



Flu Watch

South Carolina Department of Health and Environmental Control
 Division of Acute Disease Epidemiology
 Week Ending March 29, 2014 (MMWR Week 13)

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

| | |
|--|----|
| <i>In this issue:</i> | |
| Summary | 2 |
| I. Confirmatory testing | 3 |
| II. ILINet | 6 |
| III. Hospitalizations and deaths | 8 |
| IV. SC influenza surveillance components | 10 |
| V. National surveillance | 11 |
| VI. Definitions for influenza surveillance | 12 |

MMWR Week 13 at a Glance:

Influenza Activity Synopsis:

Influenza activity in South Carolina continued to decrease during the past MMWR week, with ILI percentage falling below baseline. South Carolina reported Local activity for week 13.

Laboratory surveillance:

- 3 (60%) of 5 positive confirmatory tests last week were reported by the BOL and 2 (40%) positive confirmatory tests were reported by other labs; 2 influenza A (H1N1) viruses, 1 influenza A (H3N2), and 2 influenza B viruses.
- 30,698 (89.3%) of all laboratory-confirmed cases this season are influenza A, 2,854 (8.3%) are influenza B, 621 (1.8%) are influenza A/B, and 191 (0.55%) are of unknown type.

ILI Activity (South Carolina baseline is 2.05%):

- Influenza-like illness activity at sentinel providers was below South Carolina's baseline (1.88%). ILI percentages represent ILI activity reported by sentinel providers; however, a small number of providers reported data for this week, so ILI percentages may not be representative of actual flu activity.

Hospitalizations:

- 13 lab confirmed hospitalizations were reported. Since 9/29/13, 1790 lab confirmed hospitalizations have been reported.

Deaths:

- No lab confirmed deaths were reported. Since 9/29/13, 76 lab confirmed deaths have been reported.

**Summary of ILI Activity, Positive Confirmatory Tests, and
Influenza Associated Hospitalizations and Deaths Compared to Previous Week and Season**

| | <i>Current week</i> | <i>Previous week</i> | <i>Change from previous week</i> | <i>Cumulative (2013-14)</i> | <i>Cumulative (2012-13)</i> | <i>Cumulative change 2013-14 compared to 2012-13</i> |
|---|---------------------|----------------------|----------------------------------|-----------------------------|-----------------------------|--|
| Number of positive confirmatory tests (culture, RT-PCR, DFA, IFA) | 5 | 3 | ▲ 40.0% | 783 | 1093 | ▼ 28.4% |
| Percent of ILI visits reported by ILINet providers | 1.88 | 2.57 | ▼ 0.69% | -- | -- | -- |
| Number of lab confirmed flu hospitalizations | 13 | 26 | ▼ 50% | 1790 | 1612 | ▲ 11.0% |
| Number of lab confirmed flu deaths | 0 | 1 | ▼ 100% | 76 | 42 | ▲ 81% |

**Summary of ILI Activity, Positive Confirmatory Tests, and
Influenza Associated Hospitalizations and Deaths, 2009-10 through 2013-14 Seasons**

| Corresponding MMWR week during each season | <i>2013-14</i> | <i>2012-13</i> | <i>2011-12</i> | <i>2010-11</i> | <i>2009-10</i> |
|--|----------------|----------------|----------------|----------------|----------------|
| Influenza activity level | LOCAL | LOCAL | LOCAL | LOCAL | REGIONAL |
| Positive confirmatory tests (current week) | 5 | 35 | 12 | 5 | 8 |
| Positive confirmatory tests (cumulative) | 783 | 1093 | 92 | 609 | 887 |
| Total number of patient visits for ILI | 134 | 93 | 21 | 53 | 86 |
| ILI percentage | 1.88% | 1.58% | 0.31% | 0.86% | 1.03% |
| Hospitalizations (current week) | 13 | 41 | 5 | 7 | 9 |
| Deaths (current week) | 0 | 0 | 0 | 0 | 0 |

I. Confirmatory testing

| <i>Positive confirmatory influenza test results*</i> <i>Current MMWR Week (3/23/14 – 3/29/14)</i> | |
|--|-------------------------------|
| | BOL and reference labs |
| Number of positive confirmatory tests | 5 |
| Influenza A unsubtype | |
| Influenza A H1N1 | 2 (40%) |
| Influenza A H3N2 | 1 (20%) |
| Influenza B | 2 (40%) |
| Unk/Other | |
| Includes culture, RT-PCR, DFA, and IFA | |

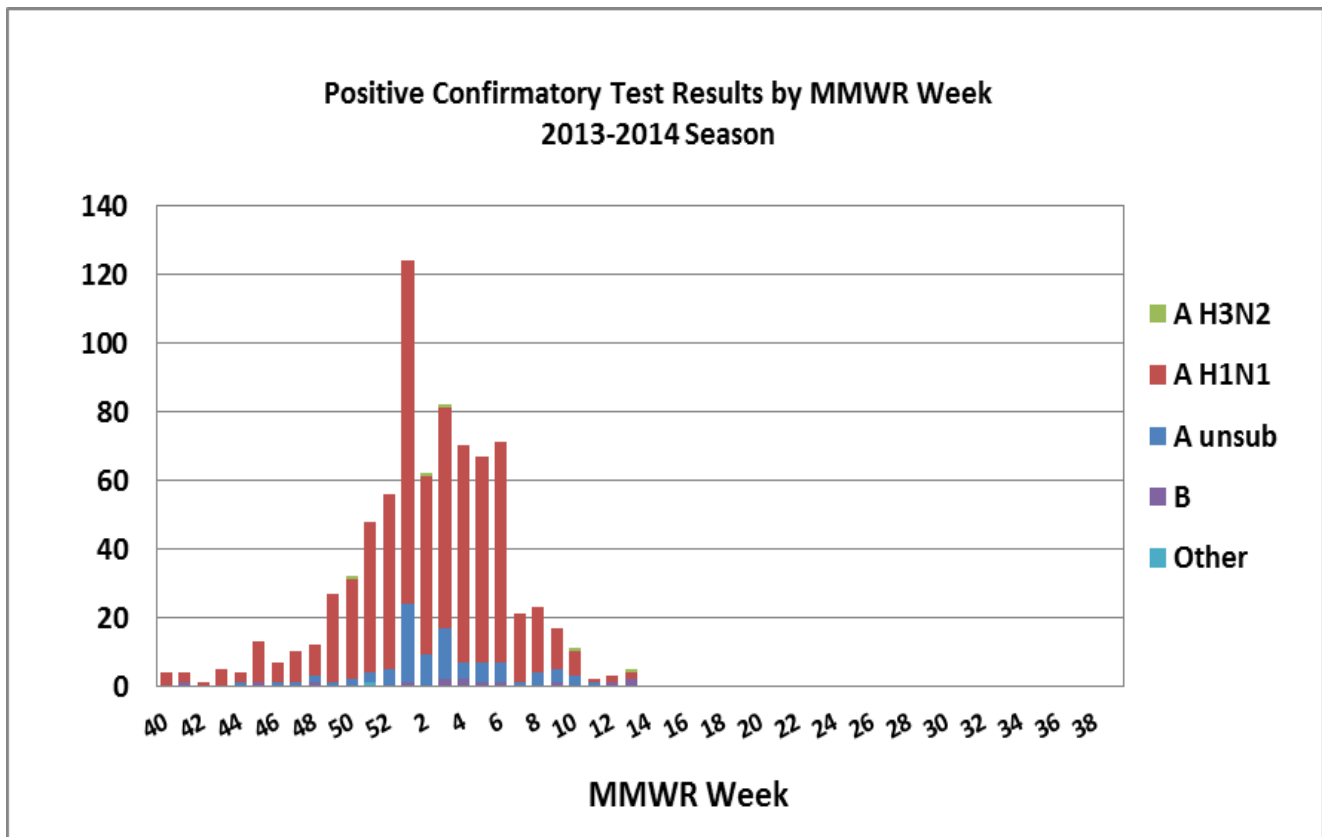
For the current MMWR reporting week, 5 positive confirmatory tests were reported. So far this season 783 positive confirmatory tests have been reported.

| <i>Positive confirmatory influenza test results*</i> <i>Cumulative (09/29/13 – 3/29/14)</i> | |
|--|-------------------------------|
| | BOL and reference labs |
| Number of positive confirmatory tests | 783 |
| Influenza A unsubtype | 93 (11.9%) |
| Influenza A H1N1 | 668 (85.3%) |
| Influenza A H3N2 | 5 (0.64%) |
| Influenza B | 14 (1.8%) |
| Unk/Other | 3 (0.38%) |
| Includes culture, RT-PCR, DFA, and IFA | |

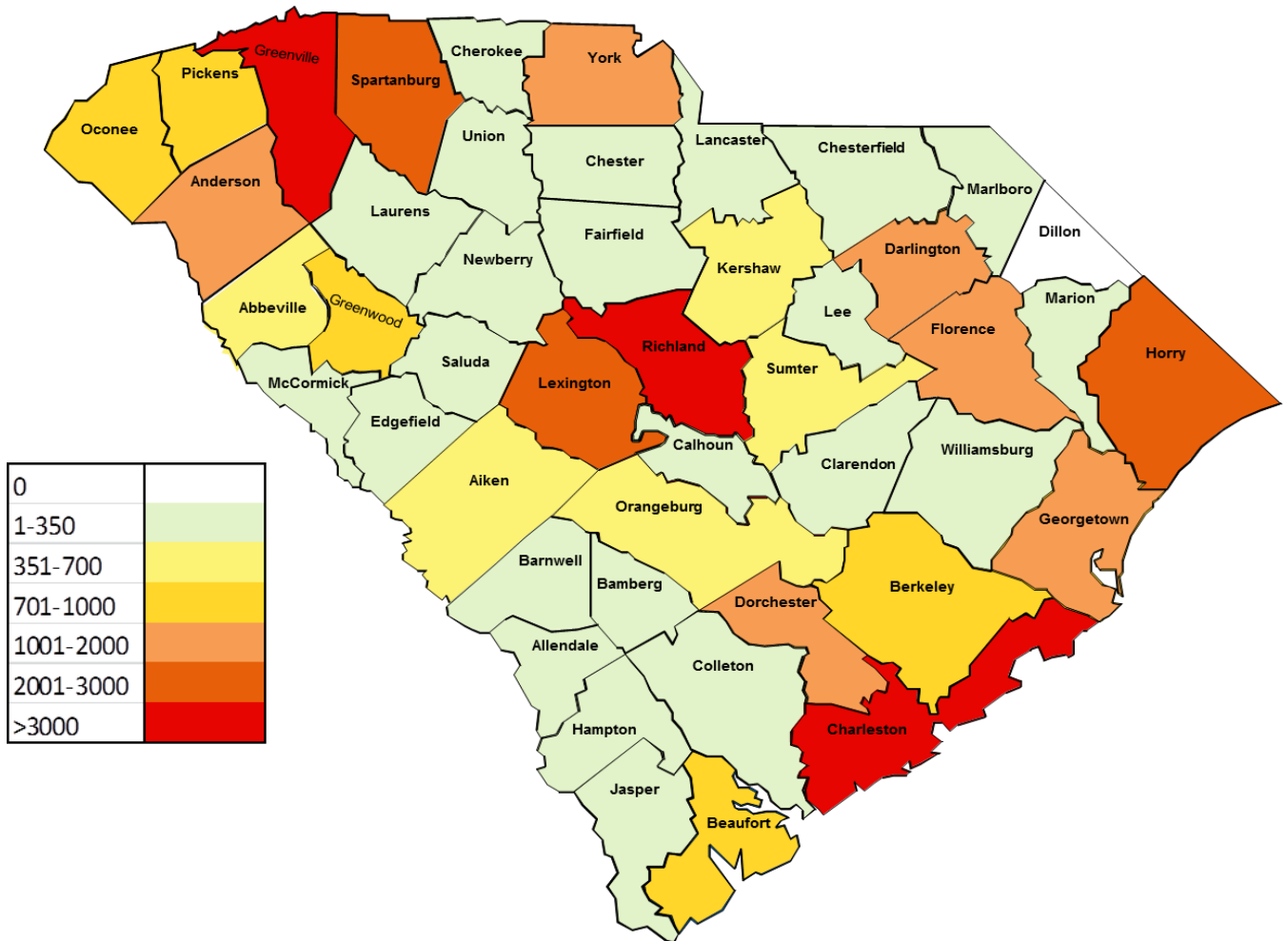
Positive Confirmatory Tests by County*
Current Week 3/23/14 – 3/29/14

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

*Includes culture, PCR, DFA, IFA



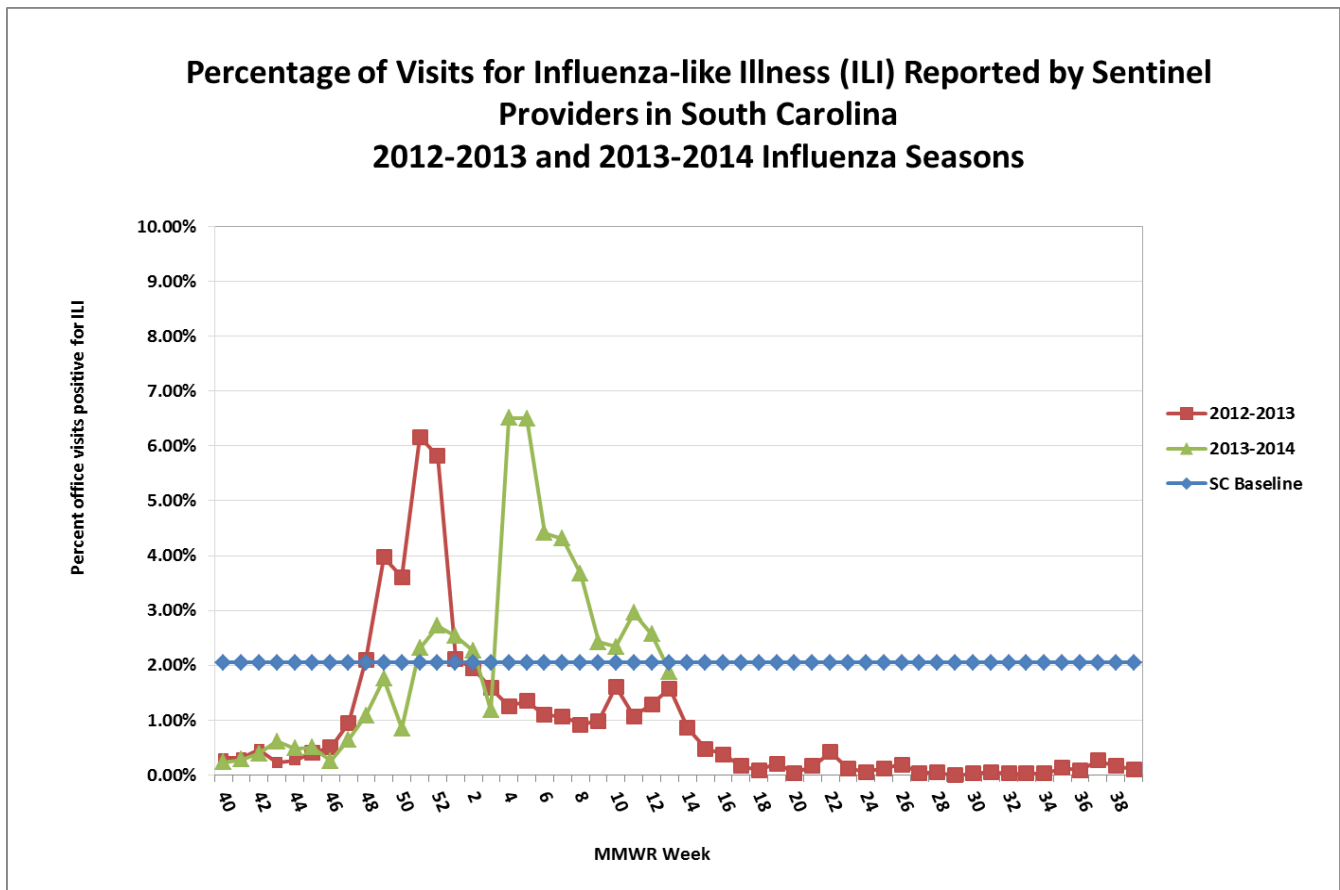
Map of all Laboratory Confirmed Cases* by County
 Cumulative 09/29/13 – 3/29/14



*Includes all laboratory tests (rapid antigen, culture, PCR, IFA, DFA.)

II. ILINet Influenza-Like Illness Surveillance

During the most recent MMWR week, 1.88 % of patient visits to SC ILINet providers were due to ILI. This is above the state baseline (2.05%). This ILI percentage compares to 1.58% this time last year. Reports were received from providers in 10 counties, representing all 4 of the 4 regions.



*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.

Influenza-Like Illness Reported by Sentinel Providers
March 23, 2014 – March 29, 2014

| County | ILI % | County | ILI % |
|---------------|--------------|---------------|--------------|
| Abbeville | --- | Greenwood | NR |
| Aiken | 0% | Hampton | NR |
| Allendale | --- | Horry | NR |
| Anderson | 1.14% | Jasper | NR |
| Bamberg | --- | Kershaw | NR |
| Barnwell | --- | Lancaster | --- |
| Beaufort | NR | Laurens | NR |
| Berkeley | NR | Lee | --- |
| Calhoun | --- | Lexington | NR |
| Charleston | 4.97% | Marion | --- |
| Cherokee | --- | Marlboro | --- |
| Chester | --- | McCormick | NR |
| Chesterfield | --- | Newberry | --- |
| Clarendon | --- | Oconee | --- |
| Colleton | --- | Orangeburg | --- |
| Darlington | --- | Pickens | 0% |
| Dillon | NR | Richland | 0.74% |
| Dorchester | NR | Saluda | 0% |
| Edgefield | --- | Spartanburg | 0% |
| Fairfield | --- | Sumter | NR |
| Florence | 0.60% | Union | --- |
| Georgetown | NR | Williamsburg | --- |
| Greenville | 0.43% | York | 1.53% |

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

III. Influenza hospitalizations and deaths

For the current MMWR reporting week, 13 lab confirmed influenza hospitalizations were reported by 54 hospitals. No lab confirmed influenza deaths were reported. 1790 lab confirmed influenza hospitalizations and 76 lab confirmed influenza deaths have been reported since 9/29/13. *

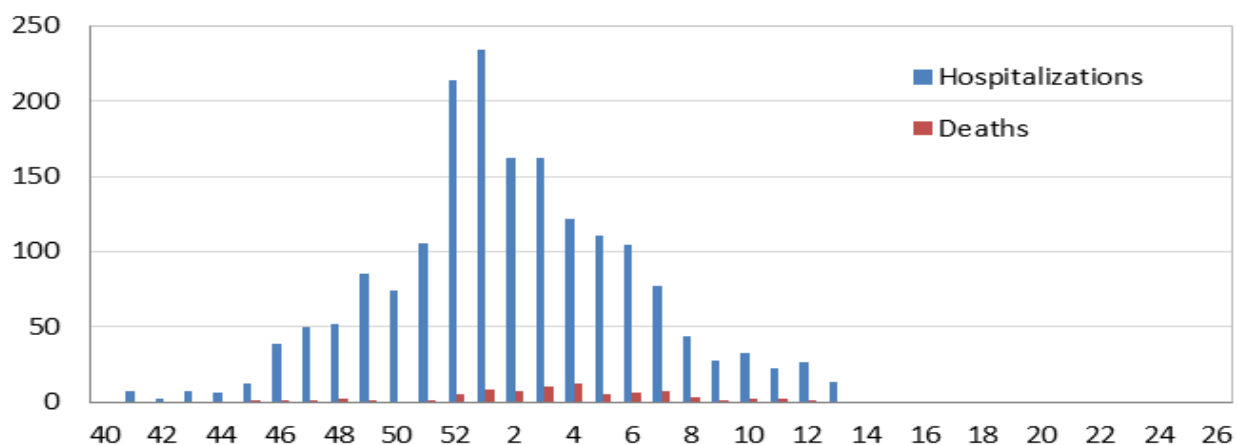
| <i>Current MMWR Week (3/2/14 -3/8/14)</i> | | | | | | | |
|---|-----|------|-------|-------|-----|-----|-------|
| | 0-4 | 5-17 | 18-49 | 50-64 | 65+ | Unk | Total |
| Hospitalizations | 1 | 0 | 4 | 3 | 5 | | 13 |
| Deaths | | | | | | | 0 |

| <i>Cumulative (9/29/13 -3/8/14)</i> | | | | | | | |
|-------------------------------------|-----|------|-------|-------|-----|-----|-------|
| | 0-4 | 5-17 | 18-49 | 50-64 | 65+ | Unk | Total |
| Hospitalizations | 141 | 76 | 477 | 565 | 529 | 2 | 1790 |
| Deaths | 1 | 1 | 22 | 20 | 32 | | 76 |

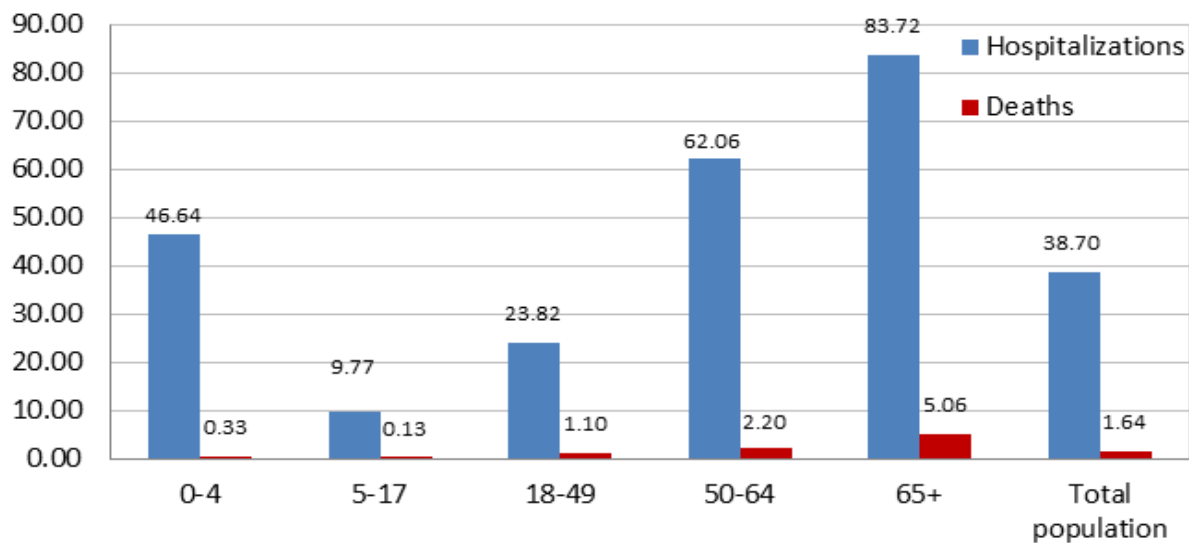
* Lab confirmation for hospitalizations and deaths includes culture, PCR, DFA, IFA, and rapid test.

| Influenza Deaths by SC Public Health Region | |
|--|---------------------|
| Region | Total Deaths |
| Lowcountry | 17 |
| Midlands | 18 |
| Pee Dee | 11 |
| Upstate | 30 |
| Total | 76 |

**Reported Cases of Laboratory Confirmed Influenza
Hospitalizations and Deaths by MMWR week
September 29, 2013 - March 29, 2014**



**Laboratory Confirmed Influenza Case rate/100,000
Hospitalizations (n=1790) and Deaths (n=76) by age group
September 29, 2013 - March 29, 2014**



IV. 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 3 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 deaths

All lab confirmed influenza deaths in adults should be reported to DHEC within 24 hours. These include results from viral culture, PCR, rapid flu tests, DFA, IFA or autopsy results consistent with influenza.

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 $\geq 100^{\circ}\text{F}$) 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)

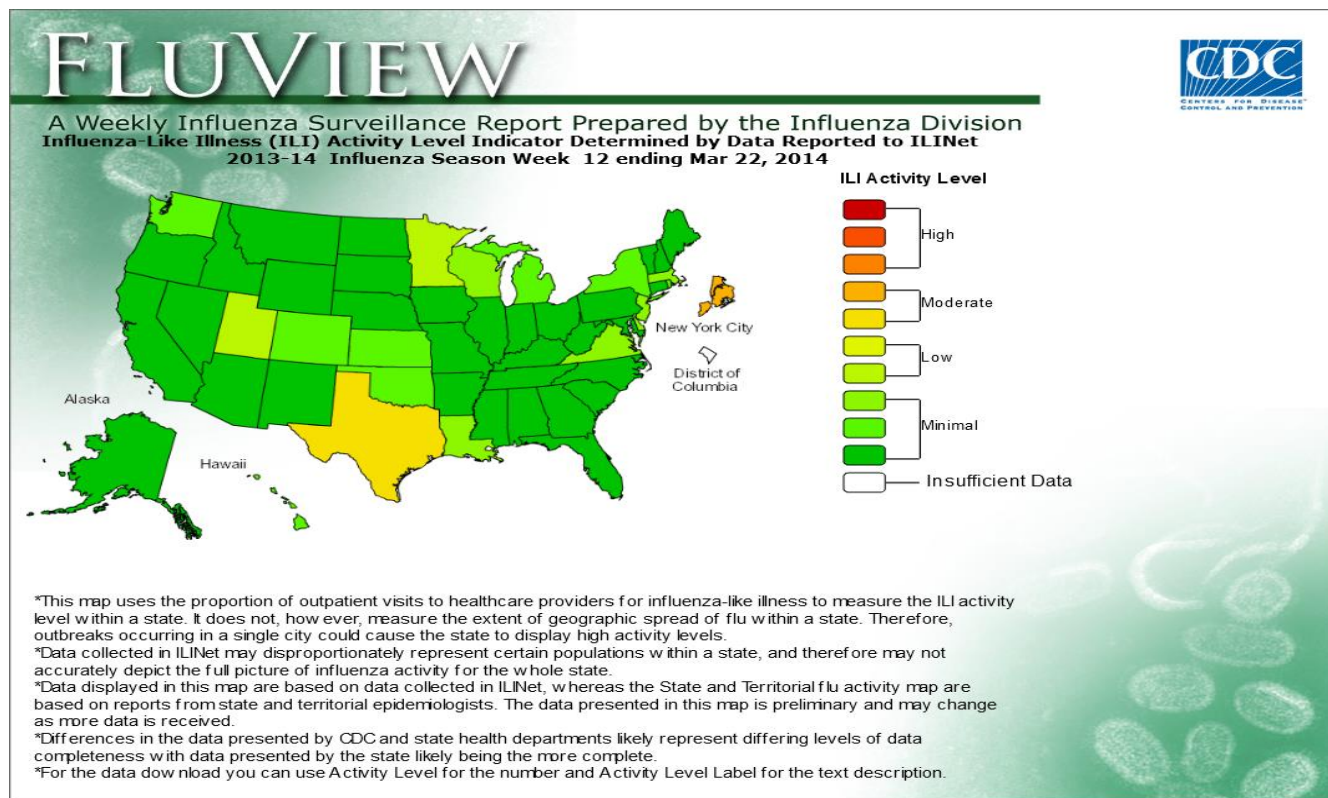
SC-DARTS is a collaborative network of syndromic surveillance systems within South Carolina. Currently our network contains the following data sources: SC Hospital Emergency Department (ED) chief-complaint data, Poison Control Center call data, Over-the-Counter (OTC) pharmaceutical sales surveillance, 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.

V. National Surveillance MMWR Week 12 (3/16- 3/22)

During week 12 (March 16-22, 2014), influenza activity continued to decrease in the United States.

- **Viral Surveillance:** Of 4,977 specimens tested and reported during week 12 by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories, 571 (11.5%) 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:** Four influenza-associated pediatric deaths were reported.
- **Influenza-associated Hospitalizations:** A season-cumulative rate of 31.1 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported.
- **Outpatient Illness Surveillance:** The proportion of outpatient visits for influenza-like illness (ILI) was 1.6%, which is below the national baseline of 2.0%. Four of 10 regions reported ILI at or above region-specific baseline levels. One state and New York City experienced moderate ILI activity; two states experienced low ILI activity; 47 states 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 widespread; Guam and seven states reported regional influenza activity; the District of Columbia and 17 states reported local influenza activity; Puerto Rico and 22 states reported sporadic influenza activity, 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>



VI. Definitions for Influenza Surveillance

Activity level: Indicator of the geographic spread of influenza activity which is reported to CDC each week.

- **No activity:** No increase in ILI activity and no laboratory-confirmed influenza cases.
- **Sporadic:** No increase in ILI activity and isolated laboratory-confirmed influenza cases
- **Local:** Increased ILI or 2 or more institutional outbreaks in one region and laboratory-confirmed influenza cases within the past 3 weeks in the region with increased ILI or outbreaks
- **Regional:** Increased ILI or institutional outbreaks in 2-3 regions and laboratory-confirmed influenza cases within the past 3 weeks in the regions with increased ILI or institutional outbreaks
- **Widespread:** Increased ILI and/or institutional outbreaks in at least 4 regions and laboratory confirmed influenza in the state within the past 3 weeks

Confirmatory testing: Influenza testing which is considered to be confirmatory, such as a viral culture or PCR

Influenza-like illness (ILI): Fever (temperature of 100°F [37.8°C] or greater) and cough and/or sore throat

MMWR week: Term for influenza surveillance week. Each week begins on Sunday and ends on Monday. The influenza season begins with MMWR week 40 and ends with MMWR week 39. The 2013-14 influenza season began on September 29, 2013 and will end on September 27, 2014.

Laboratory-confirmation: Positive influenza resulting from one of the following methods:

- DFA
- IFA
- Rapid influenza antigen test
- RT-PCR
- Viral culture