospital emergency department (ED) visits with an Influenza-like Illness (ILI) for the past 21 days. A total of 12 hospital facilities are reporting to the SCAAN system. These twelve include: Self Regional (Region 1); Palmetto Health Alliance (Region 2 & 3); Greenville Hospital System (Region 2); Kershaw Health (Region 4); Medical University of South Carolina (Region 7); Roper (Region 7) and St. Francis (Region 7).

Statewide CUSUM Flag Alerts Description:

There was a C1C2C3 flag that occurred on March 21, 2010. This flag indicates a statistically significant increase in Fever Flu-like visits to the hospital EDs. The two days following the C1C2C3 flag, the number of Fever Flu-like visits dropped below the mean for the past seven days.

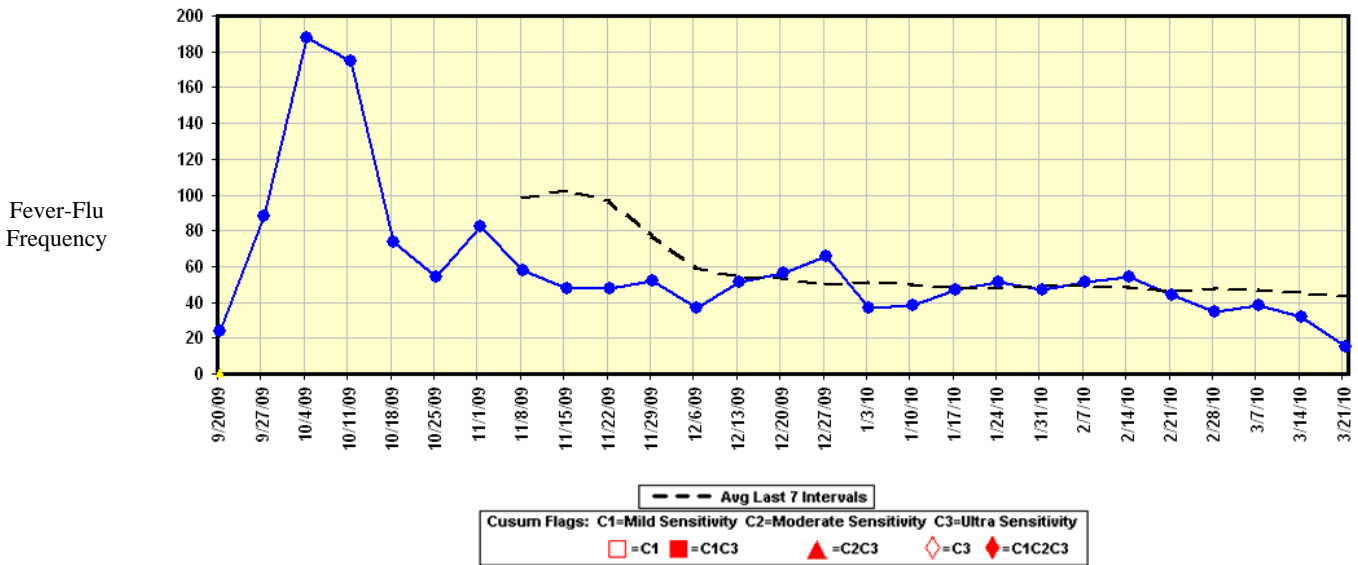
Below are the fever-flu syndrome graphs by Region for the past 180 days (weekly interval).

Region 1 - Fever Flu Syndrome



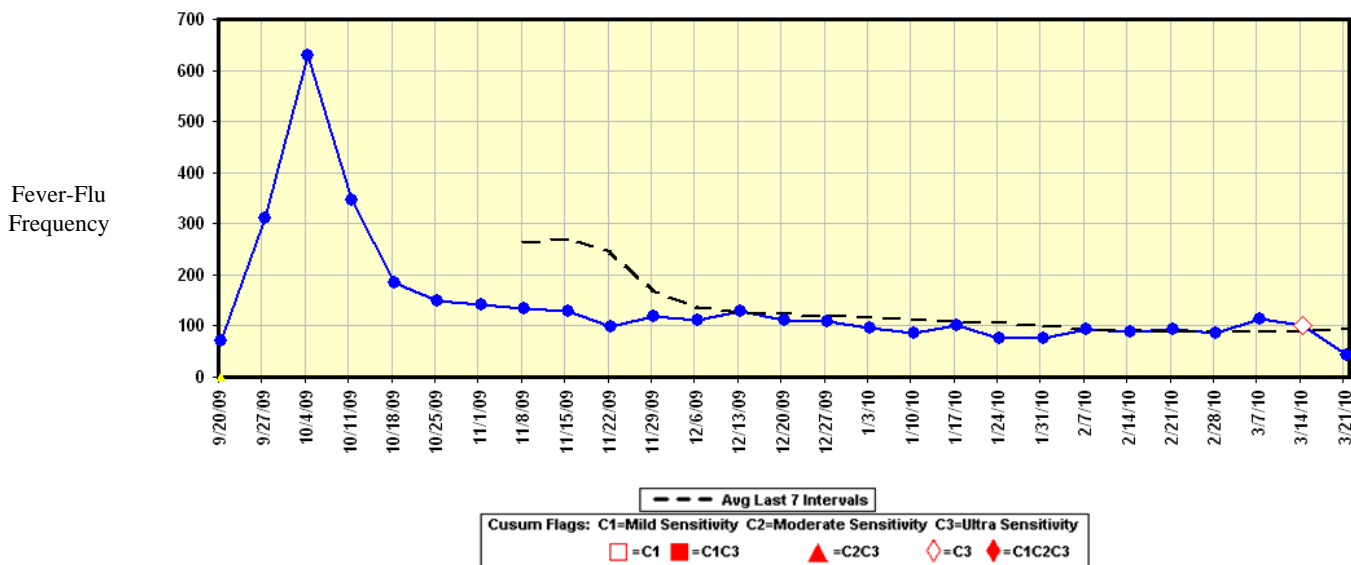
Region1 Hospitals (# of Facilities): Self-Regional (1)

Region 2 - Fever Flu Syndrome



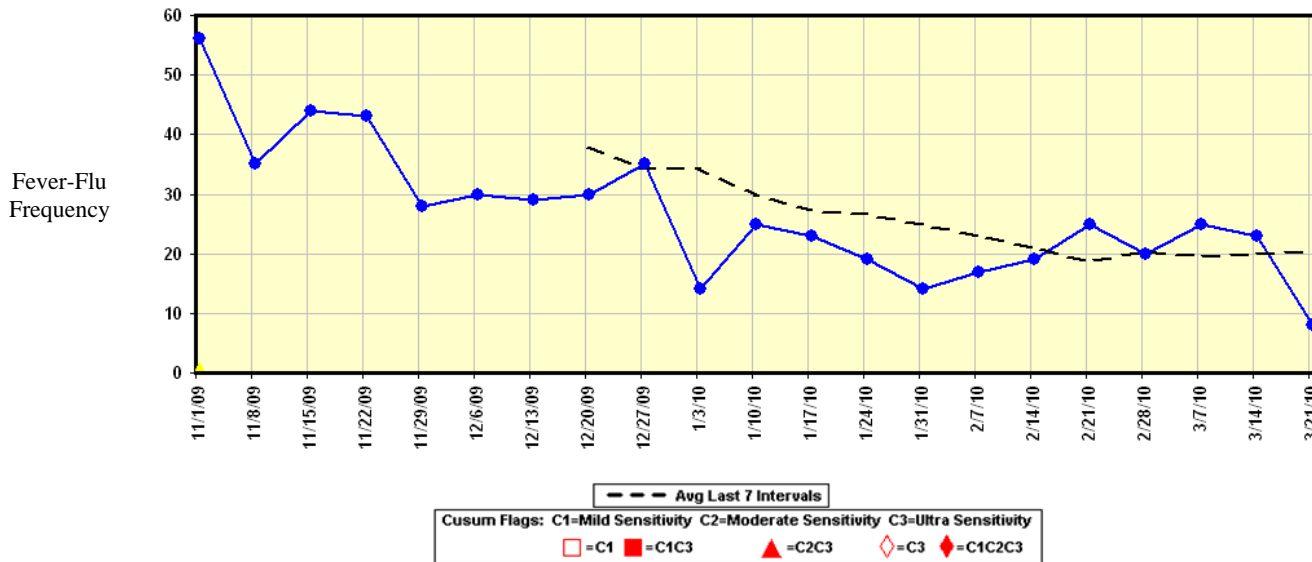
Region 2 Hospitals (# of Facilities): Greenville Hospital System (4); Palmetto Health Easley (1)

Region 3 - Fever Flu Syndrome



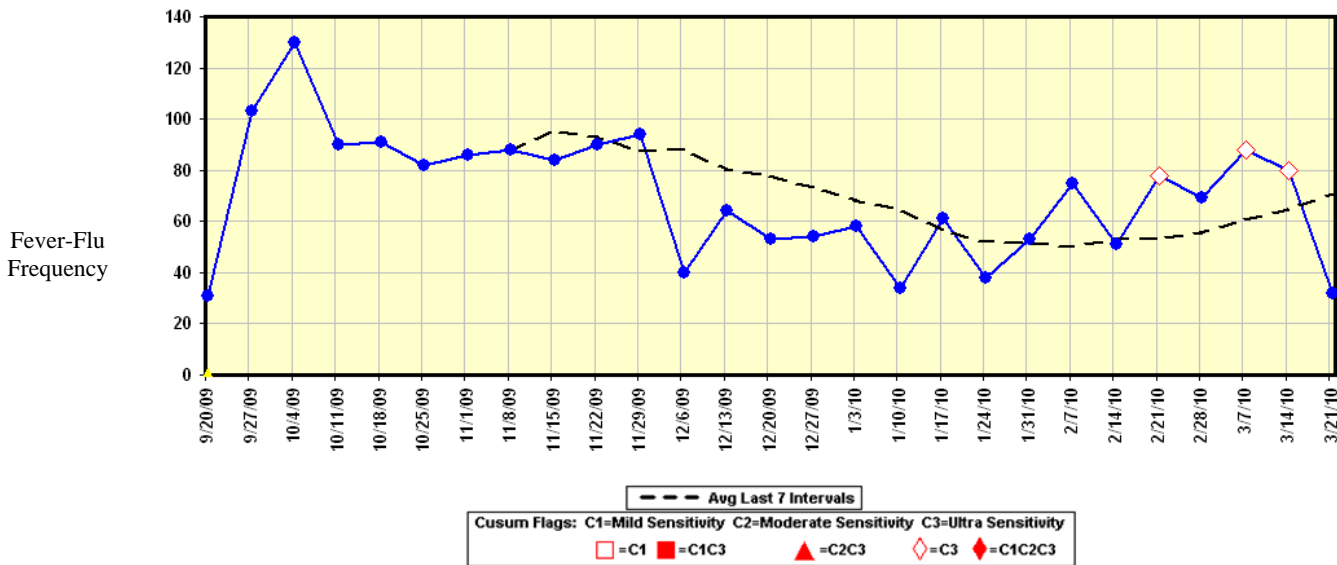
Region 3 Hospitals (# of Facilities): Palmetto Health Baptist (1), Palmetto Health Richland (1)

Region 4 - Fever Flu Syndrome



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

Region 7 - Fever Flu Syndrome



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

VI. 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.

South Carolina Influenza Surveillance Systems:

Mandatory reporting:

Positive Influenza Culture Reporting

Positive influenza culture results from commercial laboratories should be reported to DHEC within 7 days electronically via CHES or using a DHEC 1129 card.

Positive Rapid Antigen Test Reporting

DHEC requires weekly submission to the local health department of summary numbers of positive rapid influenza tests and influenza type identified. This should be reported by fax or email by **noon on Monday** for the preceding week.

Influenza death reporting

Lab confirmed influenza deaths, pediatric and adult, should be reported to DHEC within 7 days. 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 now 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 Aberration Alerting Network (SCAAN)

SCAAN 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. The syndromic reports are distributed back to the hospital on a daily basis.

To join the SCAAN system or for more information, please contact: Himel Dhotre at 803-898-1588 or dhotrehc@dhec.sc.gov.

VII. 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
Regional	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
Widespread	Increased ILI in 2-3 regions	And	Recent (within the past 3 weeks) lab confirmed influenza in the affected regions
	OR		
	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 4 of the regions	And	Recent (within the past 3 weeks) lab confirmed influenza in the state.