



Flu Watch

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

Week Ending January 7, 2012 (MMWR Week 1)

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	10
Activity level definitions	14
SC influenza surveillance components	15
National influenza surveillance	16

MMWR Week 1 at a Glance:

Influenza Activity Level: Sporadic

Note: Activity level definitions are found on page 14

ILI Activity Status (South Carolina baseline is 2.05%*): Below baseline in the Upstate (0%), the Midlands (.30%) and along the Coast (1.61%). The state ILI percentage is .59%. These data reflect reports from 10 (31.3%) providers.

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

SC Viral Isolate and RT-PCR Activity: No positive specimens were reported. Four positive specimens have been reported this season.

Positive Rapid Flu Test Activity: Thirty-four positive rapid tests were reported. So far this season 295 have been reported.

Hospitalizations: No lab confirmed hospitalizations were reported. Thirteen lab confirmed hospitalizations have been reported this season. *Lab confirmation includes positive rapid tests, culture, PCR, DFA, or IFA.*

Deaths: No lab confirmed deaths were reported. *Lab confirmation includes positive rapid tests, culture, PCR, DFA, or IFA.*

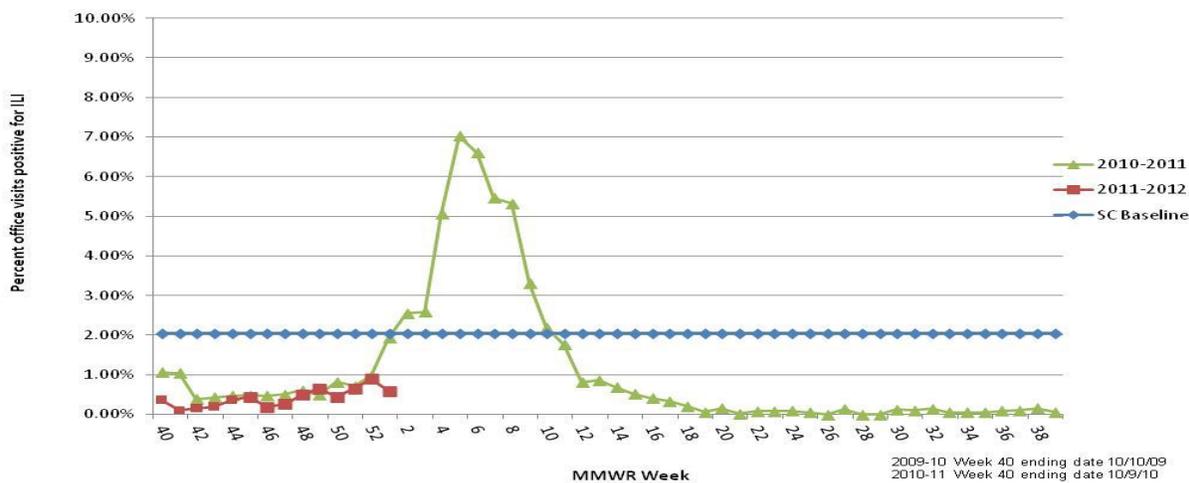
Summary of ILI Activity, Positive Confirmatory Tests, and Influenza Associated Hospitalizations and Deaths

	<i>Current week</i>	<i>Previous week</i>	<i>Change From previous week</i>
Percent of visits to ILINet providers for ILI	.59	.90	▼.31
Number of positive confirmatory tests	0	2	▼ 2
Number of lab confirmed flu hospitalizations	0	1	▼ 1
Number of lab confirmed flu deaths	0	0	0

I. ILINet Influenza-Like Illness Surveillance

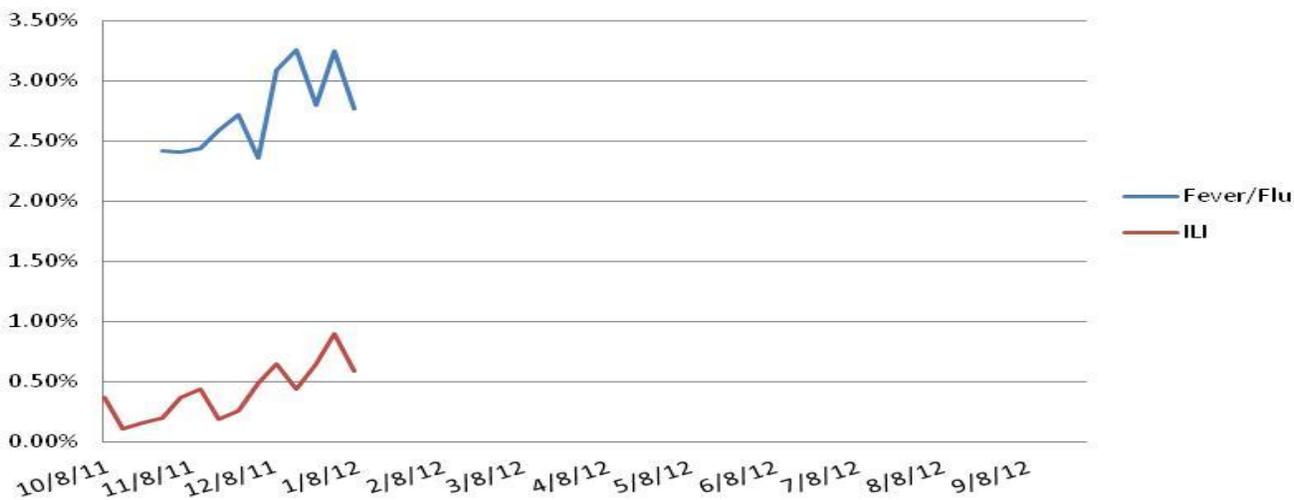
During MMWR week 1, .59% of patient visits to SC ILINet providers were due to ILI. This is below the state baseline (2.05%). This ILI percentage compares to 1.94% this time last year. Reports were received from providers in 10 counties, representing 6 of the 8 regions. The statewide percentage of ER visits with fever-flu syndrome (only includes hospitals participating in SC syndromic surveillance) was 2.77%.

**Percentage of Visits for Influenza-like Illness (ILI) Reported by Sentinel Providers in South Carolina
2010-2011 and 2011-2012 Influenza Seasons**



*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.

**SC Fever/Flu Syndrome Category compared to SC ILI Surveillance
Statewide (10/8/11-1/7/12)**



Reported Influenza-Like Illness by Sentinel Providers January 1, 2012 – January 7 2012

County	ILI %	County	ILI %
Abbeville	---	Greenwood	NR
Aiken	0%	Hampton	NR
Allendale	---	Horry	NR
Anderson	NR	Jasper	NR
Bamberg	---	Kershaw	NR
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	0%
Dorchester	NR	Saluda	0%
Edgefield	---	Spartanburg	0%
Fairfield	1.01%	Sumter	NR
Florence	.49%	Union	---
Georgetown	1.61%	Williamsburg	---
Greenville	0%	York	0%

NR: No reports received

---: No enrolled providers



Geographic Region	ILI %	# of Reporters
Upstate-Regions 1 -2	0	4
Midlands-Regions 3-5	.30	5
Coastal-Regions 6-8	1.61	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 (1/1/12 – 1/7/12)*

	BOL	Other clinical labs
Number of specimens tested	2	NA
Number of positive specimens	0	0
Influenza A unsubtype		
Influenza A H1N1		
Influenza A H3N2		
Influenza B		
Other		

Includes culture, RT-PCR, DFA, and IFA

During MMWR week 1, no positive specimens were reported.

Positive confirmatory influenza test results Cumulative (10/2/11 – 1/7/12)*

	BOL	Other clinical labs
Number of specimens tested	30	NA
Number of positive specimens	4	0
Influenza A unsubtype		
Influenza A H1N1	2	
Influenza A H3N2	1	
Influenza B	1	
Other		

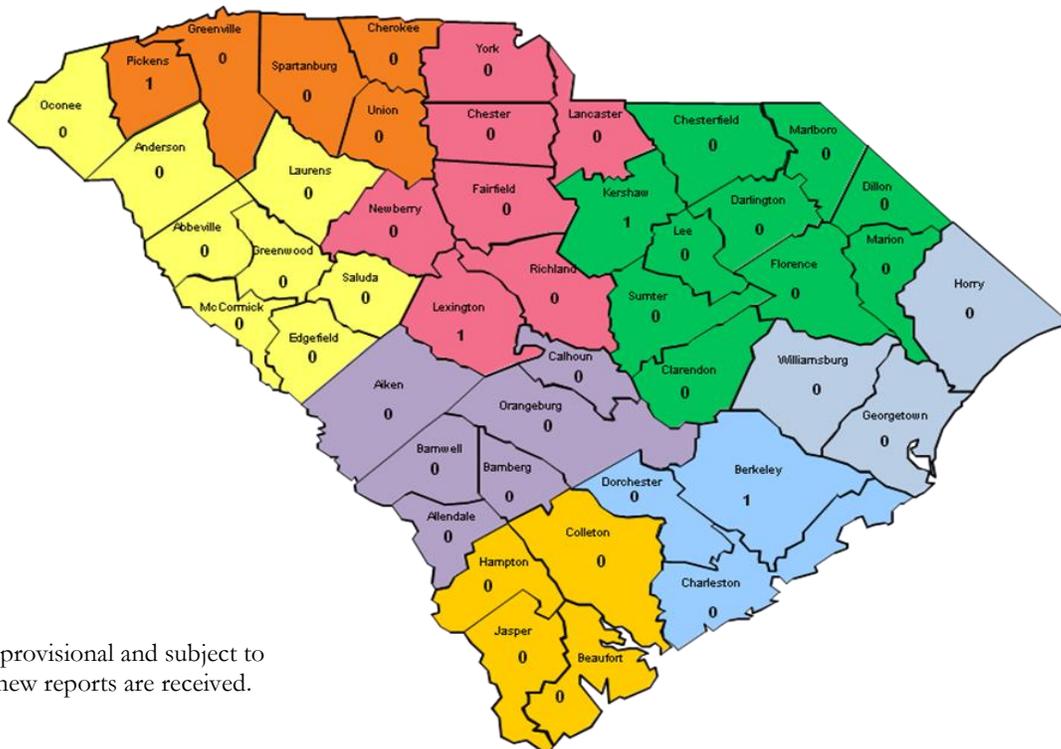
Includes culture, RT-PCR, DFA, and IFA

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

Positive Confirmatory Tests by County
Current Week 1/1/12 – 1/7/12

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

Map of Positive Confirmatory Tests by County
Cumulative 10/2/11 – 1/7/12



All data are provisional and subject to change as new reports are received.

**Positive Confirmatory Tests by County and Type
Cumulative 10/2/11 – 1/7/12**

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

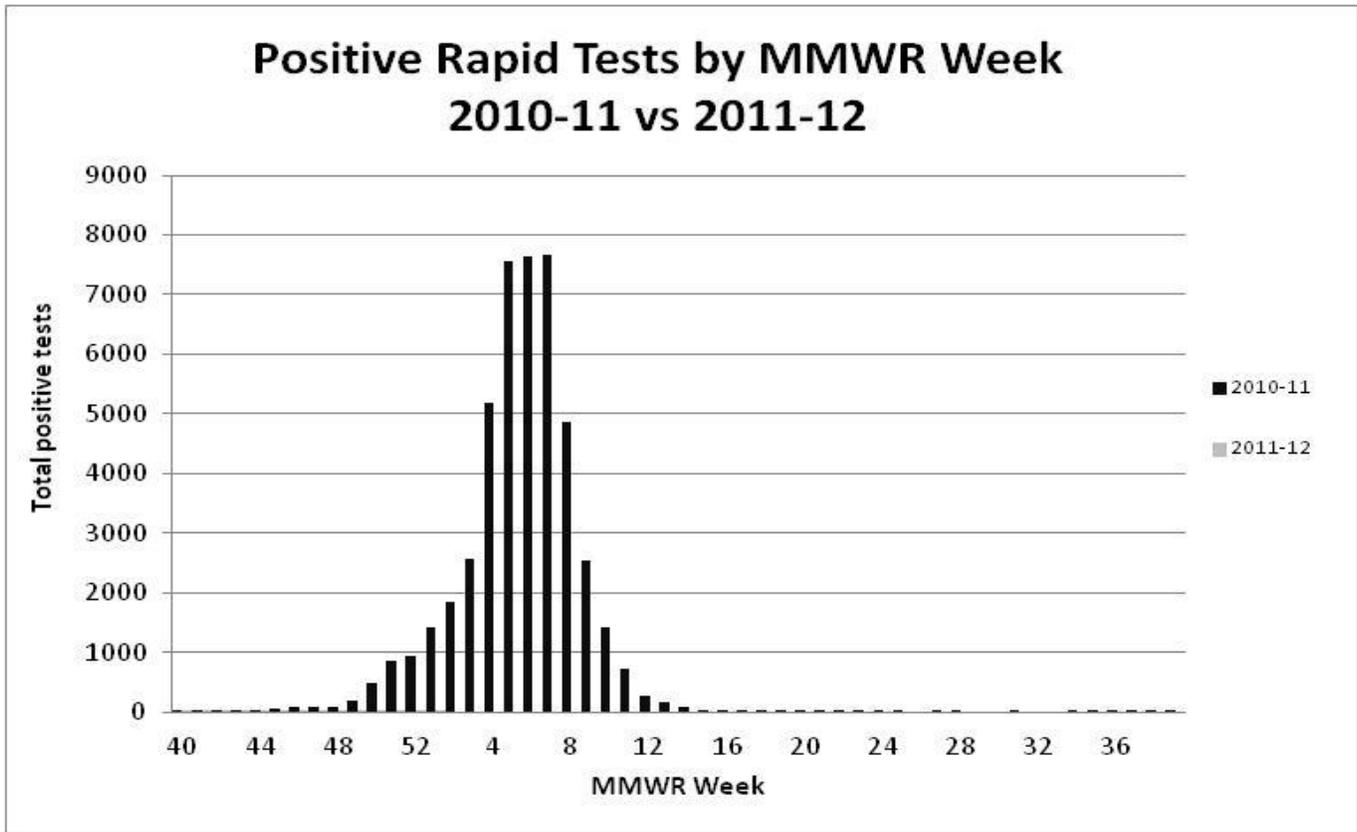
III. Positive Rapid Antigen Tests

During MMWR week 1, 34 positive rapid antigen tests were reported. Of these, there were 19 influenza A, 14 influenza B, and 1 influenza A/B. During this MMWR week last year, 1429 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>
Current MMWR (1/1- 1/7/12)	19	14	1		34
Cumulative (since 10/2/11)	184	87	19	5	295

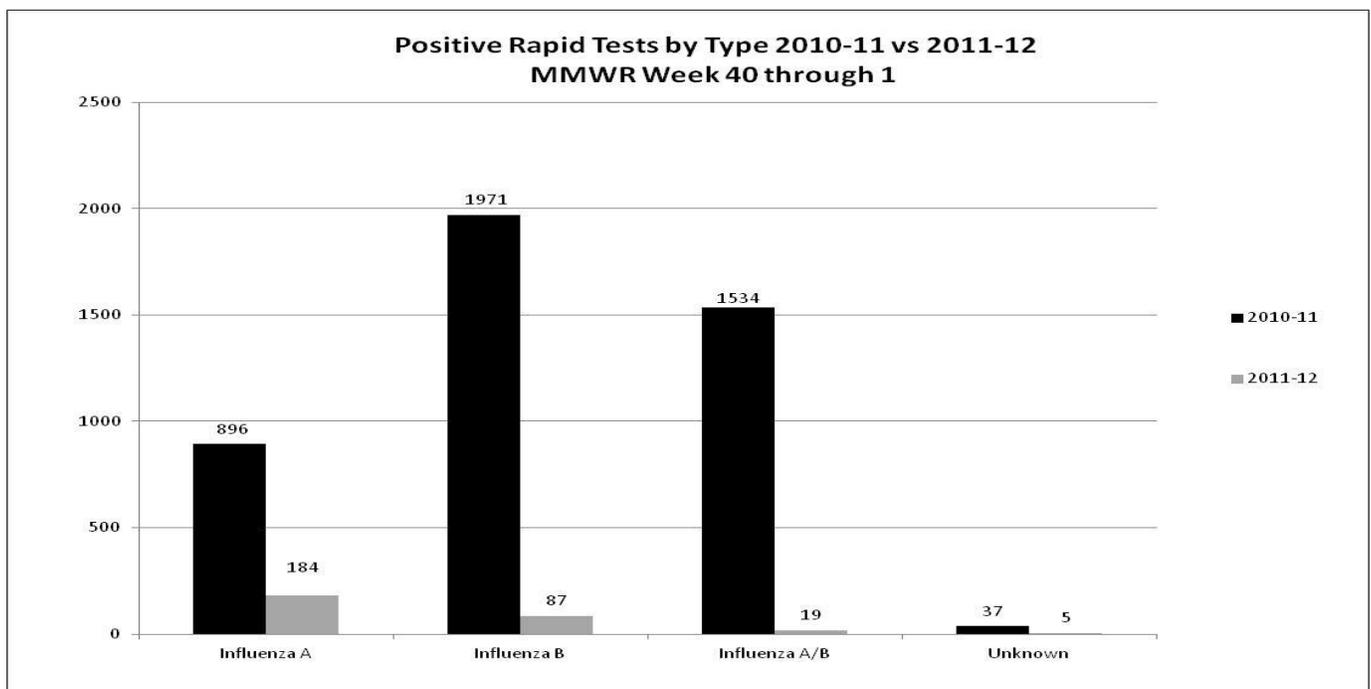
**Positive Rapid Flu Tests by County
Current Week 1/1/11 – 1/7/11**

County	Positive Tests	County	Positive Tests	County	Positive Tests
Abbeville		Dillon		Lexington	
Aiken		Dorchester	4	Marion	
Allendale		Edgefield		Marlboro	
Anderson		Fairfield		McCormick	
Bamberg		Florence	1	Newberry	
Barnwell		Georgetown		Oconee	2
Beaufort		Greenville	7	Orangeburg	
Berkeley		Greenwood		Pickens	
Calhoun		Hampton		Richland	
Charleston	3	Horry	17	Saluda	
Cherokee		Jasper		Spartanburg	
Chester		Kershaw		Sumter	
Chesterfield		Lancaster		Union	
Clarendon		Laurens		Williamsburg	
Colleton		Lee		York	
Darlington					



**Positive Rapid Tests by County and Type
Cumulative 10/2/11 – 1/7/12**

	A	B	A/B	Unk		A	B	A /B	Unk
Region 1					Region 2				
Abbeville	1				Cherokee	1			
Anderson	11	3			Greenville	16	11	2	
Edgefield					Pickens	13	3	1	
Greenwood	3				Spartanburg	2			
Laurens	6				Union				
McCormick					Region 4				
Oconee	4	3	1	1	Chesterfield	1			
Saluda					Clarendon		1		
Region 3					Darlington	1	1		4
Chester					Dillon				
Fairfield					Florence	12	5		
Lancaster		1			Kershaw	3			
Lexington	3	2	1		Lee				
Newberry	1				Marion				
Richland	12	5			Marlboro	1	1		
York	1	1			Sumter	5			
Region 5					Region 6				
Aiken					Georgetown	17	2		
Allendale					Horry	20	34	5	
Bamberg			1		Williamsburg			2	
Barnwell					Region 8				
Calhoun					Beaufort	2			
Orangeburg					Colleton	2			
Region 7					Hampton				
Berkeley	3	4	2		Jasper			1	
Charleston	27	3	2						
Dorchester	16	7							

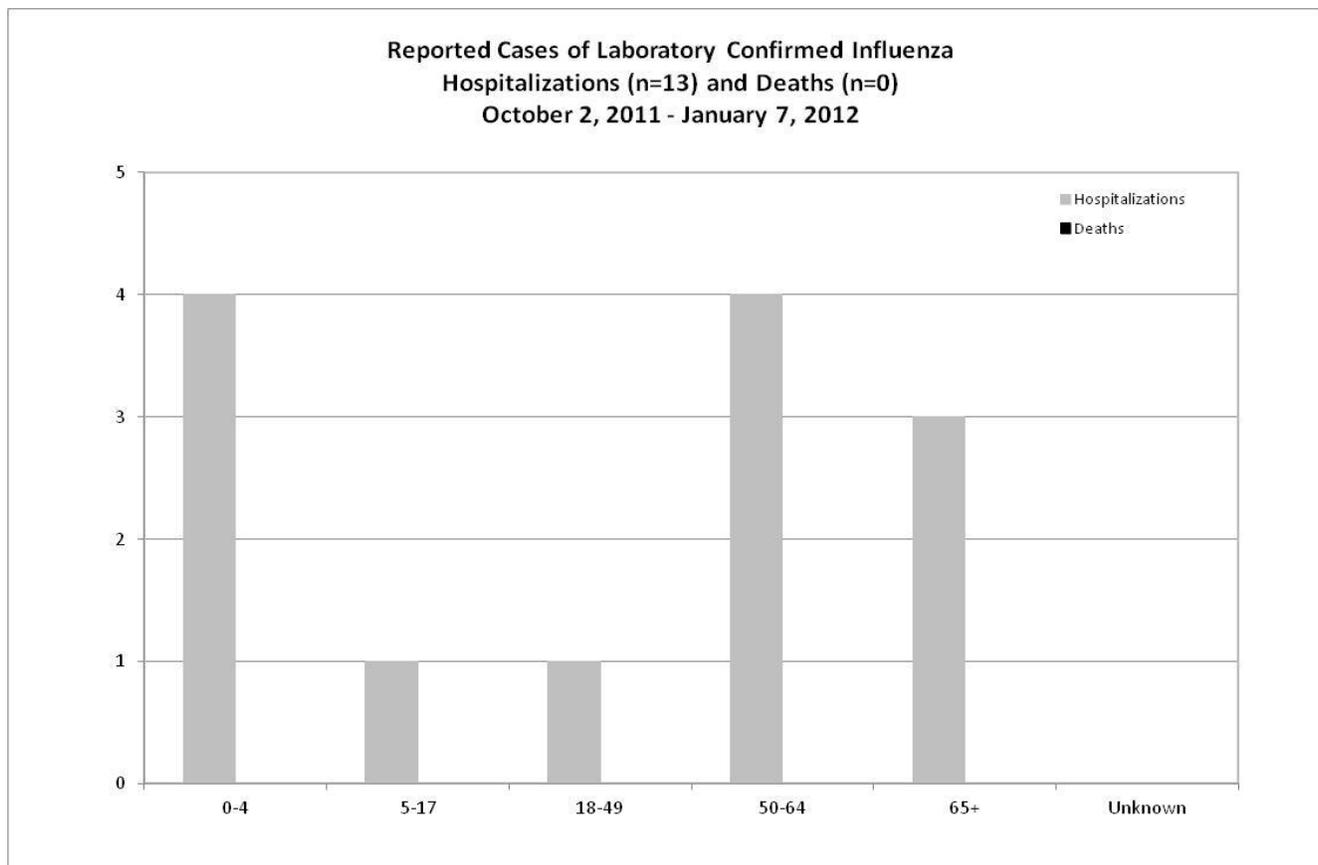


IV. Influenza hospitalizations and deaths

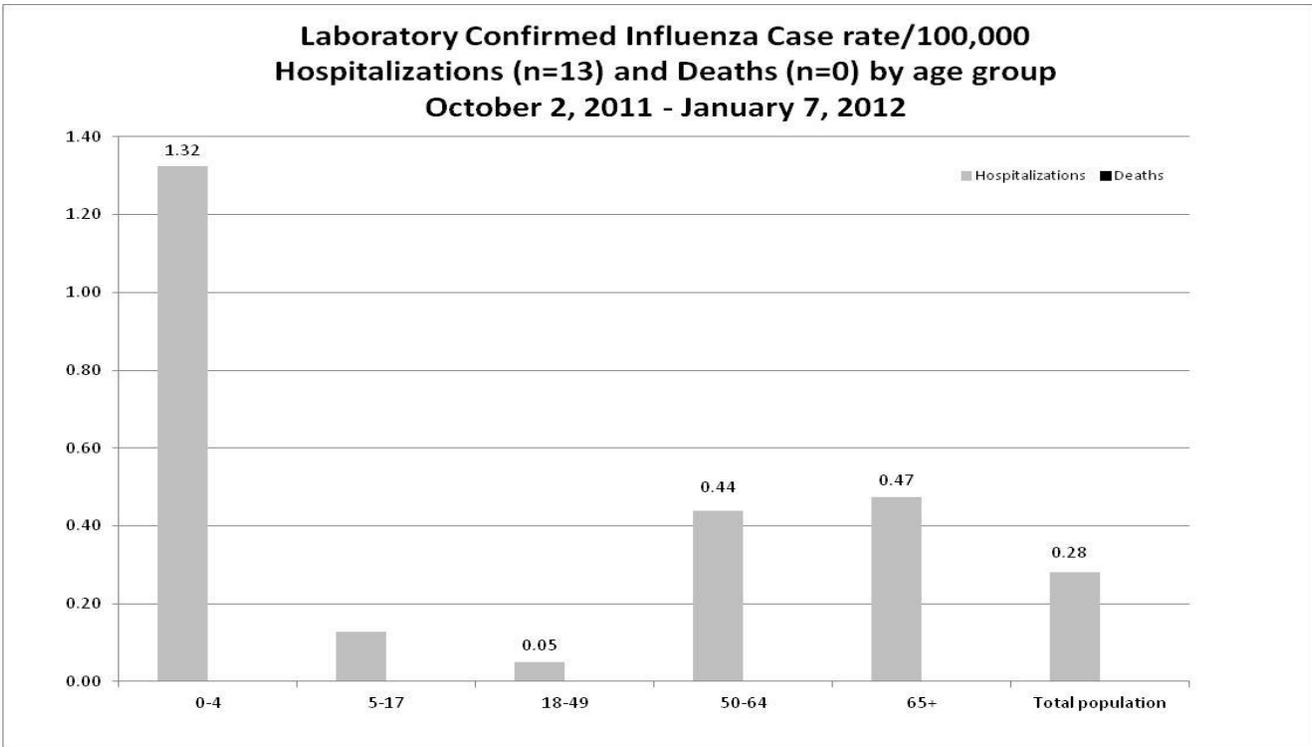
During MMWR week 1 no lab confirmed* influenza hospitalizations were reported. No lab confirmed deaths were reported.

	Total number*	
	<i>Current MMWR (1/1- 1/7/12)</i>	<i>Cumulative (since 10/2/11)</i>
Number of Hospitals Reporting (current week)	41	
Hospitalizations	0	13
Deaths	0	0

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

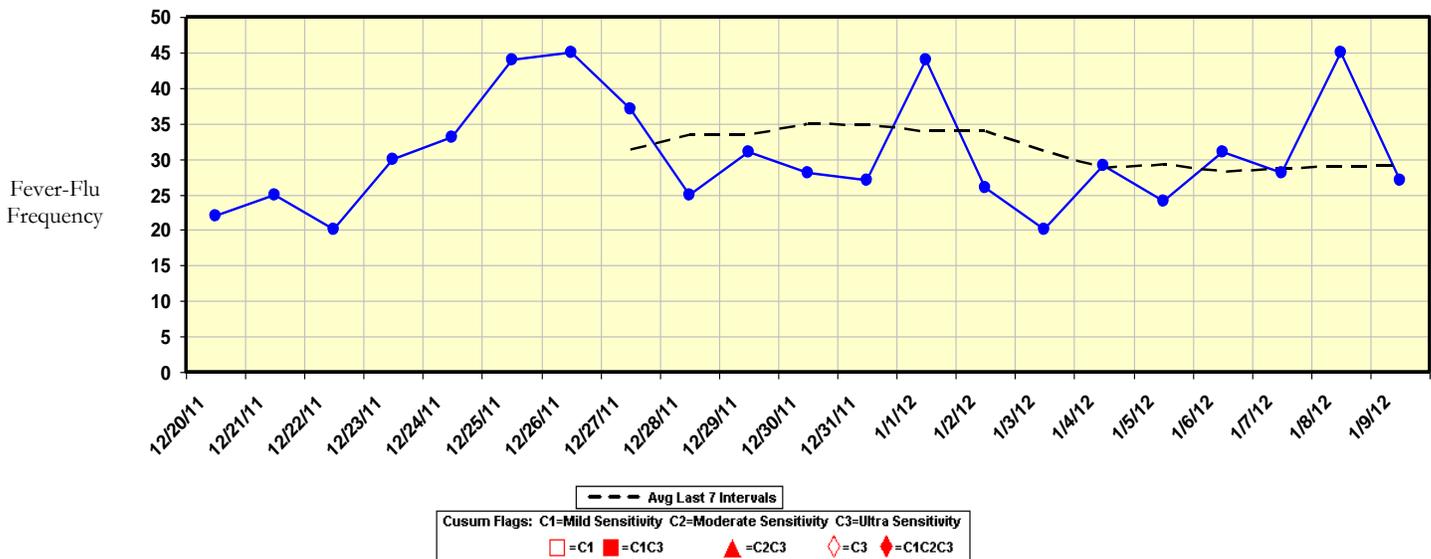


**Laboratory Confirmed Influenza Case rate/100,000
Hospitalizations (n=13) and Deaths (n=0) by age group
October 2, 2011 - January 7, 2012**



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

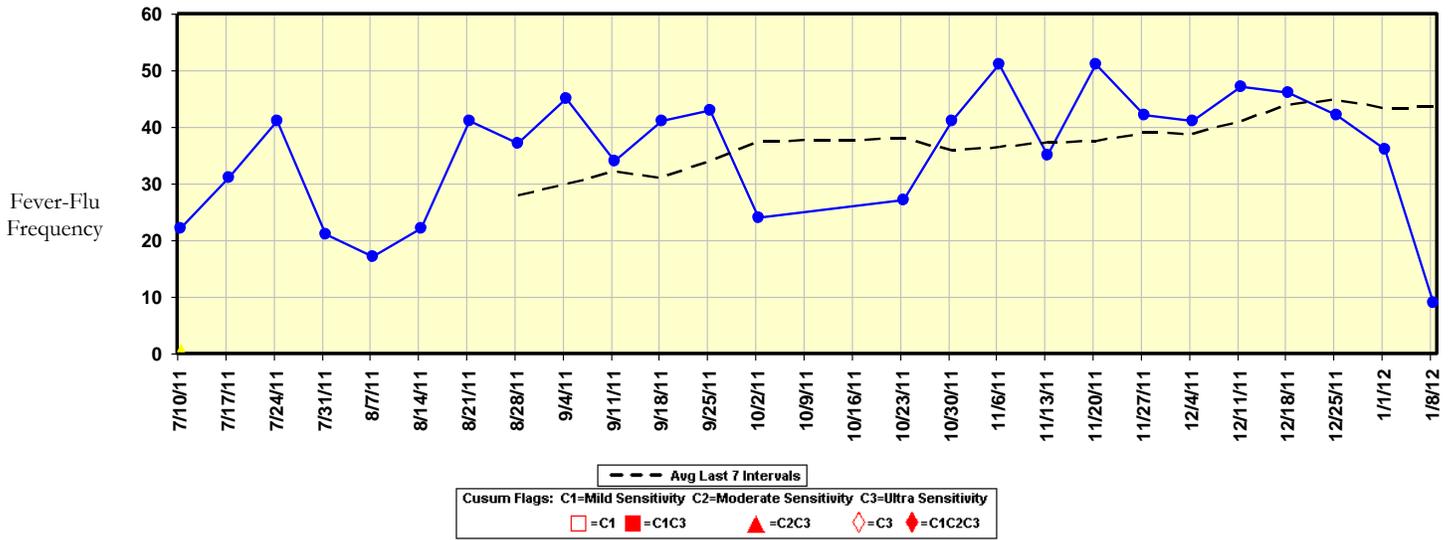
The SC Statewide Fever-Flu Syndrome graph above illustrates the daily counts of hospital emergency department (ED) visits with an Influenza-like Illness (ILI) for the past 21 days. A total of **19 hospital** facilities are reporting to the SC-DARTS system. These 18 include: AnMed Health (Region 1); Self 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); Colleton (Region 8); and Hampton Regional (Region 8).

Statewide CUSUM Flag Alerts Description:

No flags for the past week.

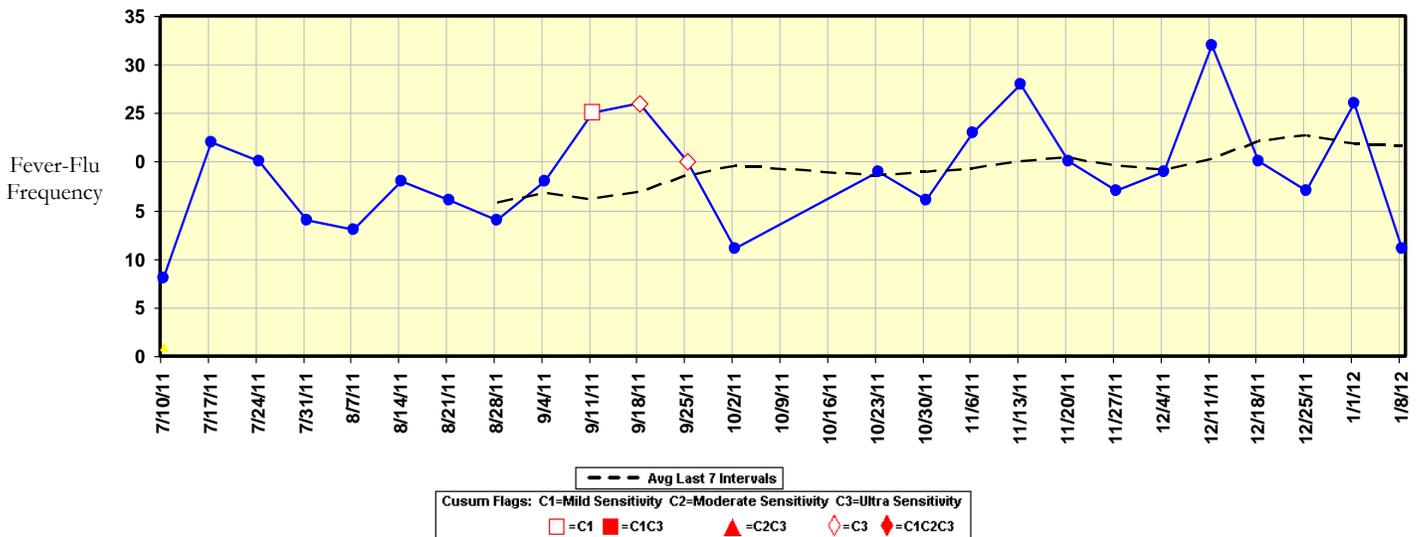
Below are the fever-flu syndrome graphs by Region for the past 180 days (weekly interval).

Region 1 - Fever Flu Syndrome



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

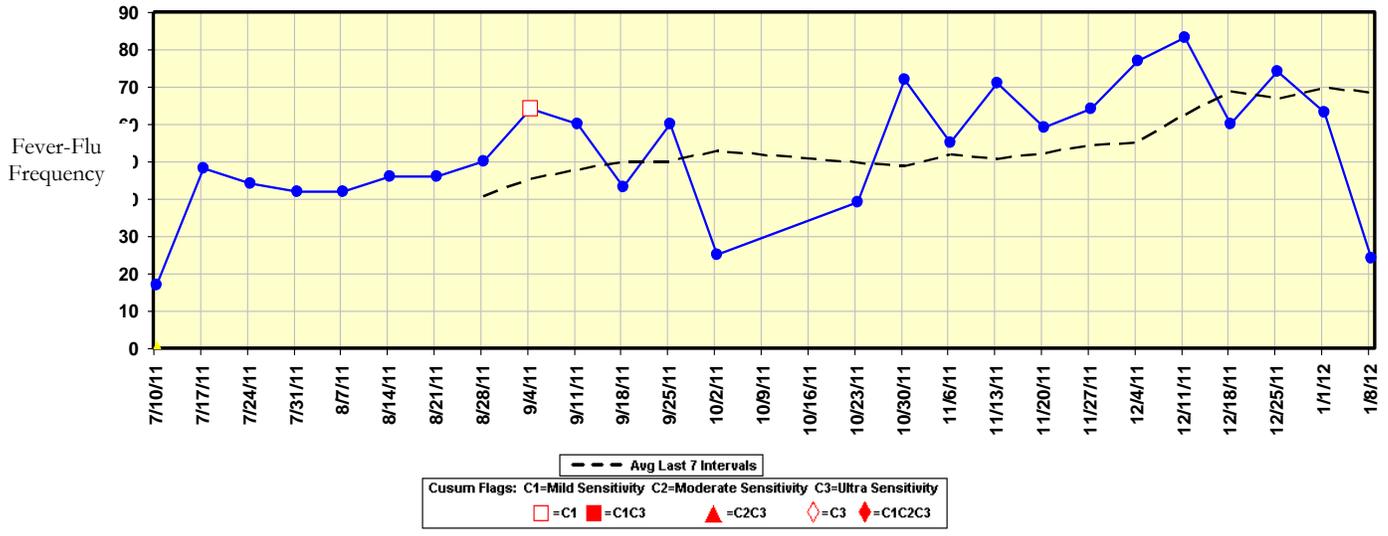
Region 2 - Fever Flu Syndrome



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



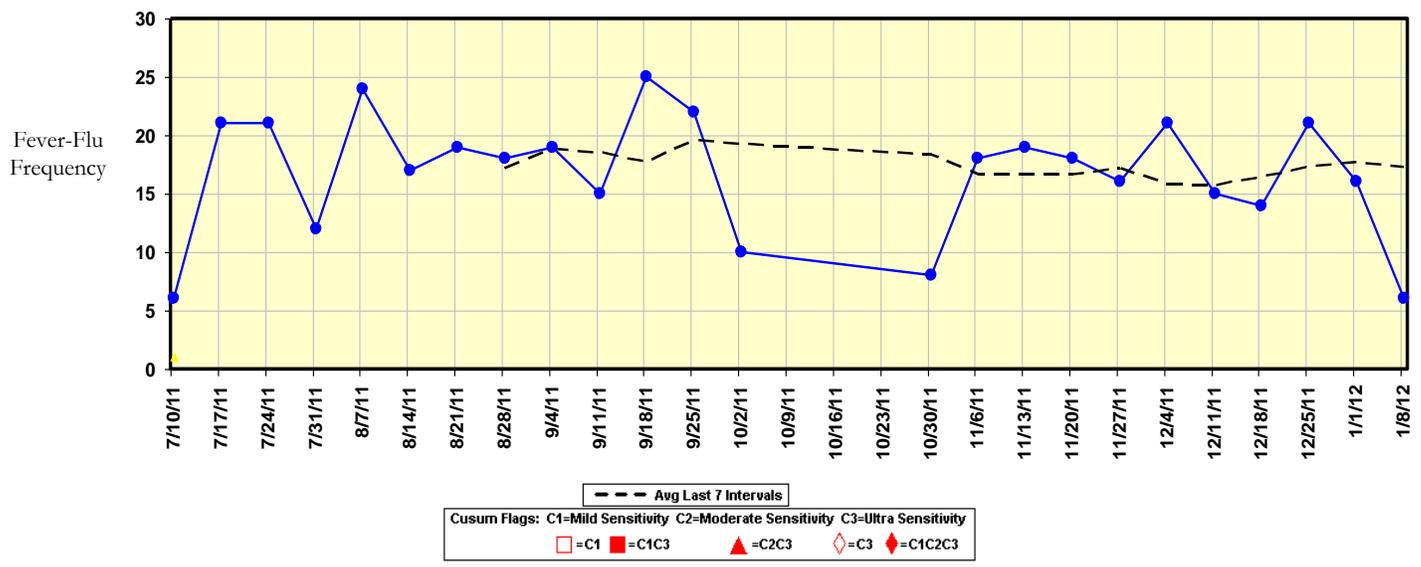
Region 3 - Fever Flu Syndrome



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

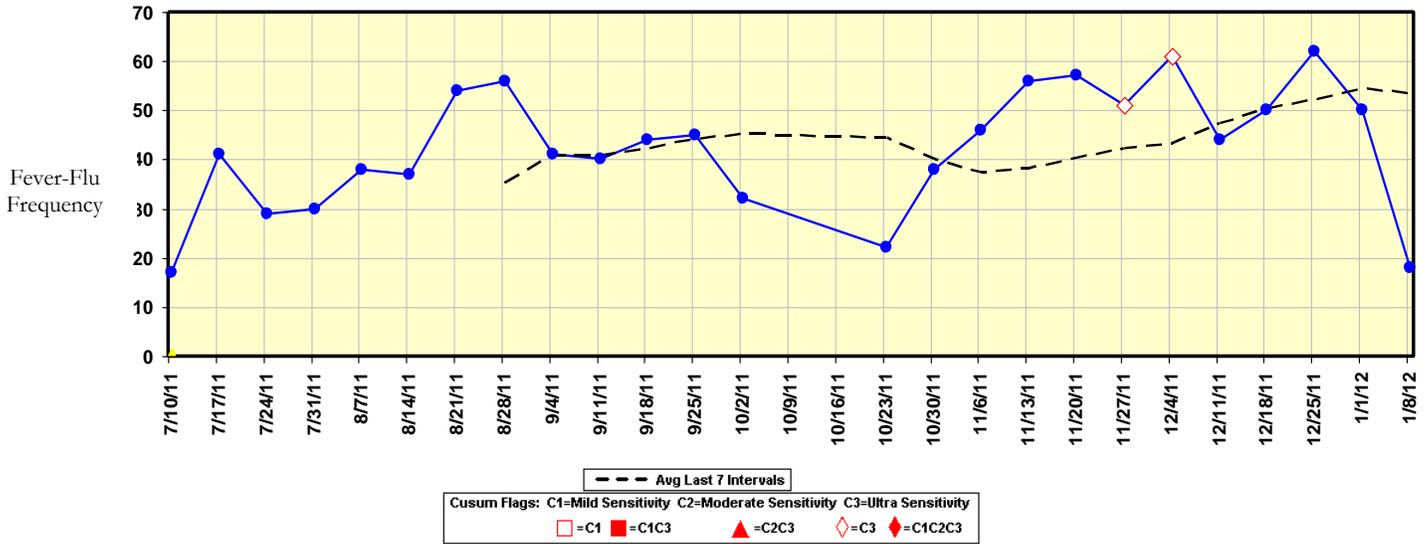


Region 4 - Fever Flu Syndrome



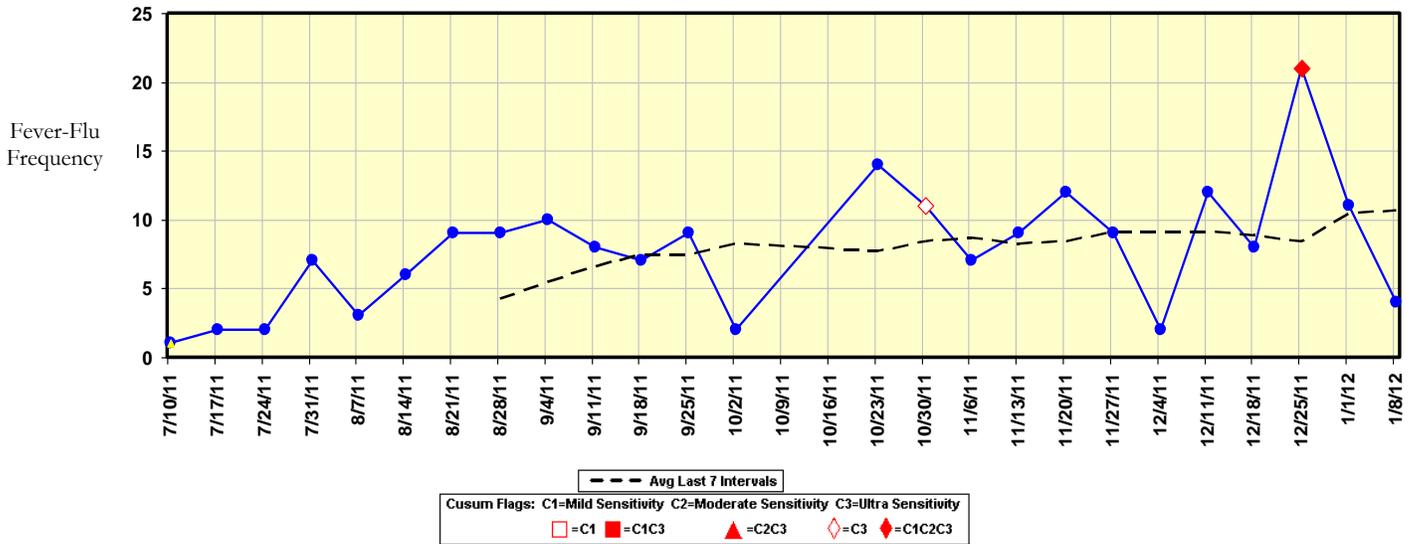
Region 4 Hospitals (# of Facilities): Kershaw Health (1); McLeod Health (1)

Region 7 - Fever Flu Syndrome



Region 7 Hospitals (# of Facilities): Medical University of South Carolina (1), Roper (1), St. Francis (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
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
Local	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
Regional	Increased ILI in 2-3 regions	And	Recent (within the past 3 weeks) lab confirmed influenza in the affected regions
	OR		
Regional	Institutional outbreaks (ILI or lab confirmed) in 2-3 regions	And	Recent (within the past 3 weeks) lab confirmed influenza in the affected regions
	OR		
Widespread	Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least 4 of the regions	And	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 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.

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

VIII. National Surveillance MMWR Week 52 (12/25-12/31)

During week 52 (December 25-31, 2011), influenza activity increased in the United States, but remains relatively low.

U.S. Virologic Surveillance: Of the 3,310 specimens tested by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories and reported to CDC/Influenza Division, 95 (2.9%) were positive for influenza.

o **Pneumonia and Influenza (P&I) Mortality Surveillance:** The proportion of deaths attributed to P&I was below the epidemic threshold.

o **Influenza-associated Pediatric Mortality:** No influenza-associated pediatric deaths were reported.

o **Outpatient Illness Surveillance:** The proportion of outpatient visits for influenza-like illness (ILI) was 1.7%, which is below the national baseline of 2.4%. Three of the 10 regions (Regions 1, 5, and 10) reported ILI at or above region-specific baseline levels. One state experienced moderate ILI activity, New York City and six states experienced low ILI activity, 42 states experienced minimal ILI activity, and the District of Columbia and one state had insufficient data.

o **Geographic Spread of Influenza:** The geographic spread of influenza in one state was reported as regional; four states reported local activity; Guam and 40 states reported sporadic activity; the District of Columbia, the U.S. Virgin Islands and five states reported no influenza activity, and Puerto Rico did not report.

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