



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 November 28, 2009 (MMWR Week 47)

Highlights:

Influenza Activity Level: Regional

Note: Activity level definitions are found on page 14

ILI Activity Status (HHS Region 4 ILI baseline is 2.0%*): Below baseline in the Upstate (0.33%) and Midlands (0.40%), and above baseline along the Coast (4.42%). State ILI is 1.43%, a decrease from previous weeks. These data reflect reports from 20 (23.3%) providers.

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

SC Viral Isolate and RT-PCR Activity: During the past MMWR (47) week, 17 positive specimens were reported. Since October 4, 2009, 339 specimens tested by our Bureau of Labs (BOL) have been positive for influenza. A total of 257 positive specimens have been reported by other labs.

Positive Rapid Flu Test Activity: There were 377 positive tests reported.

Hospitalizations: 32 hospitalizations were reported. Since September 1, 2009, 816 hospitalizations have been reported.

Deaths: No deaths were reported during MMWR week 47. Since September 1, 2009, 37 deaths have been reported.

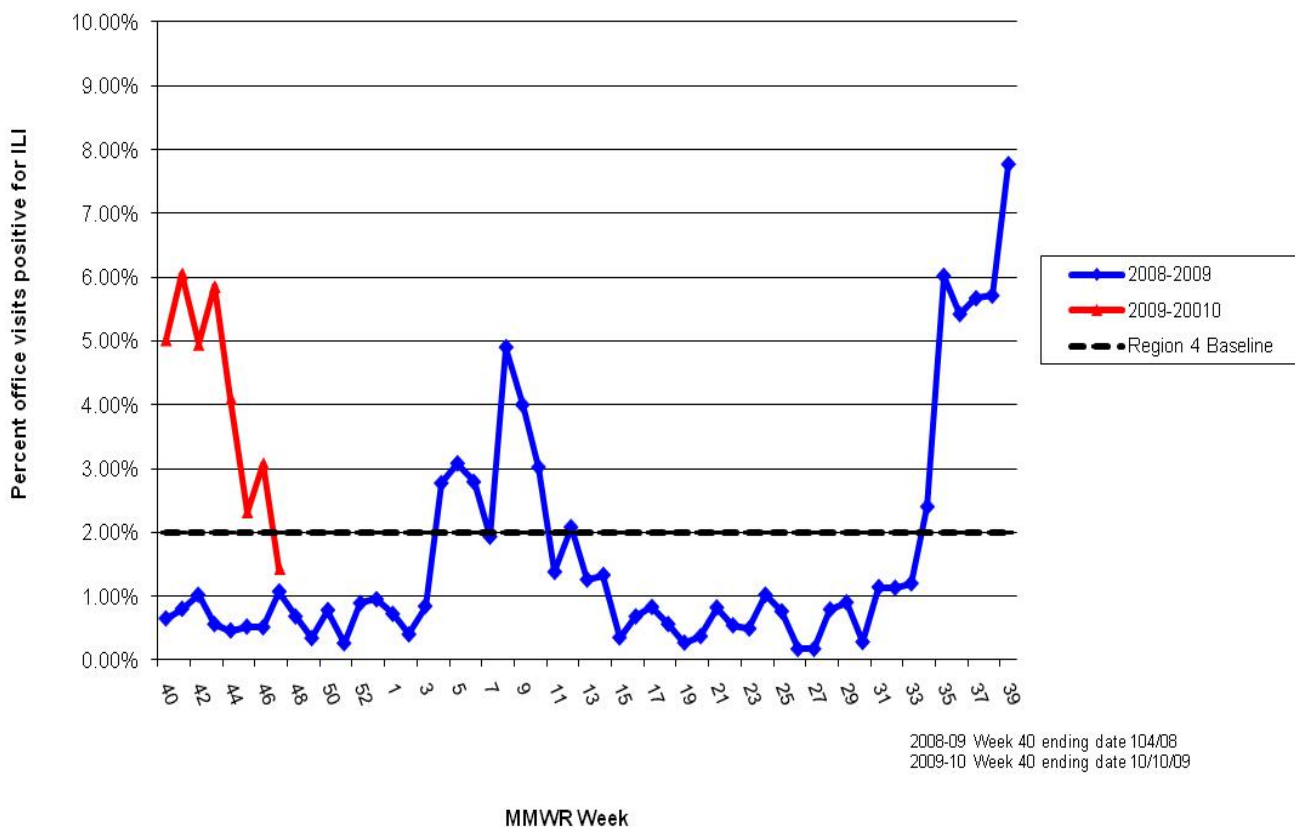
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*HHS Region 4 consists of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee. The baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons plus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

I. ILINet Influenza-Like Illness Surveillance

During MMWR week 47, ending November 28, 2009, 1.43% of patient visits to SC ILNet providers were due to ILI. For the first time since the start of the new season, the state ILI percentage is below the regional (2.0%) and national (2.3%) baselines. This compares to 1.07% this time last year. Reports were received from providers in 16 counties, representing all 8 regions. The percentage of visits ranged from 0% to 10.80%.

Percentage of Visits for Influenza-like Illness (ILI) Reported by Sentinel Providers in South Carolina, 2007-2008 and 2008-2009 Influenza Seasons



Reported Influenza-Like Illness by Sentinel Providers
November 22, 2009-November 28, 2009

County	ILI %	County	ILI %
Abbeville	NS	Greenwood	0%
Aiken	0%	Hampton	0.82%
Allendale	NS	Horry	1.63%
Anderson	0%	Jasper	NS
Bamberg	NS	Kershaw	NS
Barnwell	NS	Lancaster	NE
Beaufort	0%	Laurens	NS
Berkeley	NS	Lee	NE
Calhoun	NS	Lexington	NS
Charleston	2.14%	Marion	NS
Cherokee	NS	Marlboro	NS
Chester	NE	McCormick	0%
Chesterfield	NE	Newberry	NS
Clarendon	NS	Oconee	NS
Colleton	NS	Orangeburg	NS
Darlington	NS	Pickens	0%
Dillon	NS	Richland	NS
Dorchester	NS	Saluda	0%
Edgefield	NE	Spartanburg	0.63%
Fairfield	0%	Sumter	NS
Florence	0.31%	Union	NE
Georgetown	10.80%	Williamsburg	NS
Greenville	0.23%	York	2.30%

NS: No reports received
NE: No enrolled providers



Geographic Region	ILI %	# of Reporters
Upstate-Regions 1 -2	0.33	9
Midlands-Regions 3-5	0.40	5
Coastal-Regions 6-8	4.42	6

In the past week (11/22-11/28), BOL tested 120 specimens, 8 (6.7%) of which were positive. In the past week, 9 positive specimens were reported by clinical labs. Since October 4, 2009, 596 specimens tested have been positive for influenza.

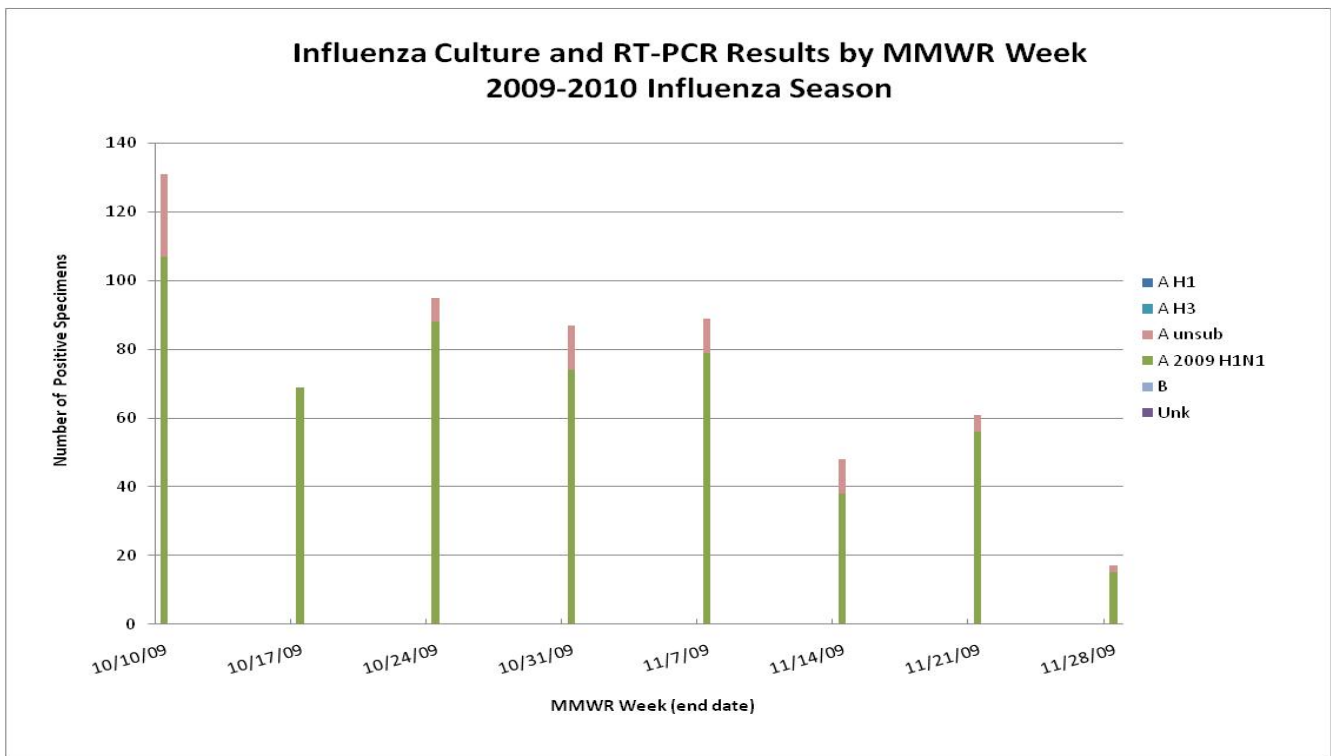
Positive confirmatory influenza test results Current MMWR Week (11/22/09-11/28/09)		
	BOL*	Other clinical labs
Number of specimens tested	120	-
Number of positive specimens	8 (6.7%)	9
Positive specimens by type/subtype		
A (H1)		
A (H3)		
A (unsubtyped)		2 (22.2%)
A (2009 H1N1)	8 (100%)	7(77.8%)
Influenza B		
*Culture and/or RT-PCR (SC residents)		

Positive confirmatory influenza test results Cumulative (10/04/09-11/28/09)		
	BOL*	Other clinical labs
Number of specimens tested	1180	-
Number of positive specimens	339 (31.2%)	257
Positive specimens by type/subtype		
Influenza A		
A (H3)		
A (unsubtyped)		71 (27.6%)
A (2009 H1N1)	339 (100%)	186 (72.4%)
Influenza B		
Unk		
Other		
*Culture and/or RT-PCR (SC residents)		

Positive Confirmatory tests by County
 October 4, 2009-November 28, 2009

County	Total	County	Total
Abbeville	1	Hampton	4
Aiken	12	Horry	28
Allendale		Jasper	2
Anderson	14	Kershaw	8
Bamberg	7	Lancaster	5
Barnwell	1	Laurens	2
Beaufort	67	Lee	7
Berkeley	13	Lexington	8
Calhoun		Marion	1
Charleston	34	Marlboro	2
Cherokee	8	McCormick	
Chester	10	Newberry	4
Chesterfield	5	Oconee	7
Clarendon		Orangeburg	9
Colleton	26	Pickens	5
Darlington	21	Richland	27
Dillon	3	Saluda	
Dorchester	13	Spartanburg	60
Edgefield	1	Sumter	4
Fairfield	1	Union	
Florence	32	Williamsburg	4
Georgetown	5	York	6
Greenville	40	Unknown	87
Greenwood	2		

*These data are provisional.



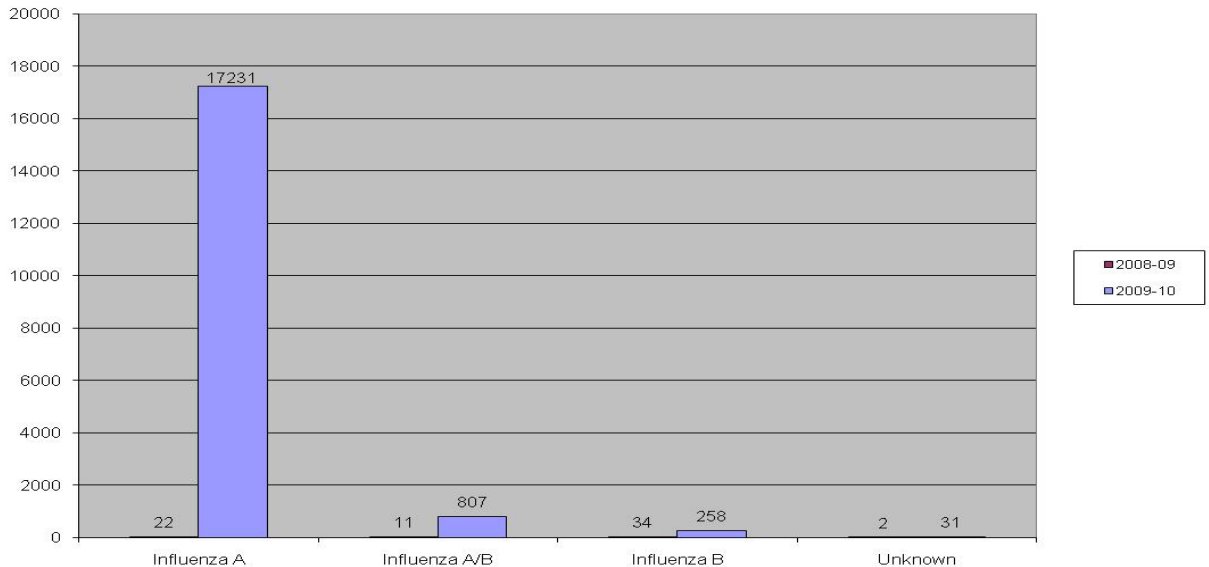
III. Positive Rapid Flu

There were 377 positive rapid antigen tests reported for the week ending November 28, 2009. Of these, 352 were influenza A, 7 were influenza A/B, and 18 were influenza B. Since October 4, 2009, 18,327 positive rapid antigen tests have been reported.

Positive Rapid Flu Tests by County
November 22, 2009-November 28, 2009

County	Positive Tests	County	Positive Tests
Abbeville		Greenwood	3
Aiken		Hampton	1
Allendale		Horry	18
Anderson	16	Jasper	
Bamberg		Kershaw	3
Barnwell		Lancaster	
Beaufort	8	Laurens	
Berkeley	1	Lee	
Calhoun		Lexington	14
Charleston	43	Marion	
Cherokee		Marlboro	4
Chester	5	McCormick	
Chesterfield	1	Newberry	
Clarendon		Oconee	2
Colleton		Orangeburg	3
Darlington	8	Pickens	4
Dillon		Richland	40
Dorchester		Saluda	
Edgefield	4	Spartanburg	16
Fairfield		Sumter	12
Florence	19	Union	
Georgetown	10	Williamsburg	
Greenville	71	York	40
		Unk	31

Reported Positive Rapid Tests 2008-09 vs 2009-10
MMWR Weeks 40-47



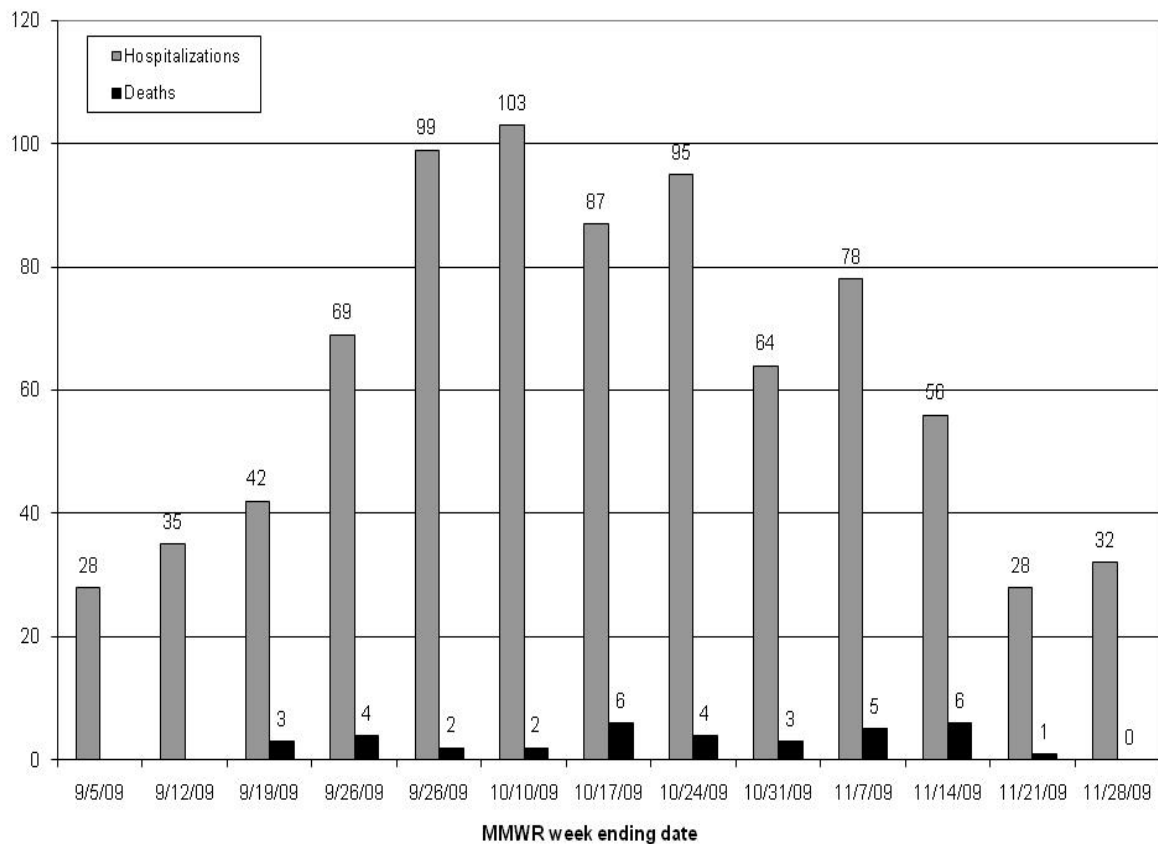
IV. Influenza hospitalizations and deaths

A total of 32 lab confirmed influenza hospitalizations were reported by 42 hospitals during the past week. No influenza deaths were reported. Since September 1, 2009, 816 laboratory confirmed hospitalizations and 37 lab confirmed deaths have been reported.

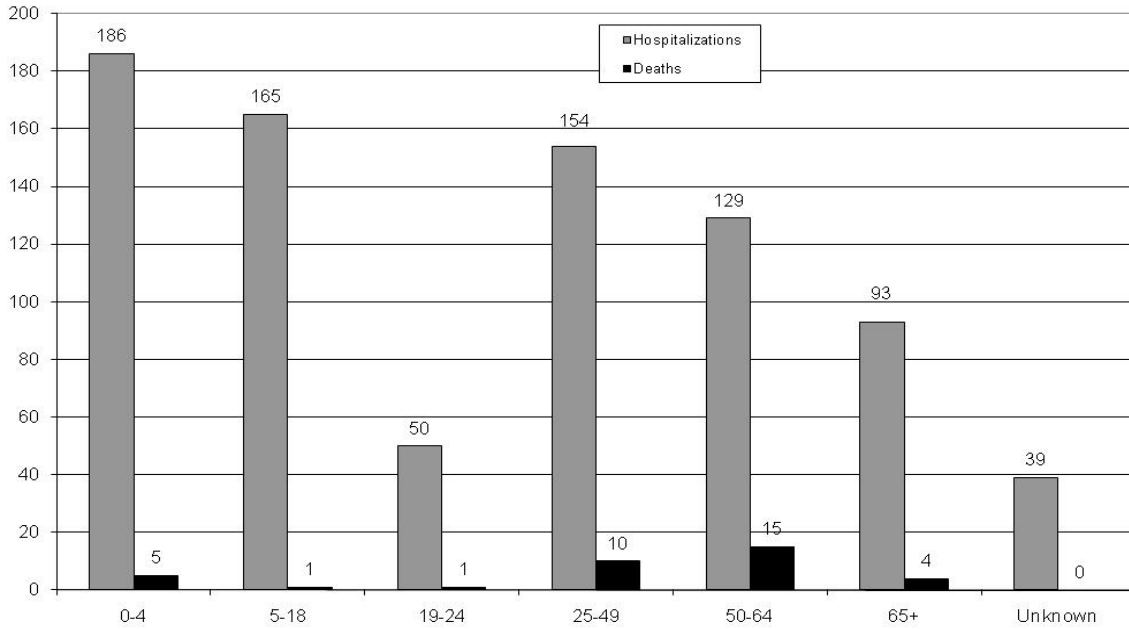
	Total number	
Number of Hospitals Reporting (current week)	42	
	<i>Previous MMWR (11/22-11/28)</i>	<i>Cumulative (since 9/1/09)</i>
Hospitalizations	32	816
Deaths	0	37

*These data are provisional

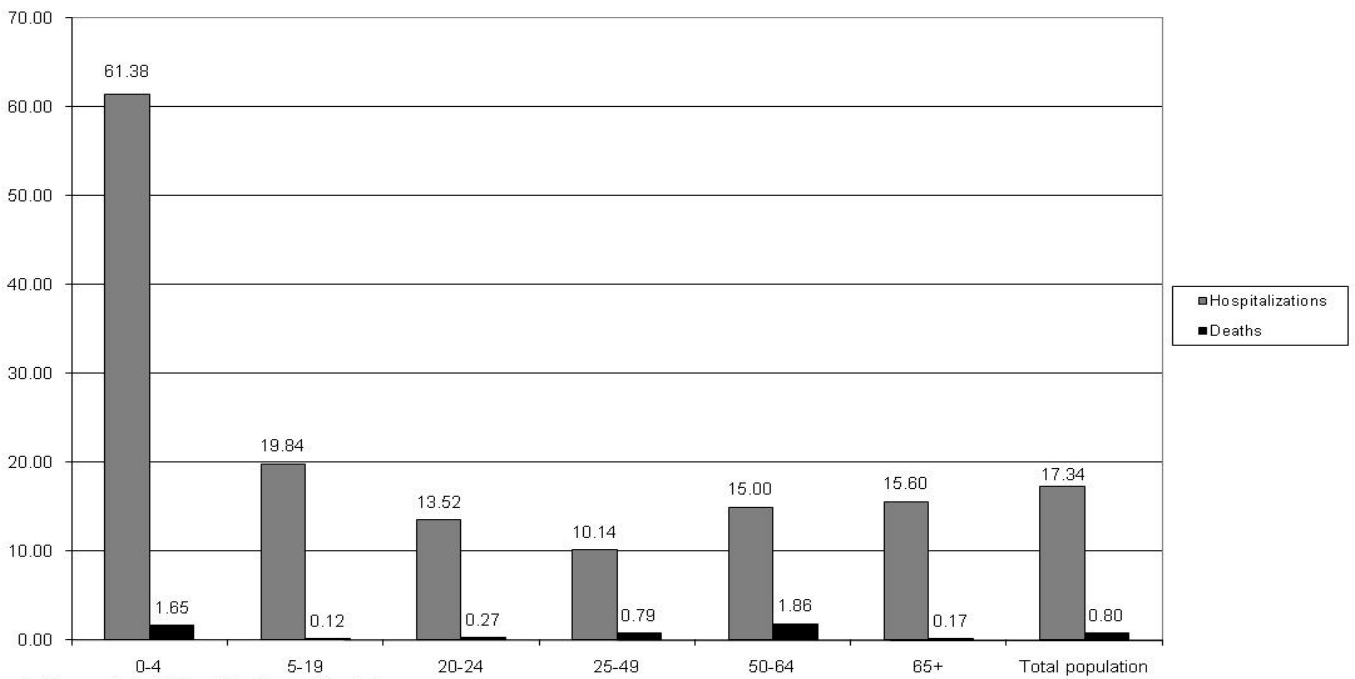
**Reported Cases of Laboratory Confirmed Influenza Hospitalizations and Deaths
by MMWR week
September 1, 2009 - November 28, 2009**



**Reported Cases of Laboratory Confirmed Influenza
Hospitalizations (n=816) and Deaths (n=37) by agegroup
September 1, 2009 - November 28, 2009**



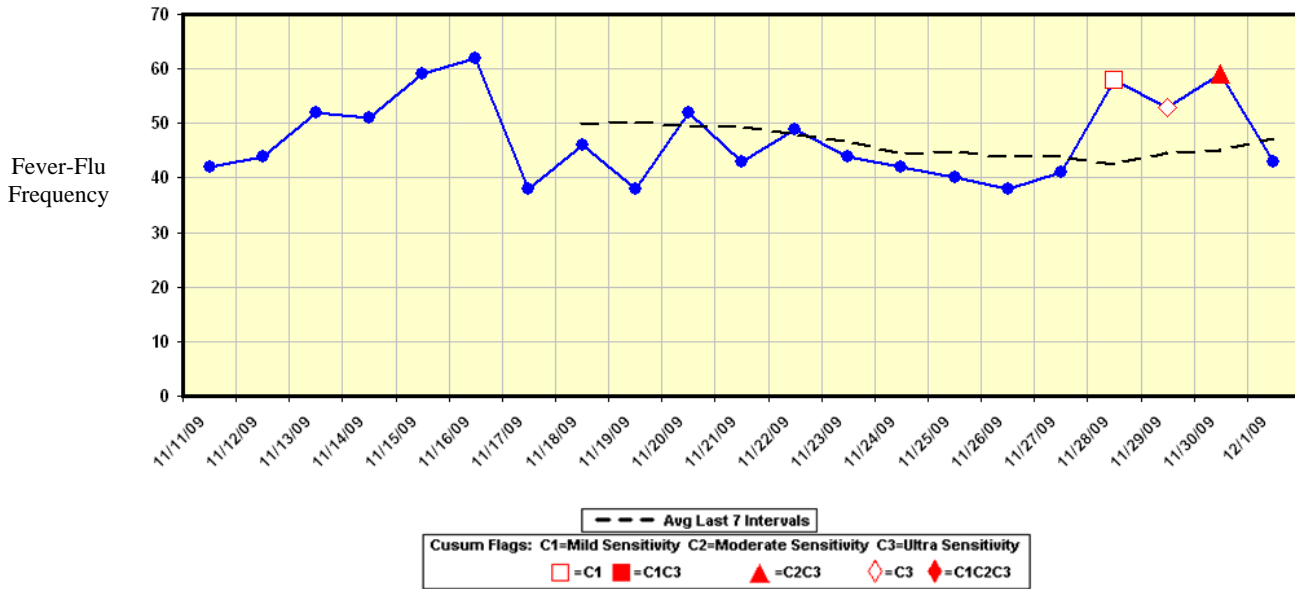
**Laboratory Confirmed Influenza Case rate/100,000
Hospitalizations (n=816) and Deaths (n=37) by age group
September 1, 2009 - November 28, 2009**



*Rate calculation excludes 39 hospitalizations with missing age

Syndromic Report:

SC 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

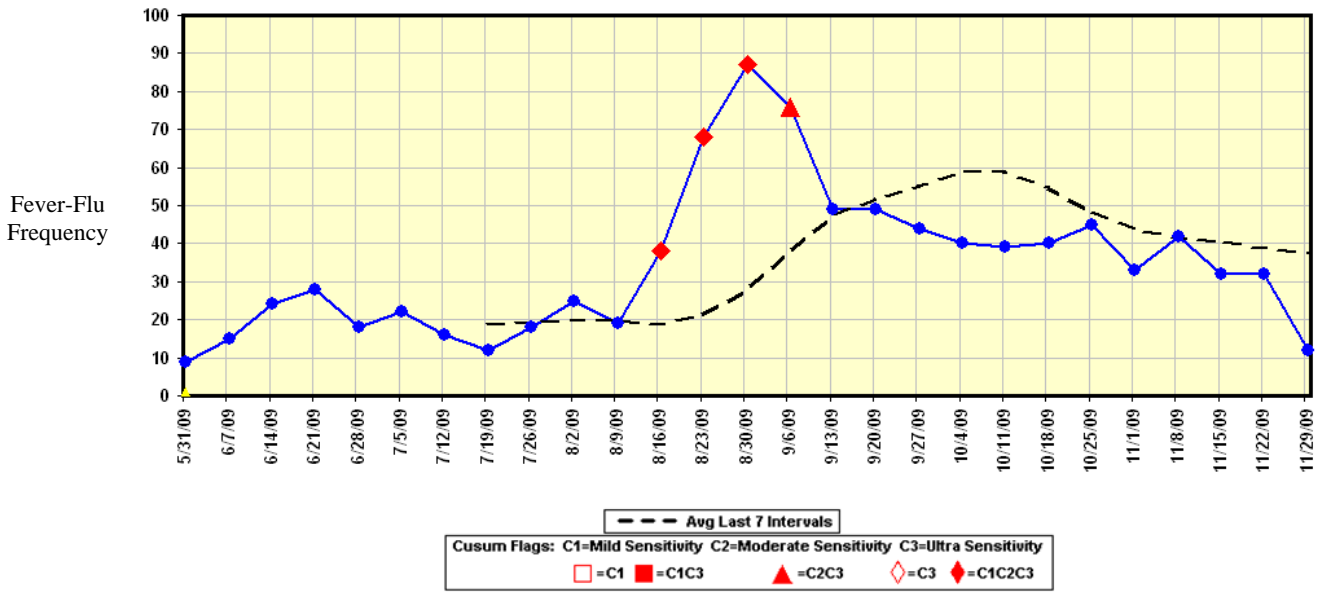
The SC Statewide Fever-Flu Syndrome graph above illustrates the daily counts of hospital emergency department visits with an Influenza-like Illness (ILI) for the past 21 days. A total of 12 hospital facilities are reporting to the SCAAN system. These nine include: Self Regional (Region 1); Palmetto Health 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 statistically significant increase in the number of fever-flu visits to the hospital EDs over the Thanksgiving break (11/28 – 11/30). On 12/1, the visits have declined below the mean of the past 7 days.

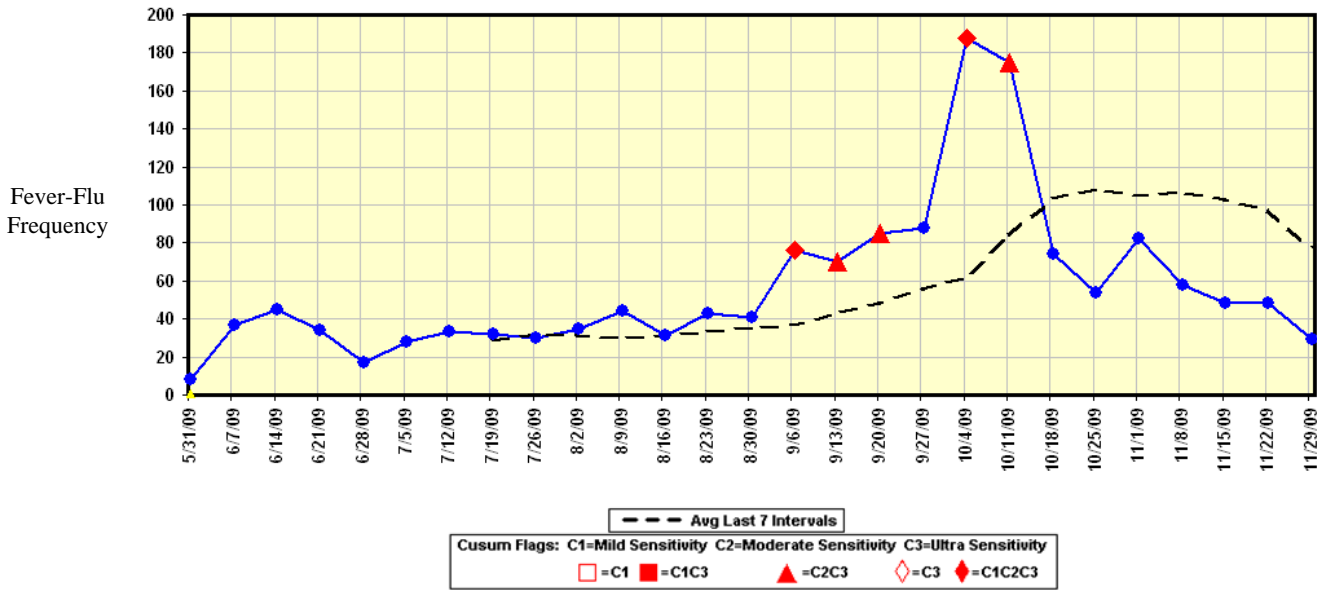
Below are the fever-flu syndrome graphs by Region for the past 180 days (weekly interval).

Region 1 - Fever Flu Syndrome



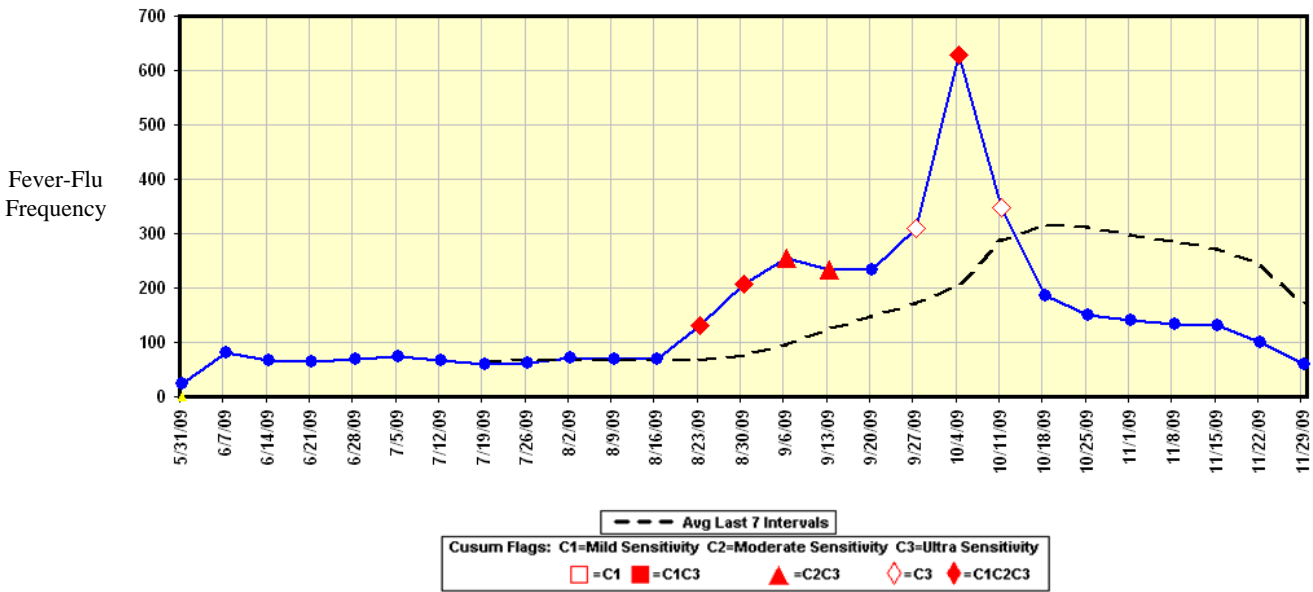
Region1 Hospitals (# of Facilities): Self-Regional (1)

Region 2 - Fever Flu Syndrome



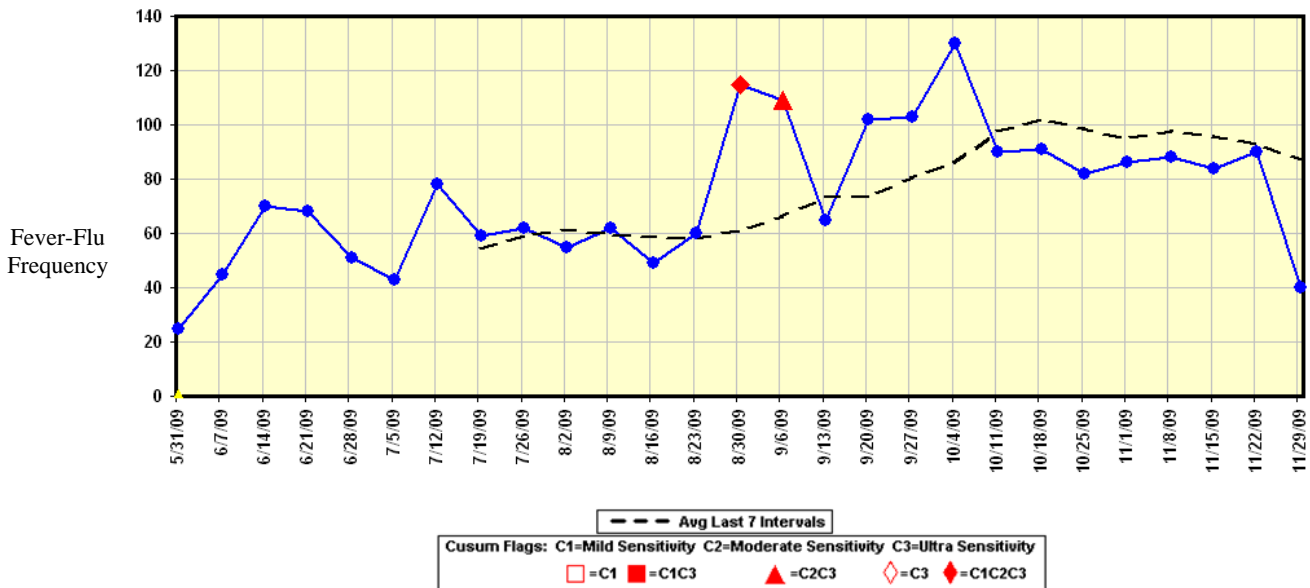
Region 2 Hospitals (# of Facilities): Greenville Hospital System (4); Palmetto Health Easley (1)

Region 3 - Fever Flu Syndrome



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

Region 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: Himal 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
	OR		
Regional	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
	Increased ILI in 2-3 regions	And	Recent (within the past 3 weeks) lab confirmed influenza in the affected regions
Widespread	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
Widespread	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.