

FLORIDA INFLUENZA SURVEILLANCE

Week 32: August 9th 2009 – August 15th 2009



Kateesha McConnell, MPH, Respiratory Disease Surveillance Epidemiologist
 Kate Goodin, MPH, Surveillance Epidemiologist
 Lea Wansbrough, MPH, FL EIS Fellow
 Leah Eisenstein, MPH, Surveillance Epidemiologist
 Aaron Kite-Powell, MS, Surveillance Epidemiologist
 Lillian Stark, PhD, MPH, MS, Bureau of Laboratories-Tampa
 Valerie Mock, Bureau of Laboratories-Jacksonville
 Julian Everett, Influenza Coordinator
 Subir Goyal, MBBS, FSU Intern



IN THIS ISSUE:

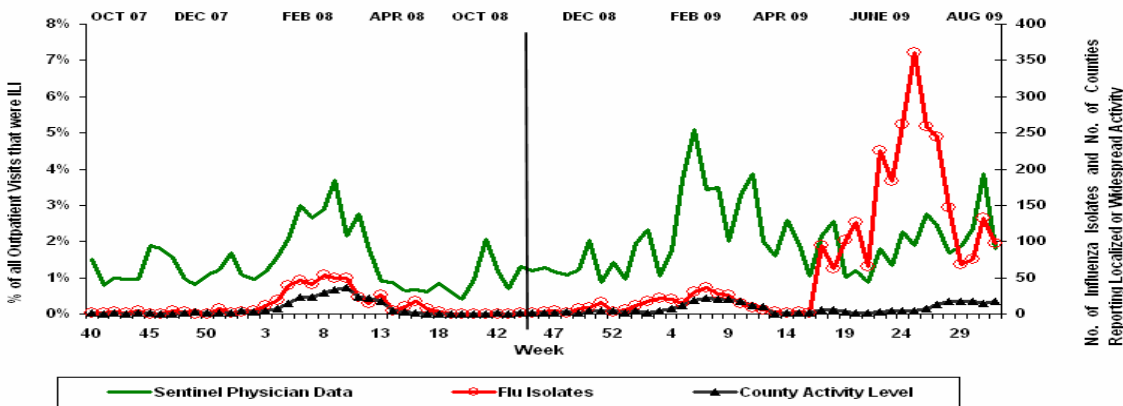
- I. Summary
- II. FSPISN Influenza-like Illness Statewide Graph
- III. Florida Pneumonia and Influenza Mortality Surveillance
- IV. FDOH Laboratory Surveillance
- V. Laboratory and Influenza-like Illness Surveillance by Region
- VI. County Influenza Activity Map
- VII. Reports of Influenza or Influenza-like Illness (ILI) Outbreaks
- VIII. Notifiable Disease Reports: Influenza-associated deaths in children & post-influenza infection encephalitis
- IX. ESSENCE ILI syndromic surveillance summary

I. SUMMARY

Influenza surveillance in Florida consists of seven surveillance components*: 1) Florida Sentinel Physician Influenza Surveillance Network (FSPISN); 2) Florida Pneumonia & Influenza Mortality Surveillance System; 3) Bureau of Laboratories viral surveillance; 4) County influenza activity levels; 5) Notifiable Disease Reports: Influenza-associated deaths in children, post-influenza infection encephalitis and novel influenza cases; 6) Influenza or ILI outbreaks; 7) Syndromic surveillance.

During week 32 (08/09/09-08/15/09), the proportion of patient visits for influenza-like illness (ILI) as reported by the Florida Sentinel Physician Influenza Surveillance Network was 1.79 percent. This is below the state threshold for moderate activity of 2.98 percent. Ninety-seven (54%) of 179 ILI specimens tested by Bureau of Laboratories were positive for influenza. Four counties reported widespread activity and 13 counties reported localized activity. Twenty-eight counties reported sporadic activity and 2 counties reported no activity. Twenty counties did not report. The graph below shows the progression of the 2007-08 & 2008-09 Florida influenza seasons as monitored by three** of seven surveillance systems.

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. Regional activity has been reported in Florida for this reporting week (week 32). Florida meets the CDC regional activity definition which is: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least two but less 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>.

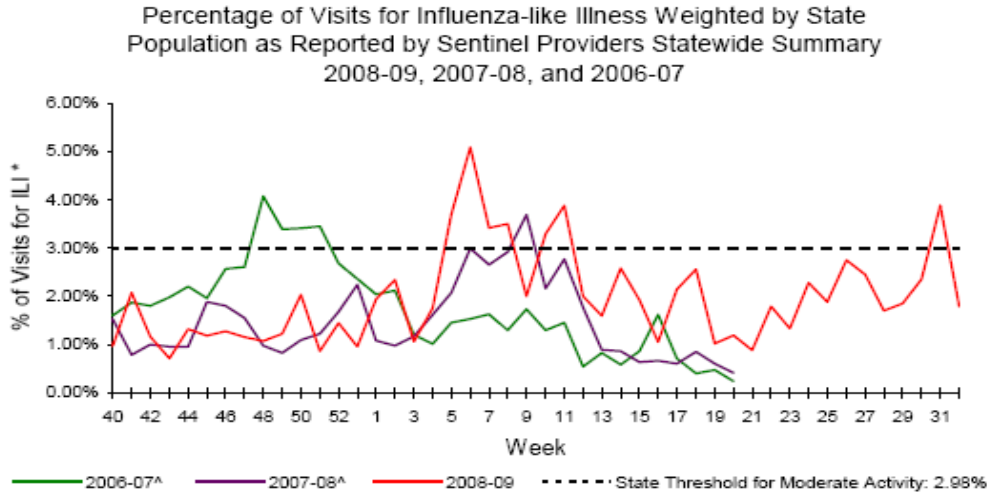


*The purposes of these surveillance systems are to determine when and where influenza activity is occurring, to identify circulating viruses, to detect changes in the circulating influenza viruses, to track patterns of influenza-associated morbidity and mortality and estimate the overall impact of influenza in the state of Florida.

**1) FSPISN, 2) State Laboratory Viral Surveillance, and 3) County Activity Levels.

II. FSPISN INFLUENZA-LIKE ILLNESS STATEWIDE GRAPH

During week 32 1.79%* of patient visits to Florida sentinel providers were due to ILI. This percentage is below the statewide threshold for moderate activity of 2.98%**. The percentage of visits ranged from 0.91% in the Southeast to 3.99% in the Southwest region. *FSPISN reporting is incomplete for this week (40% of providers reported). Numbers may change as more reports are received. Data displayed is weighted to the state population.



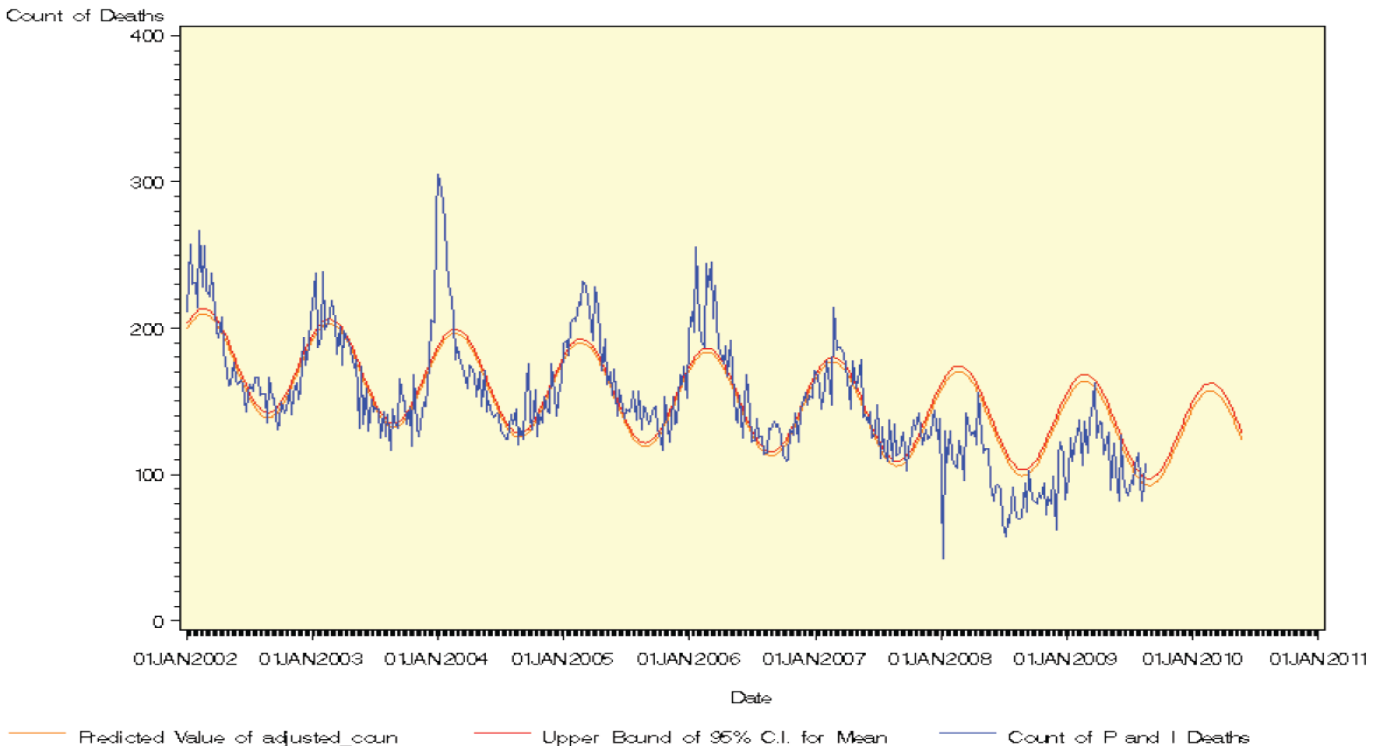
**The 2008—09 threshold for moderate activity is calculated from FSPISN data. The threshold for moderate activity is the mean percentage of patient visits for ILI during influenza weeks for the previous three seasons plus two standard deviations. Only weeks with 10% or greater of laboratory specimens 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.

III. FLORIDA PNEUMONIA AND INFLUENZA MORTALITY SURVEILLANCE

During week 32, the total count of pneumonia and influenza (P&I) deaths reported was above the epidemic threshold. The expected number of deaths for week 32 was 98, and there were 107 observed deaths. This indicates that there were 9 excess deaths**.

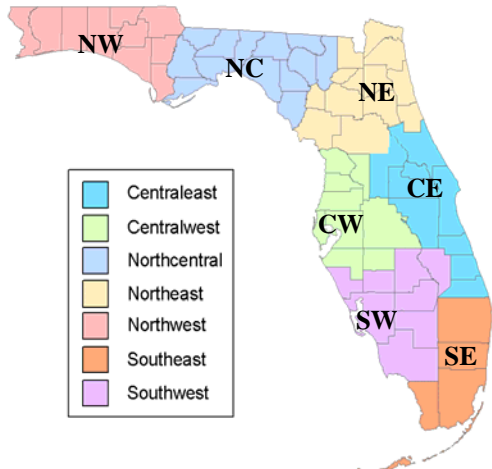
Pneumonia and Influenza Mortality for 24 Florida Counties, Counts Model



**Twenty-two of 24 counties reported P&I deaths to create this trend graph. Please note: Data from Hillsborough and Volusia were not available. 100% participation is required for this graph to provide an accurate representation. Graph created August 21, 2009 at 3:10pm ET.

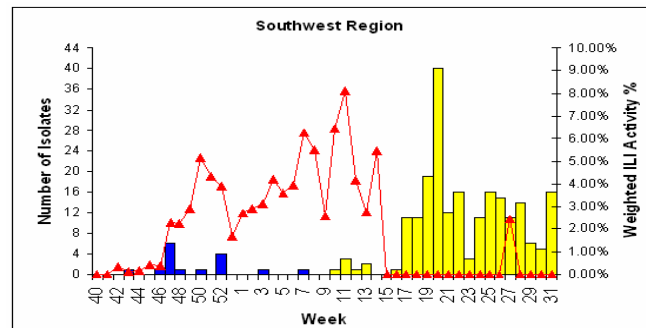
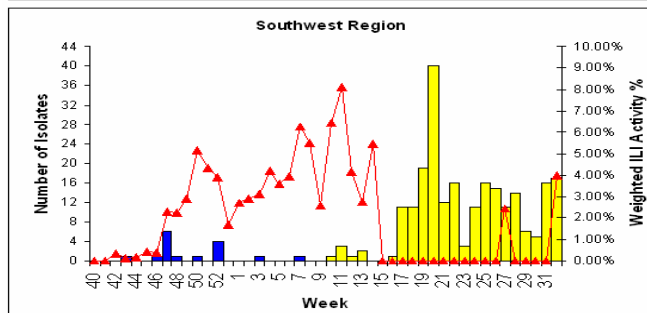
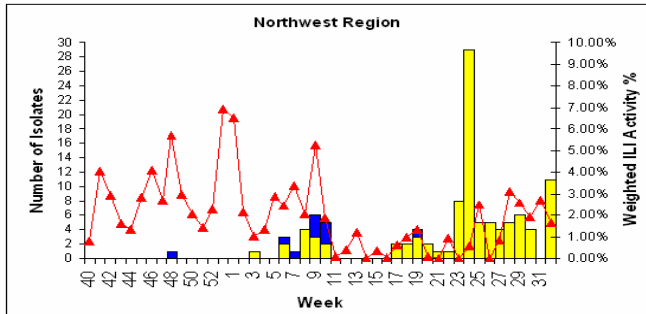
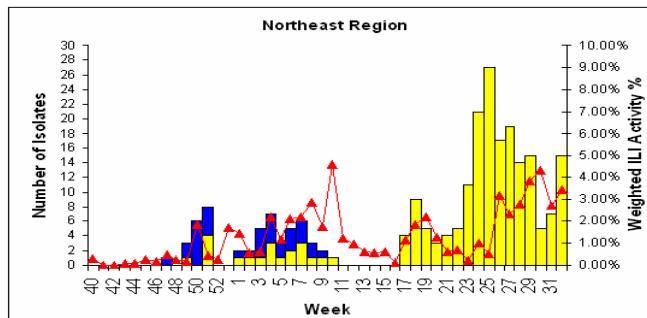
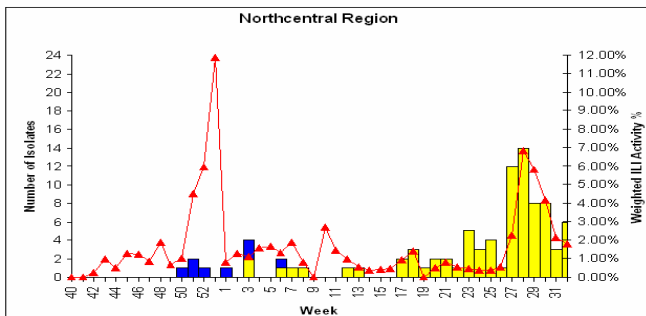
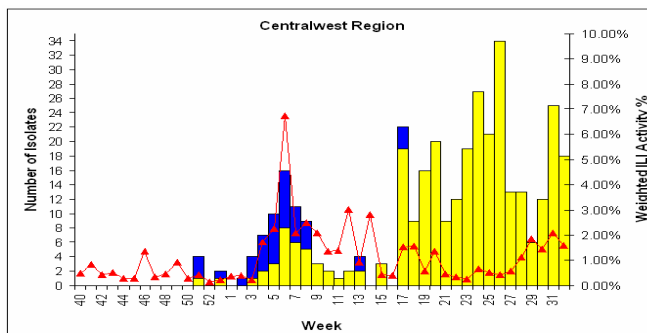
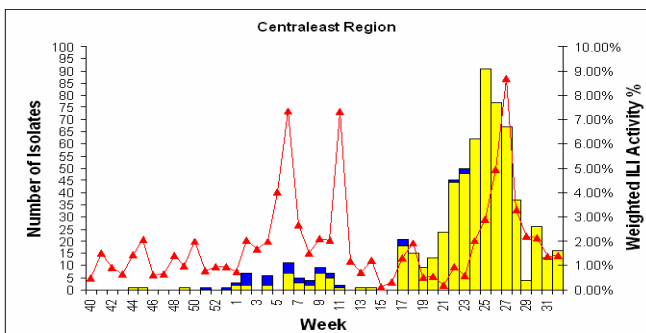
V. LABORATORY AND INFLUENZA-LIKE ILLNESS (ILI) SURVEILLANCE BY REGION

Influenza Surveillance Regions



The table below shows the weighted ILI activity by region as reported by Florida sentinel physicians for the 2008-09 season. The graphs below include ILI activity as reported by sentinel physicians and FDOH laboratory data.

Week 32: FSPISN Weighted ILI Activity, by Region 2008-09 Season		
REGION	# and % of sentinel sites reporting	2008-09 ILI %
Centraleast	32% (10/31)	1.42%
Centralwest	77% (27/35)	1.58%
Northcentral	100% (2/2)	1.77%
Northeast	32% (7/22)	3.44%
Northwest	43% (6/14)	1.65%
Southeast	19% (3/16)	0.91%
Southwest	31% (4/13)	3.99%



- Influenza A specimens FDOH Laboratories
- Influenza B specimens FDOH Laboratories
- % of visits for ILI, reported by sentinel providers

VI. COUNTY INFLUENZA ACTIVITY MAP

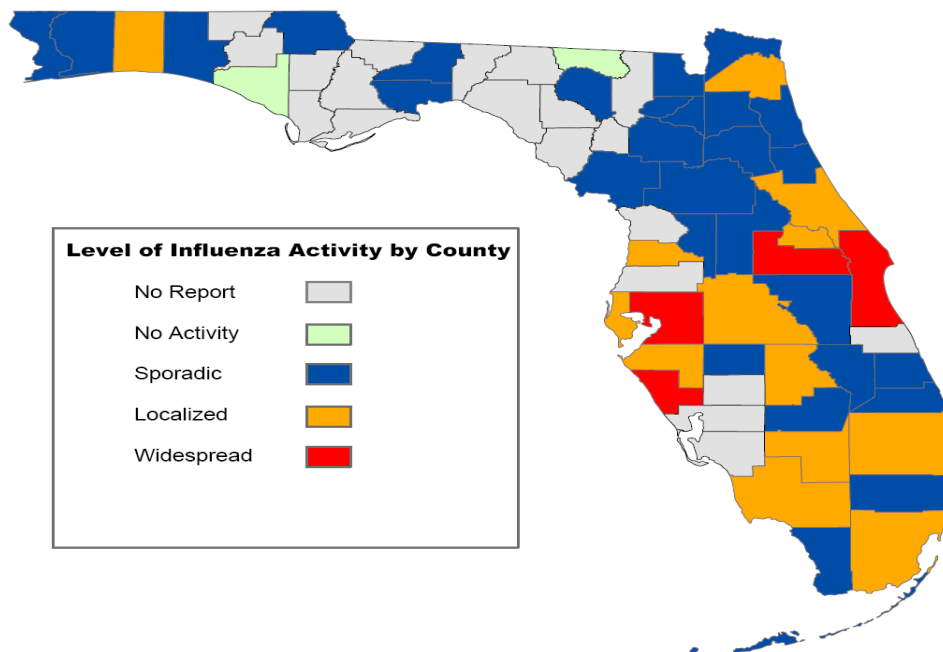
During week 32, four counties reported widespread activity. Thirteen counties reported localized activity. Twenty-eight counties reported sporadic activity and two counties reported no activity. Twenty counties did not report. *Please note: data reported from counties reporting after the deadline are recorded but may not be included in the activity map below.*

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

Weekly County Influenza Activity

(Week ending August 15, 2009 - Week 32)

County influenza activity levels are reported by county health department epidemiologists



No Report	Grey
No Activity	Light Green
Sporadic	Blue
Localized	Orange
Widespread	Red



Florida Department of Health
Bureau of Epidemiology

Disclaimer:
This product is for reference purposes only and is not to be construed as a legal document. Any reliance on the information contained herein is at the user's own risk. The Florida Department of Health and its agents assume no responsibility for any use of the information contained herein or any loss resulting there from. Map printed August 19, 2009 at 2:15 pm ET.

COUNTY INFLUENZA ACTIVITY LEVEL DEFINITIONS

0 = No Activity:

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

1 = Sporadic:

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

2 = Localized:

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

AND

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

3 = Widespread:

- And/or {
- An increase in ILI[§] activity detected in ≥ 2 surveillance systems in the county.
 - 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.

[‡]Settings include institutional settings (LTCFs, hospitals, prisons, schools, companies) & the community.

VII. REPORTS OF INFLUENZA OR INFLUENZA-LIKE ILLNESS (ILI) OUTBREAKS

During week 32, there were over 17 new outbreaks and/or clusters of influenza A H1N1 (swine origin) reported in summer camps and other facilities throughout the state. Please see Epi Com for the latest information.

County Health Department epidemiologists should report Influenza and ILI outbreaks via EpiCom at: <https://fdens.com/vabtrs/GateStart.aspx> within the Influenza Forum.

Total influenza or ILI outbreaks and/or clusters reported as of week 32 (08/15/09): 76

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

As of the week ending August 15, 2009, there was one new influenza-associated death among those <18 years of age and/or post influenza infection encephalitis reported in the state of Florida. This was a reported death in a 12 year old from Palm Beach county who died on July 19, 2009 (week 29).

Deaths that occurred during week 23, 25, and 29 were due to novel influenza A H1N1.

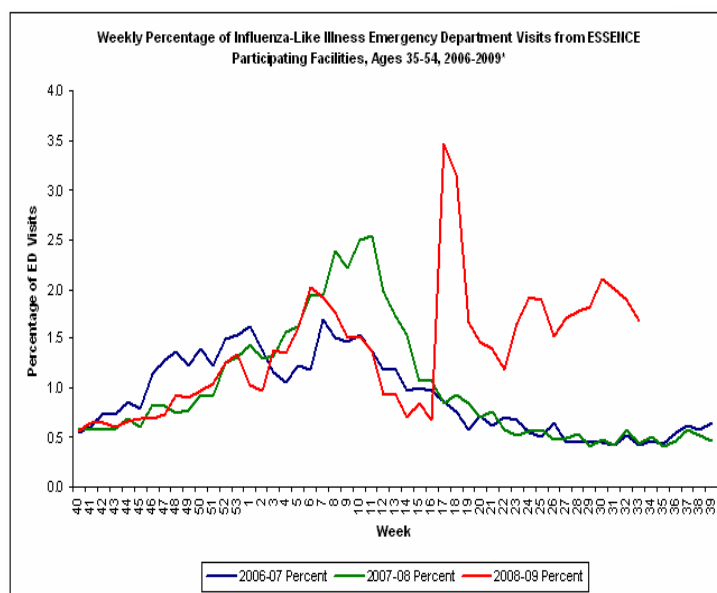
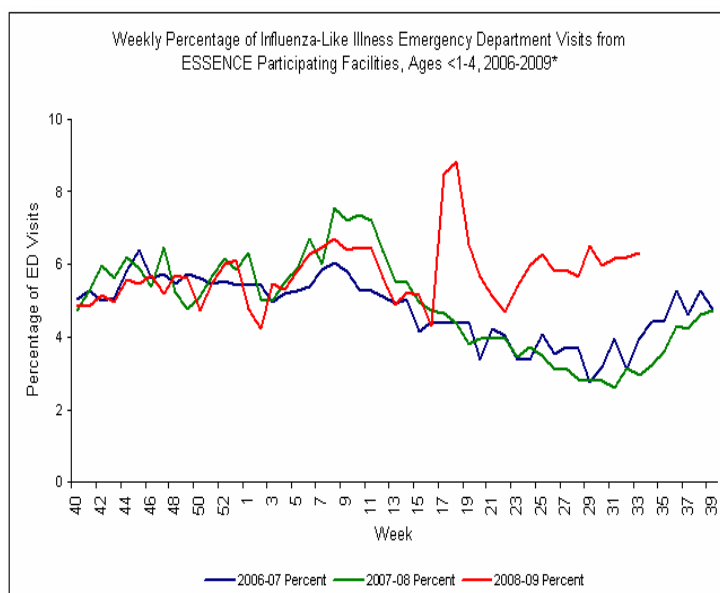
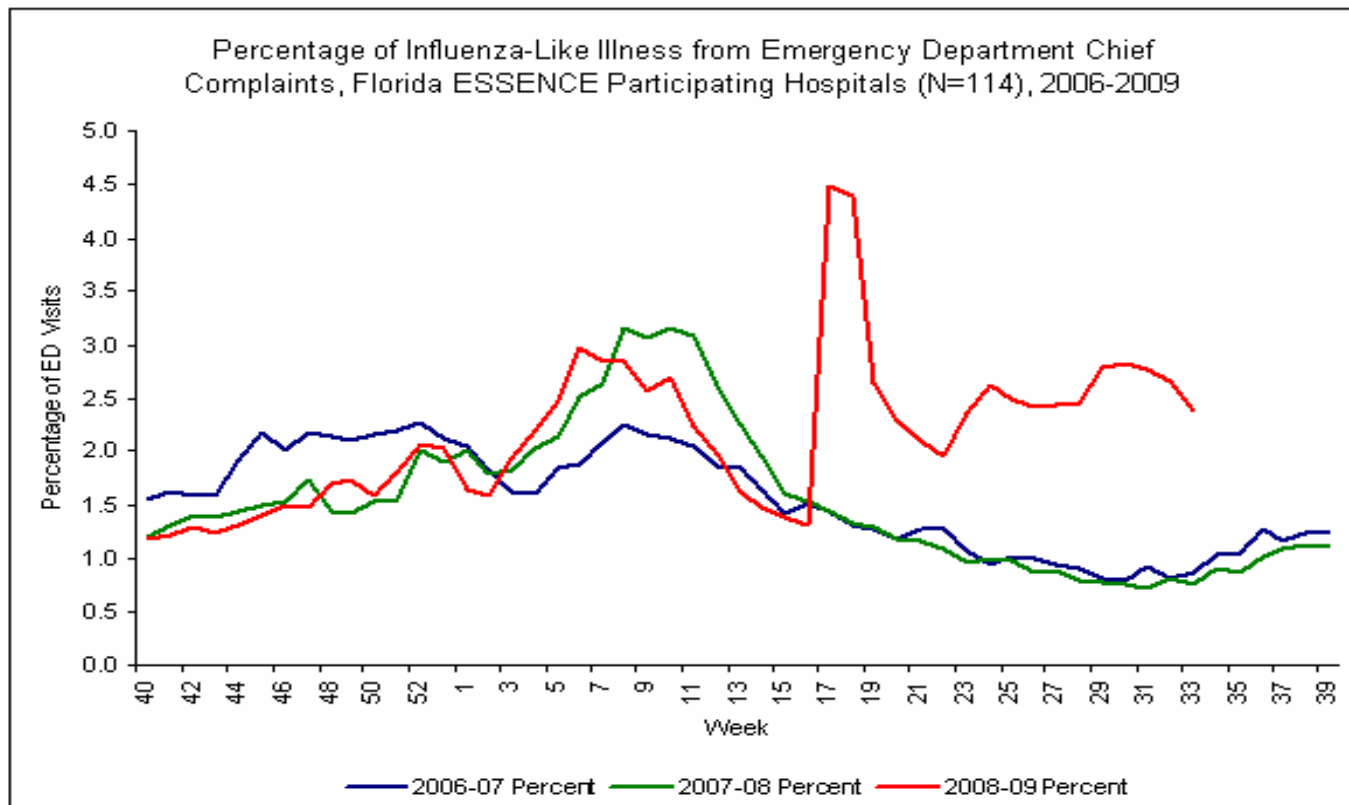
Reportable Disease	# of Cases 08-09 Influenza Season
Influenza-associated deaths among those <18 years of age	5*
Post-influenza infection encephalitis	0

*Case reported during week 6 was reclassified as a suspect case. 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.

IX. SYNDROMIC SURVEILLANCE SUMMARY

Florida uses the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) for syndromic surveillance, which currently collects data from 114* 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. Displayed below are the percentage of ILI visits to local EDs from 2006 to 2009 by week.



*The total number of facilities participating in ESSENCE has increased steadily from 2006 to 2009. In 2007 ESSENCE was implemented as the state syndromic surveillance system. Please note that numbers may change as facility data is updated.

X. SUMMARY OF WORLDWIDE, UNITED STATES, AND FLORIDA NOVEL INFLUENZA ACTIVITY

Avian Influenza A (H5N1)

Since the outbreak activity of avian influenza A (H5N1) began at the end of December 2003, there have been a total of 438 confirmed human cases and 262 deaths. Cases and deaths have occurred in the following nations: Azerbaijan 8 cases and 5 deaths; Bangladesh 1 case and 0 deaths; Cambodia 8 cases and 7 deaths; China 38 cases and 25 deaths; Djibouti 1 case and 0 deaths; Egypt 81 cases and 27 deaths; Indonesia 141 cases and 115 deaths; Iraq 3 cases and 2 deaths; Lao People's Democratic Republic 2 cases and 2 deaths; Myanmar 1 case and 0 deaths; Nigeria 1 case and 1 death; Pakistan 3 cases and 1 death; Thailand 25 cases and 17 deaths; Turkey 12 cases and 4 deaths; and, Vietnam 111 cases and 56 deaths. For a complete analysis and summary of WHO confirmed human cases of H5N1 from 12/1/2003 to current, please visit:

http://www.who.int/csr/disease/avian_influenza/ai_timeline/en/index.html

Changes in the WHO case definition for human infection with avian influenza H5N1 can be found here:

http://www.who.int/csr/disease/avian_influenza/guidelines/case_definition2006_08_29/en/index.html

During week 32, 2 new cases of Influenza A (H5N1) were reported by the Ministry of Health of Egypt. The first case is an 8 year-old female from Kfr Elsheikh district, Kfr Elsheikh Governorate. Her symptoms started on July 24th, 2009. She was admitted to Kfr Elsheikh fever hospital on July 25th, where she received oseltamivir treatment. The patient is in a stable condition. The second case is an 18 month-old male from Shebin Elkom district, Menofya Governorate. His symptoms started on July 28, 2009. He was admitted to Shebin Elkom fever hospital on July 29, 2009, where he received oseltamivir treatment, and is in a stable condition. Investigations into the source of infection indicated that both cases had close contact with dead and/or sick poultry.

Information about previously reported cases can be found at: http://www.who.int/csr/disease/avian_influenza/updates/en/index.html

Influenza A (H1N1) - (Swine Origin) -Updated 08/12/09

Worldwide, a total of 182,166 confirmed human cases and 1,799 confirmed deaths due to influenza A (H1N1) have been reported, since the virus was first recognized in April 2009. The WHO is no longer collecting data on individual cases reported from around the world. As a result of this, the number of cases reported here is most likely an underestimate of the true burden of disease.

For a summary of the most up to date H1N1 information please visit:

<http://www.who.int/csr/disease/swineflu/en/index.html>

In the United States, a total of 50 states, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands have reported confirmed cases of Influenza A (H1N1) swine origin. There have been a total of 43,771 cases and 302 deaths reported as of July 24, 2009.

July 24, 2009 is the last day that CDC is providing individual confirmed and probable cases of novel H1N1 influenza. CDC will report the total number of hospitalizations and deaths each week, and continue to use its traditional surveillance systems to track the progress of the novel H1N1 flu outbreak. For more information about CDC's novel H1N1 influenza surveillance system, see [Questions & Answers About CDC's Novel H1N1 Influenza Surveillance](#).

For the latest information about this rapidly evolving situation please visit: <http://www.cdc.gov/h1n1flu/>

Because the WHO, the CDC, and the Florida Department of Health are no longer collecting representative data on all H1N1 cases that are occurring, reporting the number of new cases likely under represents the true burden of disease. For that reason, case counts will no longer be reported in this publication.

FDOH novel influenza A H1N1 surveillance reports are updated weekly and available at http://www.doh.state.fl.us/disease_ctrl/epi/swineflu/Reports/reports.htm

For more information FDOH's novel influenza A H1N1 surveillance strategies please see [Novel Influenza A H1N1 Surveillance Strategies Questions and Answers](#) at http://www.doh.state.fl.us/disease_ctrl/epi/swineflu/H1N1_Surv_QA.pdf

X. SUMMARY OF WORLDWIDE, UNITED STATES, AND FLORIDA NOVEL INFLUENZA ACTIVITY

The following tables present cases reported in Merlin for the dates and times listed.

Please note that numbers are provisional and subject to change.

577 hospitalizations* in those with laboratory-confirmed H1N1 have been reported as of 10:00 a.m. August 19, 2009

17 hospitalizations* were in newly reported cases (10:00 a.m. August 12, 2009 to 10:00 a.m. August 19, 2009)

TABLE 2. Hospitalizations* in all reported H1N1 cases by county, Florida (n=577)

County	Frequency	Percent	County	Frequency	Percent
Alachua	2	0.35	Lake	3	0.52
Baker	1	0.17	Lee	18	3.12
Bay	1	0.17	Levy	1	0.17
Brevard	3	0.52	Manatee	4	0.69
Broward	62	10.75	Martin	2	0.35
Charlotte	2	0.35	Monroe	4	0.69
Citrus	1	0.17	Okaloosa	1	0.17
Clay	1	0.17	Okeechobee	1	0.17
Collier	3	0.52	Orange	63	10.92
Columbia	1	0.17	Osceola	5	0.87
Dade	265	45.93	Palm Beach	50	8.67
Duval	14	2.43	Pinellas	10	1.73
Escambia	3	0.52	Polk	7	1.21
Flagler	1	0.17	Santa Rosa	1	0.17
Gadsden	1	0.17	Sarasota	4	0.69
Hendry	1	0.17	Seminole	12	2.08
Hernando	2	0.35	St. Johns	3	0.52
Highlands	4	0.69	Volusia	8	1.39
Hillsborough	11	1.91	Walton	1	0.17

TABLE 3. Hospitalizations* in newly reported H1N1 cases by county, Florida (n=17)

County	Frequency	Percent
Alachua	1	5.88
Brevard	2	11.76
Broward	2	11.76
Clay	1	5.88
Dade	2	11.76
Duval	1	5.88
Hillsborough	1	5.88
Lee	1	5.88
Pinellas	2	11.76
Polk	2	11.76
Volusia	2	11.76

*Under the current surveillance strategy, case reporting is only required for confirmed or probable cases of novel Influenza A H1N1 in a) patients with life-threatening illness, b) pregnant women who are hospitalized, and c) deaths.

X. SUMMARY OF WORLDWIDE, UNITED STATES, AND FLORIDA NOVEL INFLUENZA ACTIVITY

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

59 deaths in those with laboratory-confirmed H1N1 have been reported as of 10:00 a.m. August 19, 2009

11 deaths were newly reported (10:00 a.m. August 12, 2009 to 10:00 a.m. August 19, 2009)

TABLE 4. Deaths in all reported H1N1 cases by county, Florida (n=59)

County	Frequency	Percent
Alachua	1	1.69
Brevard	1	1.69
Broward	6	10.17
Clay	1	1.69
Dade	18	30.51
Duval	3	5.08
Hernando	1	1.69
Hillsborough	5	8.47
Lee	3	5.08
Monroe	1	1.69
Orange	3	5.08
Osceola	1	1.69
Palm Beach	5	8.47
Pinellas	1	1.69
Polk	1	1.69
Sarasota	2	3.39
Seminole	2	3.39
Taylor	1	1.69
Volusia	2	3.39
Walton	1	1.69

TABLE 5. Newly reported H1N1 deaths by county, Florida (n=11)

County	Frequency	Percent
Alachua	1	9.09
Brevard	1	9.09
Clay	1	9.09
Dade	1	9.09
Duval	2	18.18
Hillsborough	1	9.09
Lee	1	9.09
Palm Beach	1	9.09
Taylor	1	9.09
Volusia	1	9.09

TABLE 6. Deaths in all reported H1N1 cases by age, Florida (n=59)

Age	Frequency	Percent	Rate (per million population)
0-4	1	1.69	0.88
5-24	7	11.86	1.46
25-49	26	44.07	4.19
50-64	20	33.90	5.45
65+	5	8.47	1.51