



Flu Watch

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

Week Ending April 7, 2012 (MMWR Week 14)

All data are provisional and may change as more reports are received.

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MMWR Week 14 at a Glance:

Influenza Activity Level: Local

Note: Activity level definitions are found on page 15

ILI Activity Status (South Carolina baseline is 2.05%*): Below baseline in the Upstate (.08%), the Midlands (.40%), and along the Coast (1.36%). The state ILI percentage is .34%. These data reflect reports from 15 (46.9%) providers.

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

SC Viral Isolate and RT-PCR Activity: Seven positive specimens were reported. Ninety-nine positive specimens have been reported this season.

Positive Rapid Flu Test Activity: Ninety-six positive rapid tests were reported. So far this season, 1968 have been reported.

Hospitalizations*: Nine lab confirmed hospitalizations were reported. Eighty-five lab confirmed hospitalizations have been reported this season.

Deaths*: No lab confirmed deaths were reported. One lab confirmed death has been reported this season.

**Lab confirmation includes positive rapid tests, culture, PCR, DFA, or IFA.*

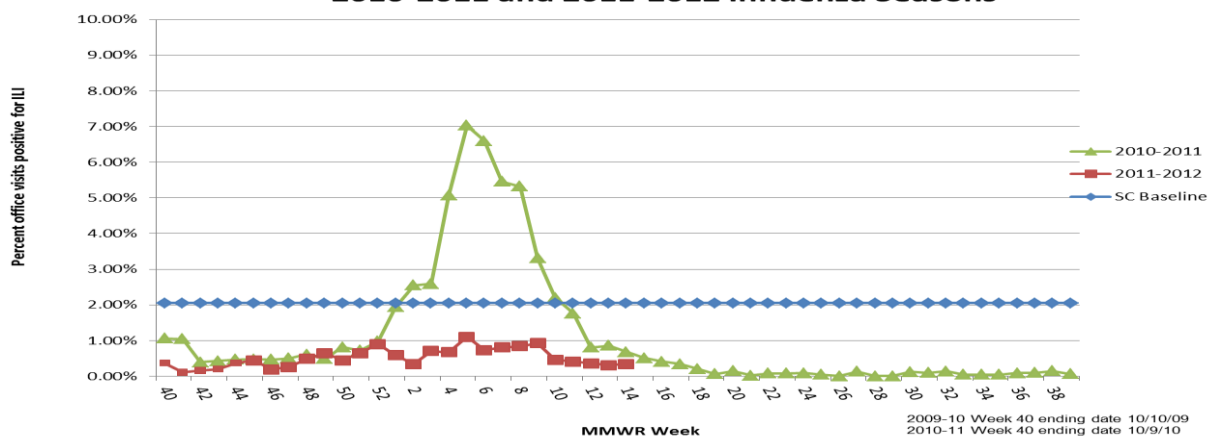
Summary of ILI Activity, Positive Confirmatory Tests, and Influenza Associated Hospitalizations and Deaths

| | <i>Current week</i> | <i>Previous week</i> | <i>Change From previous week</i> |
|---|---------------------|----------------------|----------------------------------|
| Percent of visits to ILINet providers for ILI | .34 | .31 | ▲ .03 |
| Number of positive confirmatory tests | 7 | 12 | ▼ 5 |
| Number of lab confirmed flu hospitalizations | 9 | 5 | ▲ 4 |
| Number of lab confirmed flu deaths | 0 | 0 | 0 |

I. ILINet Influenza-Like Illness Surveillance

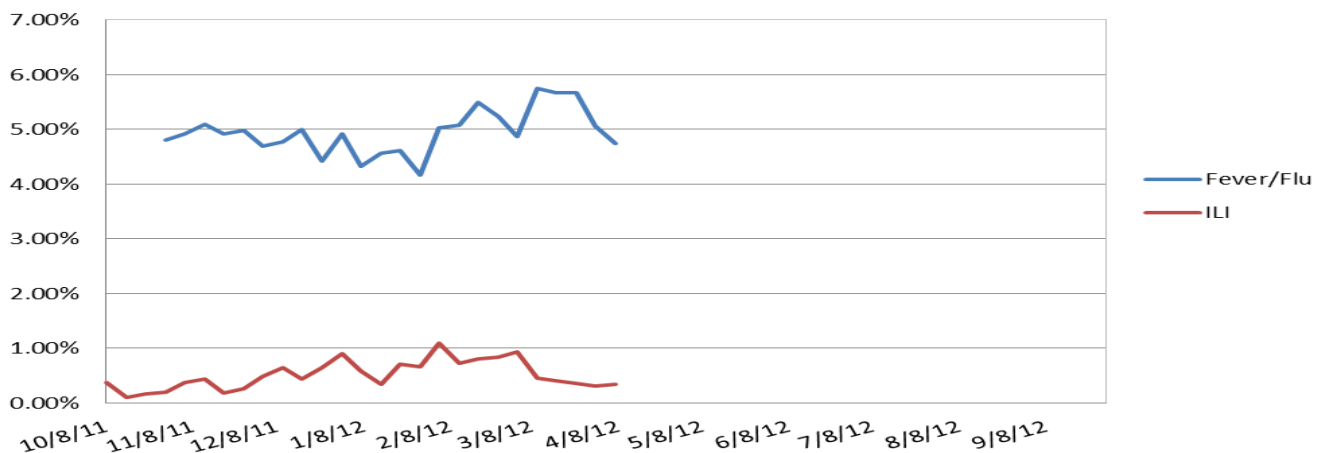
During MMWR week 14, .34% of patient visits to SC ILINet providers were due to ILI. This is below the state baseline (2.05%). This ILI percentage compares to .51% this time last year. Reports were received from providers in 13 counties, representing 6 of the 8 regions. The statewide percentage of ER visits with fever-flu syndrome (only includes hospitals participating in SC syndromic surveillance) was 4.74%.

**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.

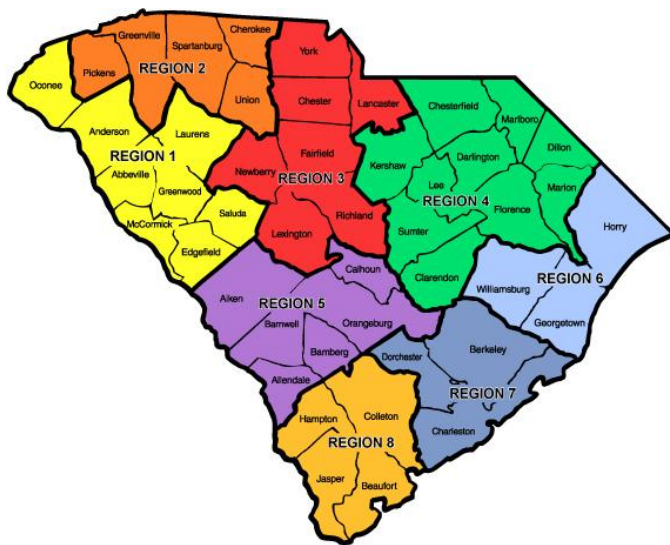
**SC Fever/Flu Syndrome Category compared to SC ILI Surveillance
Statewide (10/8/11-4/7/12)**



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

| County | ILI % | County | ILI % |
|--------------|-------|--------------|-------|
| Abbeville | --- | Greenwood | NR |
| Aiken | 0% | Hampton | NR |
| Allendale | --- | Horry | NR |
| Anderson | 1.96% | Jasper | NR |
| Bamberg | --- | Kershaw | 0% |
| Barnwell | --- | Lancaster | --- |
| Beaufort | NR | Laurens | NR |
| Berkeley | NR | Lee | --- |
| Calhoun | --- | Lexington | NR |
| Charleston | NR | Marion | --- |
| Cherokee | --- | Marlboro | --- |
| Chester | --- | McCormick | 0% |
| Chesterfield | --- | Newberry | --- |
| Clarendon | --- | Oconee | --- |
| Colleton | --- | Orangeburg | --- |
| Darlington | --- | Pickens | 0% |
| Dillon | NR | Richland | .34% |
| Dorchester | NR | Saluda | 0% |
| Edgefield | --- | Spartanburg | .16% |
| Fairfield | 0% | Sumter | NR |
| Florence | .14% | Union | --- |
| Georgetown | 1.36% | Williamsburg | --- |
| Greenville | 0% | York | 0% |

NR: No reports received
---: No enrolled providers



| Geographic Region | ILI % | # of Reporters |
|----------------------|-------|----------------|
| Upstate-Regions 1 -2 | .08 | 7 |
| Midlands-Regions 3-5 | .40 | 7 |
| Coastal-Regions 6-8 | 1.36 | 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 (4/1/12 – 4/7/12)

| | BOL | Other clinical labs |
|------------------------------|-----|---------------------|
| Number of specimens tested | 4 | NA |
| Number of positive specimens | 2 | 5 |
| Influenza A unsubtype | | 2 |
| Influenza A H1N1 | 2 | |
| Influenza A H3N2 | | 1 |
| Influenza B | | |
| Other | | 2 |

*Includes culture, RT-PCR, DFA, and IFA

During MMWR week 14, 7 positive specimens were reported.

Positive confirmatory influenza test results* Cumulative (10/2/11 – 4/7/12)

| | BOL | Other clinical labs |
|------------------------------|-----|---------------------|
| Number of specimens tested | 141 | NA |
| Number of positive specimens | 68 | 31 |
| Influenza A unsubtype | | 12 |
| Influenza A H1N1 | 37 | 11 |
| Influenza A H3N2 | 25 | 5 |
| Influenza B | 6 | 1 |
| Other [†] | | 2 |

*Includes culture, RT-PCR, DFA, and IFA

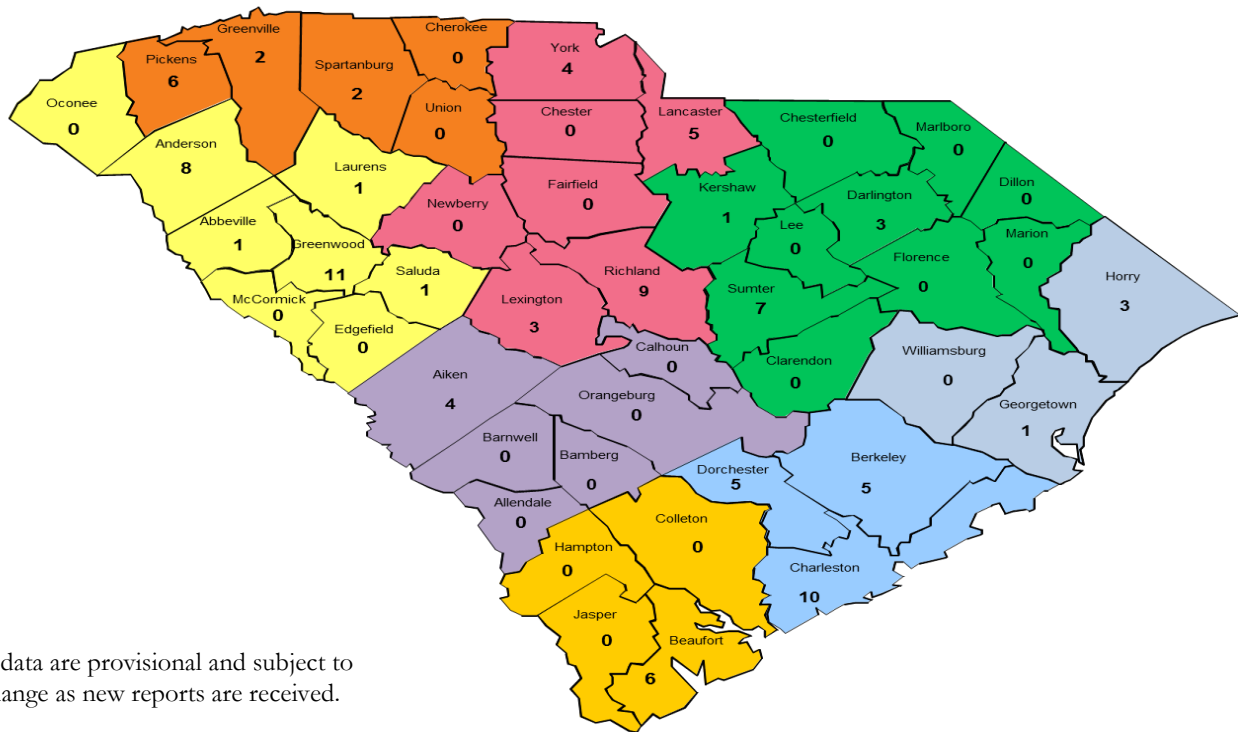
[†]Includes one unknown type and one influenza A and B coinfection

**Positive Confirmatory Tests by County
Current Week 4/1/12 – 4/7/12**

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

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

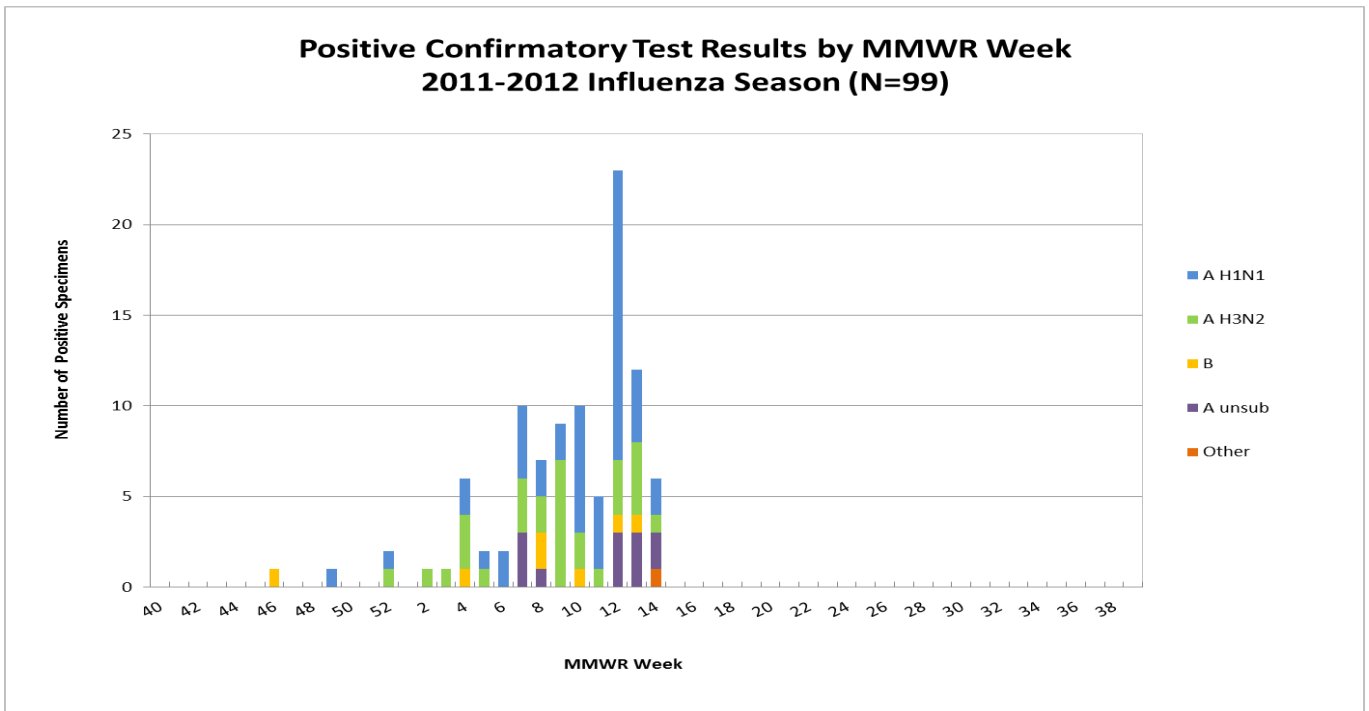
**Map of Positive Confirmatory Tests by County
Cumulative 10/2/11 -4/7/12**



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

**Positive Confirmatory Tests by County and Type
Cumulative 10/2/11 – 4/7/12**

| | A H1N1 | A H3N2 | B | A Unsub | Unk/Other | | A H1N1 | A H3N2 | B | A Unsub | Unk/Other |
|-----------------|-----------|-----------|---|------------|-----------|-----------------|-----------|-----------|---|------------|-----------|
| Region 1 | | | | | | Region 2 | | | | | |
| Abbeville | 1 | | | | | Cherokee | | | | | |
| Anderson | | 8 | | | | Greenville | 2 | | | | |
| Edgefield | | | | | | Pickens | 6 | | | | |
| Greenwood | 10 | 1 | | | | Spartanburg | | | | 2 | |
| Laurens | | 1 | | | | Union | | | | | |
| McCormick | | | | | | Region 4 | | | | | |
| Oconee | | | | | | Chesterfield | | | | | |
| Saluda | 1 | | | | | Clarendon | | | | | |
| Region 3 | | | | | | Darlington | | | | 3 | |
| Chester | | | | | | Dillon | | | | | |
| Fairfield | | | | | | Florence | | | | | |
| Lancaster | 3 | | | 2 | | Kershaw | | 1 | | | |
| Lexington | 2 | | 1 | | | Lee | | | | | |
| Newberry | | | | | | Marion | | | | | |
| Richland | 4 | 2 | 1 | 1 | | Marlboro | | | | | |
| York | 3 | 1 | | | | Sumter | 4 | 1 | 1 | | 1 |
| Region 5 | | | | 2 | | Region 6 | | | | | |
| Aiken | 2 | | | | 1 | Georgetown | 1 | | | | |
| Allendale | | | | | | Horry | 2 | | 1 | | |
| Bamberg | | | | | | Williamsburg | | | | | |
| Barnwell | | | | | | Region 8 | | | | | |
| Calhoun | | | | | | Beaufort | 2 | 3 | 1 | | |
| Orangeburg | | | | | | Colleton | | | | | |
| Region 7 | | | | | | Hampton | | | | | |
| Berkeley | 2 | 3 | | 1 | | Jasper | | | | | |
| Charleston | 2 | 7 | | 1 | | | | | | | |
| Dorchester | 3 | | 2 | | | | | | | | |



III. Positive Rapid Antigen Tests

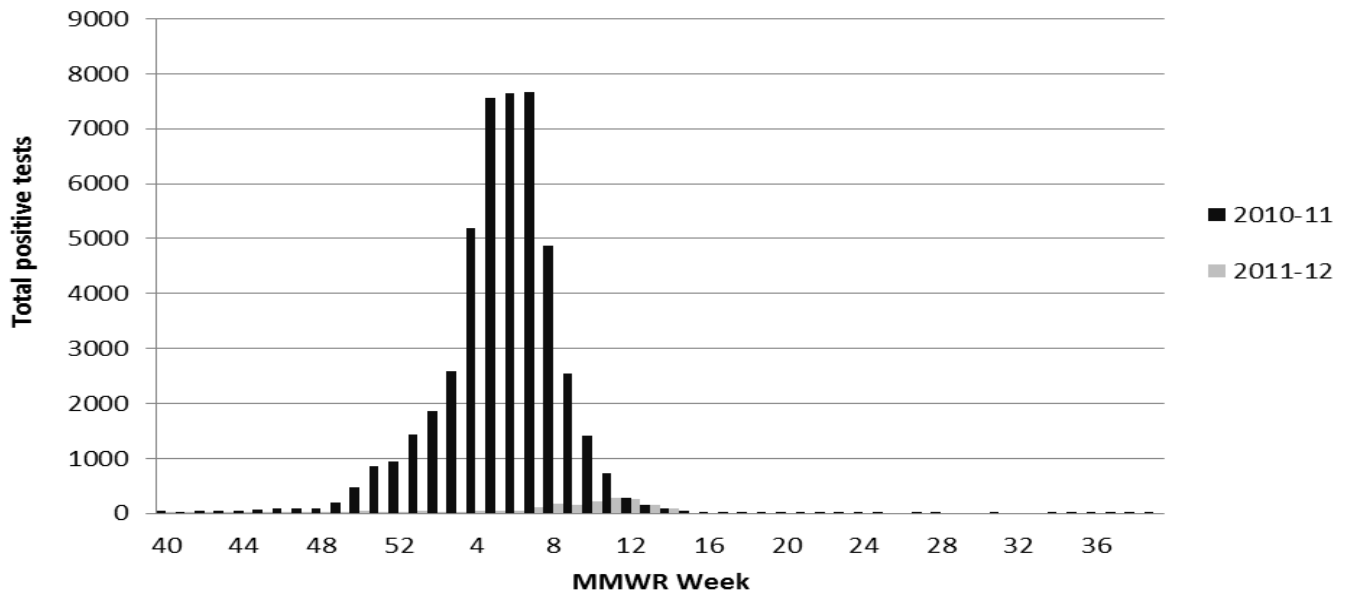
During MMWR week 14, 96 positive rapid antigen tests were reported. Of these, there were 86 influenza A, 4 influenza B, and 6 influenza A/B. During this MMWR week last year, 92 positive rapid tests were reported.

| | 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 (4/1- 4/7/12) | 86 | 4 | 6 | | 96 |
| Cumulative (since 10/2/11) | 1571 | 273 | 111 | 13 | 1968 |

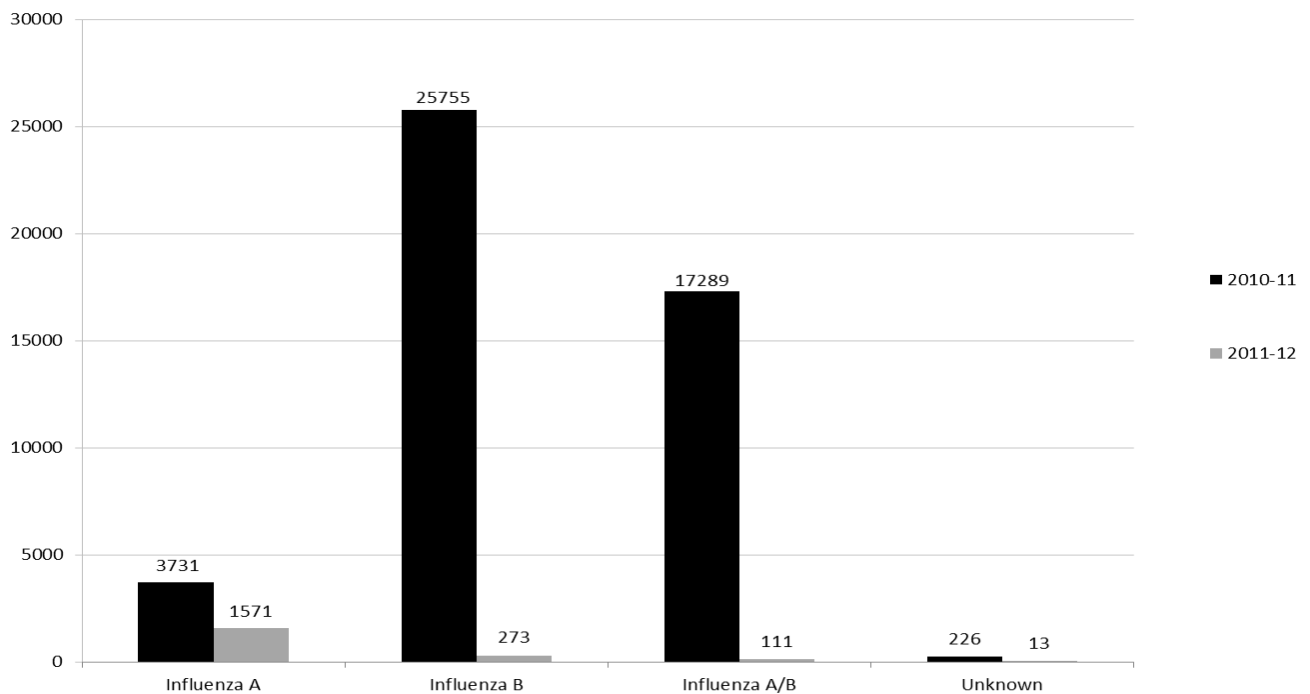
Positive Rapid Flu Tests by County Current Week 4/1/12 – 4/7/12

| County | Positive Tests | County | Positive Tests | County | Positive Tests |
|--------------|----------------|------------|----------------|--------------|----------------|
| Abbeville | | Dillon | | Lexington | 3 |
| Aiken | | Dorchester | 1 | Marion | |
| Allendale | | Edgefield | | Marlboro | |
| Anderson | 4 | Fairfield | | McCormick | |
| Bamberg | | Florence | 8 | Newberry | |
| Barnwell | | Georgetown | 1 | Oconee | 1 |
| Beaufort | 4 | Greenville | 10 | Orangeburg | |
| Berkeley | 1 | Greenwood | 2 | Pickens | |
| Calhoun | | Hampton | | Richland | 2 |
| Charleston | 11 | Horry | 9 | Saluda | |
| Cherokee | | Jasper | | Spartanburg | 5 |
| Chester | 1 | Kershaw | 3 | Sumter | 3 |
| Chesterfield | | Lancaster | 2 | Union | |
| Clarendon | 1 | Laurens | 2 | Williamsburg | |
| Colleton | 3 | Lee | | York | 14 |
| Darlington | 5 | | | | |

Positive Rapid Tests by MMWR Week 2010-11 vs 2011-12



Positive Rapid Tests by Type 2011-12 MMWR Weeks 40-14



**Positive Rapid Tests by County and Type
Cumulative 10/2/11 – 4/7/12**

| | A | B | A/B | Unk | | A | B | A /B | Unk |
|-----------------|-----|----|-----|-----|-----------------|-----|----|------|-----|
| Region 1 | | | | | Region 2 | | | | |
| Abbeville | 26 | 4 | | | Cherokee | 2 | | | |
| Anderson | 105 | 12 | 5 | | Greenville | 139 | 26 | 4 | 1 |
| Edgefield | | | | | Pickens | 44 | 6 | 1 | |
| Greenwood | 38 | 3 | 6 | | Spartanburg | 132 | 2 | 3 | |
| Laurens | 18 | 3 | 2 | | Union | 16 | | 9 | |
| McCormick | 3 | | | | Region 4 | | | | |
| Oconee | 34 | 7 | 1 | 1 | Chesterfield | 1 | | | |
| Saluda | 1 | 1 | | | Clarendon | 4 | 1 | | |
| Region 3 | | | | | Darlington | 40 | 3 | 1 | 5 |
| Chester | 55 | | | | Dillon | | | | |
| Fairfield | 1 | | | | Florence | 49 | 8 | 10 | |
| Lancaster | 24 | 2 | | | Kershaw | 18 | 1 | 1 | |
| Lexington | 38 | 6 | 7 | | Lee | | | | |
| Newberry | 86 | | | | Marion | 1 | | | |
| Richland | 96 | 29 | 3 | 5 | Marlboro | 1 | 1 | | |
| York | 207 | 18 | 20 | 1 | Sumter | 34 | | | |
| Region 5 | | | | | Region 6 | | | | |
| Aiken | 8 | 1 | | | Georgetown | 71 | 7 | | |
| Allendale | | | | | Horry | 71 | 90 | 15 | |
| Bamberg | | | 1 | | Williamsburg | | 2 | 5 | |
| Barnwell | | | | | Region 8 | | | | |
| Calhoun | | | | | Beaufort | 49 | 6 | 1 | |
| Orangeburg | 5 | | | | Colleton | 16 | 3 | | |
| Region 7 | | | | | Hampton | | | | |
| Berkeley | 13 | 4 | 3 | | Jasper | 5 | 1 | 1 | |
| Charleston | 161 | 17 | 11 | | | | | | |
| Dorchester | 70 | 15 | | | | | | | |

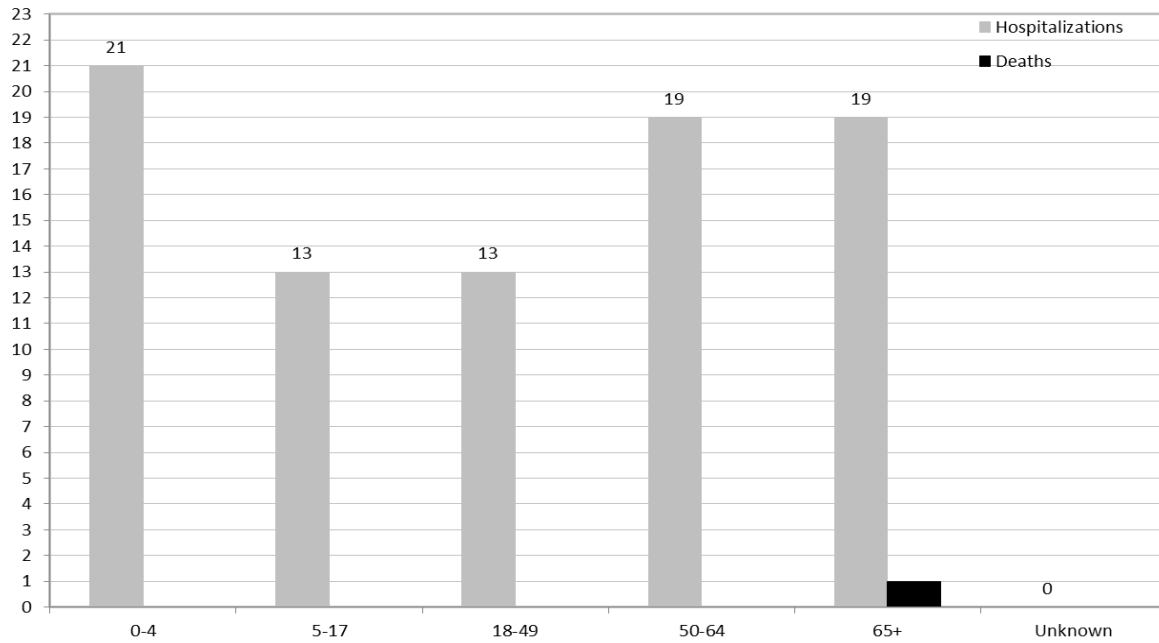
IV. Influenza hospitalizations and deaths

During MMWR week 14 nine lab confirmed* influenza hospitalizations were reported. No lab confirmed deaths were reported.

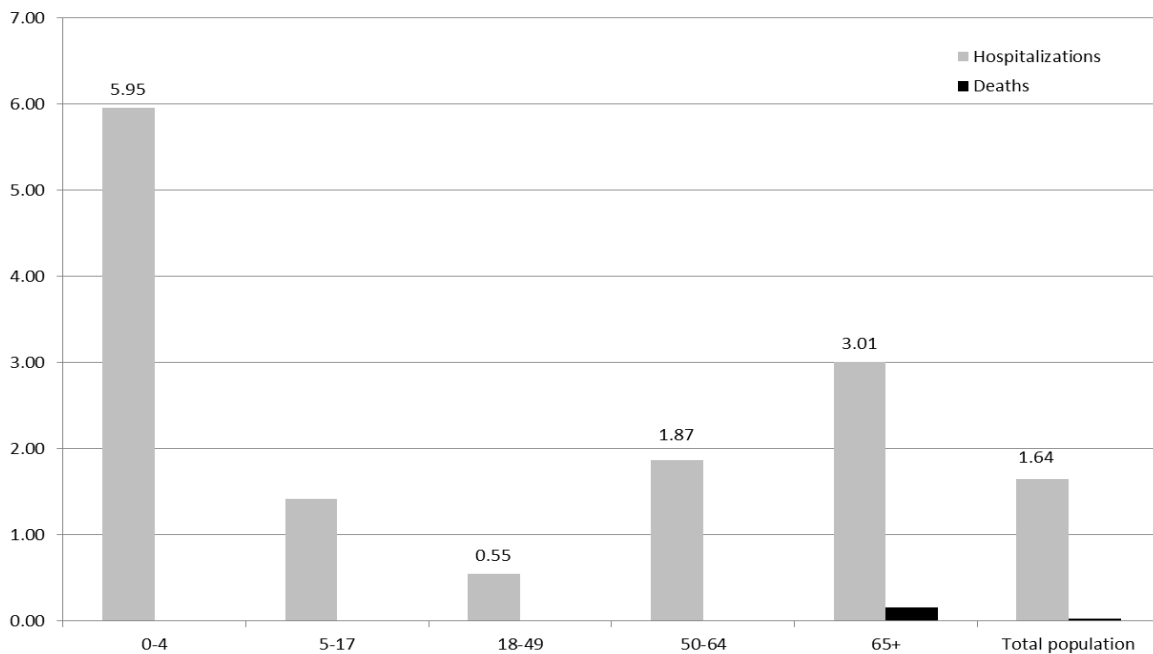
| | Total number* | |
|--|-----------------------------------|-----------------------------------|
| Number of Hospitals Reporting (current week) | 37 | |
| | <i>Current MMWR (4/1/-4/7/12)</i> | <i>Cumulative (since 10/2/11)</i> |
| Hospitalizations | 9 | 85 |
| Deaths | 0 | 1 |

*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=85) and Deaths (n=1)
October 2, 2011 - April 7, 2012**

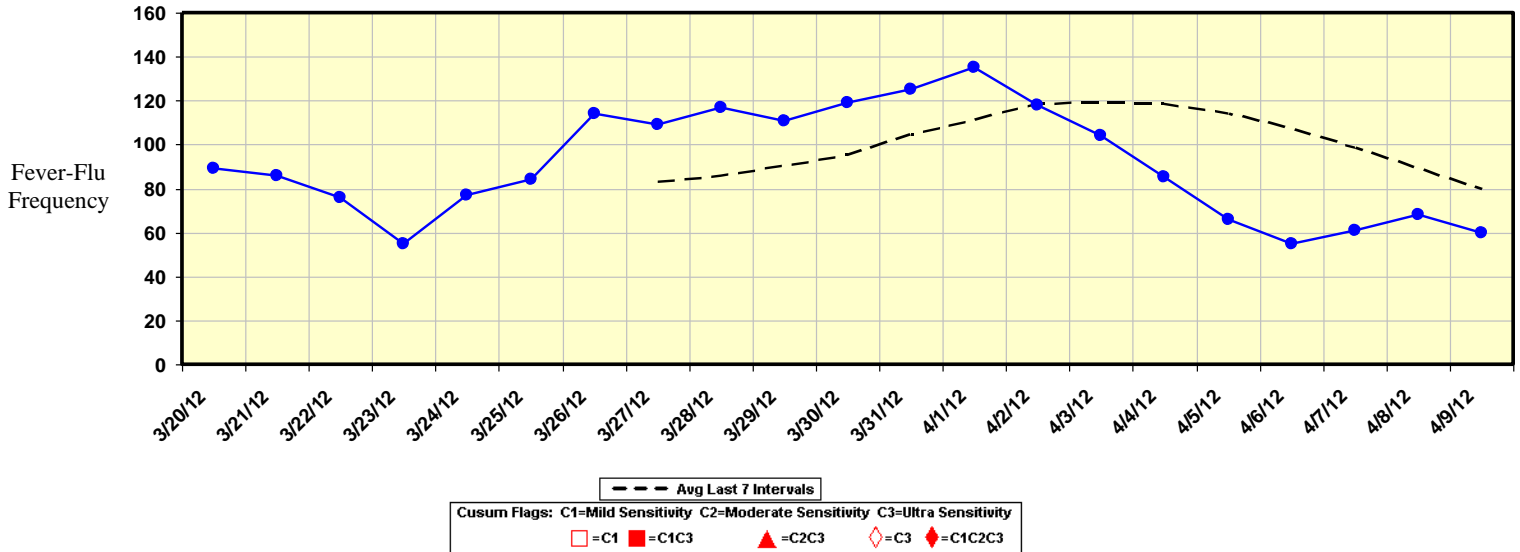


**Laboratory Confirmed Influenza Case rate/100,000
Hospitalizations (n=85) and Deaths (n=1) by age group
October 2, 2011 - March 31, 2012**



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

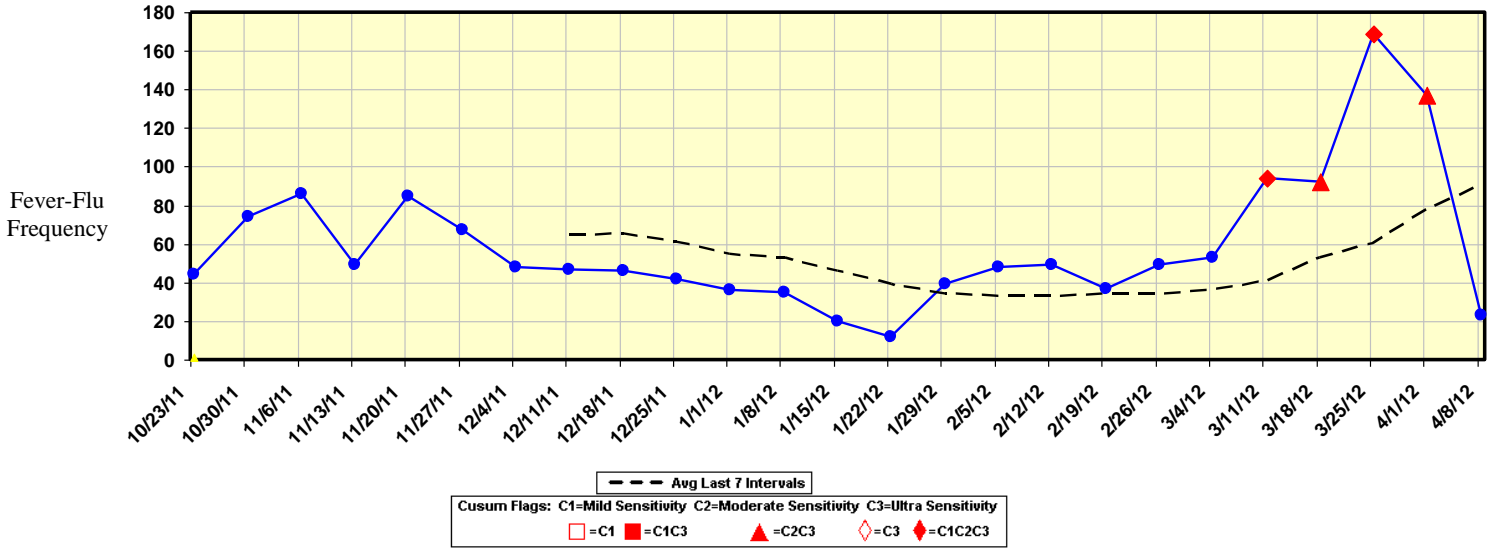
The SC Statewide Fever-Flu Syndrome graph above illustrates the daily counts of hospital emergency department (ED) visits with an Influenza-like Illness (ILI) for the past 21 days. A total of 21 hospital facilities are reporting to the SC-DARTS system. These 21 include: AnMed Health (Region 1); Self 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); Elgin Urgent Care (Region 4); Medical University of South Carolina (Region 7); Roper (Region 7); St. Francis (Region 7); Trident (Region 7); Colleton (Region 8); and Hampton Regional (Region 8).

Statewide CUSUM Flag Alerts Description:

No flags for the past week.

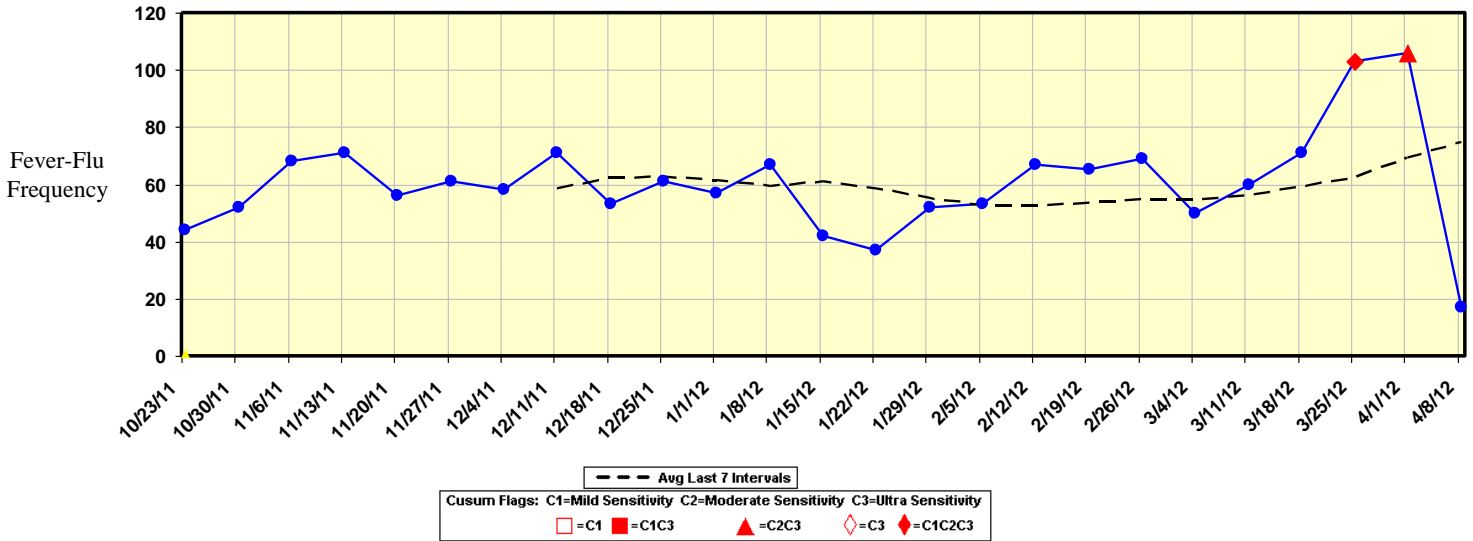
Below are the fever-flu syndrome graphs by Region for the past 180 days (weekly interval).

Region 1 - Fever Flu Syndrome



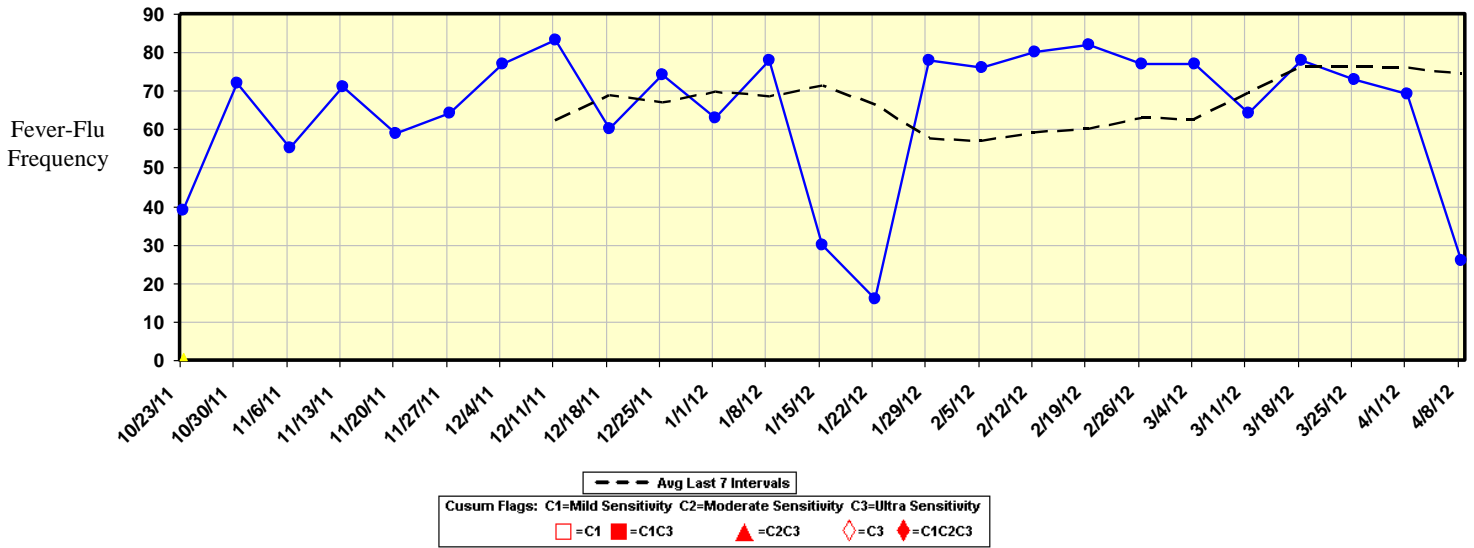
Region1 Hospitals (# of Facilities): AnMed Health (3); Self-Regional (1); Oconee Medical Center (1);

Region 2 - Fever Flu Syndrome



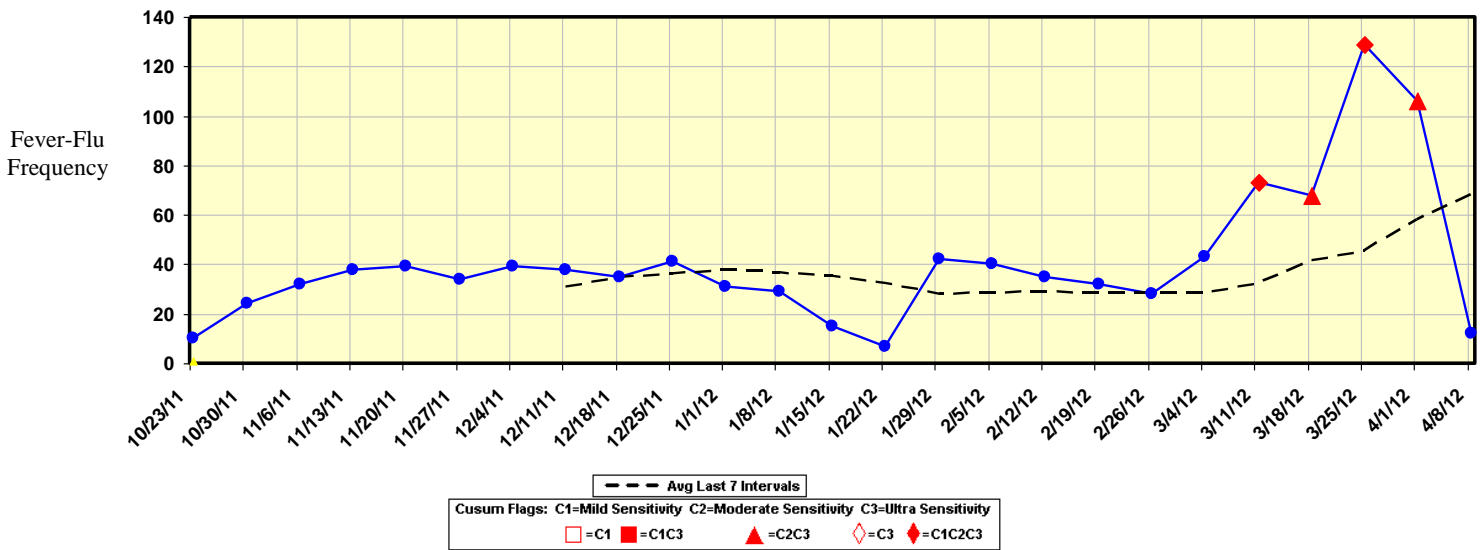
Region 2 Hospitals (# of Facilities): Greenville Hospital System (4); Palmetto Health Easley (1)

Region 3 - Fever Flu Syndrome



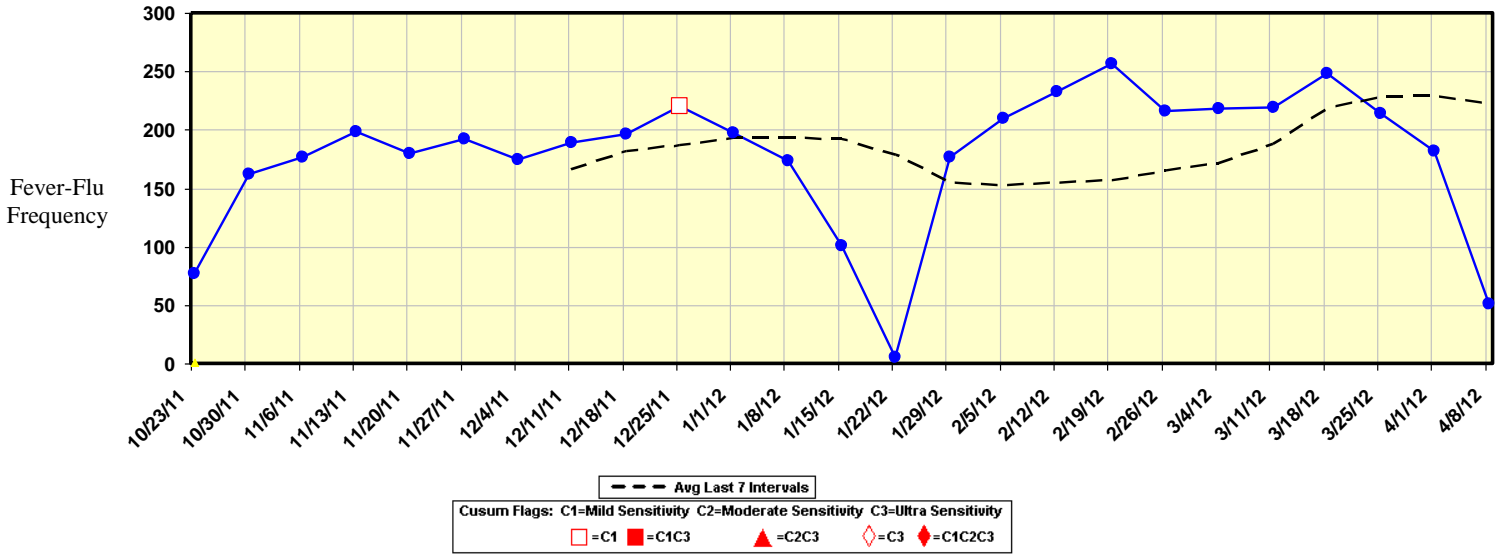
Region 3 Hospitals (# of Facilities): Palmetto Health Baptist (1), Palmetto Health Richland (1)

Region 4 - Fever Flu Syndrome



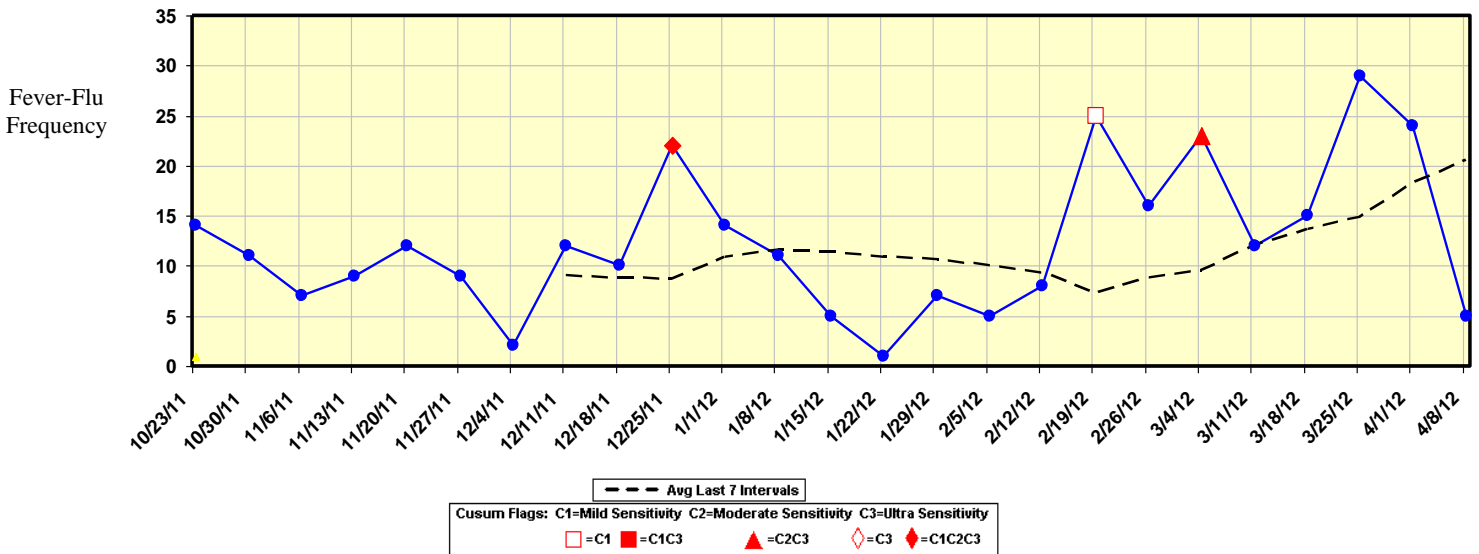
Region 4 Hospitals (# of Facilities): Kershaw Health (1); McLeod Health (1); Elgin Urgent Care (1)

Region 7 - Fever Flu Syndrome



Region 7 Hospitals (# of Facilities): Medical University of South Carolina (1), Roper (1), St. Francis (1), Trident (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 | 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 |
| | OR | | |
| 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 CHESS 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**.

