



Week 15: April 10, 2011- April 16, 2011



Summary

The Florida Department of Health (FDOH) monitors multiple surveillance systems such as the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE), the Florida Pneumonia and Influenza Mortality Surveillance System (FPIMSS), notifiable disease reports (Merlin), EpiCom, and Florida ILINet in order to track influenza activity in the state.

National:

- The Centers for Disease Control and Prevention (CDC) reported minimal levels of influenza nationwide during week 14. The CDC calculated minimal influenza-like illness (ILI) intensity for the state of Florida using Florida's ILINet sentinel surveillance data.

State:

- ILI activity is low and decreasing in many of our monitoring systems. No counties currently report widespread or moderate influenza activity. One county reports increasing influenza activity, and 44 counties report decreasing activity.
- ESSENCE and ILINet ILI activity levels are near previous non-pandemic seasons at this time in most regions of Florida.
- Current influenza strains circulating in Florida are influenza A H3, 2009 H1N1, and influenza B. In recent weeks, the overall number of specimens submitted and the percent positive for influenza have decreased. Other viruses known to be currently circulating, potentially causing ILI, include adenovirus, rhinovirus, parainfluenza, and respiratory syncytial virus (RSV).
- There were no influenza, ILI, or respiratory disease outbreaks reported in week 15. There have been 25 influenza or ILI outbreaks and four respiratory outbreaks reported in the 2010-11 influenza season. Most of these outbreaks have been in nursing homes and long-term care facilities. Influenza A H3 or 2009 H1N1 have been implicated in PCR confirmed outbreaks.

Weekly state influenza activity: Sporadic

Florida is currently reporting Sporadic influenza activity statewide, due to plateaued or declining activity levels in all regions of Florida as shown in our influenza surveillance systems. This activity level represents the statewide spread of influenza, and is not a measure of flu intensity.

Pediatric influenza Mortality

No pediatric influenza mortalities were reported in week 15. There have been **two** pediatric influenza mortalities reported in the 2010-11 season. Influenza-associated deaths among those less than 18 years old are reportable in Florida.

TABLE 1: Summary of Florida Influenza-Like Illness (ILI) Activity for Week 15

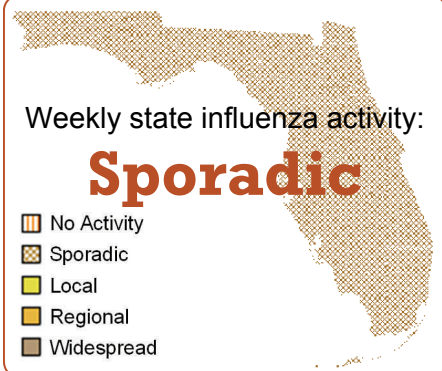
Measure	Difference from previous week	Current week 15	Previous week 14	Page of Report
Overall statewide activity code reported to CDC	No Change	Sporadic	Sporadic	1
Percent of visits to ILINet providers for ILI	▼ 0.3	1.2%	1.5%	2
Percent of emergency department visits (from ESSENCE) due to ILI	▲ 0.2	2.1%	1.9%	4
Percent of hospital admissions (from ESSENCE) due to ILI	▲ 0.1	0.4%	0.3%	4
Percent of laboratory specimens that were positive for influenza	▲ 3.4	14.8%	11.4%	6
Number of ILI outbreaks reported in Epi Com	No Change	0	0	6
Number of counties reporting moderate influenza activity	No Change	0	0	7
Number of counties reporting widespread influenza activity	No Change	0	0	7
Number of counties reporting increasing influenza activity	▲ 1	1	0	8
Number of counties reporting decreasing influenza activity	▲ 4	44	40	8

April 20, 2011

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

Produced by: Bureau of Epidemiology, Florida Department of Health (FDOH)

Contributors: Colin Malone, MPH; Brian Lang; Aaron Kite-Powell, MS; Brian Fox, MA; Kate Goodin, MPH; Leah Eisenstein, MPH; Lillian Stark, PhD, MPH, MS; Valerie Mock; Julian Everett; Janet Hamilton, MPH; Richard Hopkins, MD, MSPH



In this Issue:

Summary	1
NREVSS Respiratory Virus Surveillance	2
Outpatient Influenza-like Illness Surveillance Network (ILINet)-Statewide	2
Outpatient Influenza-like Illness Surveillance Network (ILINet)-Regional	3
ESSENCE Syndromic Surveillance Summary-Statewide	4
ESSENCE Syndromic Surveillance Summary-Regional	5
Florida Bureau of Laboratories Viral Surveillance	6
Influenza and ILI outbreaks reported in EpiCom	6
County Influenza Activity Map	7
County Influenza Activity Trend	8
Florida Pneumonia and Influenza Mortality Surveillance (FPIMSS)	10

The National Respiratory and Enteric Virus Surveillance System (NREVSS) collects data from laboratory facilities around the country on a weekly basis. NREVSS monitors temporal and geographic patterns of RSV, human parainfluenza viruses, human metapneumo virus (HMPV), respiratory and enteric adenoviruses, and rotavirus. Florida has over 30 participating laboratory facilities.

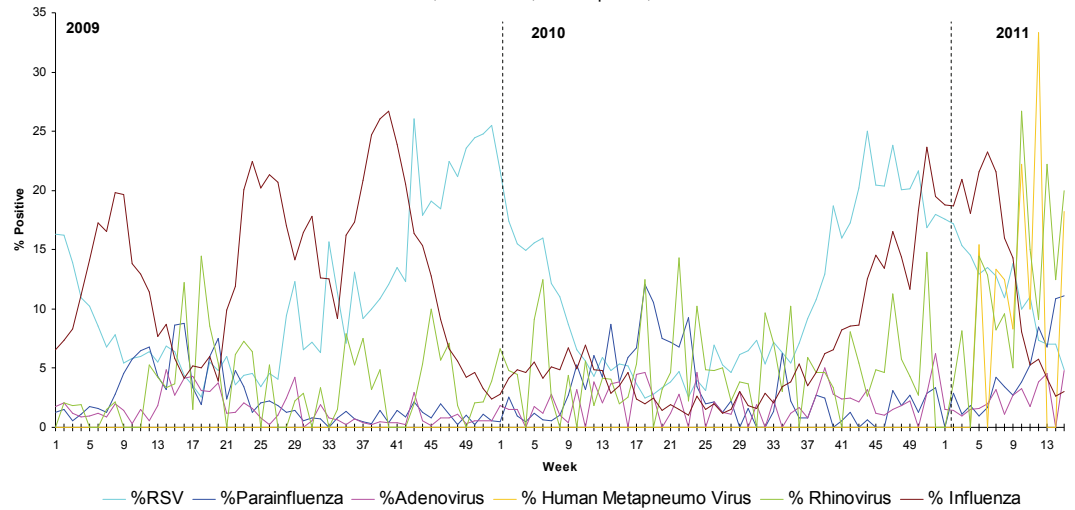
FIGURE 1 shows the percentage of positive tests for multiple respiratory viruses reported by NREVSS-participating laboratories in Florida

The six respiratory viruses summarized in Figure 1 are:

- RSV
- Parainfluenza 1-3
- Adenovirus
- HMPV
- Rhinovirus
- Influenza

Recent HMPV results are from a recently added lab that has not contributed historical data. These data should not be interpreted as an increase over background levels.

Figure 1: Percentage of Positive Respiratory Virus Tests as Collected by NREVSS, Florida, 2009-2011, as of April 19, 2011

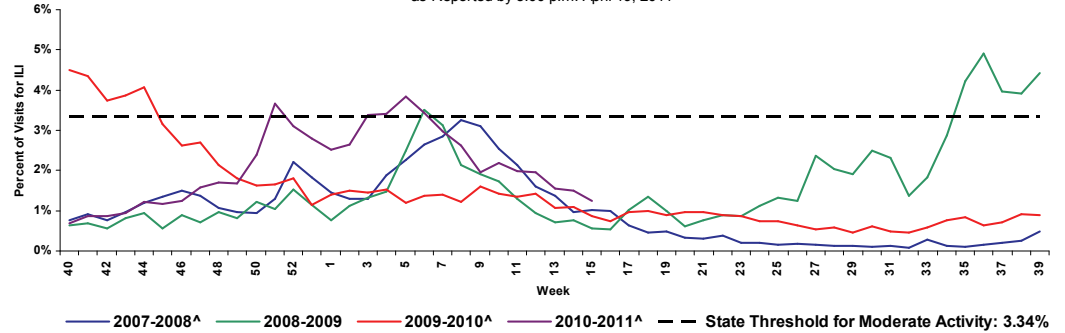


ILINET Influenza-like Illness-Statewide

FIGURE 2 shows the percentage of visits for ILI* reported by ILINet Sentinel Providers statewide.

ILI activity is well below the moderate threshold and at levels near previous non-pandemic influenza seasons at this time.

FIGURE 2: Percentage of Visits for Influenza-Like Illness* Reported by ILINet Sentinel Providers Statewide, 2007-2008 (Weeks 40-20), 2008-2009 (Weeks 40-39), 2009-2010 (Weeks 40-39), and 2010-2011 (Week 40-15) as Reported by 5:00 p.m. April 19, 2011

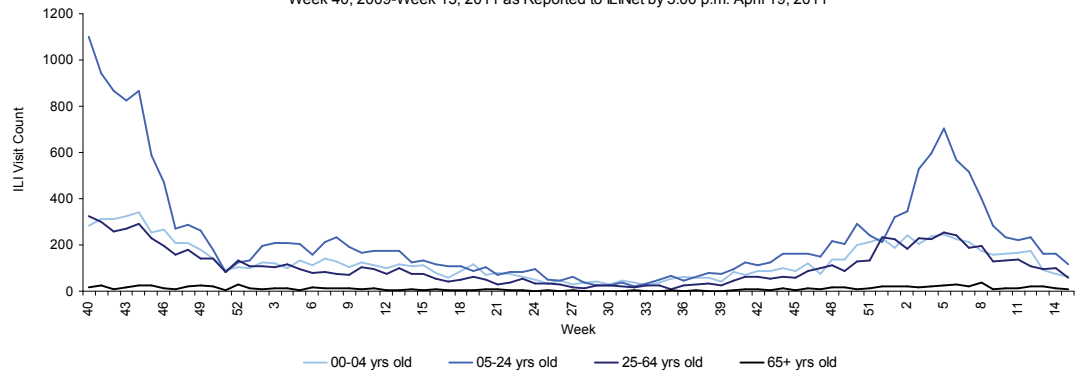


*ILI = Influenza-like illness, fever >100°F AND sore throat and/or cough *in the absence* of another known cause.
 **The 2010—2011 threshold for moderate activity is calculated from ILINet data. The threshold for moderate activity is the mean percentage of patient visits for ILI during influenza weeks 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 is no week 53 during the 2007-2008, 2009-2010, and 2010-2011 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.

FIGURE 3 shows ILI visit counts reported by ILINet sentinel providers statewide by age group.

ILI visit counts are declining in all age groups.

FIGURE 3: Influenza-like Illness (ILI) Visit Counts Reported by ILINet Sentinel Providers Statewide by Age Group Week 40, 2009-Week 15, 2011 as Reported to ILINet by 5:00 p.m. April 19, 2011



*ILI = Influenza-like illness, fever >100°F AND sore throat and/or cough *in the absence* of another known cause.
 †Data presented here are counts, not proportions as included in Figure 2. This is because age group denominator data is not available through ILINet.

Map 1: RDSTF Regions for ILINet Data

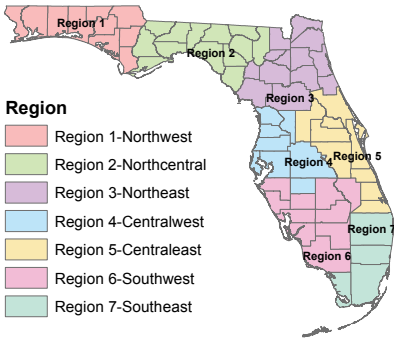


TABLE 2: ILINet Providers and Percent of Visits for ILI by Region, Week 15, as Reported by 5:00 p.m. April 19, 2011

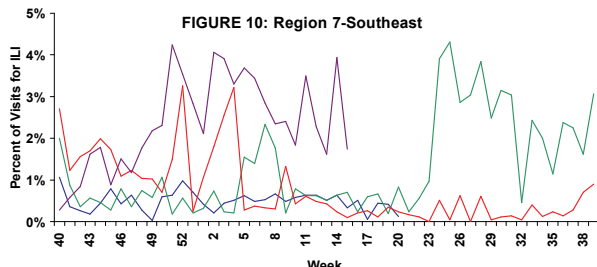
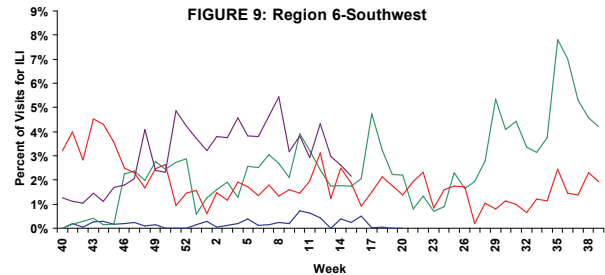
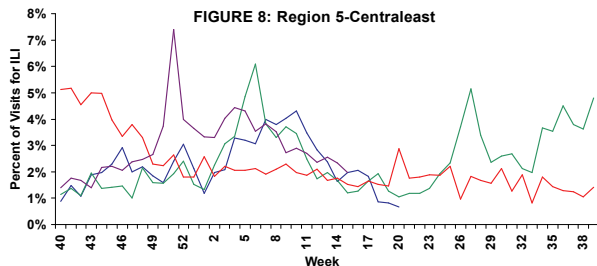
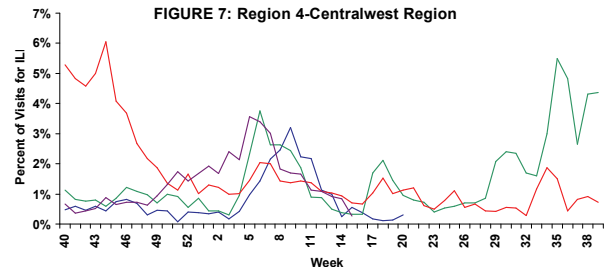
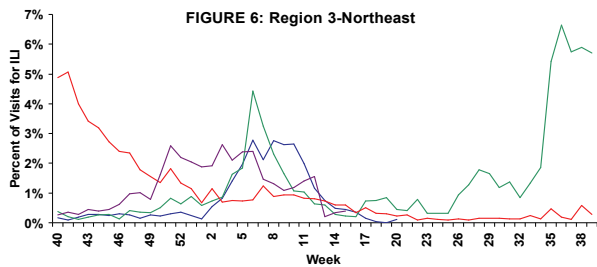
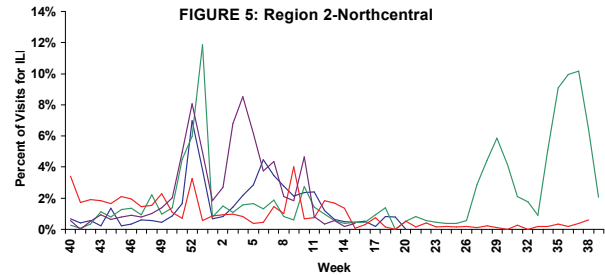
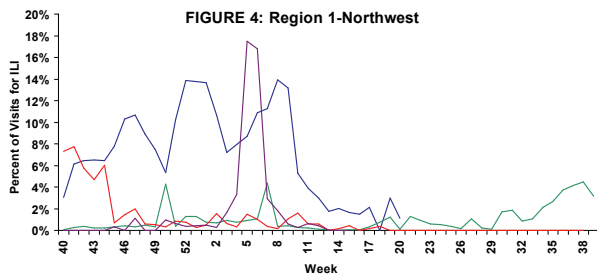
	Number of Participating Providers	Providers that Reported		Percent Visits for ILI
		(n)	(%)	
Region 1-Northwest	14	4	28.57%	0.00%
Region 2-Northcentral	6	2	33.33%	0.37%
Region 3-Northeast	26	13	50.00%	0.39%
Region 4-Centralwest	40	11	27.50%	0.26%
Region 5-Centraeast	45	33	73.33%	1.97%
Region 6-Southwest	14	6	42.86%	2.16%
Region 7-Southeast	25	6	24.00%	1.74%
Total	170	75	44.12%	1.24%

TABLE 2 shows the ILI activity by Regional Domestic Security Task Force (RDSTF) as reported by Florida ILINet physicians for week 15 (ending April 16, 2011).

FIGURE 4 - FIGURE 10 include ILI activity as reported by sentinel physicians for the 2007-2008, 2008-2009, 2009-2010, 2010-2011 seasons.

ILI activity is decreasing in region 1, 4, 5, 6, and 7. Regions 2 and 3 show increased ILI activity, but levels remain similar to previous influenza seasons at this time. Data should be interpreted with caution due to low numbers of providers reporting in some regions. Numbers will change as more data are received.

Percentage of Visits for Influenza-Like Illness Reported by ILINet Sentinel Providers by RDSTF Region, 2007-2008 (Weeks 40-20), 2008-2009 (Weeks 40-39), and 2009-10 (Weeks 40-39) and 2010-2011 (Weeks 40-15) as Reported by 5:00 p.m. April 19, 2011.



Graph Legend

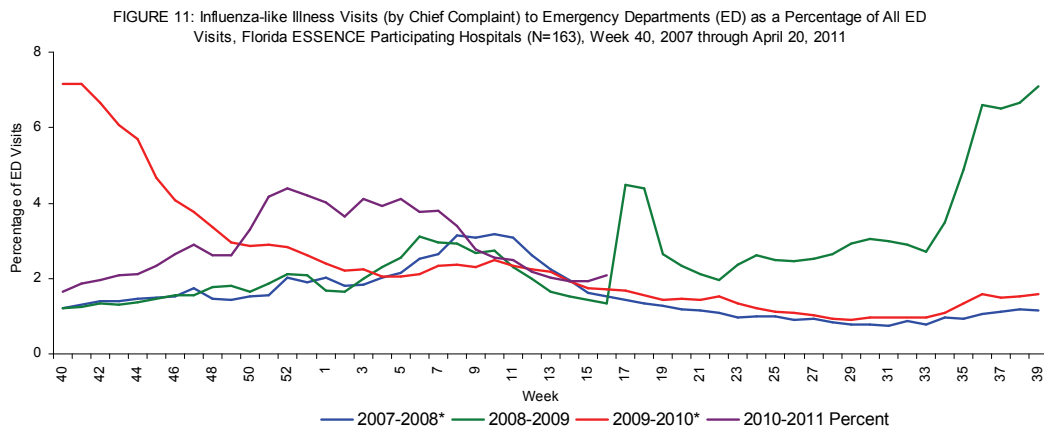
- 2007-2008*
- 2008-2009*
- 2009-2010
- 2010-2011*

*There is no week 53 during the 2007-08, 2009-10, and 2010-11 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.

Florida uses ESSENCE for syndromic surveillance, which currently collects data daily from 163 hospital emergency departments (ED). These data are processed into 11 different syndrome categories based on the patient's chief complaint. One of the categories is ILI, which is composed of chief complaints that include the words "influenza" or "flu," or either fever and cough or sore throat.

FIGURE 11 shows ESSENCE data on ILI visits to EDs as a percentage of all ED Visits.

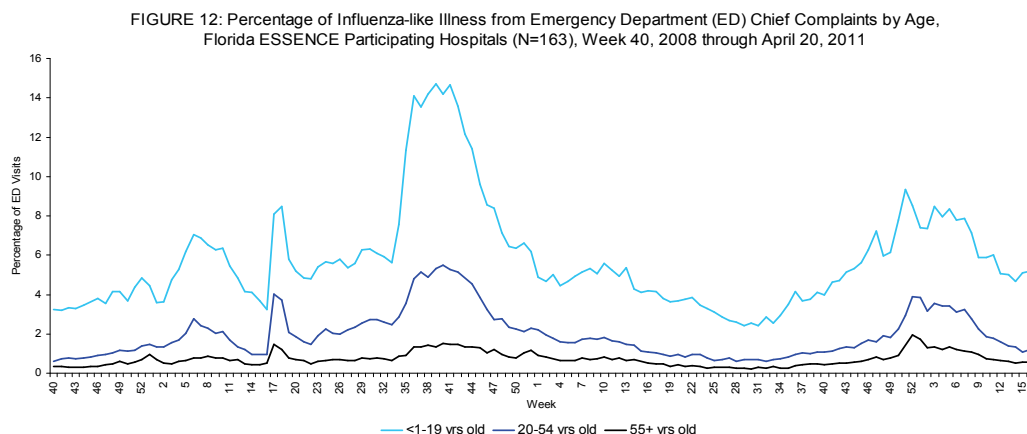
Overall activity for influenza-like illness reported in ESSENCE is similar to levels seen during the same time period in non-pandemic years.



*There is no week 53 for the 2007-2008, 2009-2010, and 2010-2011 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.

FIGURE 12 shows percentage of ILI among all ED visits by age group.

Age-specific trends show that ILI activity has increased in the oldest age group in week 15.



Ninety-five facilities participating in ESSENCE have been able to provide historical admissions data and are included here. The percentage of admissions for ILI is highest in those less than 20 years old, but the small numerators and denominators in this age group result in high variability. Overall, the percentage of admissions due to ILI is very low. These data are based on the patient's chief complaint when presenting to the emergency department and may not reflect the actual diagnosis.

FIGURE 13 shows hospital admissions due to ILI as a percentage of all hospital admissions.

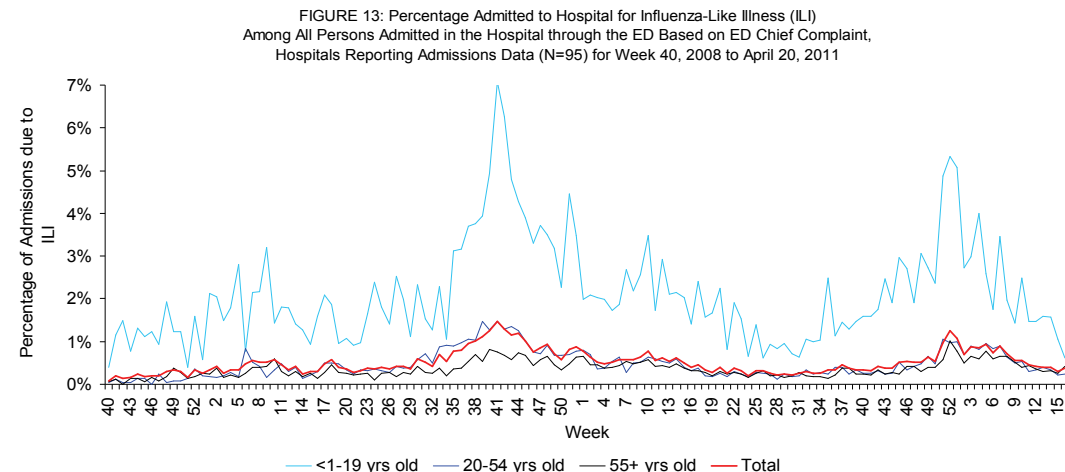
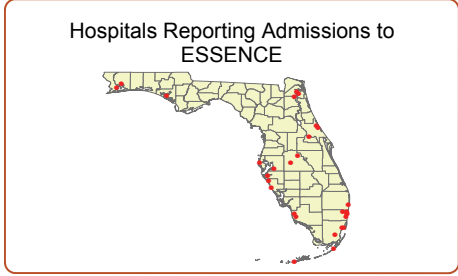


FIGURE 14 - FIGURE 20 describe ED chief complaint data from ESSENCE by RDSTF.

ILI activity in ESSENCE increased in regions 2, 5, 6, and 7. ILI activity decreased in region 1, 3, and 4. All regions are showing activity near or below that of previous non-pandemic influenza seasons at this time.

Map 2: Hospitals Reporting Emergency Department (ED) Data to Florida ESSENCE, April 20, 2011 (N=163)

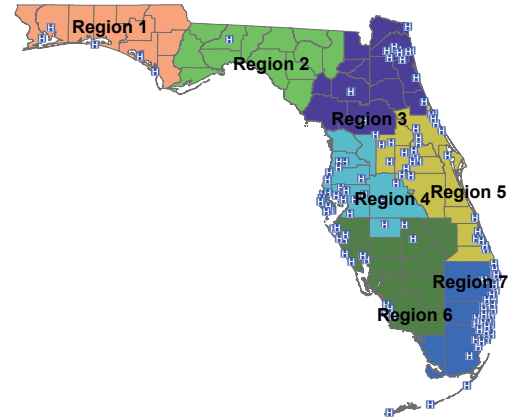


FIGURE 14: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 1 ESSENCE Participating Hospitals (N=5), Week 40, 2007 through April 20, 2011

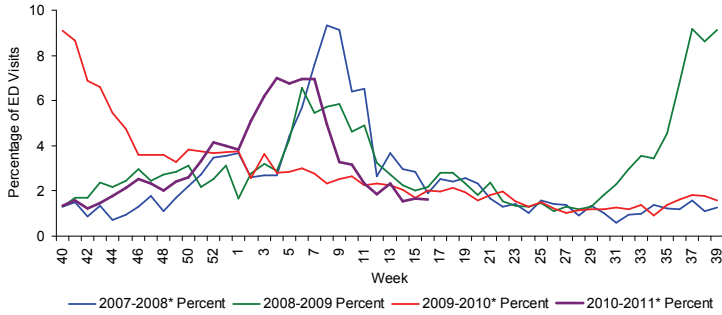


FIGURE 15: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 2 ESSENCE Participating Hospitals (N=1), Week 1, 2009 through April 20, 2011

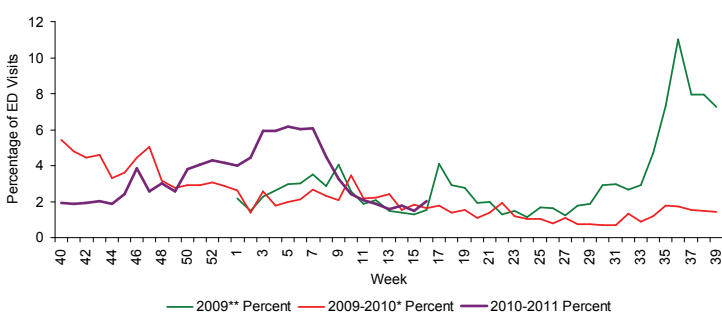


FIGURE 16: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 3 ESSENCE Participating Hospitals (N=14), Week 40, 2007 through April 20, 2011

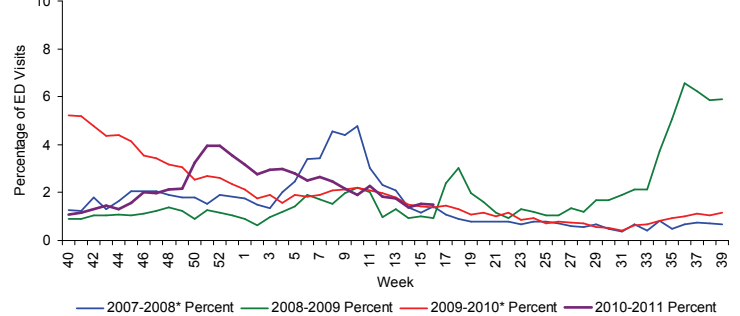


FIGURE 17: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 4 ESSENCE Participating Hospitals (N=31), Week 40, 2007 through April 20, 2011

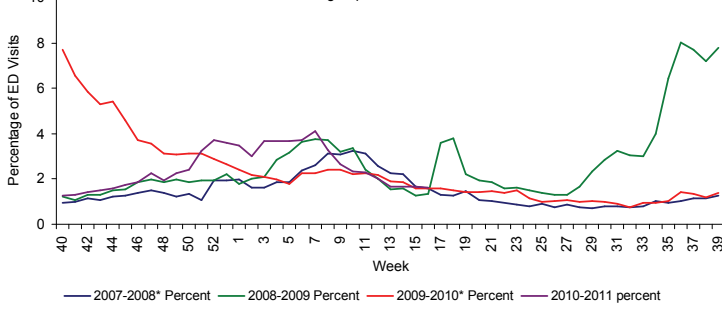


FIGURE 18: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 5 ESSENCE Participating Hospitals (N=49), Week 40, 2007 through April 20, 2011

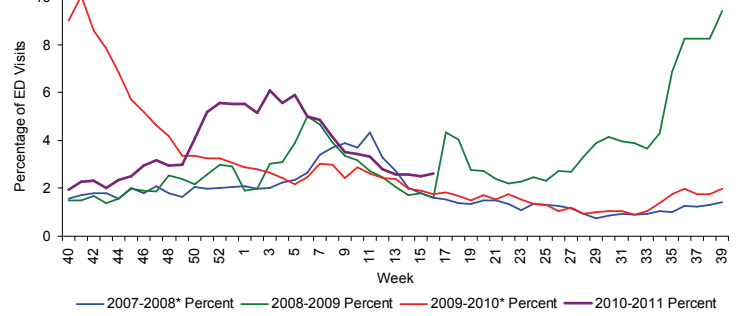


FIGURE 19: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 6 ESSENCE Participating Hospitals (N=15), Week 40, 2007 through April 20, 2011

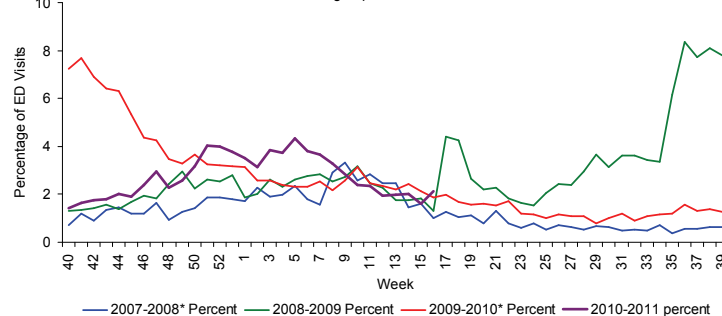


FIGURE 20: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 7 ESSENCE Participating Hospitals (N=48), Week 40, 2006 through April 20, 2011

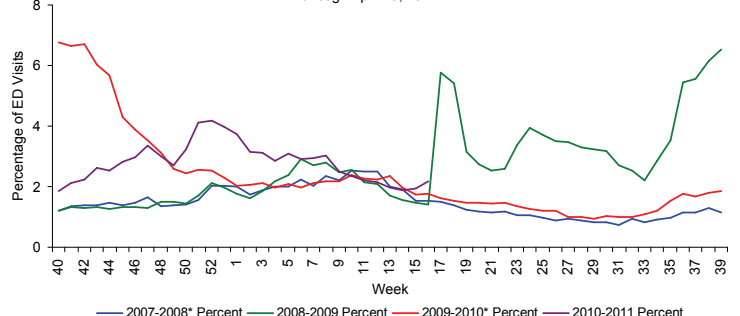


Table 3 shows the number of specimens tested by the Bureau of Laboratories (BOL), how many are influenza positive, and how many are H1N1 or other influenza subtypes.

FIGURE 21 - FIGURE 22 use BOL viral surveillance data to track the progress of influenza infection over time. They include weekly information on how many specimens are tested by the BOL, what proportion of those test positive for influenza, and what subtypes are found for the positive influenza specimens.

In recent weeks the BOL has had specimens test positive for 2009 H1N1 influenza A, H3 seasonal influenza A, and influenza B unspecified.

Current influenza strains circulating in Florida are influenza A H3, 2009 H1N1, and influenza B. Number of specimens submitted and percent positive for flu have decreased in recent weeks.

A subset of BOL influenza specimens is forwarded to CDC for further strain analysis. Of these specimens, 57 of 57 influenza A specimens and 15 of 16 influenza B specimens matched the strains included in the 2010-11 influenza vaccine.

Table 3: Bureau of Laboratories Viral Surveillance for Week 15 by Lab Event Date* as reported by 1:00 p.m. April 20, 2011

	Current Week 15	Previous Week 14
Total Specimens Tested	27	39
Influenza Positive Specimens (% of total)	4 (14.8%)	5 (11.4%)
H1N1 Positive Specimens (% of influenza positives)	-	-
H3 Influenza A	1 (25.0%)	1 (20.0%)
Influenza A Unspecified	2 (50.0%)	-
Influenza B Unspecified	1 (25.0%)	4 (80.0%)

FIGURE 21: Number of Influenza-Positive Specimens Tested by the Florida Bureau of Laboratories (BOL) by Subtype by Lab Event Date* Week 1, 2010 to Week 15, 2011 as Reported in Merlin by 1:00 p.m. April 20, 2011

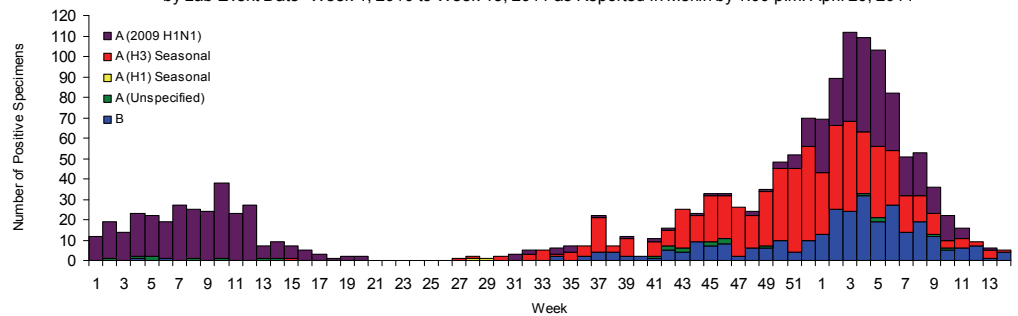
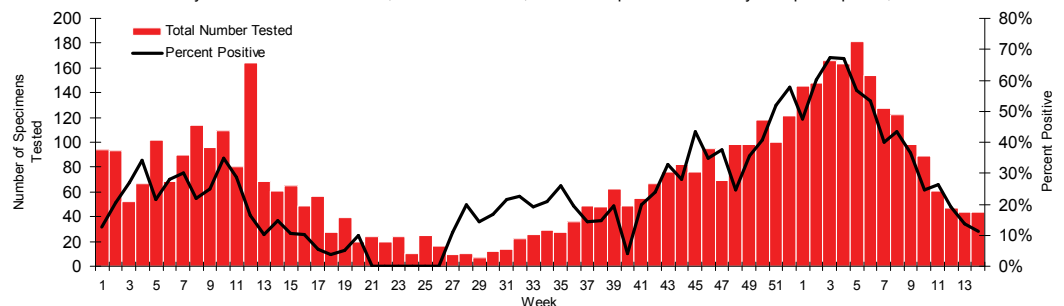


FIGURE 22: Number of Specimens Tested by Florida Bureau of Laboratories (BOL) and Percent Positive for Influenza by Lab Event Date* Week 1, 2010 to Week 15, 2011 as Reported in Merlin by 1:00 p.m. April 20, 2011



*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.

For county-specific laboratory data, please refer to the Flu Lab Report in Merlin.

For instructions on how to use the Flu Lab Report, please see the Guide to Flu Lab Report on the Bureau of Epidemiology website: http://www.doh.state.fl.us/disease_ctrl/epi/htopics/flu/FluLabReportGuide.pdf

Influenza and ILI Outbreaks

In week 15 there were **no** influenza, ILI, or respiratory disease outbreaks reported into EpiCom

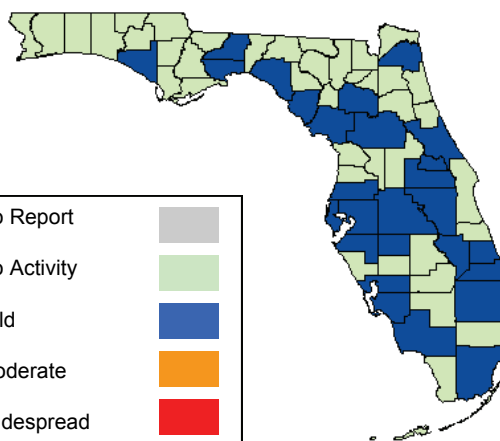
A total of **twenty-five** influenza or ILI outbreaks and **four** respiratory disease outbreaks have been reported into EpiCom in the 2010-11 influenza season. Influenza A H3 or 2009 H1N1 influenza A have been isolated in PCR-confirmed influenza outbreaks.

As of 10:00 a.m. April 20, 2011 a total of 67 (100%) counties had reported their weekly level of influenza activity. We have achieved 100% reporting for the 26th consecutive week, due to enhanced follow-up with counties. *Please note that data reported by counties after the deadline Tuesday at 5 p.m. are recorded but may not be included in the activity map for previous weeks.*

TABLE 4: Weekly County Influenza Activity for Week 15 (ending April 16, 2011) as Reported by 10:00 a.m. April 20, 2011

Activity Level	Week 14 Number of Counties	Week 15 Number of Counties	Week 15 Counties
No Report	0	0	-
No Activity	34	40	Baker, Bradford, Brevard, Broward, Calhoun, Citrus, Clay, Columbia, Desoto, Escambia, Flagler, Franklin, Gadsden, Gilchrist, Glades, Gulf, Hamilton, Hendry, Hernando, Highlands, Holmes, Indian River, Jackson, Jefferson, Lafayette, Lake, Liberty, Madison, Monroe, Nassau, Okaloosa, Putnam, Santa Rosa, Sarasota, St. Johns, Sumter, Suwannee, Union, Walton, Washington
Mild	33	27	Alachua, Bay, Charlotte, Collier, Dade, Dixie, Duval, Hardee, Hillsborough, Lee, Leon, Levy, Manatee, Marion, Martin, Okeechobee, Orange, Osceola, Palm Beach, Pasco, Pinellas, Polk, Seminole, St. Lucie, Taylor, Volusia, Wakulla
Moderate	0	0	-
Widespread	0	0	-

Map 3: Weekly County Influenza Activity for Week 15 as Reported by 10:00 a.m. April 20, 2011



No counties report widespread or moderate activity.

FIGURE 23: Number of Counties Reporting Moderate (Localized) or Widespread Activity, 2008-2009 (Weeks 40-39), 2009-2010 (Weeks 40-20), and 2010-2011 (Weeks 40-15) as Reported by 10:00 a.m. April 20, 2011

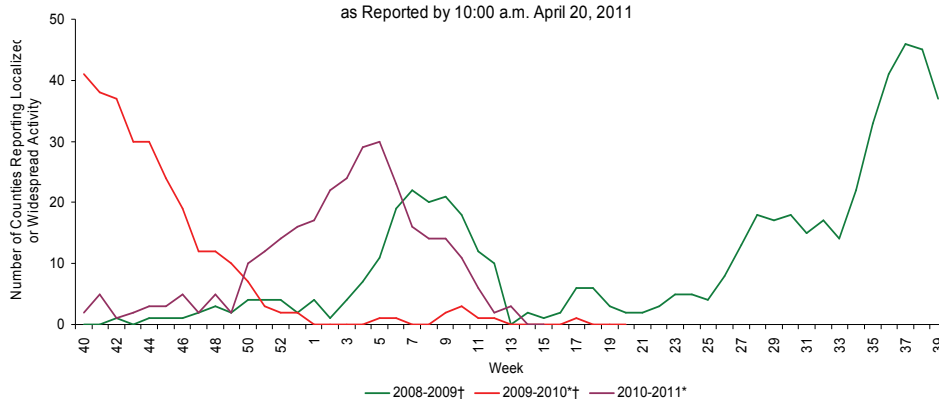


FIGURE 23 shows the number of counties reporting localized or widespread activity, 2008-2009, 2009-2010, and 2010-2011.

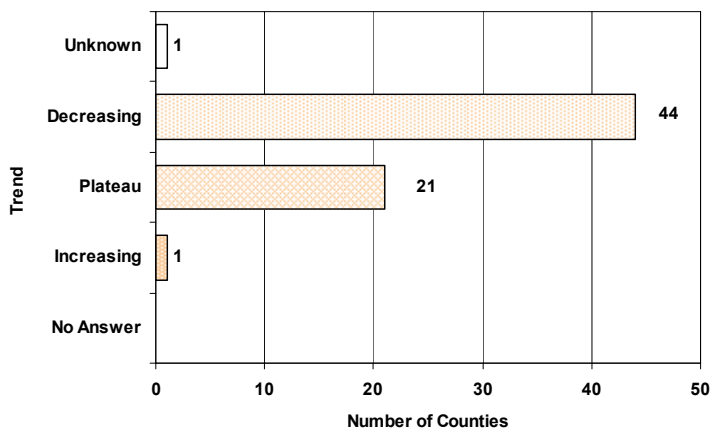
* There is no week 53 during the 2007-2008, 2009-2010, and 2010-2011 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.

† As of Week 40 2010, the influenza activity code categorizations have changed. Please see http://www.doh.state.fl.us/disease_ctr/epi/FluActivityDef.htm for explanations of previous year activity code interpretations.

County influenza activity data is reported to the Bureau of Epidemiology through EpiGateway on a weekly basis by the county influenza coordinator. Specific information is requested about laboratory results, outbreak reports, and surveillance system activity. Figures 24-33 displayed below reflect a county's assessment of influenza activity within their county as a whole as well as influenza activity within specific settings. For week 15, 44 counties indicated that activity was decreasing, 21 indicated it was about the same, and one indicated that activity was increasing.

FIGURE 24 shows the assessment of the overall influenza activity trend in each county as reported by county health department flu coordinators for week 15 as of 10:00 a.m. April 20, 2011.

FIGURE 24: Assessment of Overall Influenza Activity Trend



Definitions for the County Influenza Activity Trends are available at:
http://www.doh.state.fl.us/disease_ctrl/epi/CountyInfluenzaTrendGuide.html

Counties are asked to evaluate influenza activity in certain settings within their county. Each setting has a scale for activity that ranges from none or minimal activity to very high activity. What defines each of the values varies by facility type, but the example of the assessment in elementary, middle, and high schools is included below. More detailed information on the meanings of the levels for each setting can be found on the webpage also included below.

No or very minimal activity -- Scattered cases of ILI with no increase in absenteeism or disruption of school activities.

Moderate activity -- Absenteeism elevated above baseline (in range of 10 to 25%) in some but fewer than half of schools where it is known; occasional children sent home because of ILI.

High activity -- Absenteeism elevated above baseline (in range of 10 to 25%) in more than half of schools; most schools sending several or many children home each day because of ILI.

Very high activity -- Absenteeism high enough to force curtailment of some or all school activities.

County influenza settings assessment guides are available at:
http://www.doh.state.fl.us/disease_ctrl/epi/FluAssessment.htm

FIGURE 25 - FIGURE 26 show the activity levels in various facilities by county as reported by county health department flu coordinators for week 15 as of 10:00 a.m. April 20, 2011.

FIGURE 25: Assessment of Influenza Activity in Elementary, Middle, and High Schools

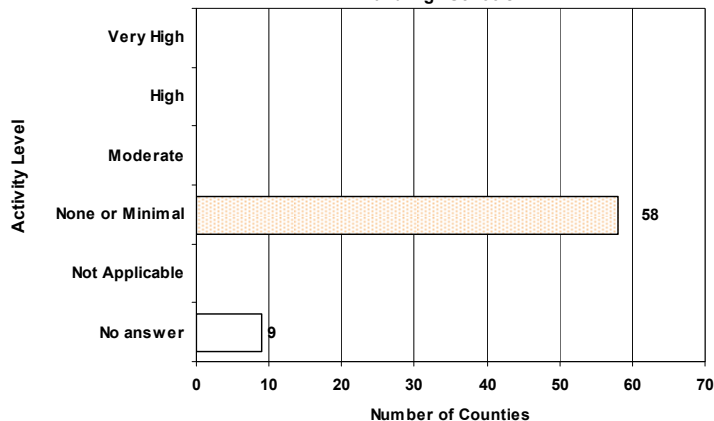


FIGURE 26: Assessment of Influenza Activity in Colleges and Universities

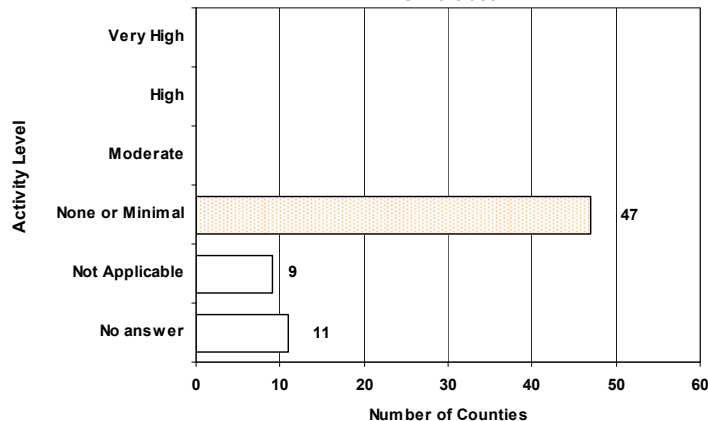


FIGURE 27 - FIGURE 32 show the activity levels in various facilities by county as reported by county health department flu coordinators week 15 as of 10:00 a.m. April 20, 2011.

FIGURE 27: Assessment of Influenza Activity in Jails/Prisons

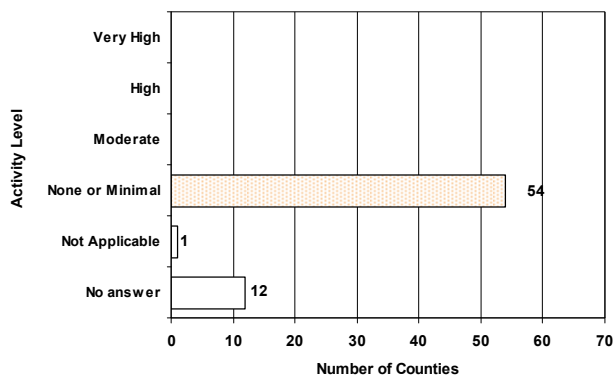


FIGURE 28: Assessment of Influenza Activity in Retirement Facilities

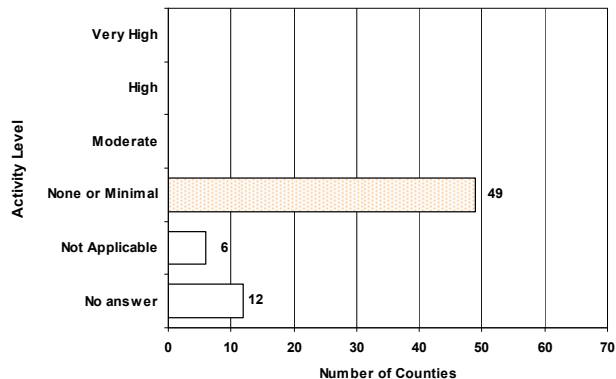


FIGURE 29: Assessment of Influenza Activity in Nursing Homes

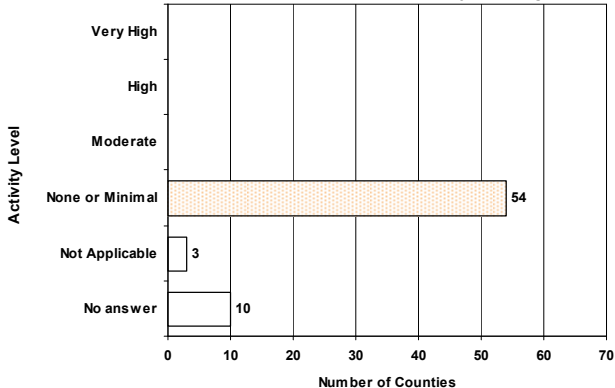


FIGURE 30: Assessment of Influenza Activity in Health Care Facilities

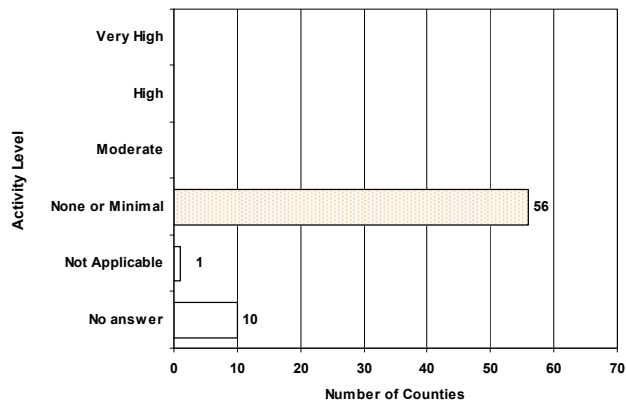


FIGURE 31: Assessment of Influenza Activity in Daycare Centers

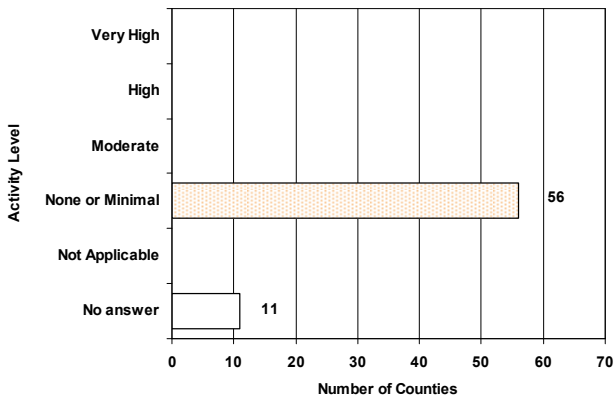


FIGURE 32: Assessment of Influenza Activity in Businesses

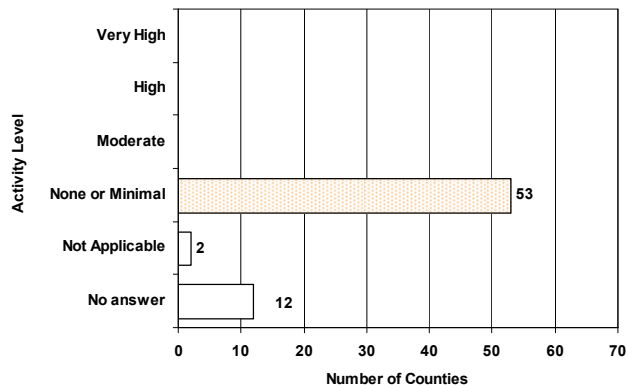
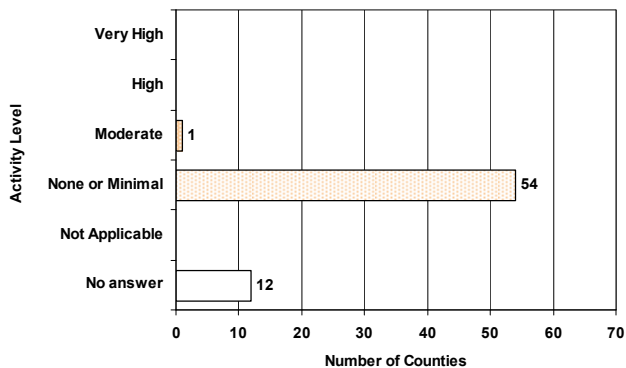


FIGURE 33: Assessment of Influenza Activity in State or Local Government Offices



FDOH 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 Mortality Reporting 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 through EpiGateway.

FIGURE 34 shows Pneumonia and Influenza Deaths for 24 Florida Counties, 2007-2008, 2008-2009, 2009-2010, and 2010-11

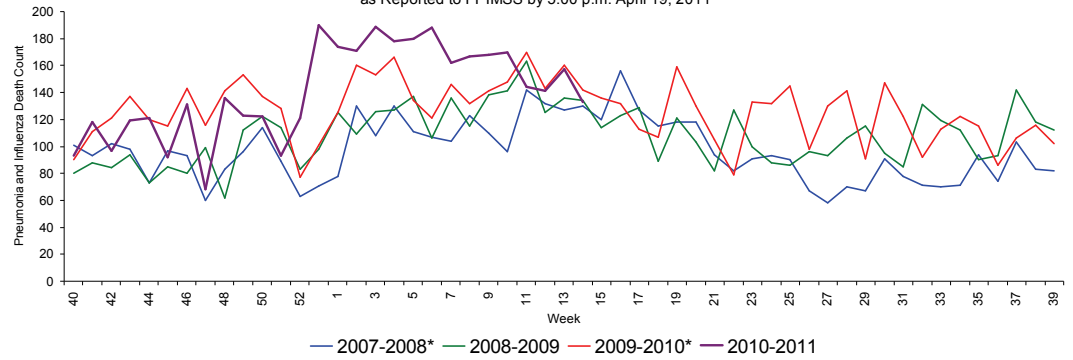
For week 15 (ending April 16) there were:

- **133 deaths reported**
- **Upper bound of 95% confidence interval for prediction: 201 deaths**
- **No excess deaths**

The majority of the deaths are in those aged 75 years and older. Mortality increased in the 45-74 age group in week 15.

All 24 participating counties reported data for week 15.

FIGURE 34: Pneumonia and Influenza Deaths for 24 Florida Counties, 2007-2008 (Weeks 40-39), 2008-2009 (Weeks 40-39), 2009-2010 (Weeks 40-39), and 2010-2011 (Week 40-15) as Reported to FPIMSS by 5:00 p.m. April 19, 2011



*There is no week 53 for the 2007-2008, 2009-2010, and 2010-2011 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.

FIGURE 35 shows Pneumonia and Influenza Deaths for 24 Florida Counties, week 1, 2008 - week 15, 2011 as reported to FPIMSS by 5:00 p.m. April 19, 2011

FIGURE 35: Pneumonia and Influenza Deaths in 4 Age Groups for 24 Florida Counties, Week 1, 2009-Week 15, 2011 as Reported to FPIMSS by 5:00 p.m. April 19, 2011

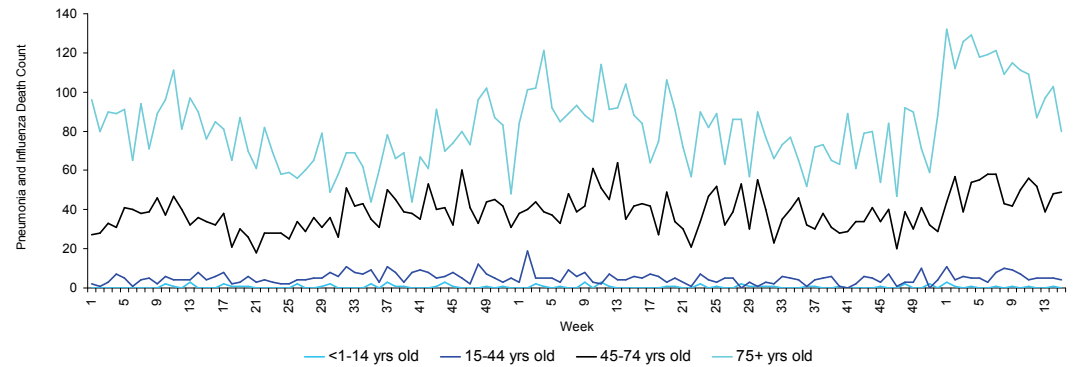


Figure 36: Pneumonia and Influenza Deaths for 24 Counties, Serfling Model January 24, 2009-April 16, 2011 as Reported to FPIMSS as of 5:00 p.m. April 19, 2011

FIGURE 36 shows the reported count of pneumonia and influenza deaths for 24 Florida counties, the number of deaths predicted using the Serfling Model, and the upper bound of the 95% confidence interval for this prediction

