

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 February 20, 2010 (MMWR Week 7)

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 (.32%) and the Midlands (1.80%). Above baseline along the Coast (2.11%). ILI activity increased slightly. The state ILI is 1.37%. These data reflect reports from 25 (37.3%) providers.

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

SC Viral Isolate and RT-PCR Activity: During the past MMWR (7) week, 8 positive specimens were reported. Since October 4, 2009, 429 specimens tested by our Bureau of Labs (BOL) have been positive for influenza. A total of 333 positive specimens have been reported by other labs. So far this season, all subtyped influenza A viruses have been 2009 H1N1.

Positive Rapid Flu Test Activity: There were 165 positive tests reported.

Hospitalizations: 12 hospitalizations were reported. Since September 1, 2009, 1,000 hospitalizations have been reported.

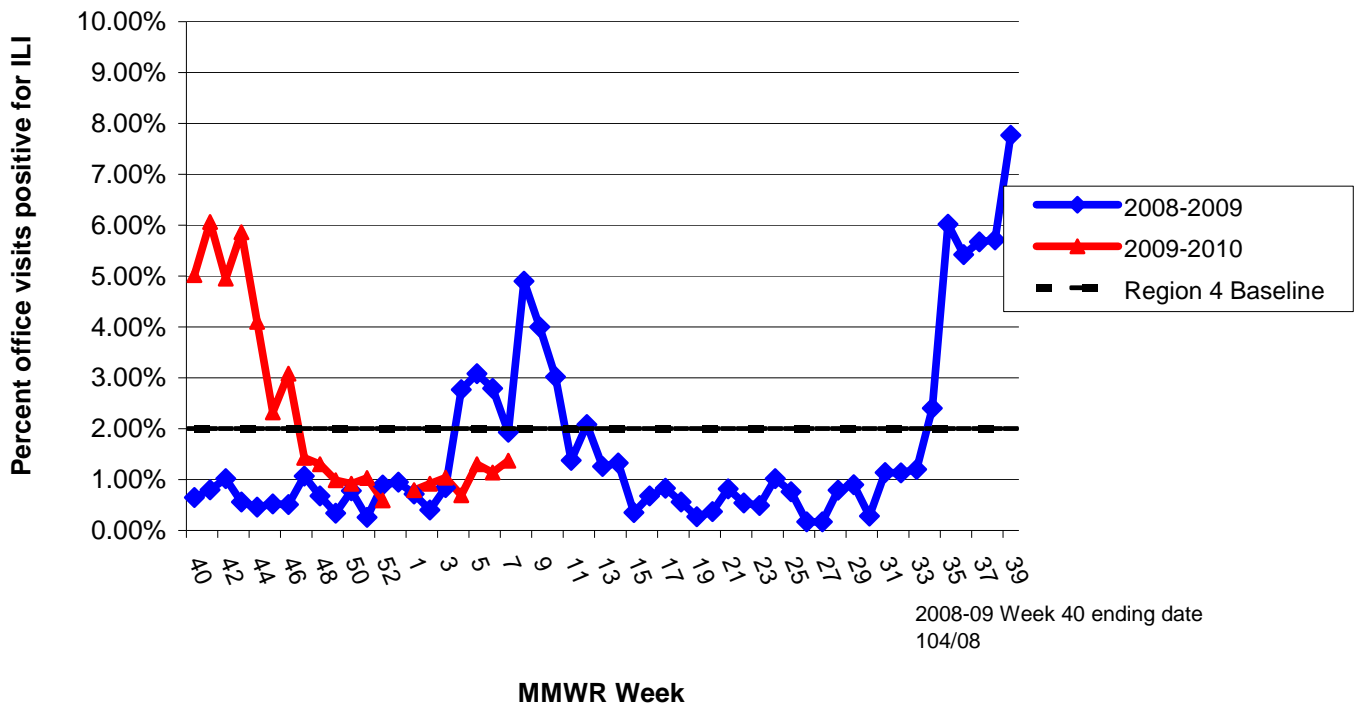
Deaths: One death was reported during MMWR week 7. Since September 1, 2009, 43 deaths have been reported.

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I. ILINet Influenza-Like Illness Surveillance

During MMWR week 7 ending February 20, 2010, 1.37% of patient visits to SC ILNet providers were due to ILI. The state ILI percentage increased slightly and remains below the regional (2.0%) and national (2.3%) baselines. This ILI percentage compares to 1.93% 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 13.64%.

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
February 14, 2010-February 20, 2010

County	ILI %	County	ILI %
Abbeville	NR	Greenwood	0%
Aiken	3.07%	Hampton	NR
Allendale	NR	Horry	.27%
Anderson	1.67%	Jasper	NR
Bamberg	---	Kershaw	.23%
Barnwell	NR	Lancaster	---
Beaufort	NR	Laurens	NR
Berkeley	2.92%	Lee	---
Calhoun	---	Lexington	NR
Charleston	2.34%	Marion	---
Cherokee	---	Marlboro	NR
Chester	---	McCormick	0%
Chesterfield	---	Newberry	---
Clarendon	---	Oconee	NR
Colleton	NR	Orangeburg	NR
Darlington	---	Pickens	0%
Dillon	NR	Richland	2.04%
Dorchester	NR	Saluda	0%
Edgefield	---	Spartanburg	.55%
Fairfield	0%	Sumter	.56%
Florence	.78 %	Union	---
Georgetown	3.91%	Williamsburg	---
Greenville	.30%	York	5.96%

NR: No reports received

---: No enrolled providers



Geographic Region	ILI %	# of Reporters
Upstate-Regions 1 -2	.32	10
Midlands-Regions 3-5	1.80	10
Coastal-Regions 6-8	2.11	5

II. Virologic Surveillance

During the past MMWR week (2/14-2/20), four positive specimens were by the Bureau of Labs (BOL). Another 4 were reported by clinical labs. Since October 4, 2009, 762 specimens tested have been positive for influenza.

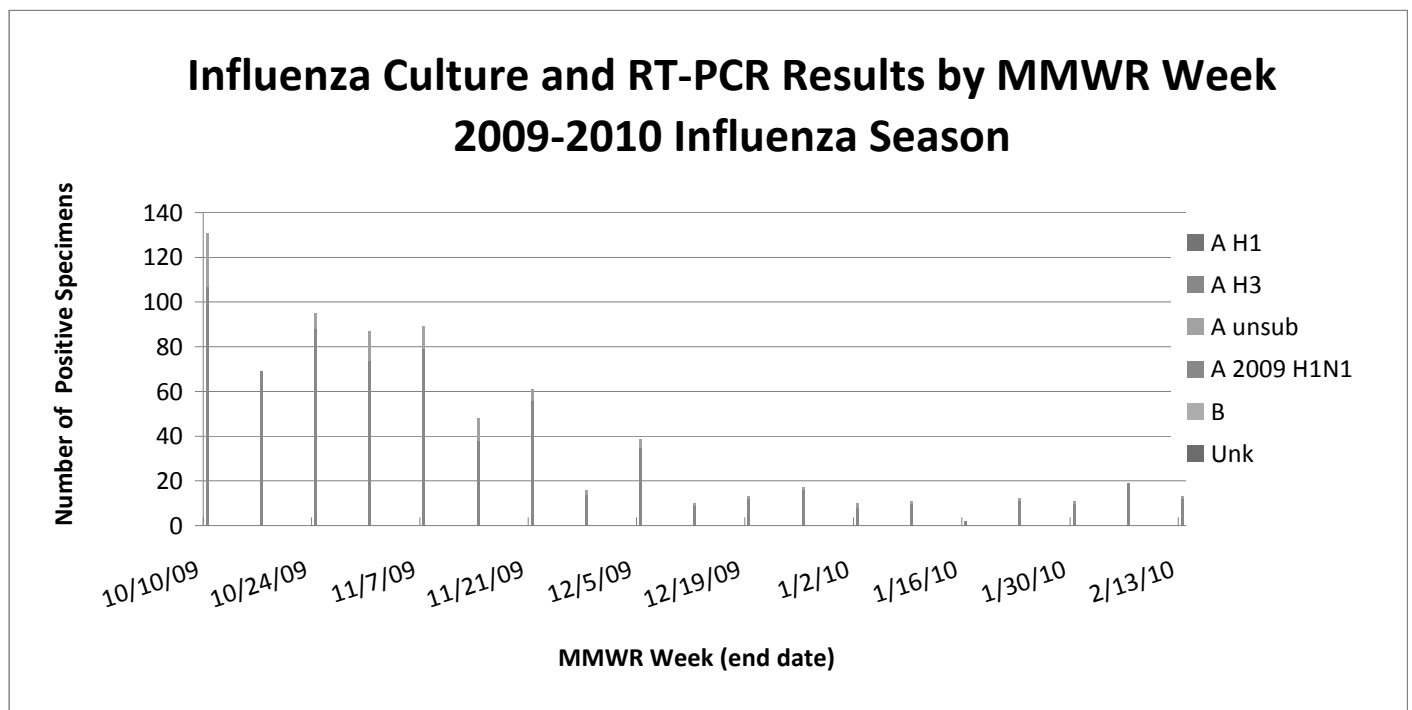
Positive confirmatory influenza test results Current MMWR Week (2/14/10-2/20/10)		
	BOL*	Other clinical labs
Number of specimens tested	47	-
Number of positive specimens	4	4
Positive specimens by type/subtype		
A (H1)		
A (H3)		
A (unsubtyped)		
A (2009 H1N1)	4	4
Influenza B		
*Culture and/or RT-PCR		

Positive confirmatory influenza test results Cumulative (10/04/09-2/20/10)		
	BOL*	Other clinical labs
Number of specimens tested	1929	-
Number of positive specimens	429 (22.2%)	333
Positive specimens by type/subtype		
Influenza A	429	333
A (H3)		
A (unsubtyped)		82 (24.6%)
A (2009 H1N1)	429 (100%)	251 (75.4%)
Influenza B		
Unk		
Other		
*Culture and/or RT-PCR		

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

County	Total	County	Total
Abbeville	3	Hampton	4
Aiken	14	Horry	30
Allendale		Jasper	2
Anderson	21	Kershaw	9
Bamberg	7	Lancaster	7
Barnwell	1	Laurens	3
Beaufort	74	Lee	8
Berkeley	17	Lexington	13
Calhoun	1	Marion	1
Charleston	43	Marlboro	2
Cherokee	8	McCormick	
Chester	11	Newberry	5
Chesterfield	5	Oconee	11
Clarendon		Orangeburg	16
Colleton	26	Pickens	11
Darlington	24	Richland	58
Dillon	3	Saluda	1
Dorchester	19	Spartanburg	64
Edgefield	1	Sumter	7
Fairfield	1	Union	
Florence	35	Williamsburg	5
Georgetown	7	York	9
Greenville	53	Unknown	106
Greenwood	14	Other	3

*These data are provisional.

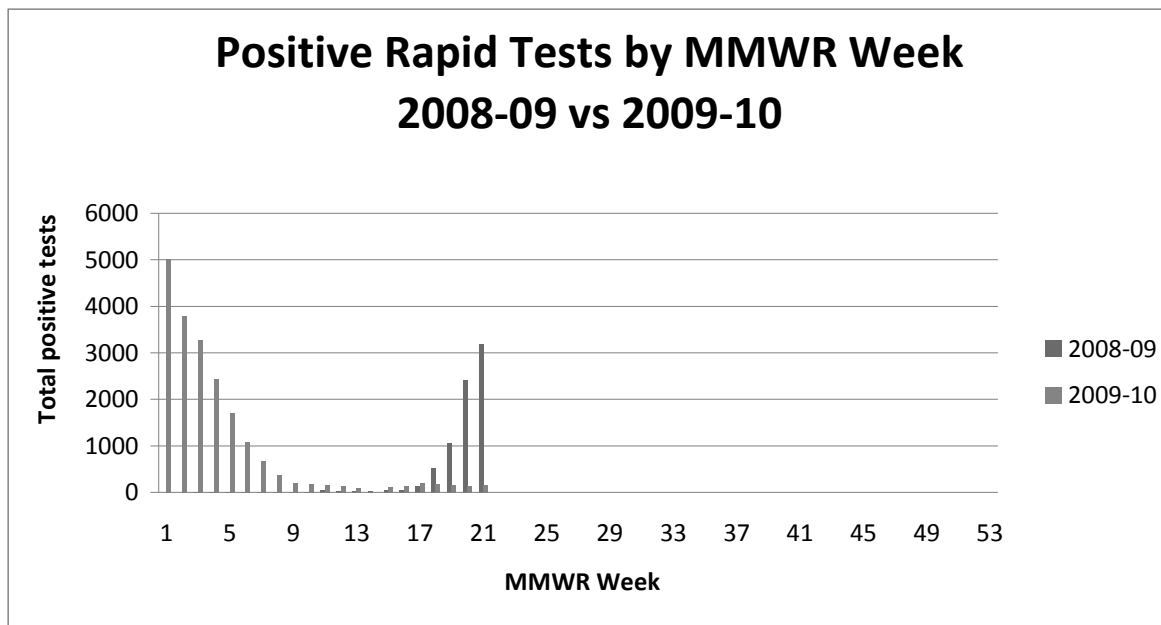


III. Positive Rapid Antigen Tests

There were 165 positive rapid antigen tests reported for the week ending February 20, 2010. Of these, 146 were influenza A, 10 were influenza A/B, and 9 were influenza B. Since October 4, 2009, 20,280 positive rapid antigen tests have been reported.

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

County	Positive Tests	County	Positive Tests
Abbeville		Greenwood	6
Aiken		Hampton	
Allendale		Horry	2
Anderson	11	Jasper	1
Bamberg		Kershaw	3
Barnwell		Lancaster	
Beaufort	1	Laurens	
Berkeley	1	Lee	
Calhoun		Lexington	4
Charleston	9	Marion	
Cherokee		Marlboro	
Chester	7	McCormick	
Chesterfield		Newberry	
Clarendon		Oconee	
Colleton		Orangeburg	6
Darlington	2	Pickens	1
Dillon		Richland	34
Dorchester		Saluda	
Edgefield	2	Spartanburg	6
Fairfield		Sumter	5
Florence	1	Union	
Georgetown	5	Williamsburg	
Greenville	38	York	11
		Unk	9



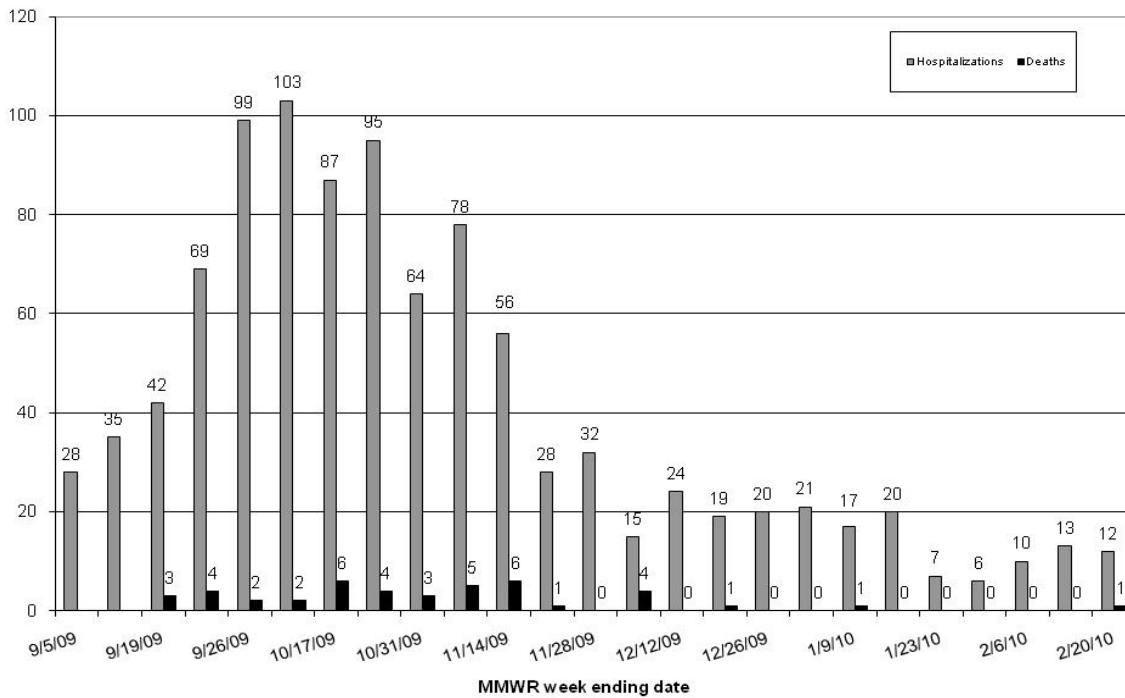
IV. Influenza hospitalizations and deaths

A total of 12 lab confirmed influenza hospitalizations were reported by 42 hospitals during the past week. One lab confirmed influenza death was reported. Since September 1, 2009, 1000 laboratory confirmed hospitalizations and 43 laboratory confirmed deaths have been reported.

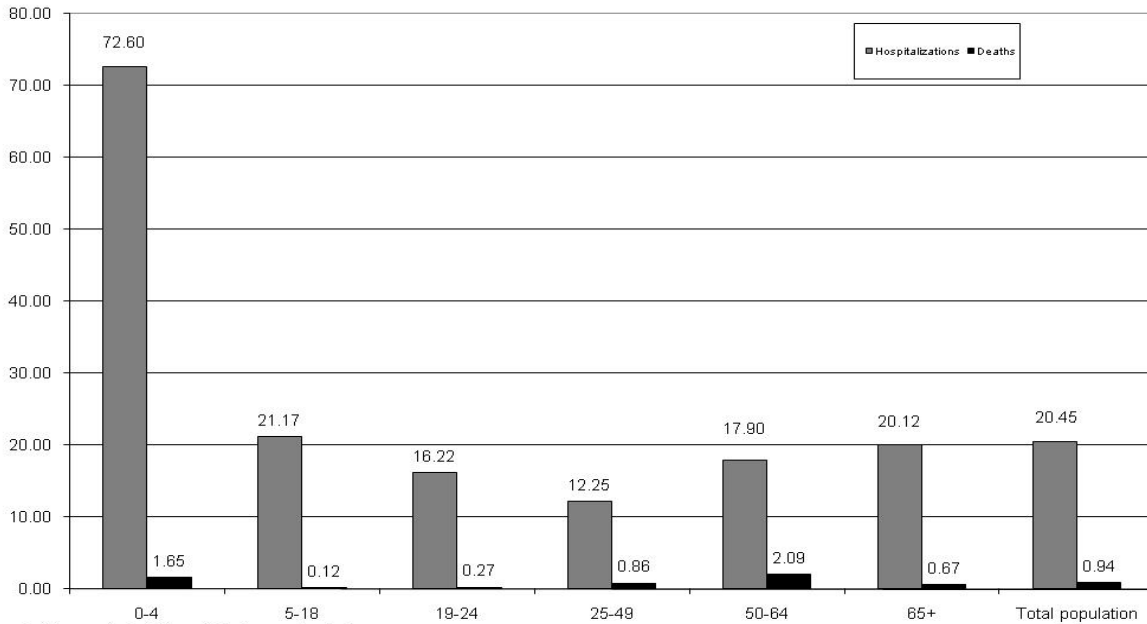
	Total number	
Number of Hospitals Reporting (current week)	42	
	<i>Previous MMWR (2/14-2/20)</i>	<i>Cumulative (since 9/1/09)</i>
Hospitalizations	12	1000
Deaths	1	43

*These data are provisional

**Reported Cases of Laboratory Confirmed Influenza Hospitalizations and Deaths
by MMWR week
September 1, 2009 - February 20, 2010**

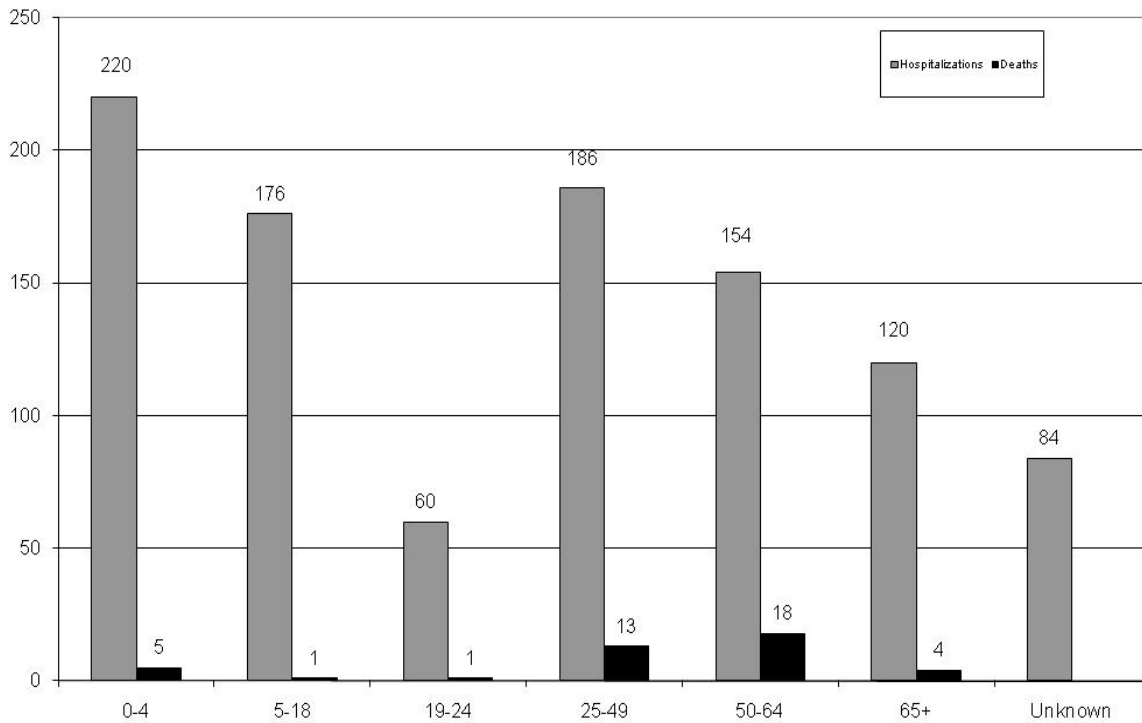


**Laboratory Confirmed Influenza Case rate/100,000
Hospitalizations (n=1000) and Deaths (n=43) by age group
September 1, 2009 - February 20, 2010**

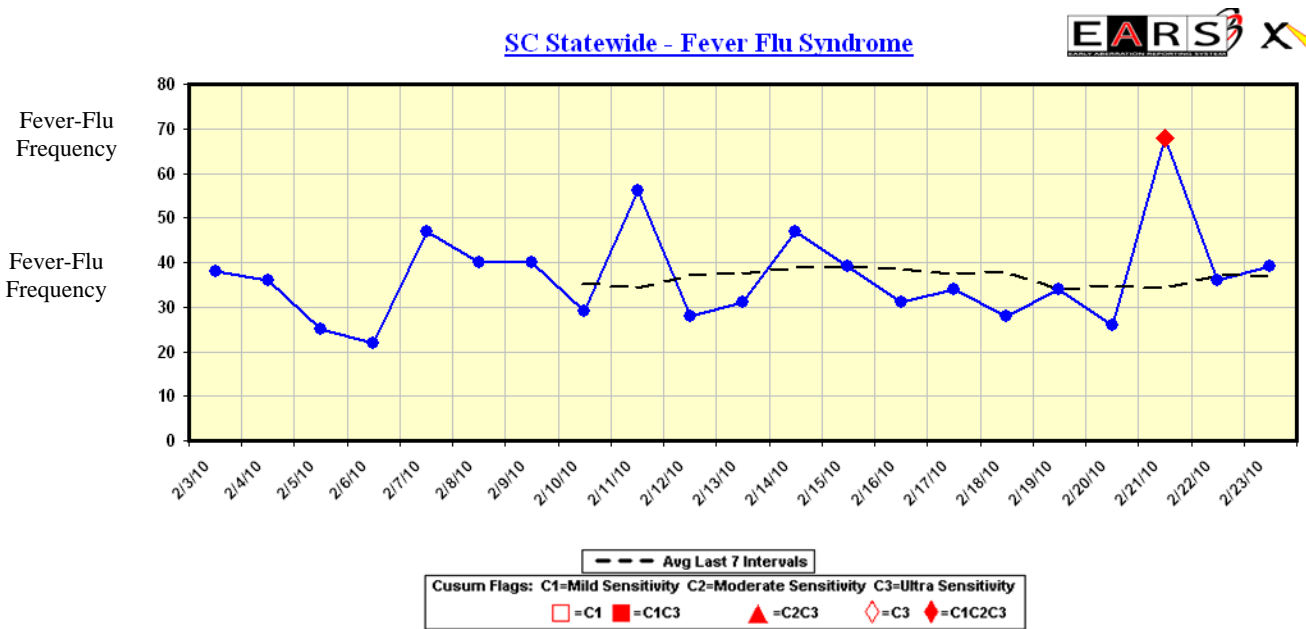


*Rate calculation excludes 84 hospitalizations with missing age

**Reported Cases of Laboratory Confirmed Influenza
Hospitalizations (n=1000) and Deaths (n=43) by age group
September 1, 2009 - February 20, 2010**



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

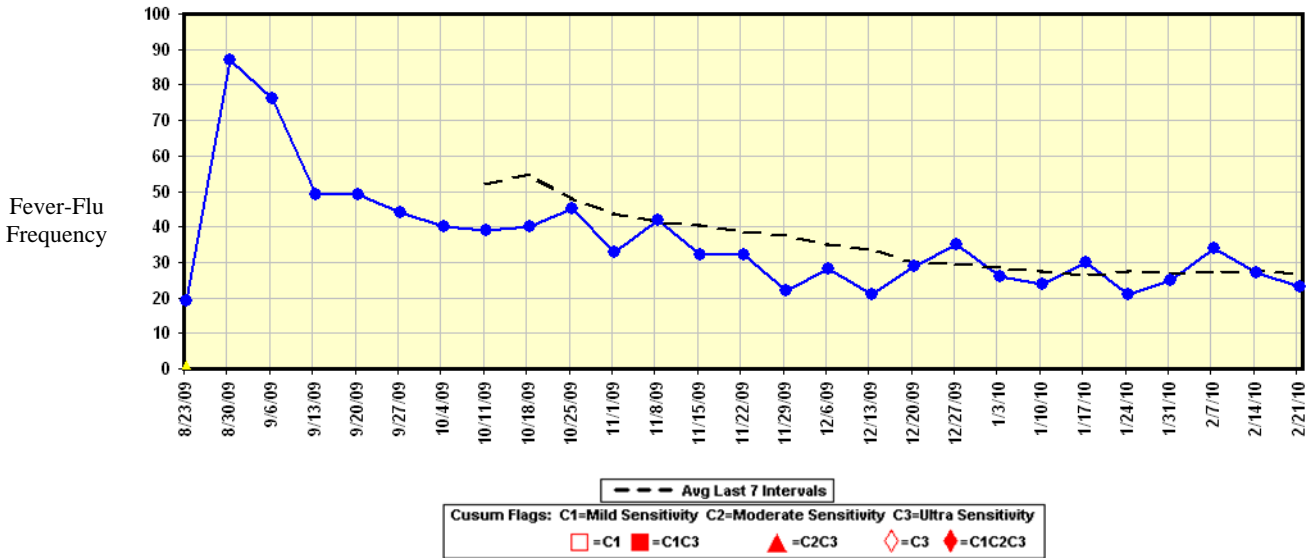
The SC Statewide Fever-Flu Syndrome graph above illustrates the daily counts of hospital emergency department visits with an Influenza-like Illness (ILI) for the past 21 days. A total of 12 hospital facilities are reporting to the SCAAN system. These twelve include: Self Regional (Region 1); Palmetto 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 on 2/21/10, which indicates a statistically significant sharp rise for that day compared to the past 10 days. The two days following the C1C2C3 flag, counts of Fever-flu have returned to the mean level. DHEC is continuing to monitor for any additional increases.

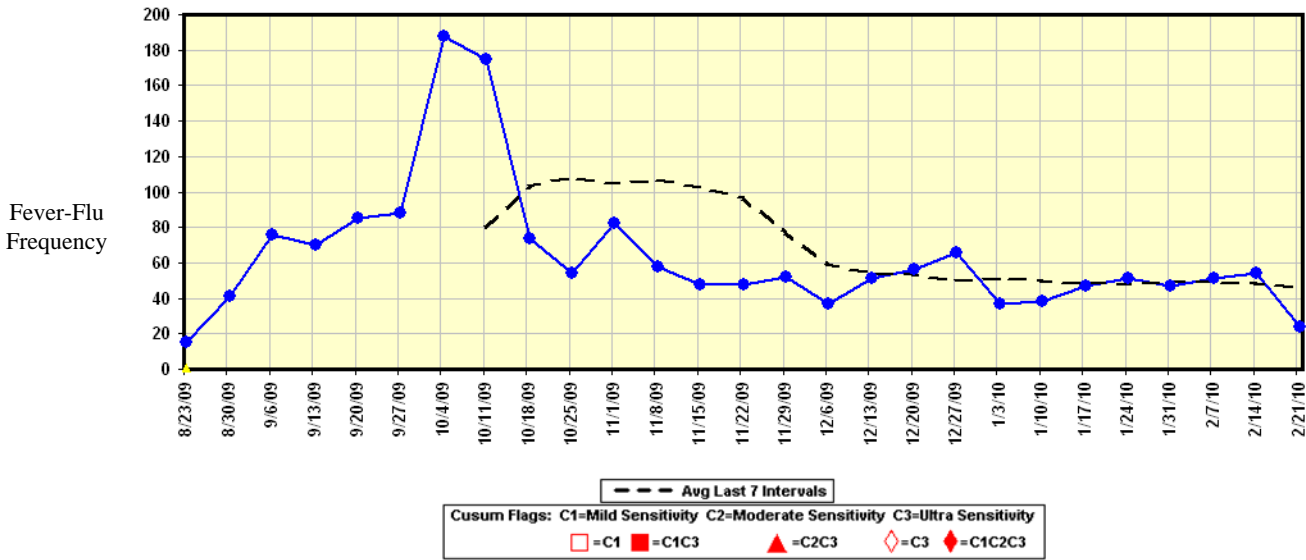
Below are the fever-flu syndrome graphs by Region for the past 180 days (weekly interval).

Region 1 - Fever Flu Syndrome



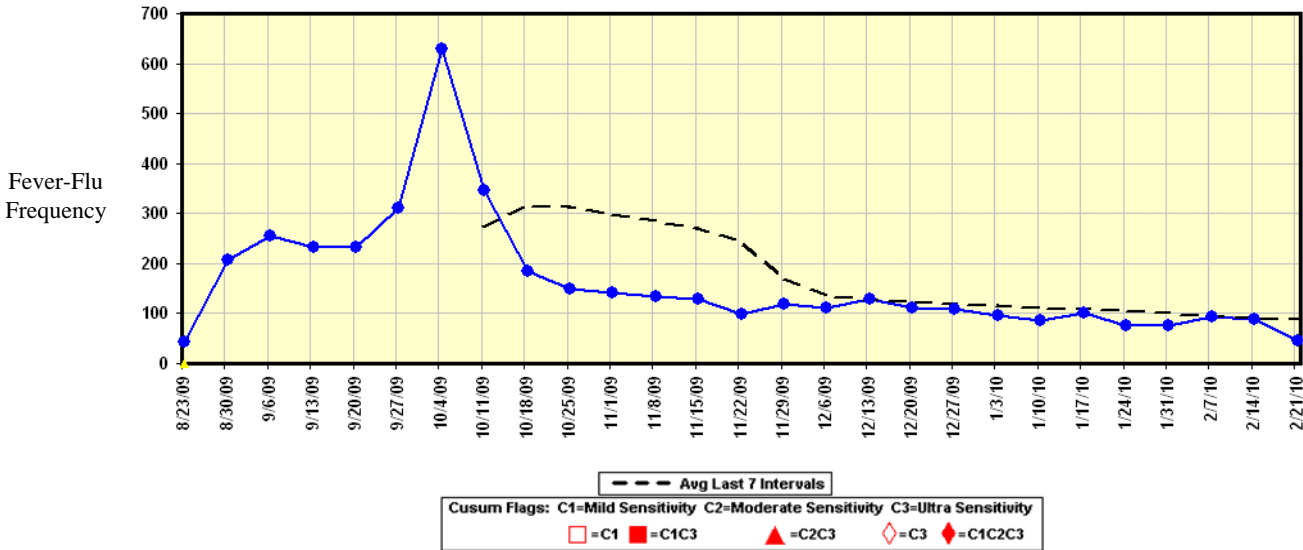
Region1 Hospitals (# of Facilities): Self-Regional (1)

Region 2 - Fever Flu Syndrome



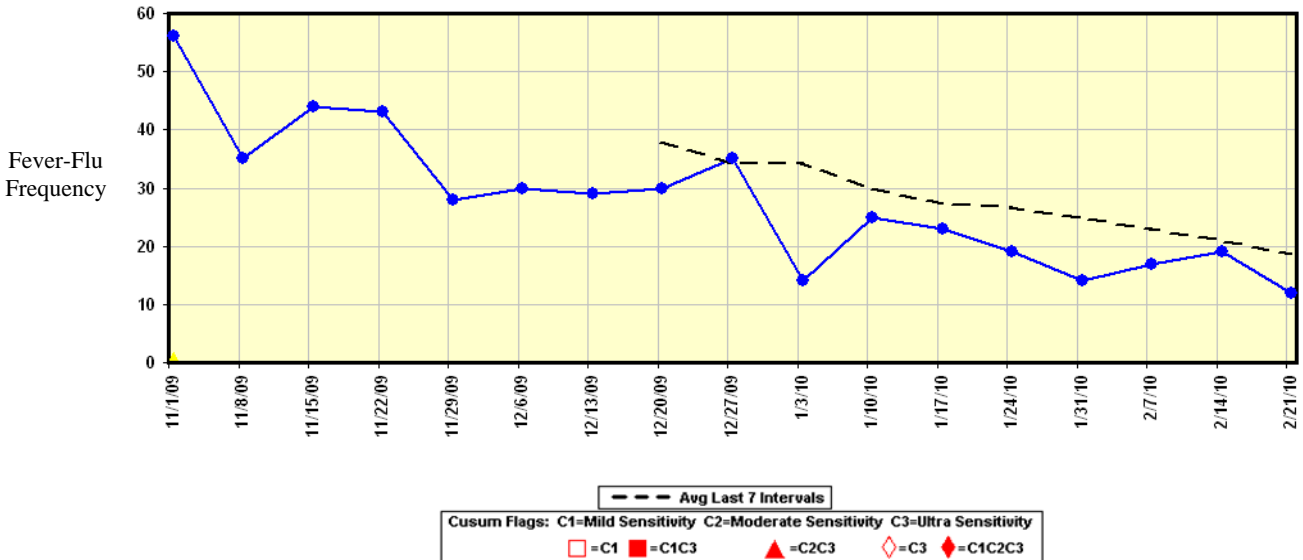
Region 2 Hospitals (# of Facilities): Greenville Hospital System (4); Palmetto Health Easley (1)

Region 3 - Fever Flu Syndrome



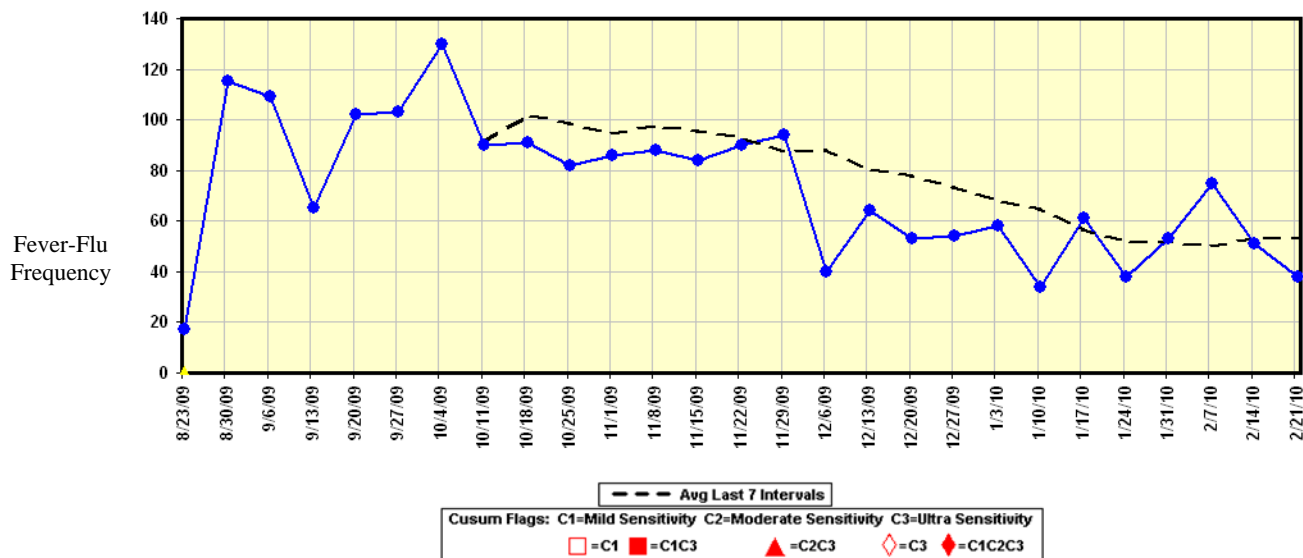
Region 3 Hospitals (# of Facilities): Palmetto Health Baptist (1), Palmetto Health Richland (1)

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.