Flu Watch

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

Week Ending October 17, 2015 (MMWR Week 41)

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

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MMWR Week 41 at a Glance:

Influenza Activity Synopsis:

During MMWR week 41 influenza activity in South Carolina increased; however, it remained relatively low. South Carolina reported SPORADIC activity.

Laboratory surveillance:

- 113 laboratory-confirmed cases of influenza were reported from 18 counties.
- Of the 192 laboratory confirmed cases this season, 108 (56.3%) are influenza A, 74 (38.5%) are influenza B, 4 (2.1%) are influenza A/B, and 6 (3.1%) are influenza unknown subtype.

ILI Activity (South Carolina baseline is 2.05%):

- The percentage of visits to sentinel providers for influenza-like illness (3.16%) was below South Carolina's baseline. ILI percentages represent ILI activity reported by less than half of enrolled sentinel providers. Therefore, ILI percentages may not be representative of actual flu activity.

Hospitalizations:

- 19 laboratory confirmed influenza-associated hospitalizations were reported. Since October 4, 2015, 30 laboratory confirmed influenza associated hospitalizations have been reported.

Deaths:

- 1 laboratory confirmed influenza-associated death was reported. Since October 4, 2015, five laboratory confirmed influenza associated deaths have been reported.

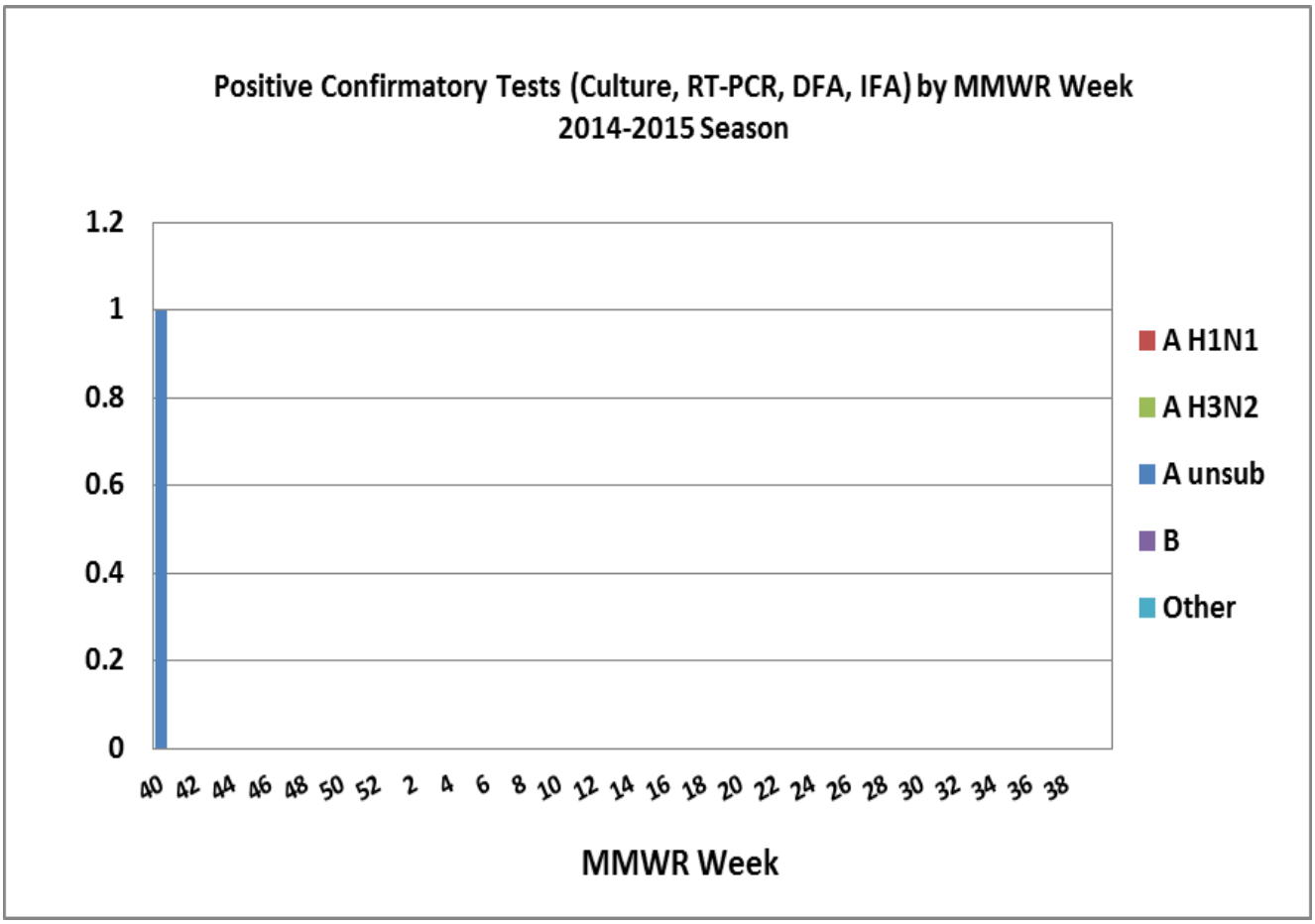
Summary of Laboratory Confirmed Tests, ILI Activity, Influenza Associated Hospitalizations and Deaths Compared to Previous Week and Previous Season						
	Current week	*Previous week*	*Change from previous week*	*Cumulative* (2015-16)	*Cumulative* (2014-15)	*Cumulative change 2015-16 compared to 2014-15*
Number of positive confirmatory tests (culture, RT-PCR, DFA, IFA)	**0**	**1**	▼ 100%	**1**	**2**	▼ 50.0%
Positive rapid antigen tests	**113**	**78**	▲ 44.9%	**191**	**174**	▲ 9.8%
Percent of ILI visits reported by ILINet providers	**3.16%**	**0.26%**	▲ 2.9%	**--**	**--**	**--**
Number of lab confirmed flu hospitalizations	**19**	**11**	▲ 72.7%	**30**	**19**	▲ 57.9%
Number of lab confirmed flu deaths	**1**	**4**	▼ 75.0%	**5**	**3**	▲ 66.7%

I. Confirmatory testing

Positive confirmatory influenza test results Current MMWR Week (10/11/15 – 10/17/15)*	
	BOL and reference labs
Number of positive confirmatory tests	0
Influenza A unsubtyped	0
Influenza A H1N1	0
Influenza A H3N2	0
Influenza B	0
Other	0
Includes culture, RT-PCR, DFA, and IFA	

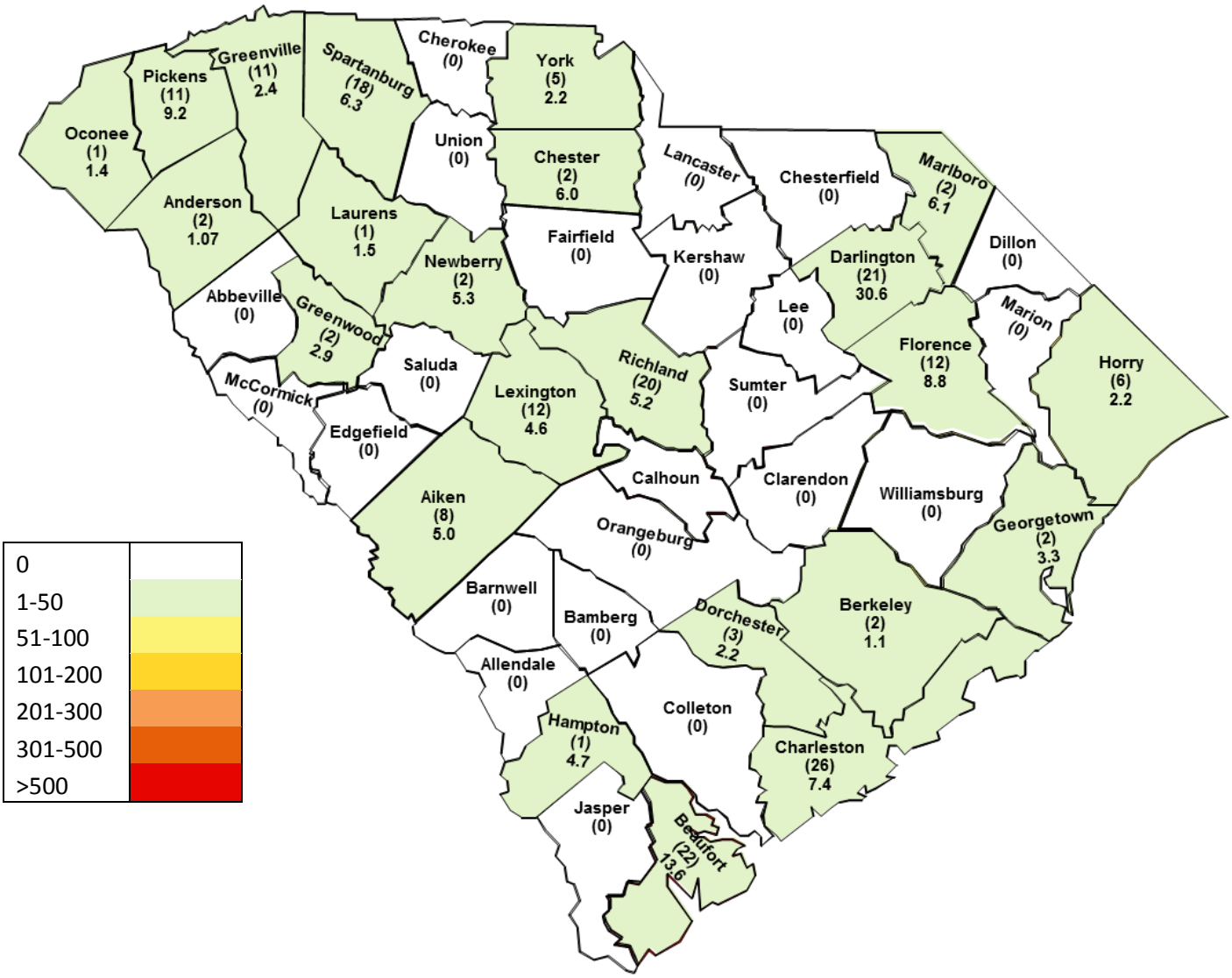
For the current MMWR reporting week, No positive confirmatory tests (culture, RT-PCR, DFA, IFA) were reported.

Positive confirmatory influenza test results Cumulative (10/4/15 – 10/17/15)*	
	BOL and reference labs
Number of positive confirmatory tests	1
Influenza A unsubtyped	1
Influenza A H1N1	0
Influenza A H3N2	0
Influenza B	0
Other	0
Includes culture, RT-PCR, DFA, and IFA	



*Includes culture, PCR, DFA, IFA

Map of all Laboratory Confirmed Cases (n)* and Population Case Rates/100,000 by County Cumulative 10/4/15 – 10/17/15

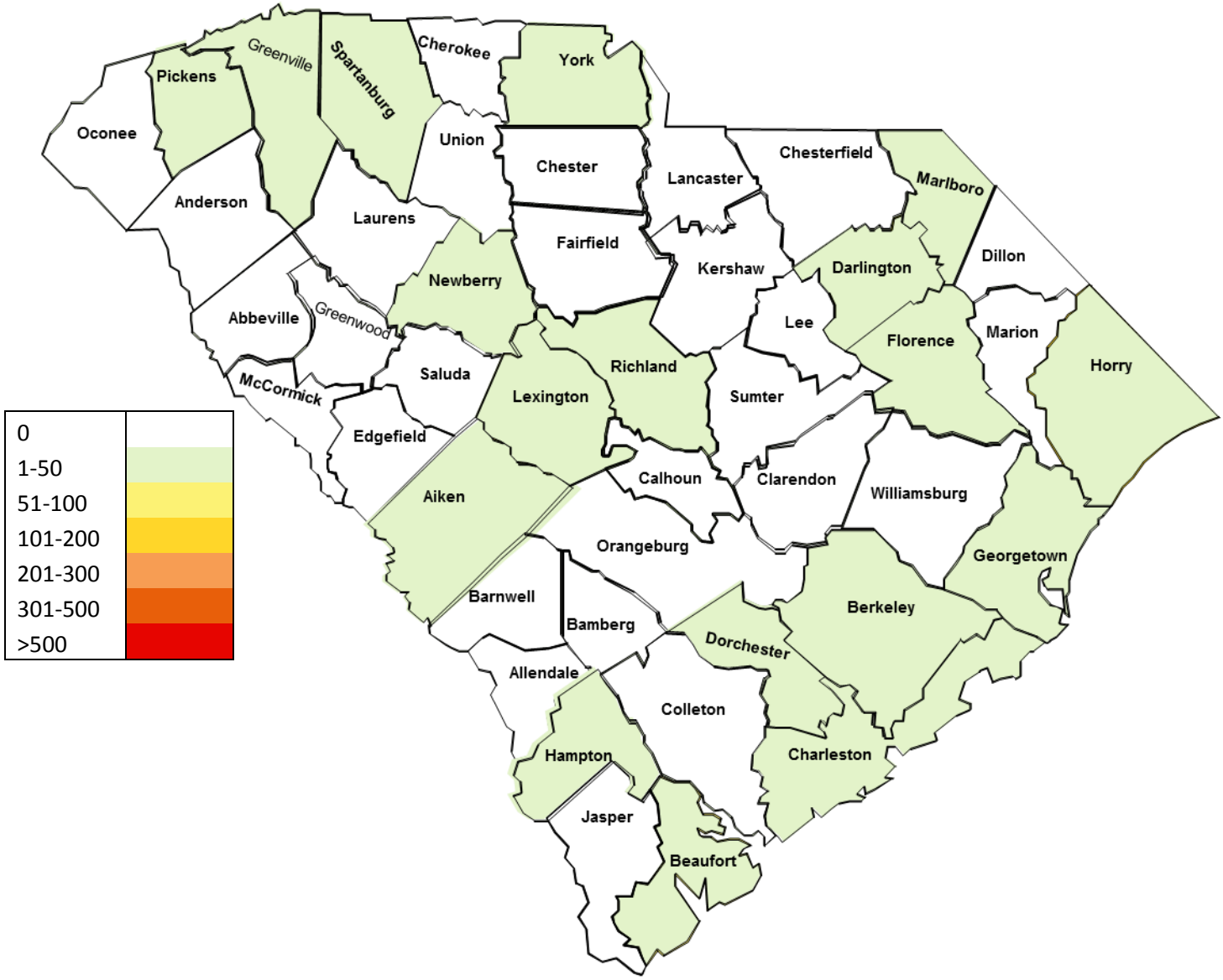


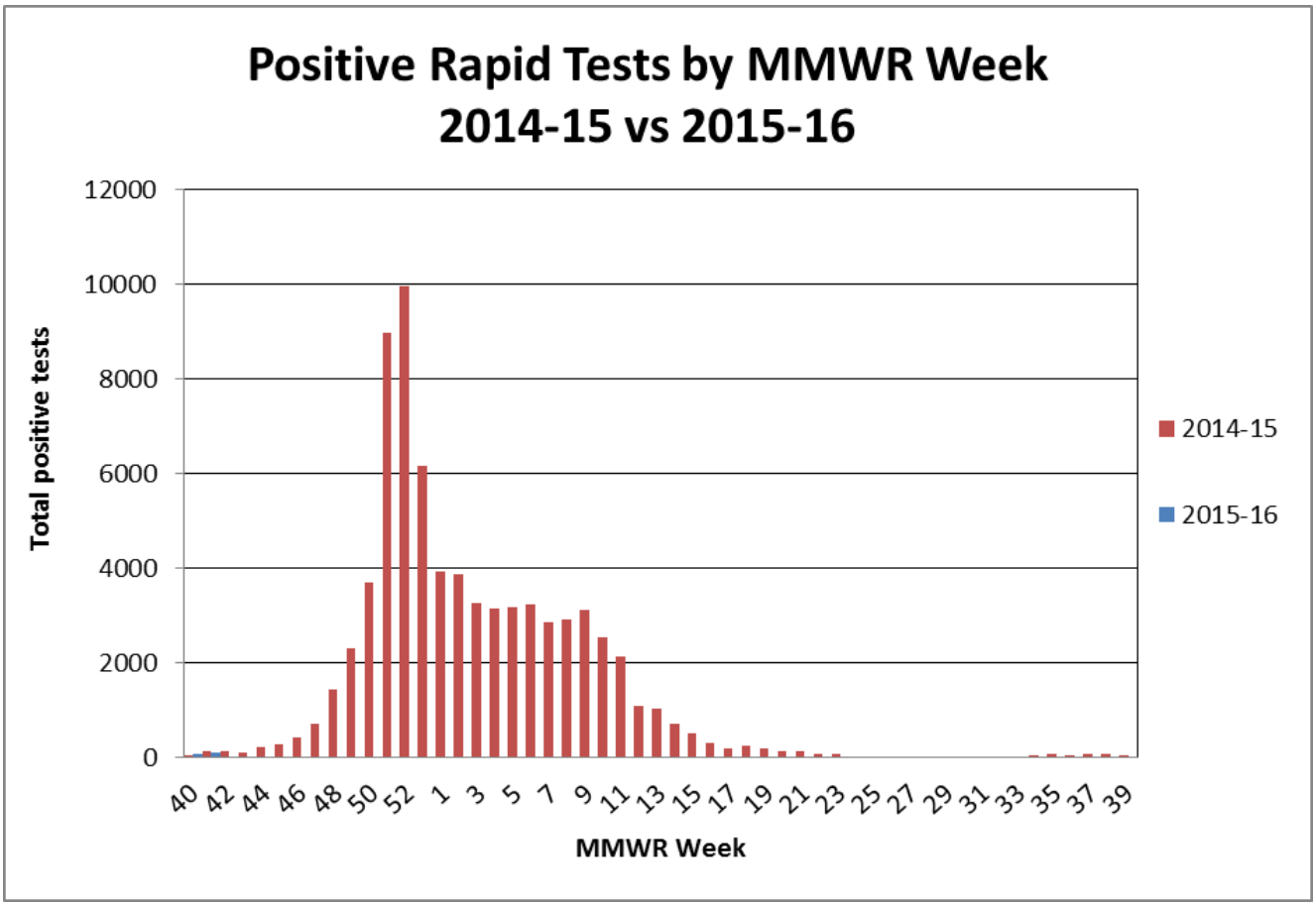
*Includes all laboratory tests (rapid antigen, culture, PCR, IFA, DFA.)

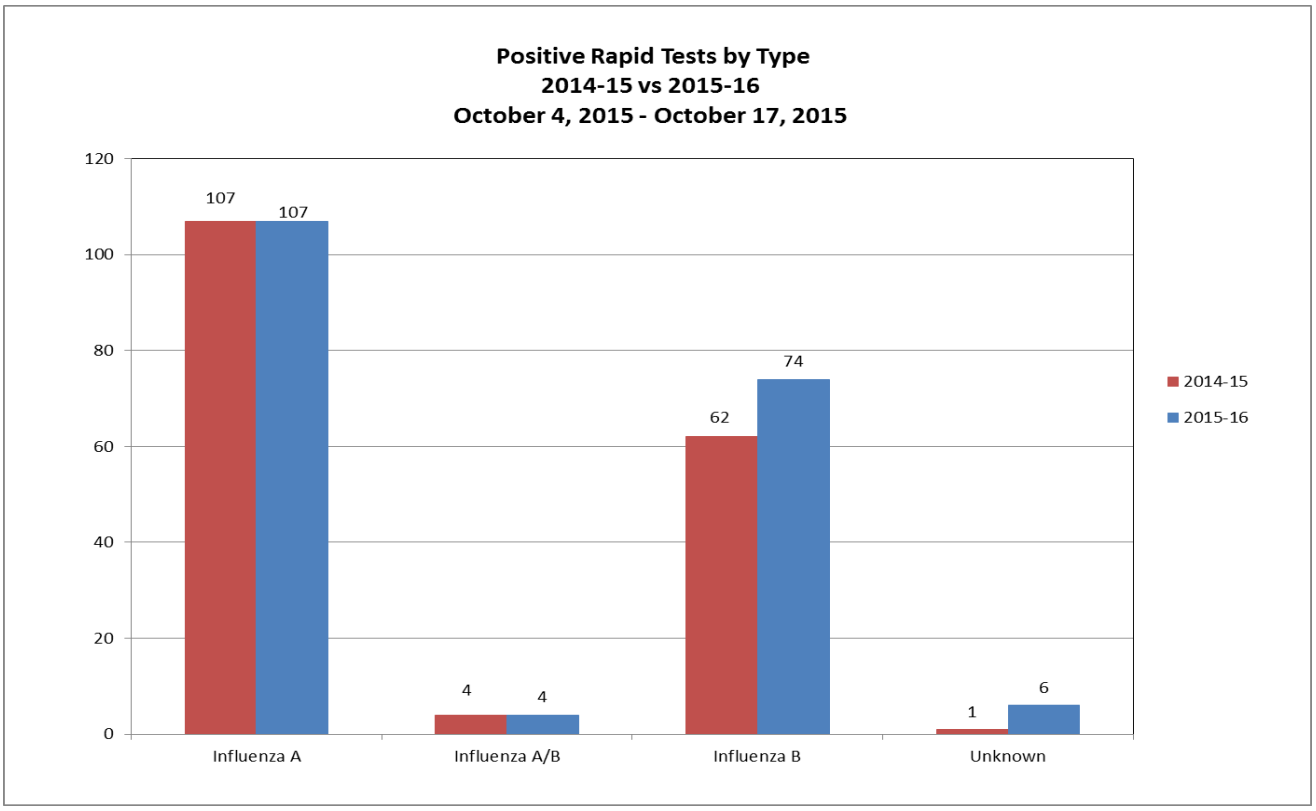
II. Positive Rapid Antigen Tests

For the current MMWR reporting week, 113 positive rapid antigen tests were reported. Of these, 57 were influenza A, 47 were influenza B, 3 were influenza AB and 6 were unknown type. This compares to 130 this time last year.

Map of Positive Rapid Influenza Tests by County
(10/11/15 - 10/17/15)

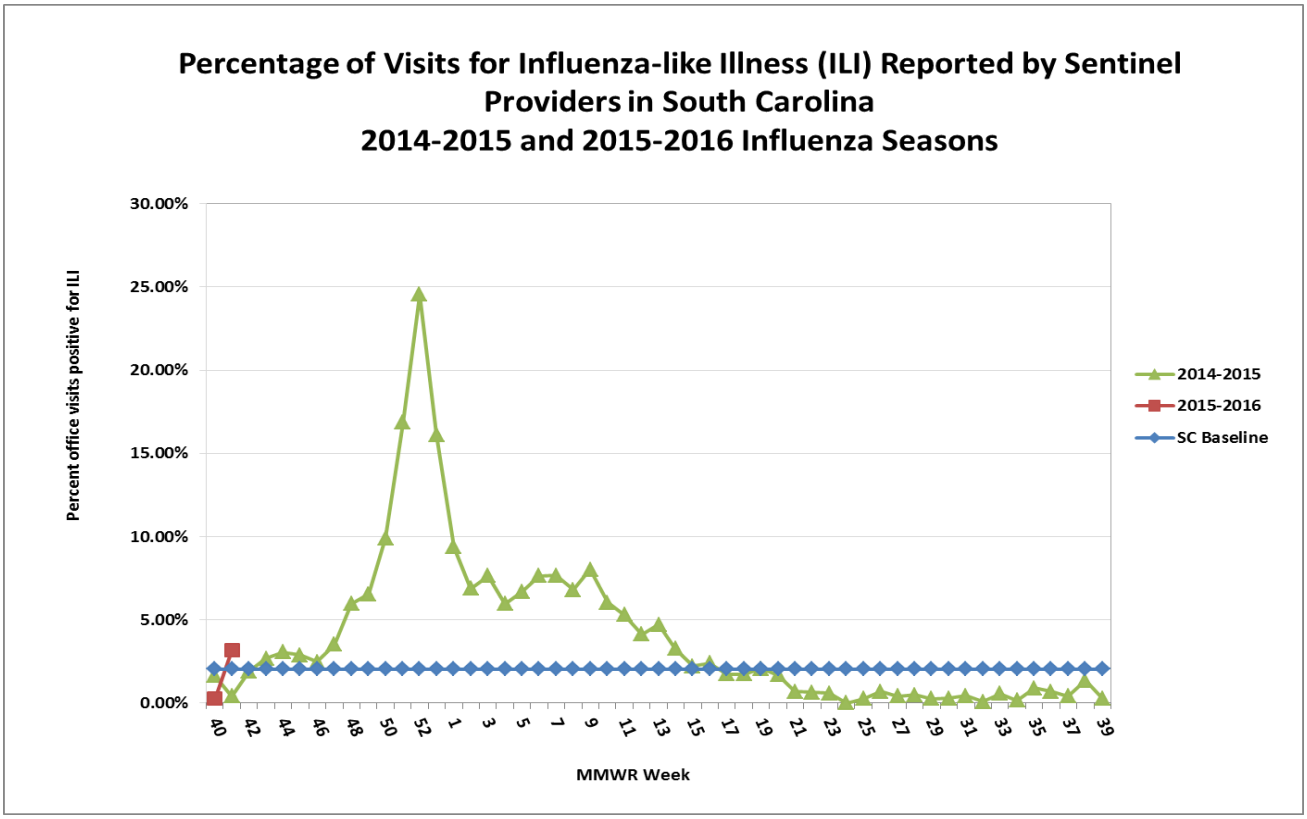



Positive Rapid Tests by MMWR Week
2014-15 vs 2015-16
Total positive tests
12000
10000
8000
6000
4000
2000
0
40 42 44 46 48 50 52 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39
MMWR Week
2014-15
2015-16


Positive Rapid Tests by Type
2014-15 vs 2015-16
October 4, 2015 - October 17, 2015
120
100
80
60
40
20
0
107
107
4
4
62
74
1
6
Influenza A
Influenza A/B
Influenza B
Unknown
2014-15
2015-16

III. ILINet Influenza-Like Illness Surveillance

During the most recent MMWR week, 3.16%* of patient visits to SC ILINet providers were due to ILI. This is above the state baseline **(2.05%)**. This ILI percentage compares to 0.41% this time last year. Reports were received from providers in 8 counties, representing all 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. * ILI percentage is dependent upon the number of reporting providers and can be greatly influenced by a single provider with high numbers of ILI.

Influenza-Like Illness Reported by Sentinel Providers
October 11, 2015 – October 17, 2015

County	ILI %	County	ILI %
Abbeville	---	Greenwood	NR
Aiken	0.20%	Hampton	NR
Allendale	---	Horry	--
Anderson	0%	Jasper	--
Bamberg	---	Kershaw	--
Barnwell	---	Lancaster	---
Beaufort	NR	Laurens	NR
Berkeley	6.04%	Lee	---
Calhoun	---	Lexington	NR
Charleston	4.13%	Marion	---
Cherokee	---	Marlboro	---
Chester	---	McCormick	NR
Chesterfield	---	Newberry	---
Clarendon	---	Oconee	---
Colleton	---	Orangeburg	---
Darlington	---	Pickens	0%
Dillon	__	Richland	NR
Dorchester	NR	Saluda	0%
Edgefield	---	Spartanburg	NR
Fairfield	---	Sumter	NR
Florence	0.31%	Union	---
Georgetown	NR	Williamsburg	---
Greenville	NR	York	2.19%

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

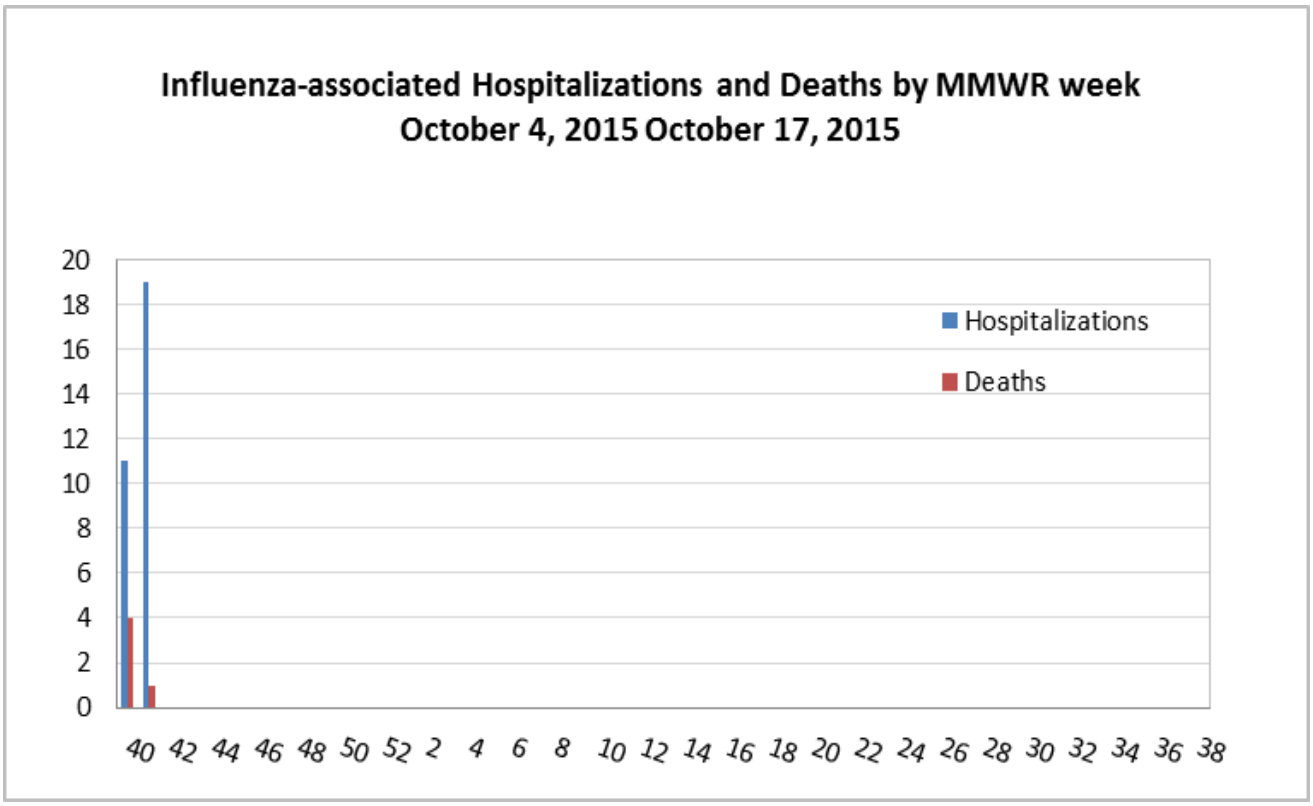
IV. Influenza-associated hospitalizations and deaths

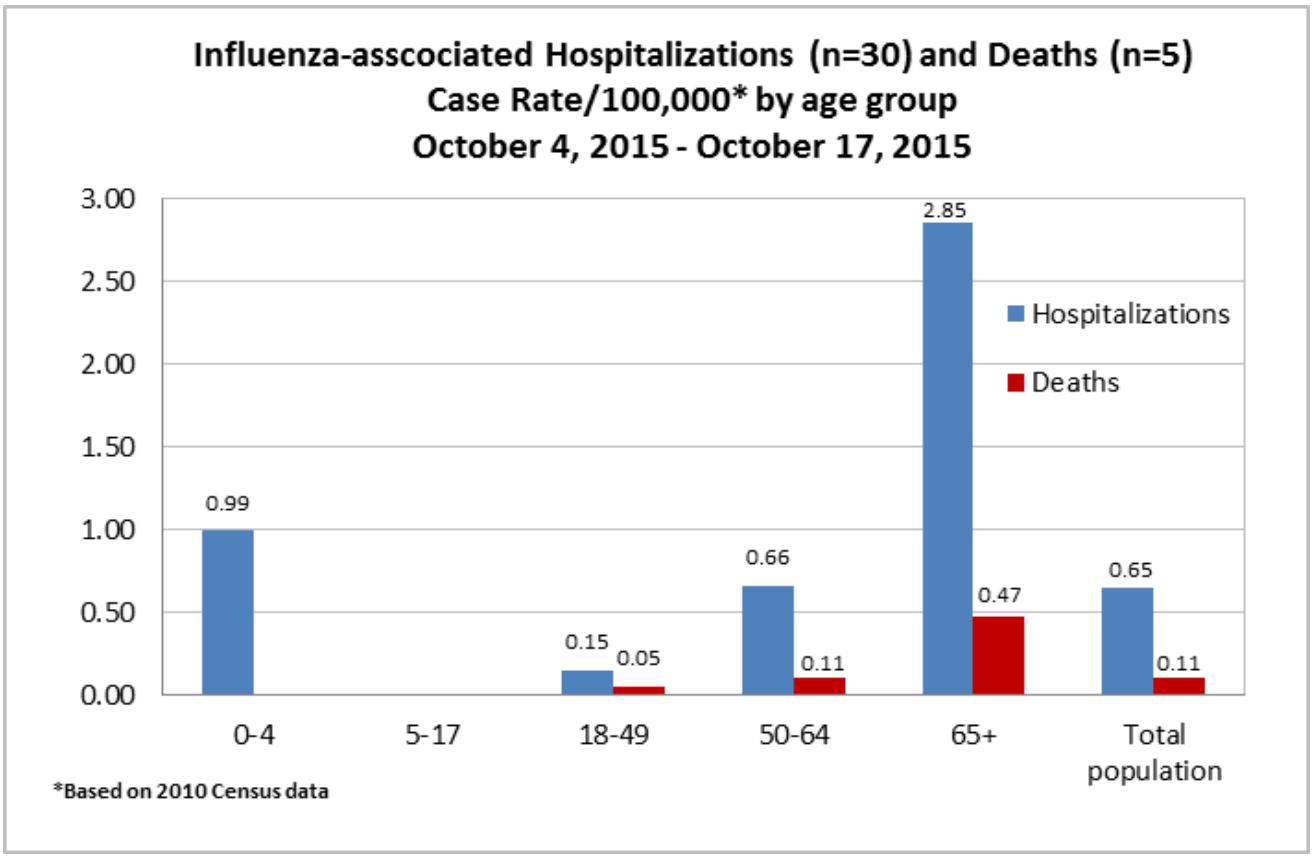
For the current MMWR reporting week, 19 laboratory confirmed influenza-associated hospitalizations were reported by 51 hospitals. One lab confirmed influenza-associated death was reported.Since October 4, 2015 30 laboratory confirmed influenza-associated hospitalizations and 5 laboratory confirmed influenza-associated deaths have been reported.**Laboratory confirmation for hospitalizations and deaths includes culture, PCR, DFA, IFA, and rapid antigen**

Current MMWR Week (10/11/15 - 10/17/15)							
	0-4	**5-17**	**18-49**	**50-64**	**65+**	**Unknown**	**Total**
Hospitalizations	2	0	3	4	10	0	19
Deaths	0	0	0	0	1	0	1

Cumulative (10/4/15 -10/17/14)							
	0-4	**5-17**	**18-49**	**50-64**	**65+**	**Unknown**	**Total**
Hospitalizations	3	0	3	6	18		30
Deaths	0	0	1	1	3		5

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


Influenza-associated Hospitalizations and Deaths by MMWR week
October 4, 2015 October 17, 2015
20
18
16
14
12
10
8
6
4
2
0
Hospitalizations
Deaths
40 42 44 46 48 50 52 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38

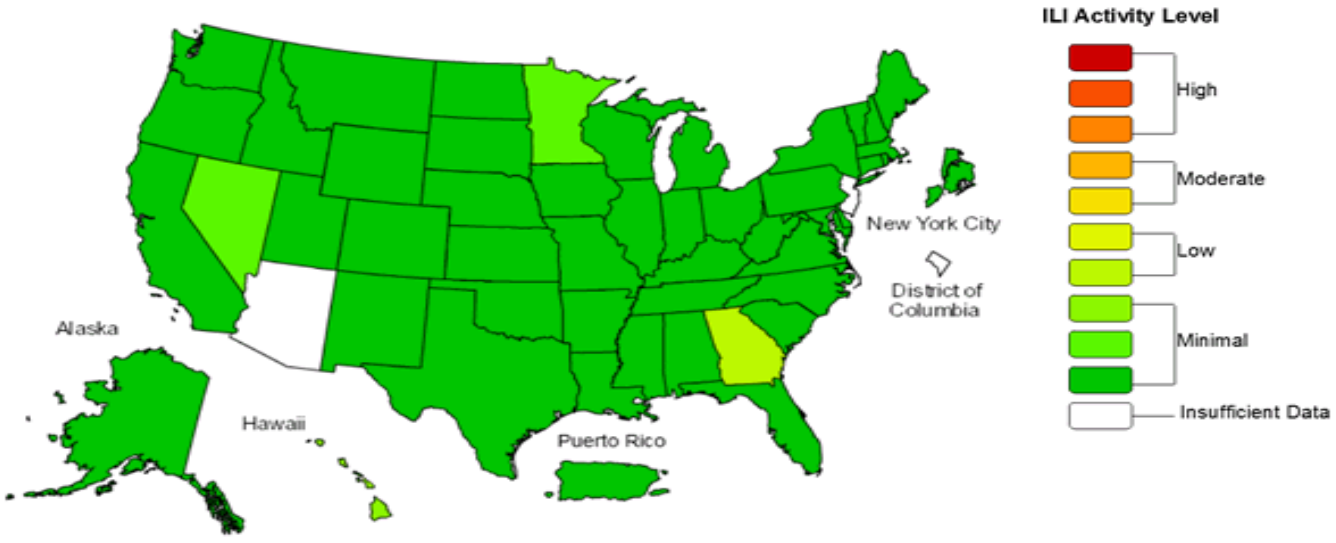

Influenza-asscociated Hospitalizations (n=30) and Deaths (n=5)
Case Rate/100,000* by age group
October 4, 2015 - October 17, 2015
3.00
2.50
2.00
1.50
1.00
0.50
0.00
Hospitalizations
Deaths
0.99
0.15
0.05
0.66
0.11
2.85
0.47
0.65
0.11
0-4
5-17
18-49
50-64
65+
Total population
*Based on 2010 Census data

V. National surveillance (10/4/15 – 10/10/15)

During week 40 (October 4-10, 2015), influenza activity was low in the United States.

- **Viral Surveillance:** The most frequently identified influenza virus type reported by public health laboratories in week 40 was influenza A viruses, with influenza A (H3) viruses predominating. The percentage of respiratory specimens testing positive for influenza in clinical laboratories is low.
- **Pneumonia and Influenza Mortality:** The proportion of deaths attributed to pneumonia and influenza (P&I) was below their system-specific epidemic threshold in both the NCHS Mortality Surveillance System and the 122 Cities Mortality Reporting System.
- **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 1.2%, which is below the national baseline of 2.1%. All 10 regions reported ILI below region-specific baseline levels. Georgia experienced low ILI activity; Puerto Rico, New York City and 47 states experienced minimal ILI activity; and the District of Columbia and two states had insufficient data.
- **Geographic Spread of Influenza:** The geographic spread of influenza in Guam was reported as widespread; one state reported regional activity; one state reported local activity; Puerto Rico and 27 states reported sporadic activity; the U.S. Virgin Islands and 21 states reported no influenza activity; and the District of Columbia did not report.

Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2015-16 Influenza Season Week 40 ending Oct 10, 2015



VI. 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 must 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 must be sent to the regional health department by fax or email before noon on Monday for the preceding week.

Influenza deaths
All laboratory confirmed influenza deaths (adult and pediatric) must 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 must 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 ≥100°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.

VII. 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 RT-PCR

Influenza-associated death: A death in which laboratory confirmation (see definition below) for influenza was reported, or for which an autopsy report consistent with influenza was provided, regardless of primary cause of death.

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: Influenza positive resulting from one of the following methods:

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