

FLORIDA INFLUENZA SURVEILLANCE

FLORIDA DEPARTMENT OF
HEALTH



Week 36: September 6th-12th, 2009

Produced on: September 17, 2009

Posted on the Bureau of Epidemiology website: http://www.doh.state.fl.us/disease_ctrl/epi/swineflu/Reports/reports.htm

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Weekly state influenza activity:
Widespread



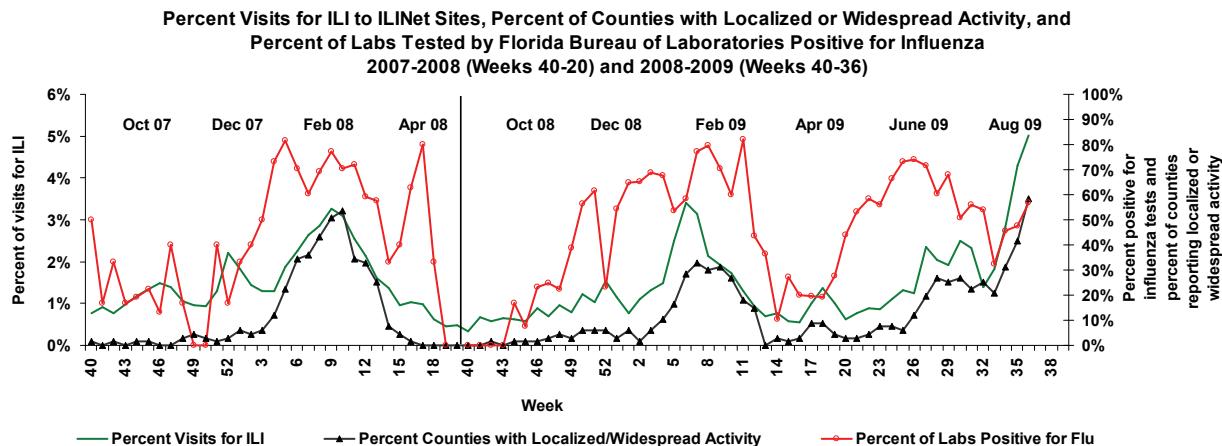
I. SUMMARY

The Florida Department of Health (FDOH) monitors influenza activity through multiple surveillance systems. This report is produced weekly in order to assist FDOH monitor the current influenza and novel H1N1 influenza situation. Data summarized in this report includes mitigates sources: 1) emergency department syndromic surveillance as monitored through Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE); 2) laboratory data from the Bureau of Laboratories; 3) county influenza activity levels as reported by county health department epidemiologists; 4) the Florida Pneumonia and Influenza Mortality Surveillance System (FPIMSS); 5) Florida Outpatient Influenza-like Illness Surveillance Network (ILINet) providers; 6) novel H1N1 influenza notifiable disease data for special surveillance populations (deaths, hospitalized pregnant women, and those with life threatening illness) and pediatric influenza-associated mortality as reported in the Merlin system for notifiable disease surveillance; and 7) outbreaks or clusters of influenza-like illness (ILI) as reported through EpiCom. The criteria for influenza-like illness differ somewhat across the data systems.

These data sources indicate influenza-like illness activity has increased sharply in the past two weeks, coinciding with the start of the school year for students. The majority (99%) of the influenza viruses being detected are novel H1N1 influenza viruses. Virtually all infections due to the new virus are caused by strains that are sensitive to Tamiflu and Relenza.

Each week an activity code for the state as a whole is reported to the Centers for Disease Control and Prevention (CDC). There are five possible categories: No Activity, Sporadic, Local, Regional, or Widespread. For week 36, Florida meets the CDC widespread activity definition: outbreaks of influenza or increases in ILI cases in more than half the regions of the state with recent laboratory evidence of influenza in those regions. The CDC report can be viewed at <http://www.cdc.gov/flu/weekly/usmap.htm>

The graph below shows the progression of the 2007-2008 and 2008-2009 Florida influenza seasons as monitored by three of the seven surveillance systems: ILINet, Bureau of Laboratories viral surveillance, and county activity levels.

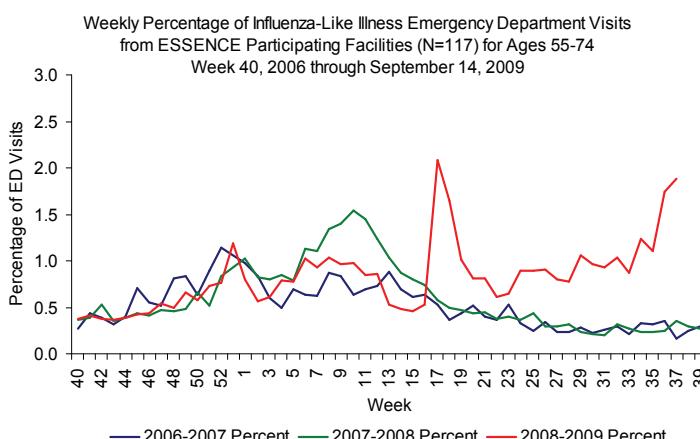
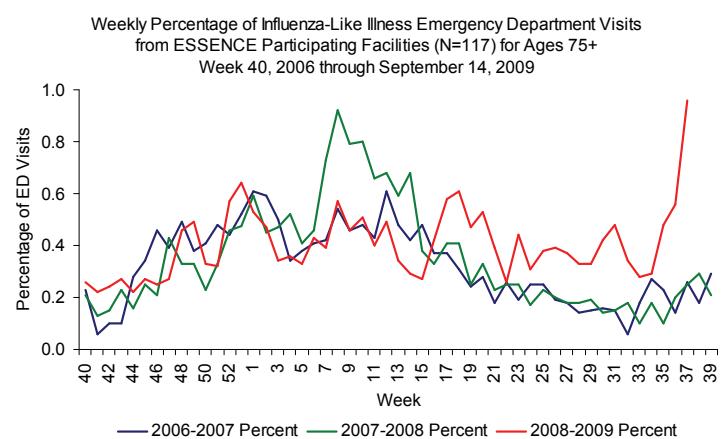
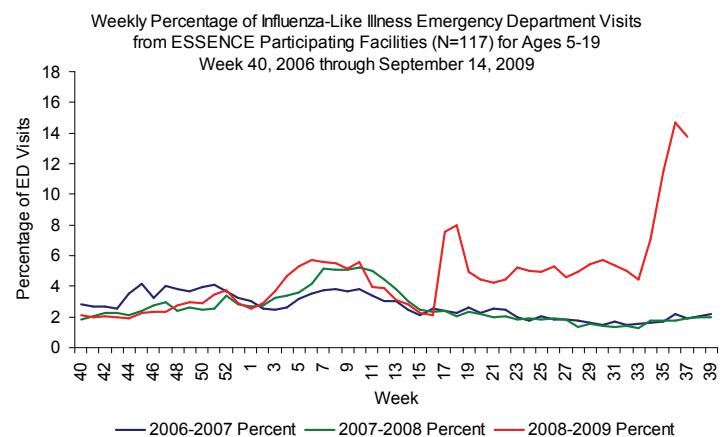
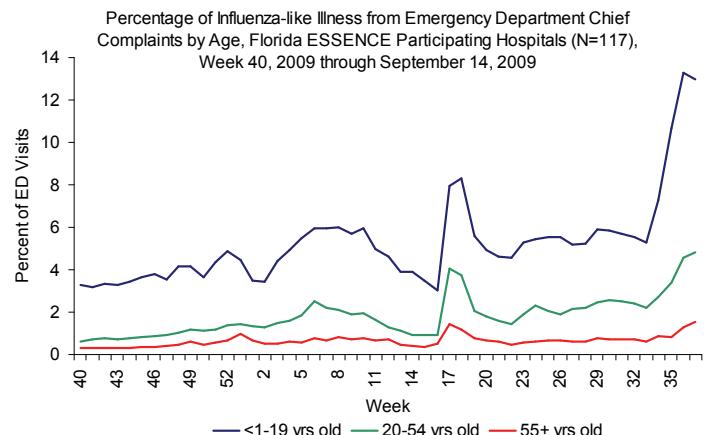
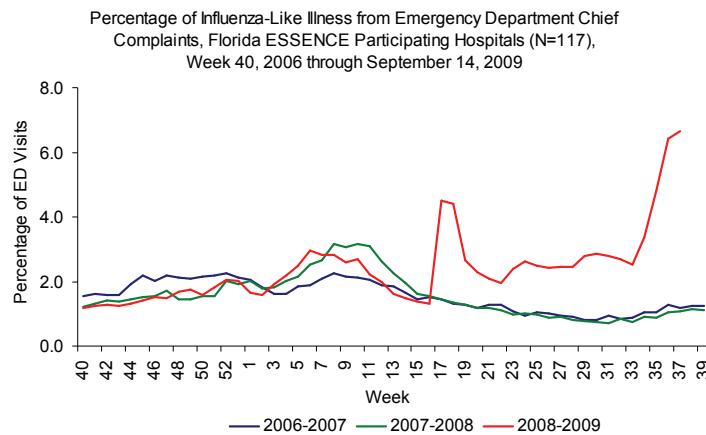


II. ESSENCE SYNDROMIC SURVEILLANCE SUMMARY-STATEWIDE

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Florida uses the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) for syndromic surveillance, which currently collects data from 117 hospitals. These data are processed into 11 different syndrome categories based on the patient's chief complaint. One of the categories is influenza-like illness (ILI), which is composed of chief complaints that include the words "influenza" or "flu", or either fever and cough or sore throat. The data are collected on a daily basis from participating hospital emergency departments (ED) across the state.

Overall activity for influenza-like illness remains well above expected levels for this time of year, in most areas exceeds levels seen at the peak of normal influenza season, and exceeds the initial surge of worried well at week 17, 2009. The majority of the increase is occurring in younger age groups. These data are based on the patient's chief complaint and may not reflect the actual diagnosis.

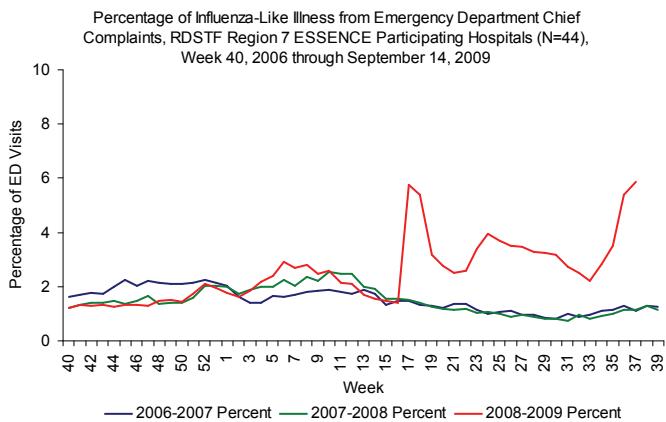
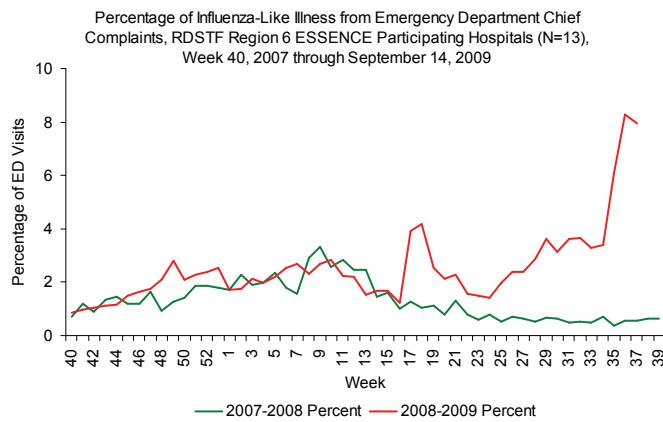
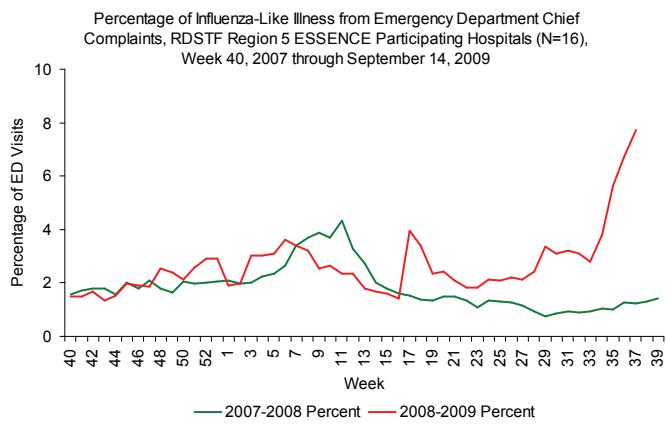
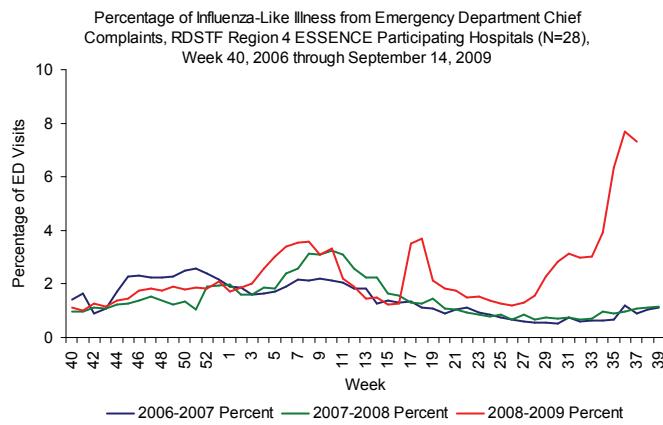
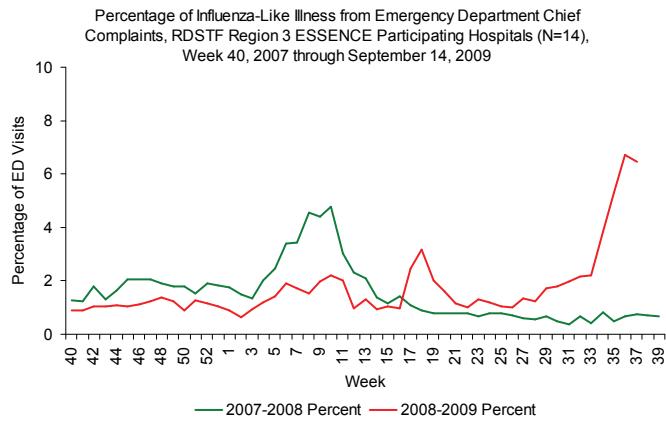
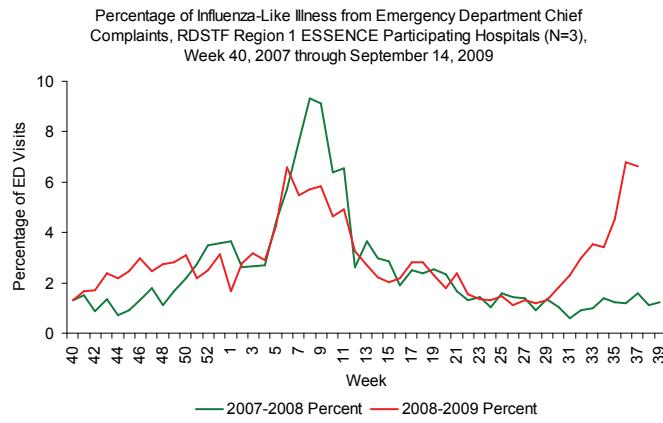
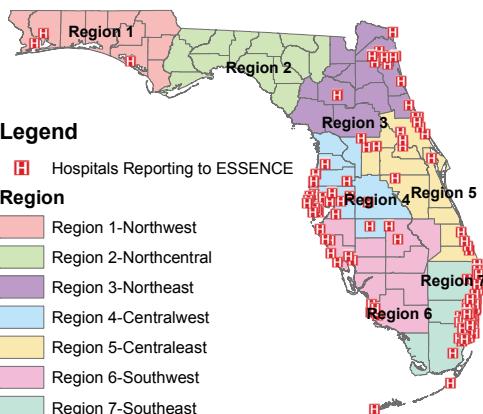


III. ESSENCE SYNDROMIC SURVEILLANCE SUMMARY-REGIONAL

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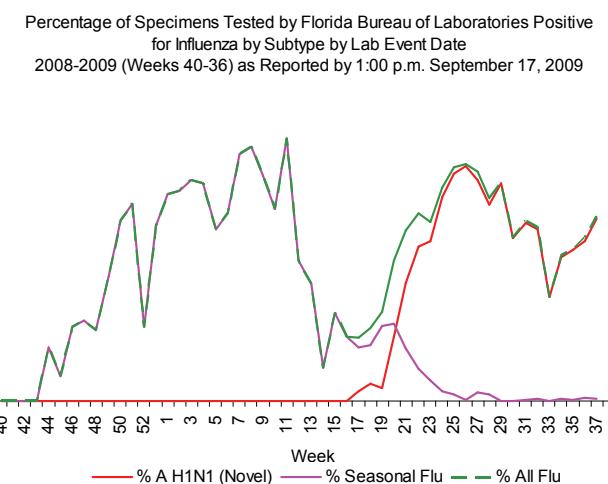
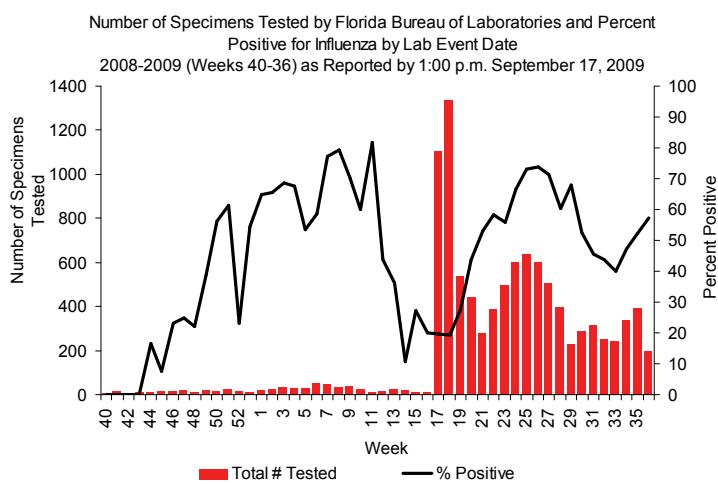
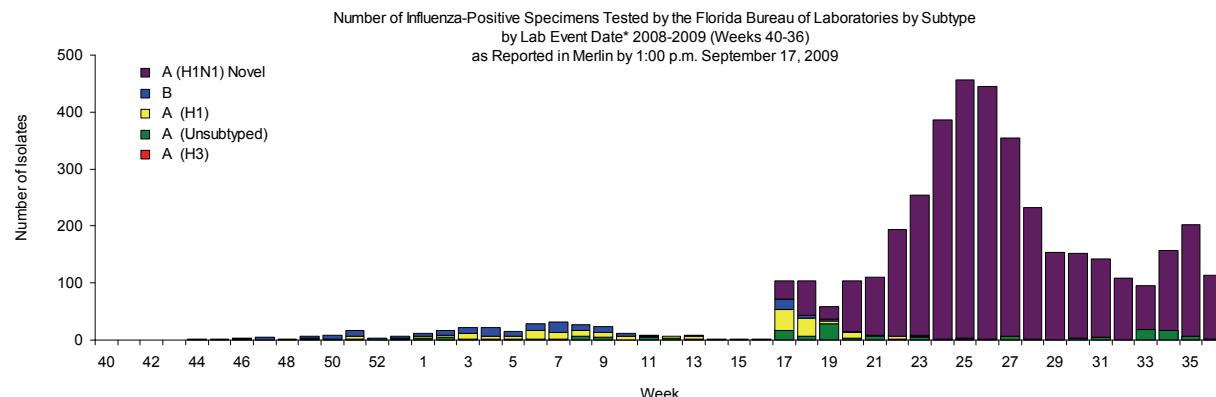
The figures below describe emergency department chief complaint data from ESSENCE by Domestic Security Task Force Region (Region 2 does not have any participating facilities in ESSENCE and therefore is not displayed). All regions with reporting hospitals show very large increases in flu activity in the last few weeks. At the time novel H1N1 influenza was first identified (week 17, 2009), data from 5 of the 7 regions indicated large increases in patients presenting for care of influenza-like illness. Our interpretation of this peak is that it includes many individuals who we may classify as "worried well", others may be truly ill with a respiratory illness but in the absence of swine flu news may have stayed home to get better, and then of course some of these probably had some strain of influenza. The increase in ILI activity after week 21 are more likely to be associated with actual 2009 H1N1 influenza infection.

Hospitals Reporting Emergency Department Data to Florida ESSENCE, September 16, 2009 (N=117)



As 1:00 p.m. September 17, 197 specimens with a lab event date during week 36 were tested by the Bureau of Laboratories. Of those, 113 (57%) were positive for influenza. Of the 113 positive for influenza, 112 (99%) were novel H1N1 influenza. The remaining specimen was seasonal influenza A unknown. Please note that lab event date* is defined as the earliest of the following dates associated with the lab: date collected, date received by the laboratory, date reported, or date inserted.

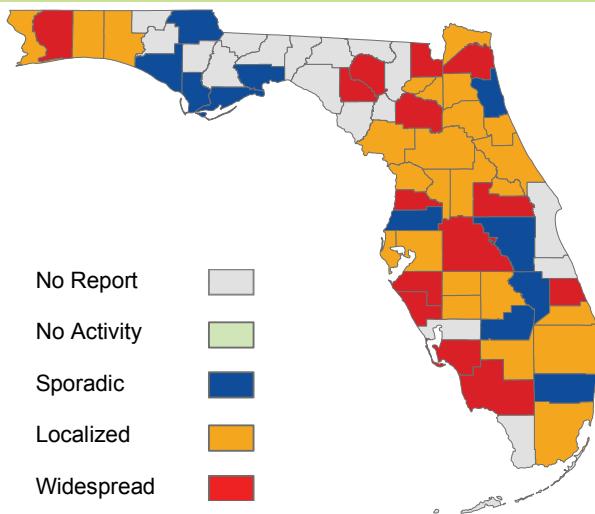
Enhanced laboratory testing activities in response to novel H1N1 influenza activity was initiated in week 17. Increased testing lead to an increase in the total number of positive influenza isolates identified. *Laboratory information is preliminary and may change as additional results are received. Totals from previous weeks will be adjusted to reflect correct specimen numbers.*



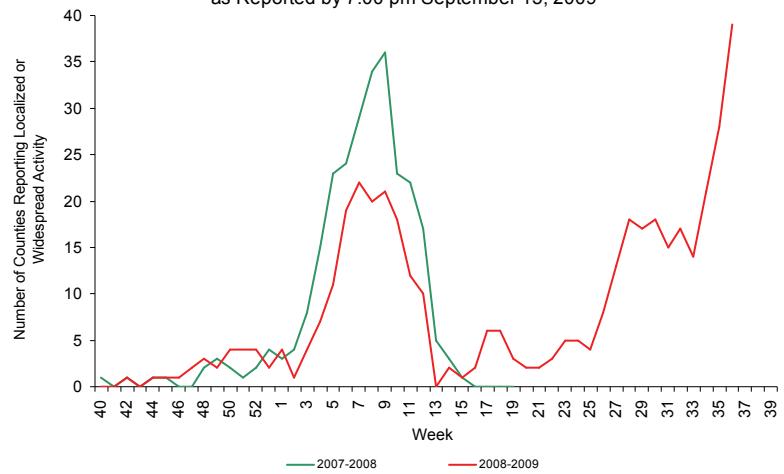
As of 7:00 p.m. September 15, 2009, a total of 50 (74.6%) counties had reported their weekly level of influenza activity. Please note that data reported by counties after the deadline are recorded but may not be included in the activity map below.

Activity Level	Number of counties	Counties
No Report	17	Brevard, Calhoun, Charlotte, Columbia, Dixie, Gadsden, Gilchrist, Hamilton, Holmes, Indian River, Jefferson, Leon, Liberty, Madison, Monroe, Taylor, Washington
No Activity	0	
Sporadic	11	Bay, Broward, Franklin, Glades, Gulf, Jackson, Okeechobee, Osceola, Pasco, St. Johns, Wakulla
Localized	25	Bradford, Citrus, Clay, Dade, Desoto, Escambia, Flagler, Hardee, Hendry, Highlands, Hillsborough, Lake, Levy, Marion, Martin, Nassau, Okaloosa, Palm Beach, Pinellas, Putnam, Seminole, Sumter, Union, Volusia, Walton
Widespread	14	Alachua, Baker, Collier, Duval, Hernando, Lafayette, Lee, Manatee, Orange, Polk, Santa Rosa, Sarasota, St. Lucie, Suwannee

Map of Weekly County Influenza Activity for Week 36 (ending September 12, 2009) as Reported by 7:00 p.m. September 15, 2009



Number of Counties Reporting Localized or Widespread Activity
2007-2008 (Weeks 40-20) and 2008-2009 (Weeks 40-36)
as Reported by 7:00 pm September 15, 2009



The number of counties reporting localized or widespread influenza activity has been increasing over the past weeks and is now at 39 (58%). This is unusual for this time of year and similar to what we expect during the normal winter influenza season

COUNTY INFLUENZA ACTIVITY LEVEL DEFINITIONS

0 = No Activity:

Overall clinical activity remains low with no laboratory confirmed cases[†] in the county.

1 = Sporadic:

- a. Isolated cases of laboratory confirmed influenza[†] in the county.
- b. An ILI[§] outbreak in a single setting[‡] in the county. (No detection of decreased ILI[§] activity by surveillance systems*)

2 = Localized:

- a. ILI[§] activity detected by a *single* surveillance system* within the county.
(ILI[§] activity has not been detected by *multiple* ILI surveillance systems.)
- b. Two or more outbreaks (ILI[§] or lab confirmed[†]) detected in a *single* setting[‡] in the county.

AND

- c. Recent (within past three weeks) laboratory evidence[†] of influenza activity in the county.

3 = Widespread:

- a. An increase in ILI[§] activity detected in ≥ 2 surveillance systems in the county.
- b. Two or more outbreaks ((ILI[§] or laboratory confirmed[†]) detected in *multiple* settings[‡] in the county.

No Report: (No report was received from the county at the time of publication)

[†] Laboratory confirmed case = case confirmed by rapid diagnostic test, antigen detection, culture, or PCR.

[§] ILI = Influenza-like illness, fever $\geq 100^{\circ}\text{F}$ AND sore throat and/or cough *in the absence* of another known cause.

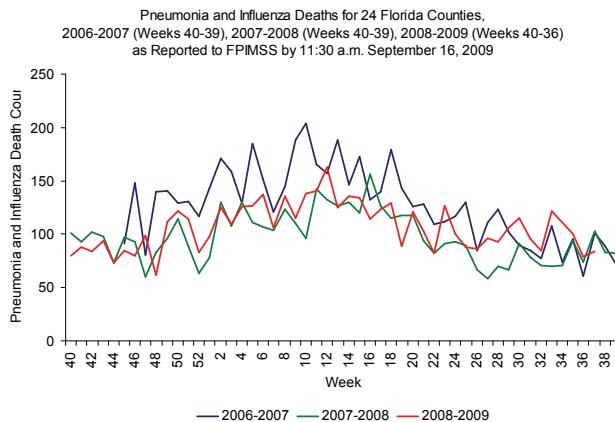
[‡] ILI surveillance system activity can be assessed using a variety of surveillance systems including sentinel providers, school/workplace absenteeism, long-term care facility (LTCF) surveillance, correctional institution surveillance, hospital emergency department surveillance and laboratory surveillance.

VI. FLORIDA PNEUMONIA AND INFLUENZA MORTALITY SURVEILLANCE

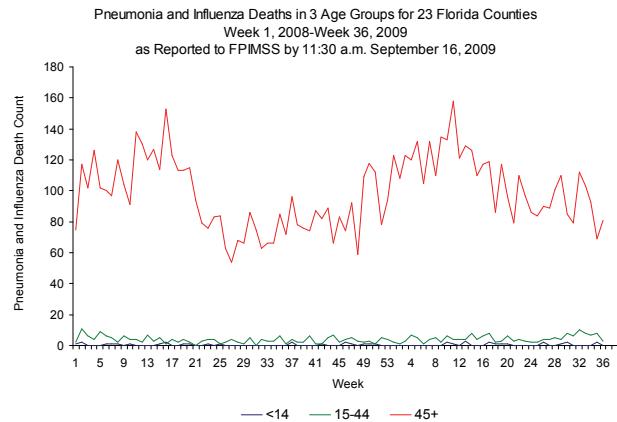
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The Florida Department of Health started the Florida Pneumonia and Influenza Mortality Surveillance System (FPIMSS) in 2006 in order to more timely assess the number of pneumonia and influenza deaths occurring in the state. This system was modeled on the CDC's 122 cities surveillance system. Each week, the vital statistics office in the 24 most populous counties in Florida manually reviews the death certificates received for the previous week. Any mention of pneumonia or influenza on the death certificate, with certain prescribed exceptions, is counted as a pneumonia or influenza death. These counts, by age group, are then reported to the state via the EpiGateway web-interface.

Twenty-three of the 24 participating counties reported data to FPIMSS for week 36 (ending September 12, 2009) as of 11:30 a.m. September 16, 2009. Data from Hillsborough County was missing. Eighty-four deaths were reported, which was below the expected 99 deaths; however, please note that all 24 counties must participate for an accurate comparison of the observed cases versus expected cases. The majority of the deaths are in those aged 45 years and older.



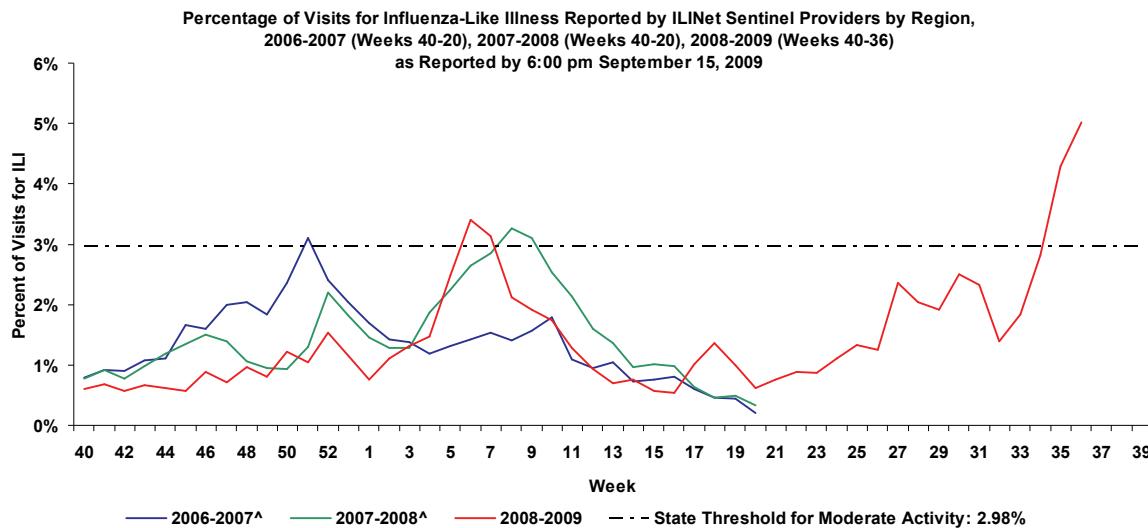
Only 23 of 24 participating counties reported their data for week 36 as of 11:30 a.m. September 16, 2009, but there were no excess deaths.



Only 23 of 24 participating counties reported their data for week 36 as of 11:30 a.m. September 16, 2009. The highest number of pneumonia and influenza deaths has occurred in those over 45.

VII. ILINET INFLUENZA-LIKE ILLNESS-STATEWIDE

During week 36, 5.02%* of patient visits to Florida ILINet sentinel providers were due to ILI*. This percentage is above the statewide threshold for moderate activity of 2.98%**. The percentage of visits ranged from 1.30% in the Northwest to 11.17% in the Northeast region. As of 6:00 p.m. September 15, 2009, only 43.4% of ILINet sentinel providers across the state had reported. Numbers will change as more reports are received. Data from previous weeks will be updated as additional reports are received.



*ILI = Influenza-like illness, fever >100°F AND sore throat and/or cough *in the absence* of another known cause.

**The 2008–09 threshold for moderate activity is calculated from ILINet data. The threshold for moderate activity is the mean percentage of patient visits for ILI during influenza weeks for the previous three seasons plus two standard deviations. Only weeks with 10% or greater of laboratory specimens testing positive are included in the calculation. Due to wide variability in regional level data, it is not appropriate to apply the state baseline to regional data.

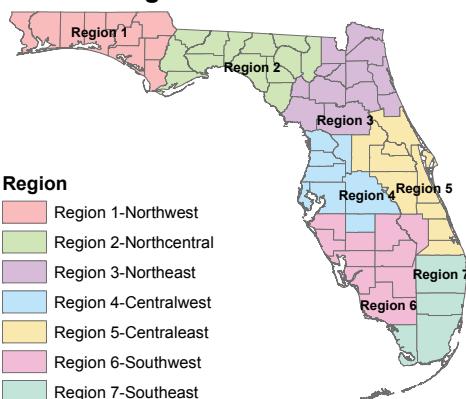
[^]There was no week 53 during the 2006-07 and 2007-08 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.

VIII. ILINET INFLUENZA-LIKE ILLNESS-REGIONAL

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The table below shows the weighted ILI activity by Domestic Security Task Force Region (RSTDF) as reported by Florida ILINet physicians for week 36 (ending September 12, 2009). The graphs below include ILI activity as reported by sentinel physicians for the 2006-2007, 2007-2008, and 2008-2009 seasons through week 36.

RSTDF Regions for ILINet Data

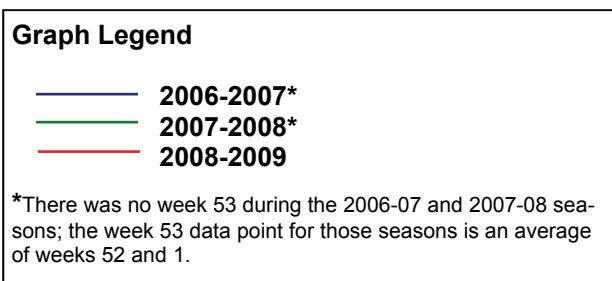
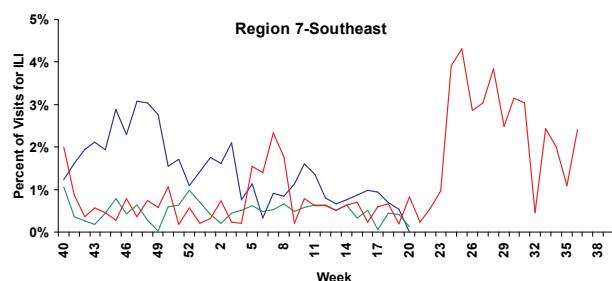
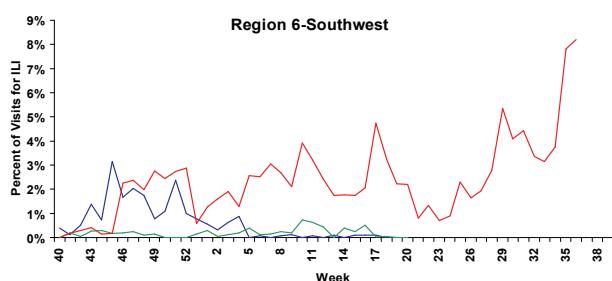
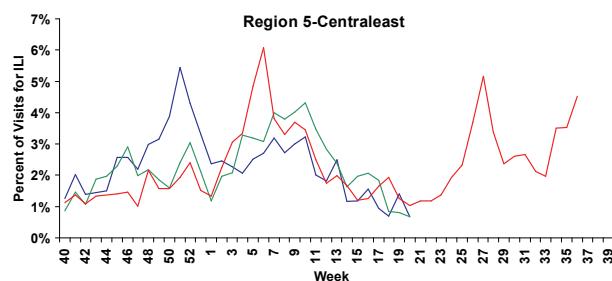
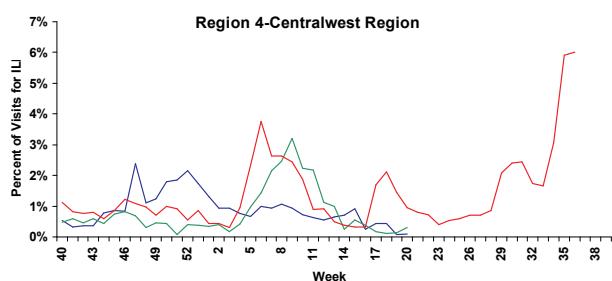
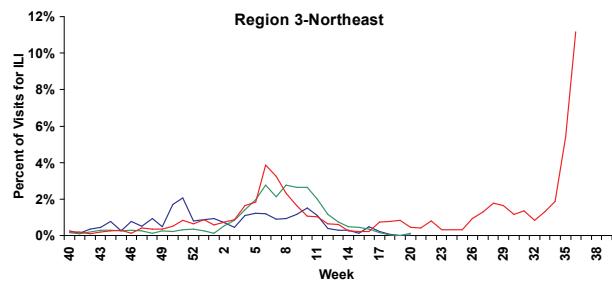
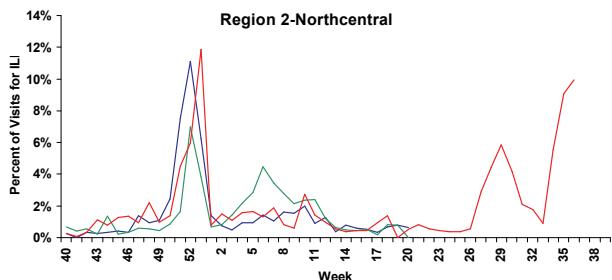
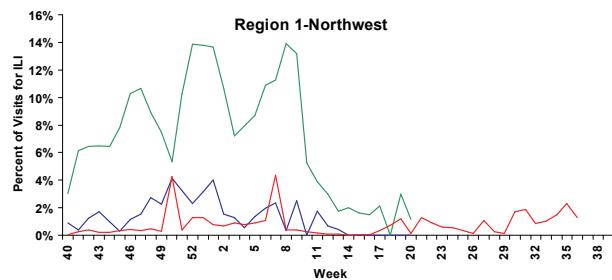


ILINet Providers and Percent of Visits for ILI by Region, Week 36, as Reported by 6:00 p.m. September 15, 2009

Region	Number of Participating Providers	Providers that Reported	Percent Visits for ILI
Region 1-Northwest	15	5 (35.7%)	1.30
Region 2-Northcentral	5	2 (40.0%)	9.94
Region 3-Northeast	19	10 (52.6%)	11.17
Region 4-Centralwest	38	14 (36.8%)	6.01
Region 5-Centraleast	57	31 (54.4%)	4.53
Region 6-Southwest	19	4 (21.1%)	8.20
Region 7-Southeast	20	9 (45.0%)	2.41
Total	173	75 (43.4%)	5.02

Percentage of Visits for Influenza-Like Illness Reported by ILINet Sentinel Providers by RSTDF Region, 2006-07 (Weeks 40-20), 2007-08 (Weeks 40-20), 2008-09 (Weeks 40-36) as Reported by 6:00 pm September 15, 2009

Please refer to table above for the number of providers reporting for each region. Data should be interpreted with caution, due to the low number of providers reporting in some regions. Numbers will change as more data are received. All regions except Region 1 (Northwest) are seeing large increases in activity.



IX. NOTIFIABLE DISEASE REPORTS: NOVEL H1N1 HOSPITALIZATIONS

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Although the number of cases, hospitalizations*, and deaths continues to rise, there is no evidence that the virus has changed to a more virulent form, either in Florida, the rest of the US, or elsewhere in the world.

*Please note that under the current surveillance strategy, case reporting is only required for confirmed or probable cases of novel H1N1 influenza in a) patients with life-threatening illness, b) pregnant women who are hospitalized, and c) deaths. Use caution when interpreting hospitalization data, as only hospitalized patients with life-threatening illness should be reported.

Hospitalizations* in all reported novel H1N1 influenza cases by county as of 5:00 p.m. September 15, 2009					
County	Number	Percent	County	Number	Percent
Alachua	6	0.85	Levy	1	0.14
Baker	1	0.14	Manatee	5	0.71
Bay	1	0.14	Martin	3	0.42
Brevard	7	0.99	Monroe	4	0.56
Broward	65	9.17	Nassau	1	0.14
Charlotte	2	0.28	Okaloosa	1	0.14
Citrus	9	1.27	Okeechobee	1	0.14
Clay	1	0.14	Orange	70	9.87
Collier	3	0.42	Osceola	5	0.71
Columbia	1	0.14	Palm Beach	62	8.74
Dade	307	43.30	Pinellas	17	2.40
Duval	31	4.37	Polk	12	1.69
Escambia	2	0.28	Putnam	1	0.14
Flagler	1	0.14	Santa Rosa	1	0.14
Gadsden	3	0.42	Sarasota	4	0.56
Hendry	1	0.14	Seminole	15	2.12
Hernando	4	0.56	St. Johns	3	0.42
Highlands	4	0.56	St. Lucie	3	0.42
Hillsborough	13	1.83	Taylor	1	0.14
Lake	3	0.42	Volusia	11	1.55
Lee	22	3.10	Walton	1	0.14
Total		709	100.00		

Recent Hospitalizations* in novel H1N1 influenza cases by county, 5:00 p.m. September 8, 2009 to 5:00 p.m. September 15, 2009		
County	Number	Percent
Alachua	2	6.45
Brevard	2	6.45
Citrus	4	12.90
Duval	2	6.45
Gadsden	2	6.45
Hernando	1	3.23
Hillsborough	1	3.23
Lee	1	3.23
Orange	4	12.90
Palm Beach	3	9.68
Pinellas	4	12.90
Polk	2	6.45
Seminole	1	3.23
Volusia	2	6.45
Total	31	100.00

Hospitalizations* in all reported novel H1N1 influenza cases by age as of 5:00 p.m. September 15, 2009

Age	Number	Rate (per million population)	NO underlying condition		ICU
0-4	119 (16.78%)	105.23	27 (22.69%)	27 (22.69%)	
5-24	204 (28.77%)	42.53	47 (23.04%)	52 (25.49%)	
25-49	222 (31.31%)	35.81	63 (28.38%)	87 (39.19%)	
50-64	124 (17.49%)	33.80	15 (12.10%)	60 (48.39%)	
65+	40 (5.64%)	12.05	2 (5.00%)	9 (22.50%)	
Total	709 (100.00%)	37.09	154 (21.72%)	235 (33.15%)	

Hospitalizations* in all pregnant women with novel H1N1 influenza cases by underlying medical condition status, as of 5:00 p.m. September 15, 2009

Underlying medical condition status	Number	ICU	Death
Underlying medical condition	13 (18.84%)	4 (30.77%)	3 (23.08%)
No underlying medical condition	42 (60.87%)	15 (35.71%)	2 (4.76%)
Unknown	14 (20.29%)	4 (28.57%)	0 (0.00%)
Total	69 (100.00%)	23 (33.33%)	5 (7.25%)

X. NOTIFIABLE DISEASE REPORTS: NOVEL H1N1 DEATHS

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All deaths in reported laboratory-confirmed novel H1N1 influenza cases are presented in the following tables.
Note that novel H1N1 influenza may not necessarily be the attributable cause of death in all cases.

Approximately 20-25% of deaths are in people with no clear underlying medical condition.

87 deaths in those with laboratory-confirmed novel H1N1 influenza reported as of 5:00 p.m. September 15, 2009
9 deaths were **newly reported** (5:00 p.m. September 8, 2009 to 5:00 p.m. September 15, 2009)

Deaths in novel H1N1 influenza cases by county as of 5:00 p.m. September 15, 2009		
County	Number	Percent
Alachua	2	2.30
Brevard	1	1.15
Broward	8	9.20
Charlotte	1	1.15
Clay	1	1.15
Dade	22	25.29
Duval	7	8.05
Hernando	1	1.15
Highlands	1	1.15
Hillsborough	6	6.90
Lee	3	3.45
Monroe	1	1.15
Orange	6	6.90
Osceola	1	1.15
Palm Beach	6	6.90
Pinellas	4	4.60
Polk	3	3.45
Sarasota	3	3.45
Seminole	2	2.30
St. Lucie	3	3.45
Taylor	1	1.15
Volusia	3	3.45
Walton	1	1.15
Total	87	100.00

Recent deaths in novel H1N1 influenza cases by county, 5:00 p.m. September 8, 2009 to 5:00 p.m. September 15, 2009		
County	Number	Percent
Charlotte	1	11.11
Dade	1	11.11
Duval	1	11.11
Highlands	1	11.11
Pinellas	1	11.11
Polk	1	11.11
Sarasota	1	11.11
St. Lucie	1	11.11
Volusia	1	11.11
Total	9	100.00

Deaths in novel H1N1 influenza cases by age as of 5:00 p.m. September 15, 2009				
Age	Number	Percent	Rate (per million population)	NO underlying condition
0-4	3	3.45	2.65	0 (0.00%)
5-24	12	13.79	2.50	8 (66.67%)
25-49	33	37.93	5.32	9 (27.27%)
50-64	33	37.93	9.00	5 (15.15%)
65+	6	6.90	1.81	0 (0.00%)
Total	87	100.00	4.55	22 (25.29%)

XI. NOTIFIABLE DISEASE REPORTS: INFLUENZA-ASSOCIATED DEATHS AMONG CHILDREN (<18 YEARS) & POST-INFLUENZA INFECTION ENCEPHALITIS

There have been a total of 8 influenza-associated deaths among those <18 years of age reported for the 2008-2009 influenza season, as of week 36 (ending September 12, 2009). No post-influenza infection encephalitis cases have been reported. Of the 8 influenza-associated deaths, 6 were due to novel influenza H1N1. One of the 8 cases was reported during week 36.

Number of Influenza-Associated Pediatric Deaths and Post-Influenza Encephalitis Cases as Reported in Merlin from Week 40, 2008 to Week 36 , 2009	
Reportable Disease	Number of Cases
Influenza-associated deaths among those <18 years of age (confirmed, probable, suspect)	8*
Post-influenza infection encephalitis	0

*One of these cases is suspect; the remaining 7 are confirmed. Please note that status of reported cases are subject to change upon receipt of additional information.

Influenza-associated deaths among those <18 years of age and/or post-influenza infection encephalitis are reportable; case report forms can be accessed at: http://www.doh.state.fl.us/disease_ctrl/epi/topicscrforms.htm.

192 confirmed or suspect outbreaks of novel influenza A (H1N1) have been reported as of September 12, 2009

Schools have been the most heavily impacted setting with 57 (29.7%) of the 192 outbreaks. Summer camps accounted for 50 (26.0%) of the outbreaks, correctional facilities accounted for 16 (8.3%), and daycares accounted for 14 (7.3%).

29 confirmed or suspect outbreaks of novel influenza A (H1N1) reported during week 36 (ending September 12, 2009)

During week 36, 29 new confirmed or suspect outbreaks of ILI and novel influenza A H1N1 were reported via EpiCom (please note that outbreaks may not have occurred during the week in which they were posted). These outbreaks occurred in 26 schools, two correctional facilities, and a healthcare facility.

County Health Department epidemiologists should report Influenza and ILI outbreaks via the Influenza Forum in EpiCom at:

<https://fdens.com/vabtrs/GateStart.aspx>

Outbreaks Reported via EpiCom by County as of Week 36 (Ending September 12, 2009)		
County	Number	Percent
Alachua	1	0.5%
Baker	2	1.0%
Bradford	1	0.5%
Brevard	1	0.5%
Clay	2	1.0%
Collier	2	1.0%
Columbia	1	0.5%
Duval	6	3.1%
Escambia	24	12.5%
Glades	1	0.5%
Hendry	2	1.0%
Hillsborough	54	28.1%
Indian River	2	1.0%
Jackson	2	1.0%
Lake	3	1.6%
Madison	1	0.5%
Marion	2	1.0%
Miami-Dade	10	5.2%
Nassau	6	3.1%
Okaloosa	1	0.5%
Orange	25	13.0%
Osceola	2	1.0%
Palm Beach	21	10.9%
Pasco	2	1.0%
Pinellas	1	0.5%
Polk	2	1.0%
Putnam	1	0.5%
Sarasota	7	3.6%
Seminole	5	2.6%
St. Johns	2	1.0%
Total	192	100.0%

Outbreaks Reported via EpiCom by Setting as of Week 36 (Ending September 12, 2009)		
Setting	Number	Percent
Athletics	3	1.6%
Church	1	0.5%
College/University	3	1.6%
Community Center	5	2.6%
Correctional Facility	16	8.3%
Day Care	14	7.3%
Group/Foster Home	1	0.5%
Healthcare Facility	7	3.6%
Home	4	2.1%
Home/School	1	0.5%
Long-Term Care Facility	4	2.1%
Military Facility	2	1.0%
Out of State Camp	5	2.6%
Out of State Trip	5	2.6%
School	57	29.7%
Special Needs Facility	9	4.7%
Summer Camp – Day	39	20.3%
Summer Camp – Overnight	6	3.1%
Work	7	3.6%
Work/Home	3	1.6%
Total	192	100.0%

RECENT Outbreaks Reported via EpiCom by Setting during Week 36 (Ending September 12, 2009)		
Setting	Number	Percent
Correctional Facility	2	6.9%
Healthcare Facility	1	3.4%
School	26	89.7%
Total	29	100.0%