

South Carolina Department of Health and Environmental Control

Division of Acute Disease Epidemiology

Week Ending November 23, 2013 (MMWR Week 47)

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

MMWR Week 47 at a Glance:

Influenza Activity Level: LOCAL

Note: Activity level definitions are found on page 13

ILI Activity Status (South Carolina baseline is 2.05%*): The state ILI percentage was .65%. These data reflect reports from 13 (41.9%) providers.

SC Viral Isolate and RT-PCR Activity: Seven positive specimens were reported. Since 9/29/13, 42 positive specimens have been reported.

Positive Rapid Flu Test Activity: Nine hundred and eighty nine positive rapid tests were reported. Since 9/29/13, 2136 positive rapid tests have been reported.

Hospitalizations: Fifty lab confirmed hospitalizations were reported. Since 9/29/13, 123 lab confirmed hospitalizations have been reported.

Deaths: One lab confirmed death was reported. Since 9/29/13, three lab confirmed deaths have been reported.

In this issue:

| | |
|---|----|
| I. ILINet | 2 |
| II. Virologic surveillance | 5 |
| III. Rapid antigen tests | 8 |
| IV. Hospitalizations and deaths | 9 |
| V. Syndromic surveillance | 11 |
| VI. Activity level definitions | 14 |
| VII. SC influenza surveillance components | 15 |
| VIII. National surveillance | 16 |

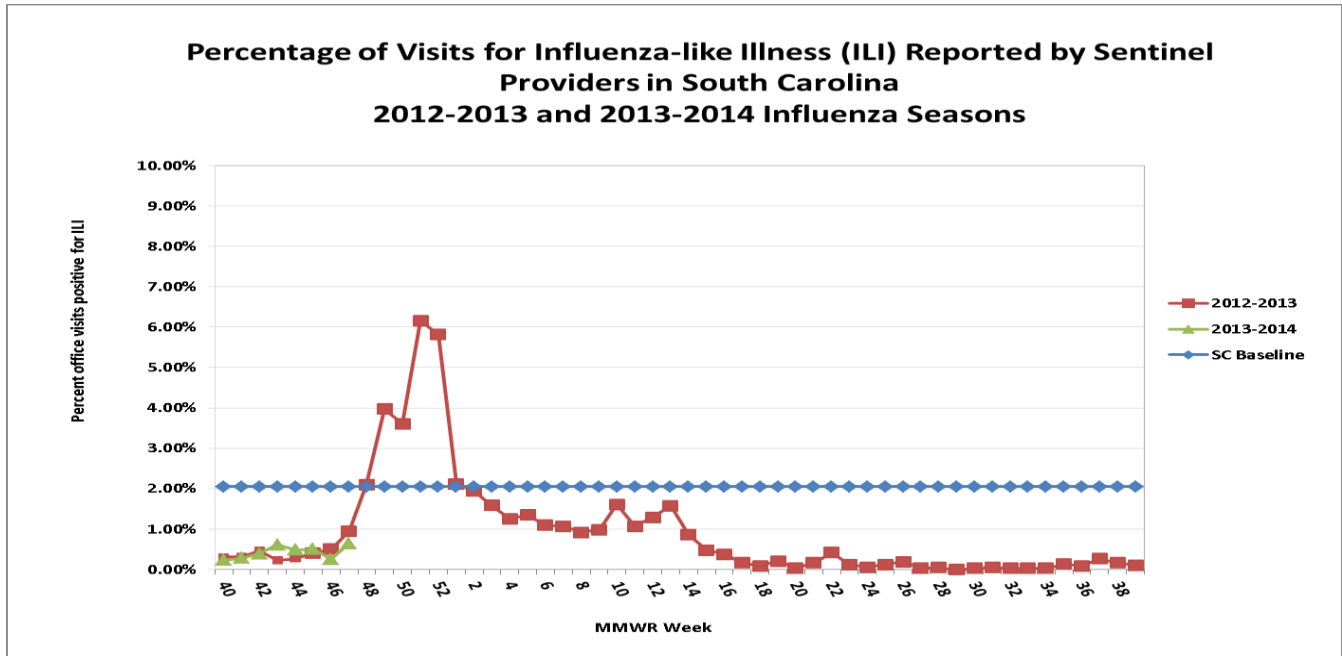
Flu Watch

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

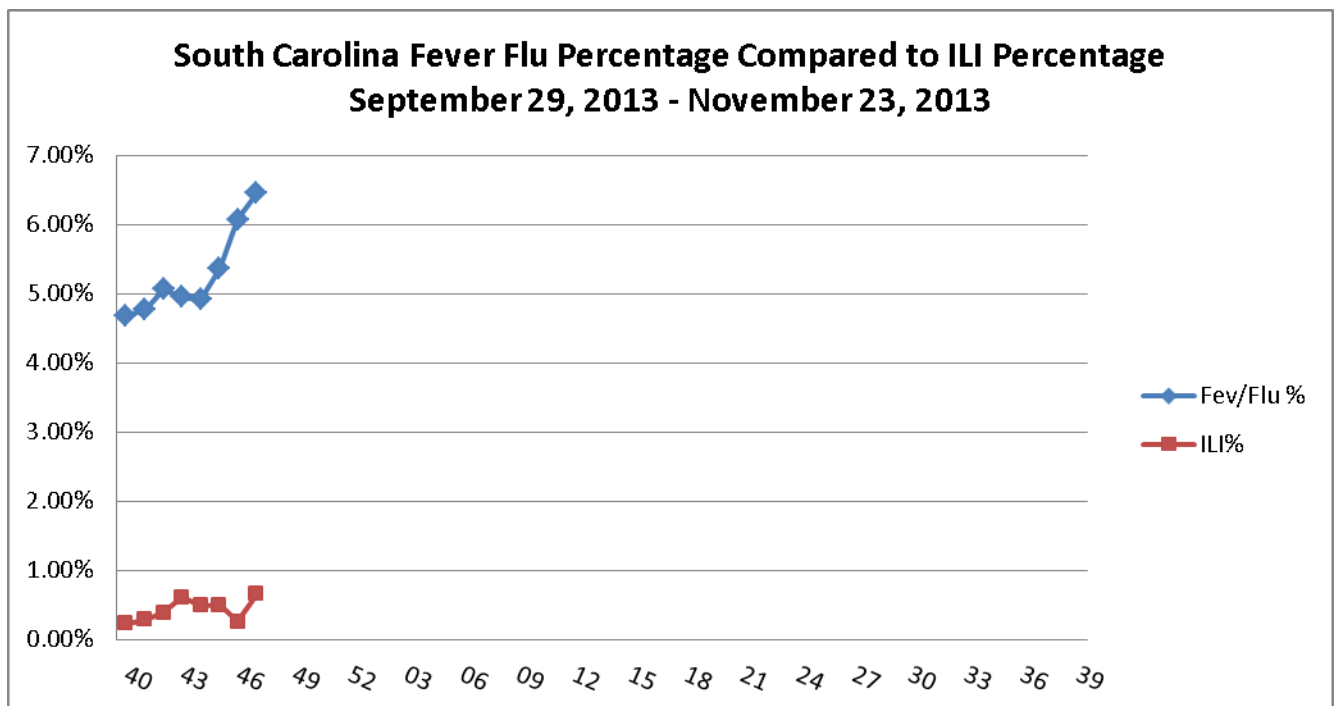
| | <i>Current week</i> | <i>Previous week</i> | <i>Change from previous week</i> |
|--|---------------------|----------------------|----------------------------------|
| Percent of ILI visits reported by ILINet providers | .65% | .26% | ▲ .39% |
| Percent of fever-flu ER visits reported by hospitals | 6.45% | 6.08% | ▲ .37% |
| Number of positive confirmatory tests | 7 | 6 | ▲ 1 |
| Number of lab confirmed flu hospitalizations | 50 | 39 | ▲ 11 |
| Number of lab confirmed flu deaths | 1 | 1 | 0 |

I. ILINet Influenza-Like Illness Surveillance

During the most recent MMWR week, .65% of patient visits to SC ILINet providers were due to ILI. This is below the state baseline (2.05%). This ILI percentage compares to .95 % this time last year. Reports were received from providers in 10 counties, representing all 4 regions. The statewide percentage of ER visits with fever-flu syndrome was 6.45%.



*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.

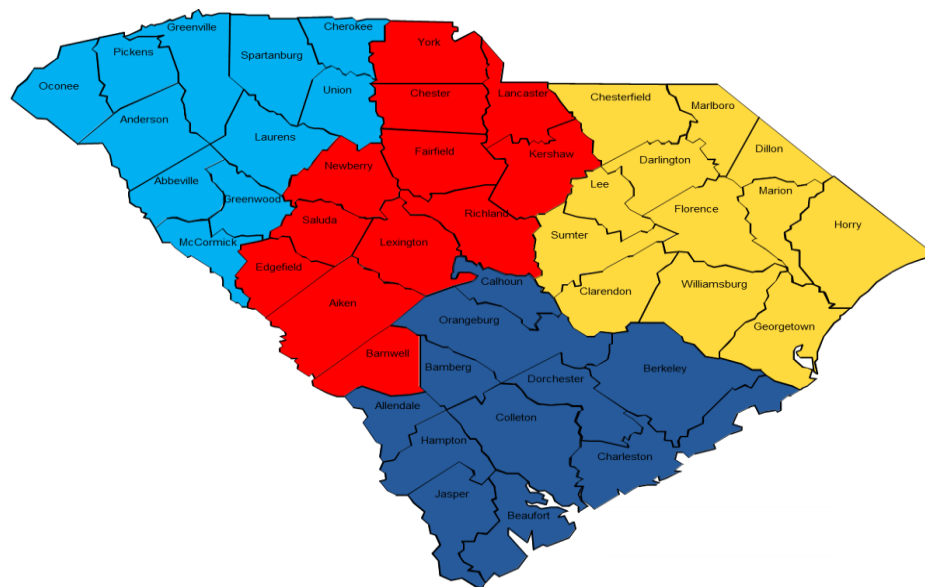


*Only includes hospitals participating in SC syndromic surveillance

Influenza-Like Illness Reported by Sentinel Providers November 17, 2013 – November 23, 2013

| County | ILI % | County | ILI % |
|--------------|--------|--------------|-------|
| Abbeville | --- | Greenwood | NR |
| Aiken | .03% | Hampton | NR |
| Allendale | --- | Horry | NR |
| Anderson | 4.69% | Jasper | NR |
| Bamberg | --- | Kershaw | NR |
| Barnwell | --- | Lancaster | --- |
| Beaufort | NR | Laurens | NR |
| Berkeley | 14.22% | Lee | --- |
| Calhoun | --- | Lexington | NR |
| Charleston | NR | Marion | --- |
| Cherokee | --- | Marlboro | --- |
| Chester | --- | McCormick | NR |
| Chesterfield | --- | Newberry | --- |
| Clarendon | --- | Oconee | --- |
| Colleton | --- | Orangeburg | --- |
| Darlington | --- | Pickens | 0% |
| Dillon | NR | Richland | .42% |
| Dorchester | NR | Saluda | 0% |
| Edgefield | --- | Spartanburg | .32% |
| Fairfield | --- | Sumter | NR |
| Florence | .65% | Union | --- |
| Georgetown | NR | Williamsburg | --- |
| Greenville | .33% | York | 0% |

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



*County ILI percentages are affected by the number of reporting providers within that county.

II. Virologic Surveillance

| <i>Positive confirmatory influenza test results*</i> <i>Current MMWR Week (11/17/13 – 11/23/13)</i> | | |
|--|------------|----------------------------|
| | BOL | Other clinical labs |
| Number of specimens tested | 9 | - |
| Number of positive specimens | 3 | 4 |
| Influenza A unsubtype | | |
| Influenza A H1N1 | 3 | 4 |
| Influenza A H3N2 | | |
| Influenza B | | |
| Other | | |
| Includes culture, RT-PCR, DFA, and IFA | | |

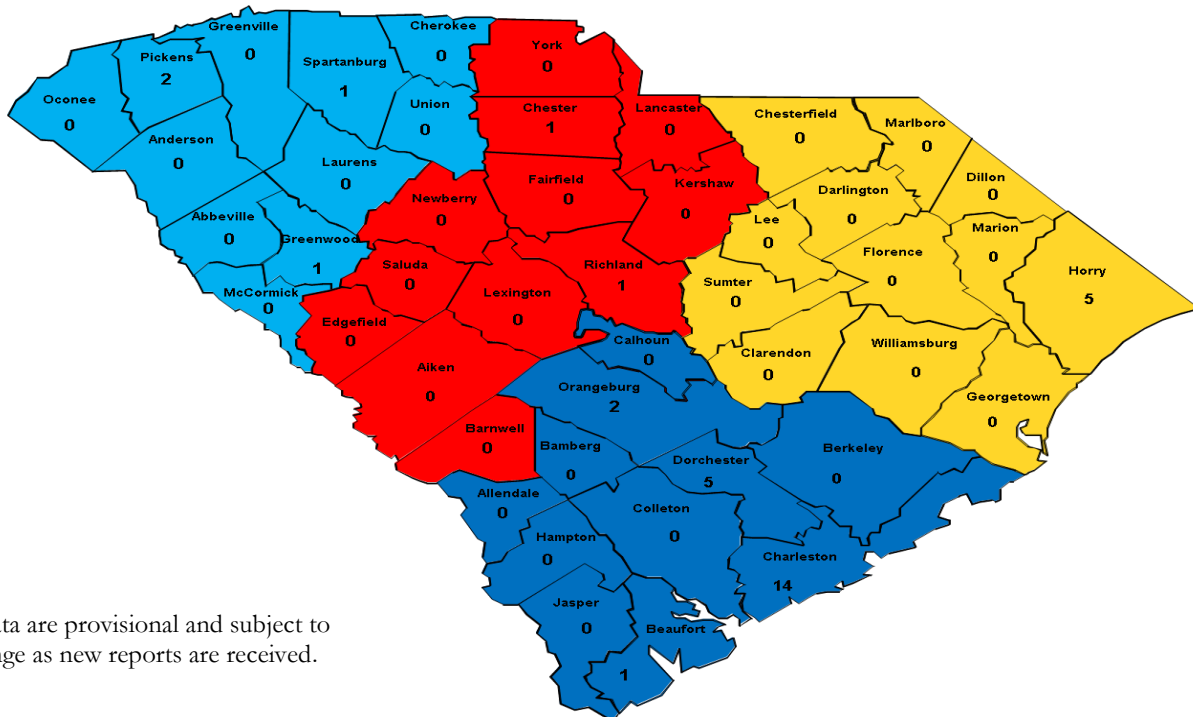
For the current MMWR reporting week, seven positive specimens were reported.

| <i>Positive confirmatory influenza test results*</i> <i>Cumulative (09/29/13 – 11/23/13)</i> | | |
|---|------------|----------------------------|
| | BOL | Other clinical labs |
| Number of specimens tested | 55 | NA |
| Number of positive specimens | 16 (29.1%) | 26 |
| Influenza A unsubtype | | 2 (7.7%) |
| Influenza A H1N1 | 16 (100%) | 22 (84.6%) |
| Influenza A H3N2 | | |
| Influenza B | | 2 (7.7%) |
| Other | | |
| Includes culture, RT-PCR, DFA, and IFA | | |

**Positive Confirmatory Tests by County
Current Week 11/17/13 – 11/23/13**

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

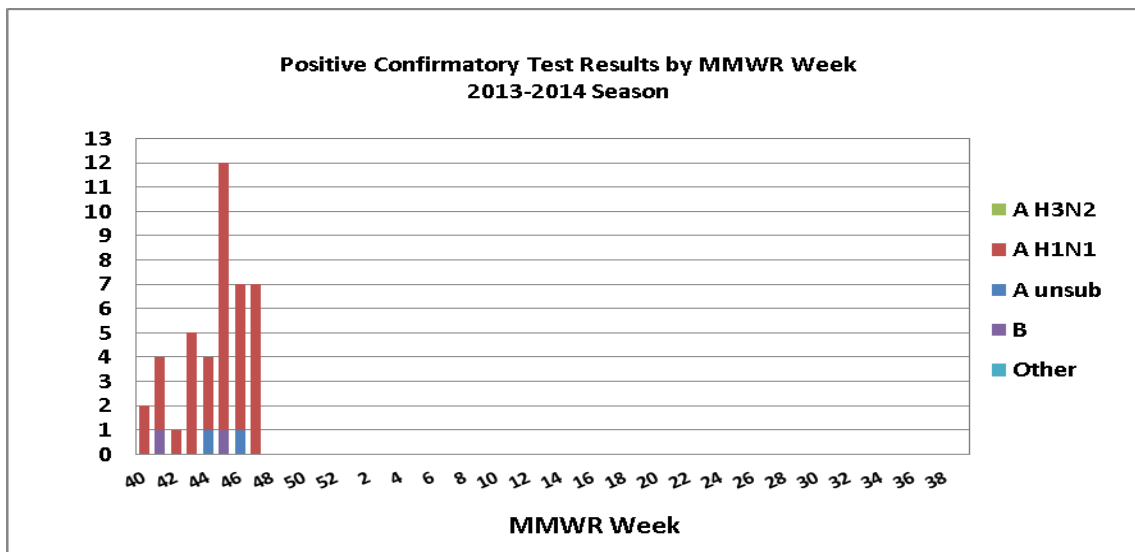
**Map of Positive Confirmatory Tests by County
Cumulative 09/29/13 – 11/23/13**



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

**Positive Confirmatory Tests by County and Type
Cumulative 9/29/13-11/23/13**

| | A H1N1 | A H3N2 | B | A Unsub | Unk | | A H1N1 | A H3N2 | B | A Unsub | Unk |
|-----------------------|-----------|-----------|---|------------|-----|--------------|-----------|-----------|---|------------|-----|
| Upstate | | | | | | | | | | | |
| Abbeville | | | | | | McCormick | | | | | |
| Anderson | | | | | | Oconee | | | | | |
| Cherokee | | | | | | Pickens | 2 | | | | |
| Greenwood | 1 | | | | | Spartanburg | | | | 1 | |
| Greenville | | | | | | Union | | | | | |
| Laurens | | | | | | | | | | | |
| Midlands | | | | | | | | | | | |
| Aiken | | | | | | Lancaster | | | | | |
| Barnwell | | | | | | Lexington | | | | | |
| Chester | 1 | | | | | Newberry | | | | | |
| Edgefield | | | | | | Richland | 3 | | | | |
| Fairfield | | | | | | Saluda | | | | | |
| Kershaw | 1 | | | | | York | | | | | |
| Pee Dee | | | | | | | | | | | |
| Chesterfield | | | | | | Horry | 6 | | | | |
| Clarendon | | | | | | Lee | | | | | |
| Darlington | | | | | | Marion | | | | | |
| Dillon | | | | | | Marlboro | | | | | |
| Florence | | | | | | Sumter | | | | | |
| Georgetown | 1 | | | | | Williamsburg | | | | | |
| Low Country | | | | | | | | | | | |
| Allendale | | | | | | Colleton | | | | | |
| Bamberg | | | | | | Dorchester | 5 | | | 1 | |
| Beaufort | 1 | | | | | Hampton | 1 | | | | |
| Berkeley | | | | | | Jasper | | | | | |
| Calhoun | | | | | | Orangeburg | 2 | | | | |
| Charleston | 14 | | 2 | | | | | | | | |
| Unknown County | | | | | | | | | | | |



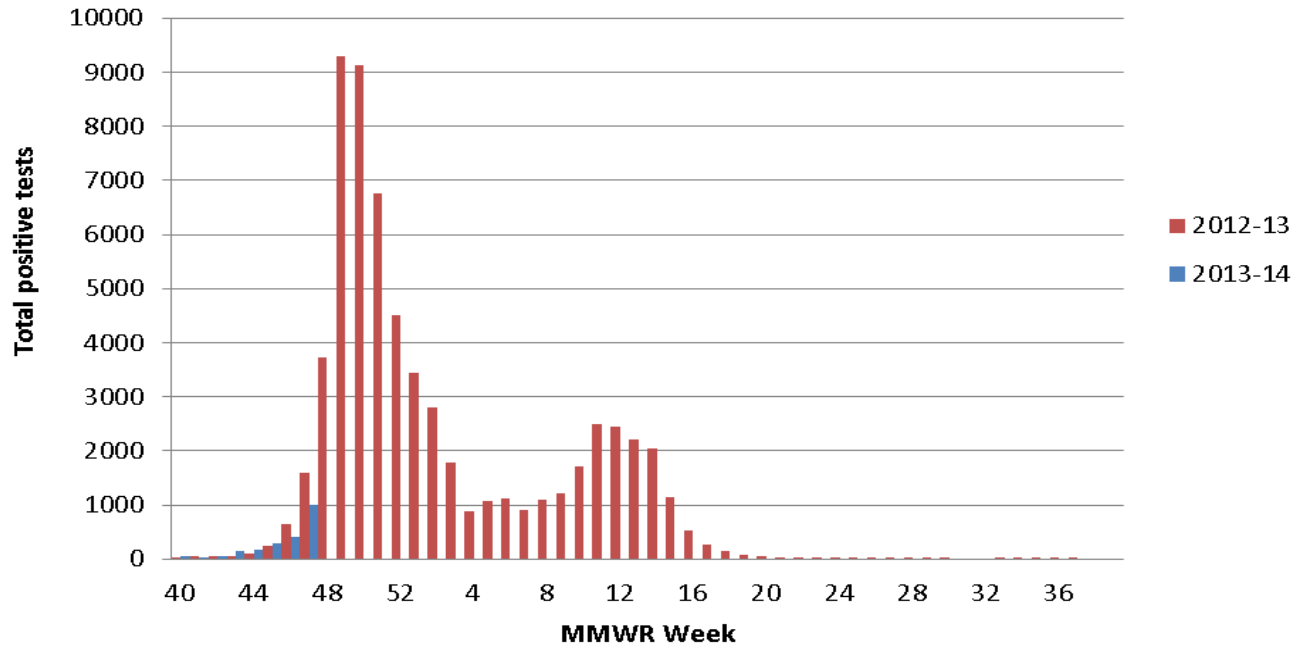
III. Positive Rapid Antigen Tests

For the current MMWR reporting week, 989 positive rapid antigen tests were reported. Of these, 919 were influenza A, 6 were influenza A/B, and 64 were influenza B. This compares to 1601 this time last year.

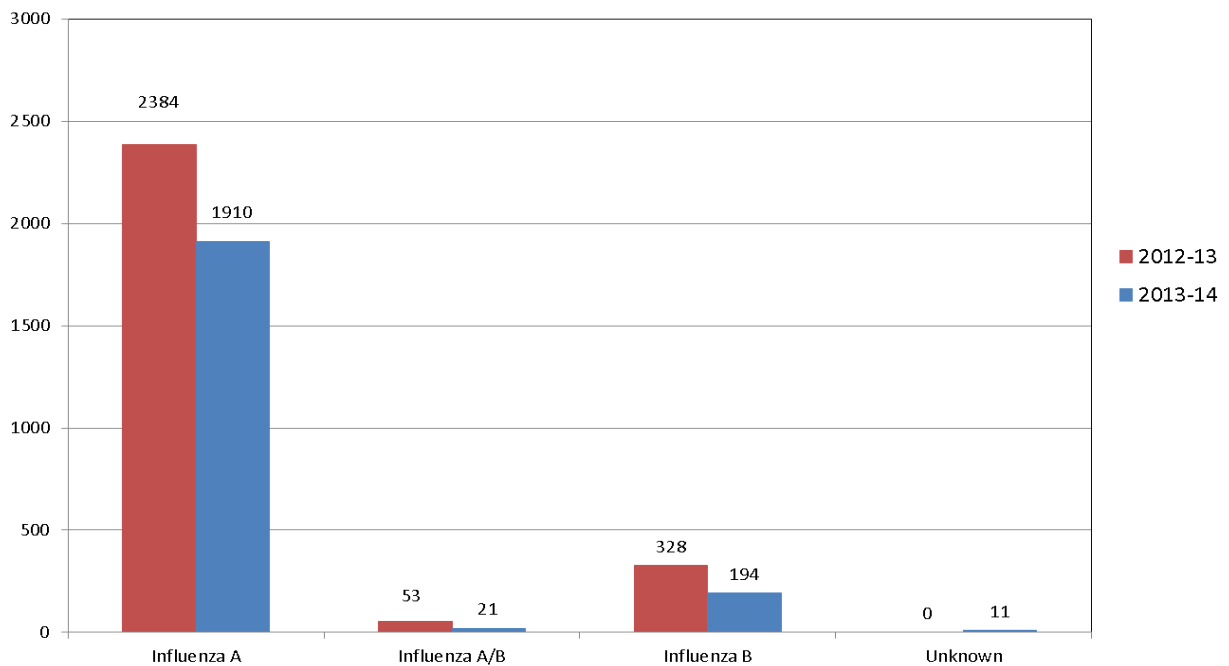
| Positive Rapid Flu Tests by County Current Week (11/17/13 – 11/23/13) | | | | | |
|--|----------------|------------|----------------|--------------|----------------|
| County | Positive Tests | County | Positive Tests | County | Positive Tests |
| Abbeville | 1 | Dillon | | Lexington | 25 |
| Aiken | | Dorchester | 92 | Marion | 3 |
| Allendale | | Edgefield | | Marlboro | |
| Anderson | 6 | Fairfield | | McCormick | |
| Bamberg | | Florence | 12 | Newberry | 8 |
| Barnwell | | Georgetown | 50 | Oconee | 3 |
| Beaufort | 12 | Greenville | 41 | Orangeburg | 6 |
| Berkeley | 36 | Greenwood | | Pickens | 4 |
| Calhoun | | Hampton | | Richland | 36 |
| Charleston | 298 | Horry | 164 | Saluda | |
| Cherokee | 13 | Jasper | | Spartanburg | 17 |
| Chester | 8 | Kershaw | 4 | Sumter | 11 |
| Chesterfield | | Lancaster | 5 | Union | |
| Clarendon | 4 | Laurens | | Williamsburg | 20 |
| Colleton | 17 | Lee | | York | 81 |
| Darlington | 12 | | | | |

| Positive Rapid Flu Tests by County and Type Cumulative (9/29/13 – 11/23/13) | | | | | | | | | | | | | | |
|--|-----|-----|----|---------------|------------|-----|-----|----|---------------|--------------|-----|-----|----|---------------|
| County | A | A/B | B | Unk/ Other | County | A | A/B | B | Unk/ Other | County | A | A/B | B | Unk/ Other |
| Abbeville | 2 | | 2 | | Dillon | | | | | Lexington | 42 | | 12 | |
| Aiken | 2 | | | | Dorchester | 229 | 2 | 6 | | Marion | 4 | | | |
| Allendale | | | | | Edgefield | | | | | Marlboro | | | | |
| Anderson | 14 | | 2 | | Fairfield | 3 | 1 | | | McCormick | | | | |
| Bamberg | | | | | Florence | 33 | | 22 | | Newberry | 13 | | 2 | |
| Barnwell | | | | | Georgetown | 64 | | 3 | | Oconee | 14 | | 4 | |
| Beaufort | 17 | 2 | 3 | | Greenville | 84 | 2 | 12 | | Orangeburg | 6 | | | 9 |
| Berkeley | 91 | | 4 | | Greenwood | 3 | | | | Pickens | 15 | | 2 | |
| Calhoun | | | | | Hampton | | | | | Richland | 59 | 1 | 35 | |
| Charleston | 632 | 5 | 20 | | Horry | 284 | 1 | 11 | 2 | Saluda | | | | |
| Cherokee | 18 | | | | Jasper | | | | | Spartanburg | 45 | 1 | 1 | |
| Chester | 9 | | 1 | | Kershaw | 13 | | 2 | | Sumter | 11 | 2 | | |
| Chesterfield | 2 | | | | Lancaster | 11 | | 3 | | Union | 3 | 1 | | |
| Clarendon | 16 | 2 | | | Laurens | | | | | Williamsburg | 17 | | 3 | |
| Colleton | 24 | | | | Lee | | | | | York | 112 | | 20 | |
| Darlington | 16 | | 20 | | | | | | | | | | | |

Positive Rapid Tests by MMWR Week 2012-13 vs 2013-14



Positive Rapid Tests by Type 2012-13 vs 2013-14 September 29, 2013 - November 23, 2013



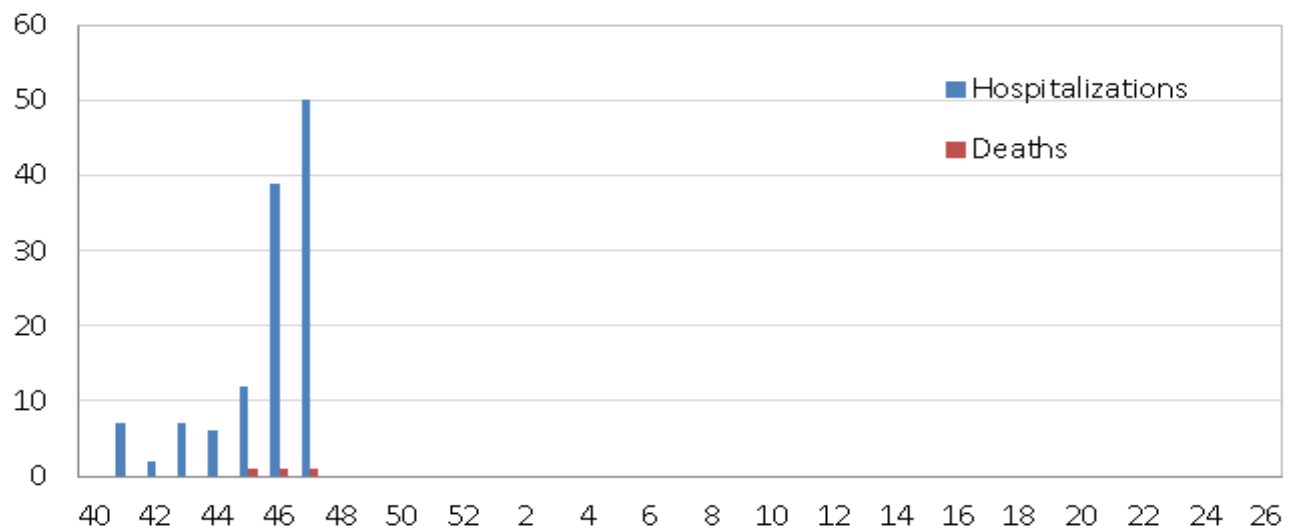
IV. Influenza hospitalizations and deaths

For the current MMWR reporting week, 50 lab confirmed influenza hospitalizations were reported. One lab confirmed influenza death was reported.*

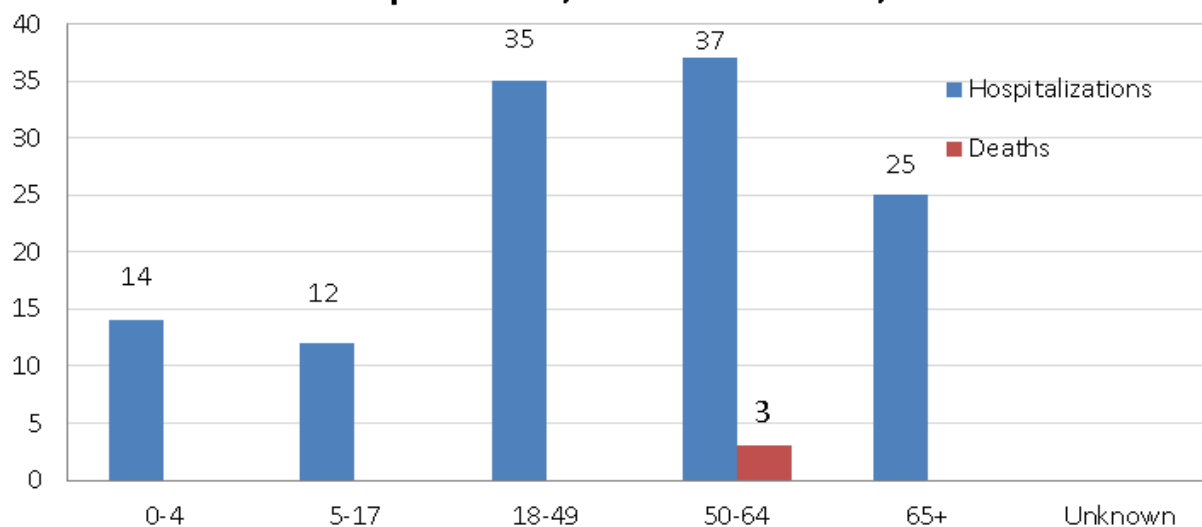
| | Total number* | |
|--|--|------------------------------------|
| Number of Reporting Hospitals (Current week) | 55 | |
| | <i>Current MMWR Week (11/17/13-11/23/13)</i> | <i>Cumulative (since 09/29/13)</i> |
| Hospitalizations | 50 | 123 |
| Deaths | 1 | 3 |

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

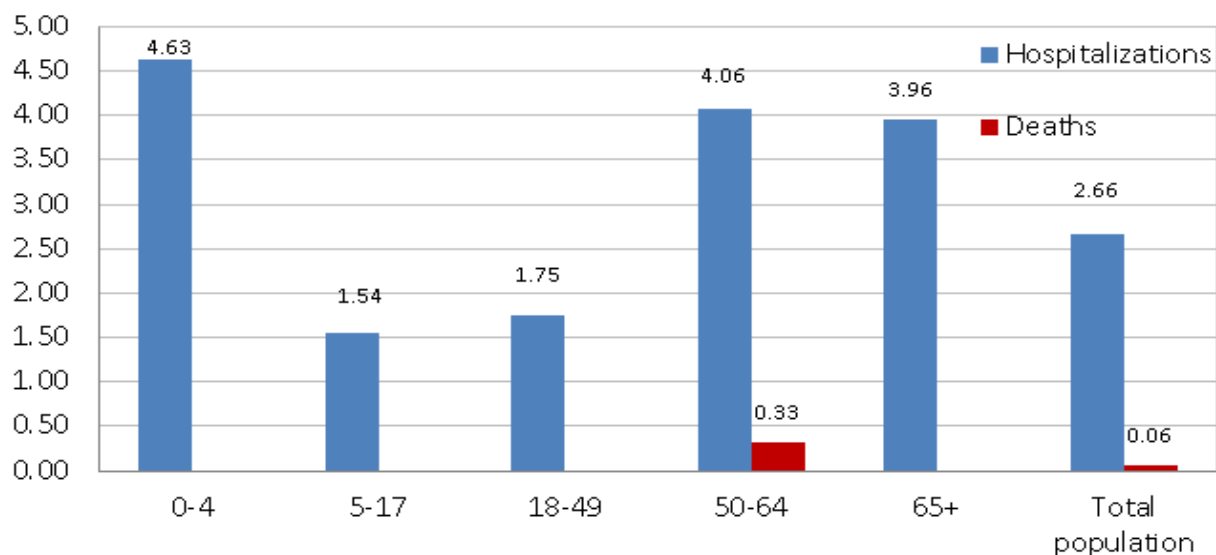
**Reported Cases of Laboratory Confirmed Influenza Hospitalizations and Deaths by MMWR week
September 29, 2013 - November 23, 2013**



**Reported Cases of Laboratory Confirmed Influenza
Hospitalizations (n=123) and Deaths (n=3)
September 29, 2013 - November 23, 2013**

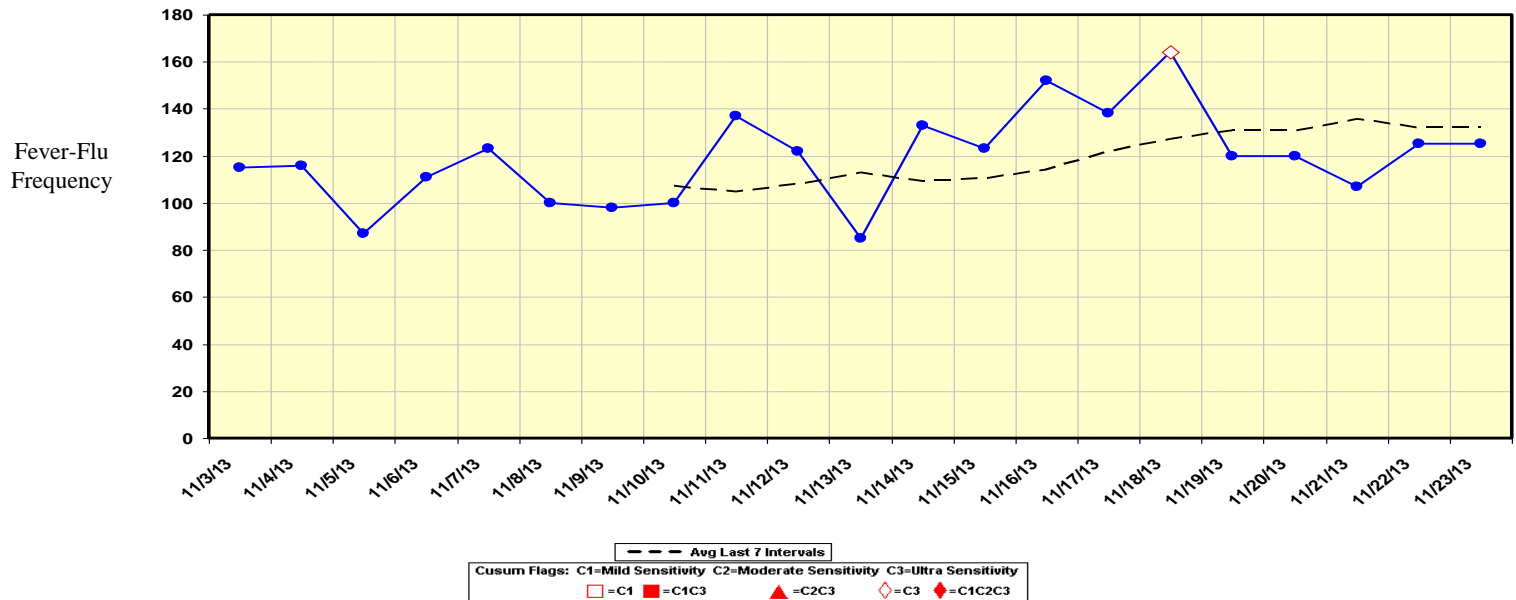


**Laboratory Confirmed Influenza Case rate/100,000
Hospitalizations (n=123) and Deaths (n=3) by age group
September 29, 2013 - November 23, 2013**



V. South Carolina Disease Alerting, Reporting & Tracking System (SC-DARTS)

Statewide - Fever Flu Syndrome



Cumulative Sums Analysis (CUSUM):

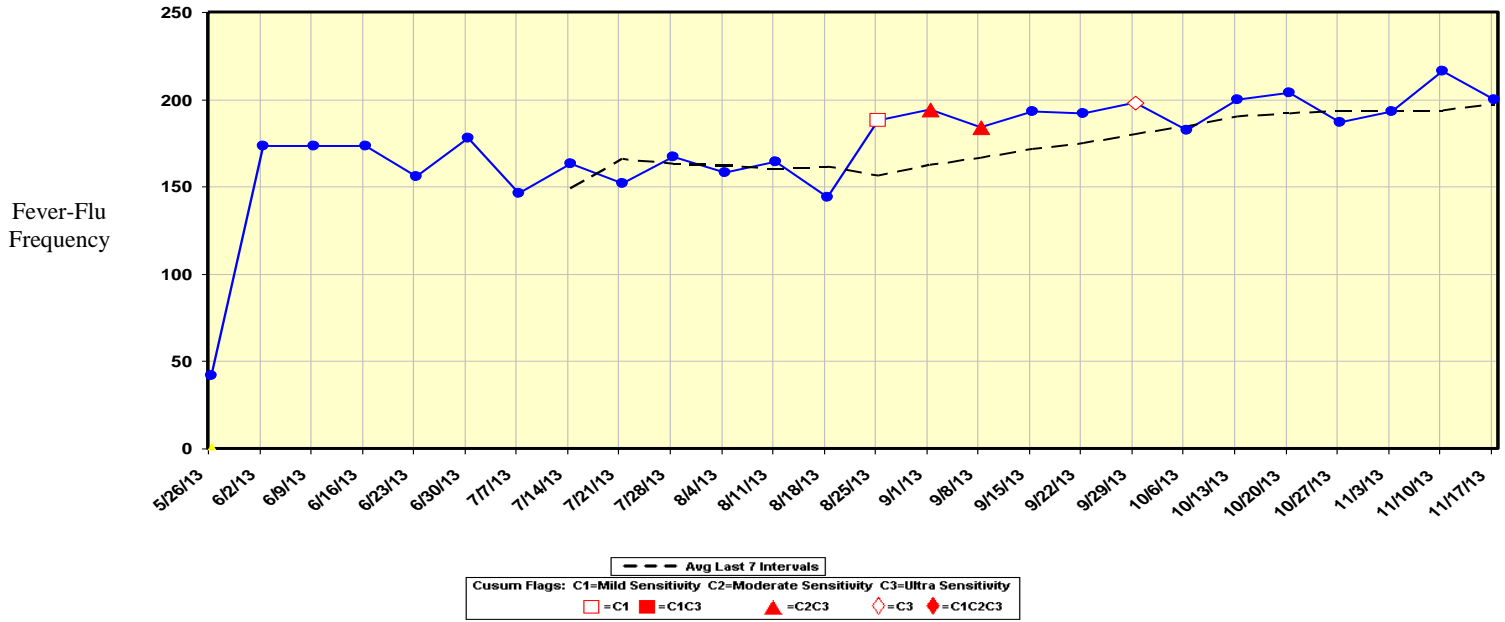
- C1 = Flags because of sharp rise in counts from 1 day to the next
- C2 = Flags because of aberrant, initial, rapid rise in counts and peak in counts
- C3 = Flags because of a gradual rise in counts over a short time

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 22 hospital facilities are reporting to the SC-DARTS system. These 22 include: AnMed Health (Upstate Region); Self Regional (Upstate Region); Oconee Medical Center (Upstate Region); Palmetto Health Alliance (Upstate and Midlands Regions); Greenville Hospital System (Upstate Region); Kershaw Health (Midlands Region); McLeod Health (Pee Dee Region); Elgin Urgent Care (Midlands Region); Medical University of South Carolina (Low Country Region); Roper (Low Country Region); St. Francis (Low Country Region); Trident (Low Country Region); Colleton (Low Country Region); Hampton Regional (Low Country Region); and Mount Pleasant (Low Country Region).

Statewide CUSUM Flag Alerts Description:

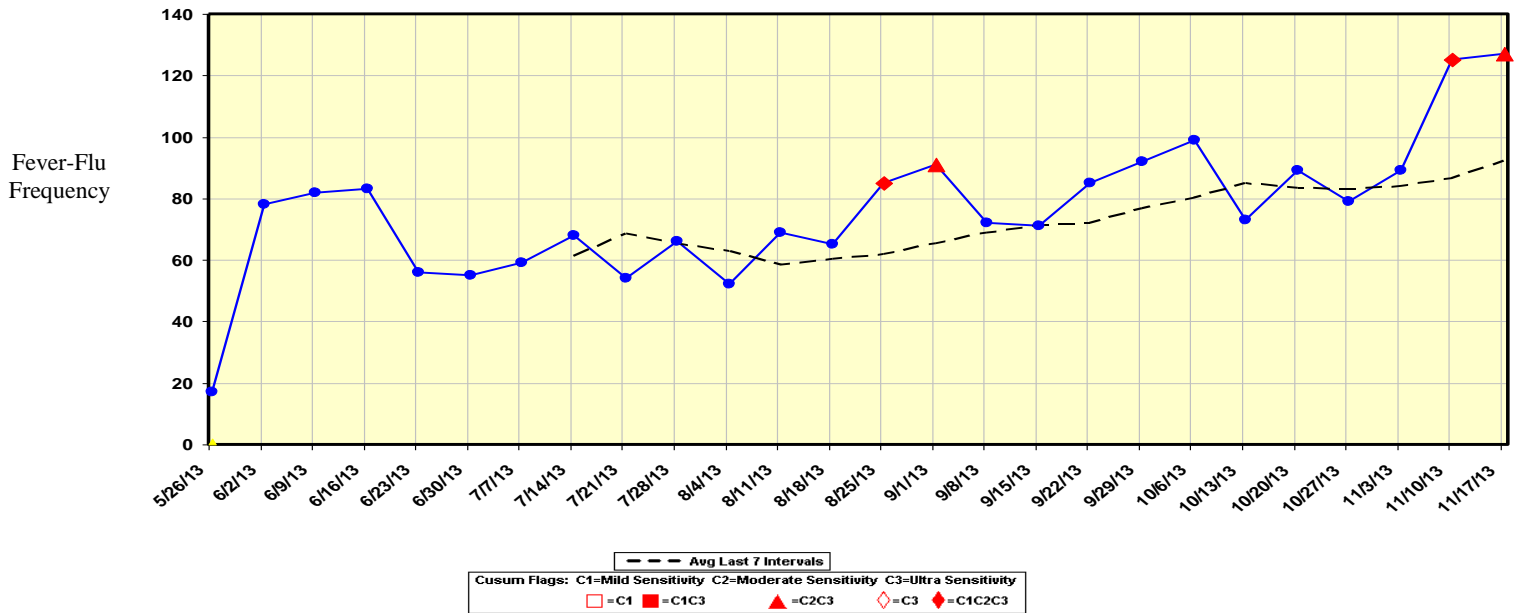
One C3 flag for the past week.
Below are the fever-flu syndrome graphs by Region for the past 180 days (weekly interval).

Upstate - Fever Flu Syndrome



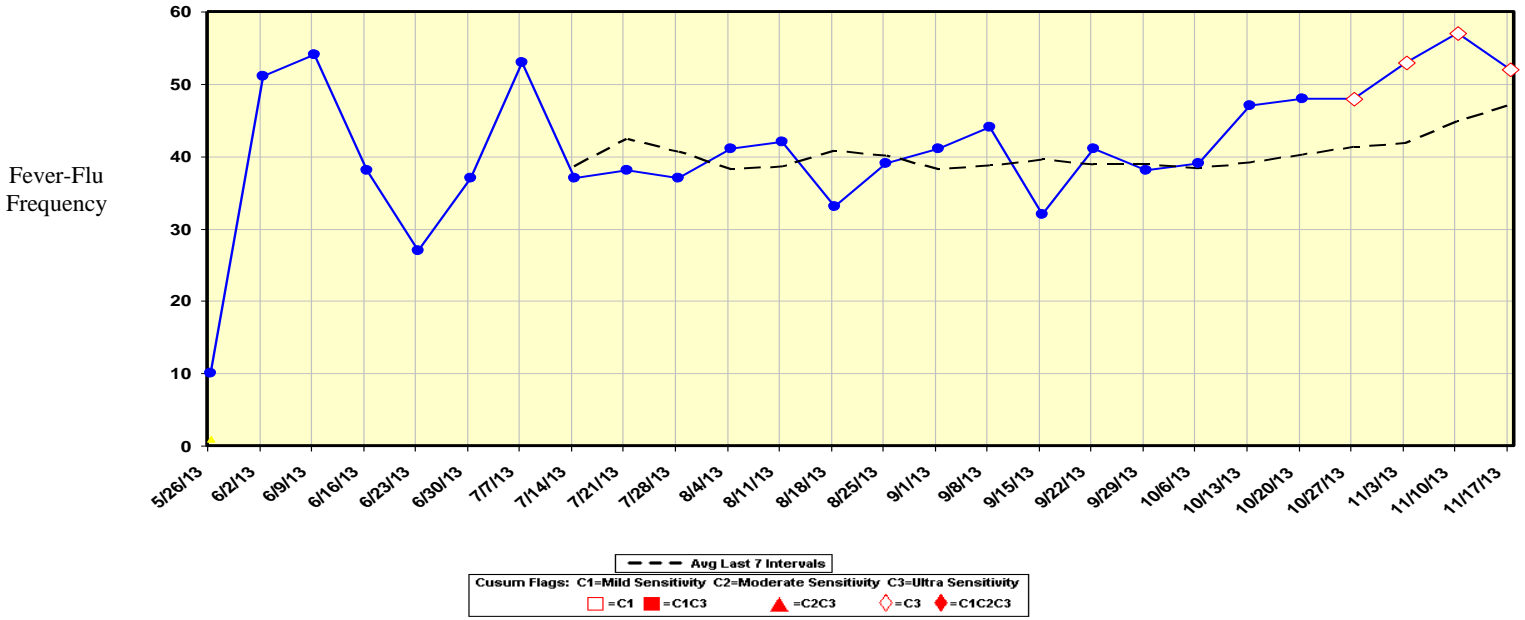
Upstate Region Hospitals (# of Facilities): AnMed Health (3); Self-Regional (1); Oconee Medical Center (1); Greenville Hospital System (4); Palmetto Health Easley (1)

Midlands - Fever Flu Syndrome



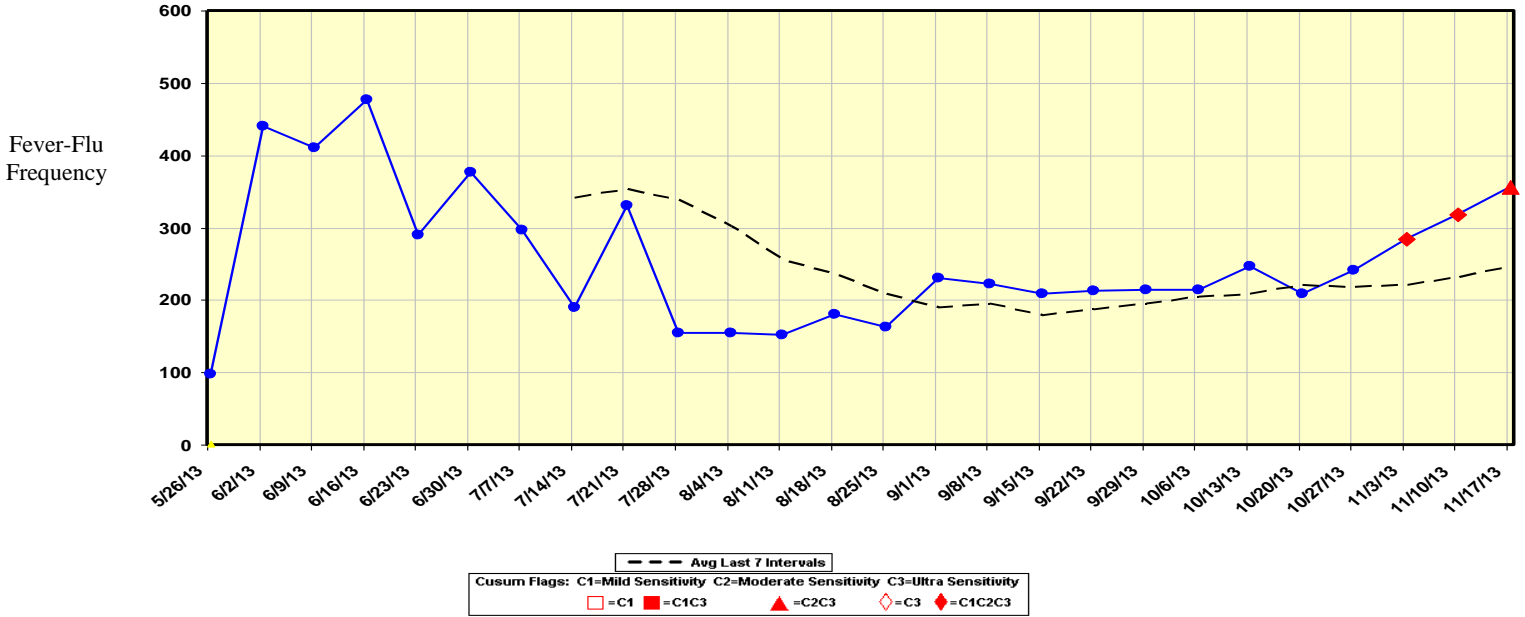
Midlands Region Hospitals (# of Facilities): Palmetto Health Baptist (1); Palmetto Health Richland (1); Kershaw Health (1); Elgin Urgent Care (1)

Pee Dee - Fever Flu Syndrome



Pee Dee Region Hospitals (# of Facilities): McLeod Health (1)

Low Country - Fever Flu Syndrome



Low Country Region Hospitals (# of Facilities): Medical University of South Carolina (1); Roper (1); St. Francis (1); Trident (1); Hampton Regional (1); Colleton (1); Mount Pleasant (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

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 $U \geq U100^{\circ}F$) 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: **Kelly Johnson at 803-898-1588 or johnsok@dhec.sc.gov**.

VIII. National Surveillance MMWR Week 46 (11/10-11/16)

During week 46 (November 10-16, 2013), influenza activity increased slightly in the United States.

- **Viral Surveillance:** Of 4,457 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 46, 312 (7.0%) were positive for influenza.
- **Pneumonia and Influenza Mortality:** The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold.
- **Influenza-Associated Pediatric Deaths:** No influenza-associated pediatric deaths were reported.
- **Outpatient Illness Surveillance:** The proportion of outpatient visits for influenza-like illness (ILI) was 1.5%, below the national baseline of 2.0%. One region reported ILI above region-specific baseline levels. One state experienced high ILI activity, two states experienced moderate ILI activity, four states experienced low ILI activity, 43 states and New York City experienced minimal ILI activity and the District of Columbia had insufficient data.
- **Geographic Spread of Influenza:** The geographic spread of influenza in four states was reported as regional; nine states reported local influenza activity; Puerto Rico, Guam and 34 states reported sporadic influenza activity; three states reported no influenza activity, and the District of Columbia and the U.S. Virgin Islands did not report.

A description of surveillance methods is available at: <http://www.cdc.gov/flu/weekly/overview.htm>

