



## Week 51: December 19-25, 2010



### 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:

- CDC reported low levels of influenza around the country during week 50. The CDC calculated minimal ILI for the state of Florida using Florida's ILINet sentinel surveillance data.

#### State:

- Influenza-like illness (ILI) activity is moderate and increasing in many of our monitoring systems. This week no counties reported widespread activity, and ten counties reported moderate activity. Thirty-three counties reported increasing influenza activity. Week 51 has the highest number of counties reporting moderate and increasing influenza activity so far this season.
- ESSENCE and ILINet ILI data are elevated compared to previous years at this time, especially in the southern and central regions of Florida.
- Current influenza strains circulating in Florida are primarily influenza A H3, with some 2009 H1N1 and influenza B. Other viruses known to be currently circulating, potentially causing influenza-like illness, include adenovirus, rhinovirus, parainfluenza and RSV. RSV activity is currently elevated, as is expected during the RSV season. RSV can cause severe respiratory illness in infants.
- There were no influenza or ILI outbreaks reported in week 51. There have been 3 previous outbreaks in the 2010-11 influenza season, in a long-term care facility, a skilled nursing facility, and a school, respectively.

#### Weekly state influenza activity: Regional

Florida is currently reporting Regional influenza activity statewide, due to moderate influenza activity levels reported out of south and central Florida, continued high percent positive for influenza specimens, and elevated and increasing ILI levels in ESSENCE and ILINet.

#### Pediatric influenza Mortality

Influenza-associated deaths among those less than 18 years old are reportable in Florida. There have been **NO** pediatric influenza deaths reported in the 2010-2011 influenza season. The case definition is available at: [http://www.cdc.gov/ncphi/diss/nndss/casedef/Influenza-Associated\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/Influenza-Associated_current.htm)

TABLE 1: Summary of Florida Influenza-Like Illness (ILI) Activity for Week 51

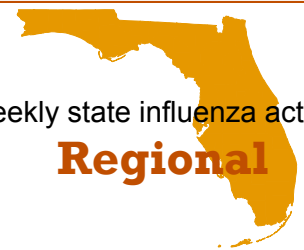
Measure	Difference from previous week	Current week 51	Previous week 50	Page of Report
Overall statewide activity code reported to CDC	No Change	Regional	Regional	1
Number of ILI outbreaks reported in Epi Com	No Change	0	0	1
Percent of visits to ILINet providers for ILI	▲ 1.8	4.4%	2.6%	<a href="#">2</a>
Percent of emergency department visits (from ESSENCE) due to ILI	▲ 1.0	4.3%	3.3%	<a href="#">4</a>
Percent of hospital admissions (from ESSENCE) due to ILI	▲ 0.5	1.1%	0.6%	<a href="#">4</a>
Percent of laboratory specimens that were positive for influenza	▲ 5.7	45.2%	39.5%	<a href="#">6</a>
Number of counties reporting moderate influenza activity	▲ 2	12	10	<a href="#">7</a>
Number of counties reporting widespread influenza activity	No Change	0	0	<a href="#">7</a>
Number of counties reporting increasing influenza activity	▲ 8	41	33	<a href="#">8</a>
Number of counties reporting decreasing influenza activity	▼ 1	0	1	<a href="#">8</a>

December 29, 2010

Posted on the Bureau of Epidemiology website: [http://www.doh.state.fl.us/disease\\_ctrl/epi/swineflu/Reports/reports.htm](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 B.S.; Janet Hamilton, MPH; Richard Hopkins, MD, MSPH



Weekly state influenza activity:

**Regional**

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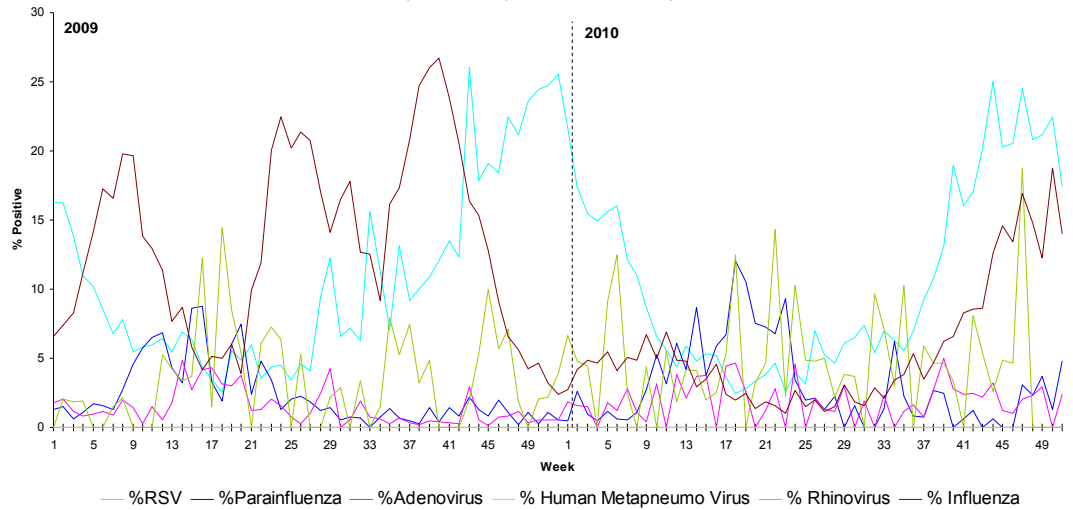
The National Respiratory and Enteric Virus Surveillance System (NREVSS) collects data from laboratory facilities around the country on a weekly basis. NREVSS monitors temporal and geographic patterns of respiratory syncytial virus (RSV), human parainfluenza viruses (HPIV), respiratory and enteric adenoviruses 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 (HPIV)
- Adenovirus
- Human Metapneumo Virus
- Rhinovirus
- Influenza

Figure 1: Percentage of Positive Respiratory Virus Tests as Collected by NREVSS, Florida, 2009-2010, as of December 28, 2010

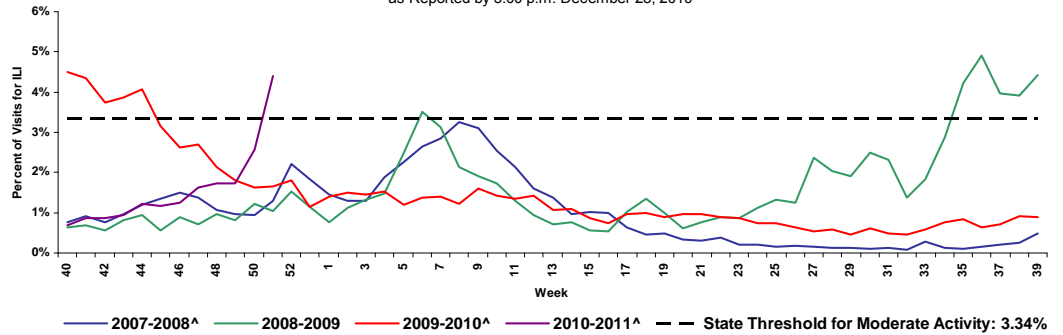


**ILINET Influenza-like Illness-Statewide**

**FIGURE 2** shows the percentage of visits for influenza-like illness\* reported by ILINet Sentinel Providers statewide.

Statewide ILI activity in ILINet is slightly elevated over previous influenza seasons at this time.

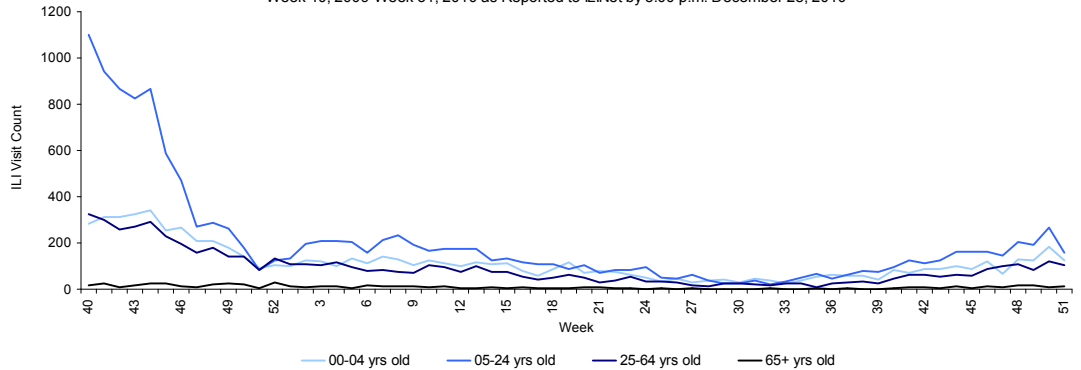
FIGURE 2: Percentage of Visits for Influenza-Like Illness\* Reported by ILINet Sentinel Providers Statewide, 2007-2008 (Weeks 40-20), 2008-2009 (Weeks 40-39), 2009-2010 (Weeks 40-39), and 2010-2011 (Week 40-51) as Reported by 5:00 p.m. December 28, 2010



\*ILI = Influenza-like illness, fever >100°F AND sore throat and/or cough *in the absence* of another known cause.  
 \*\*The 2009—2010 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 2006-2007, 2007-2008, and 2009-2010 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.

**FIGURE 3** shows influenza-like illness (ILI) visit counts reported by ILINet sentinel providers statewide by age group.

FIGURE 3: Influenza-like Illness (ILI) Visit Counts Reported by ILINet Sentinel Providers Statewide by Age Group Week 40, 2009-Week 51, 2010 as Reported to ILINet by 5:00 p.m. December 28, 2010



\*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

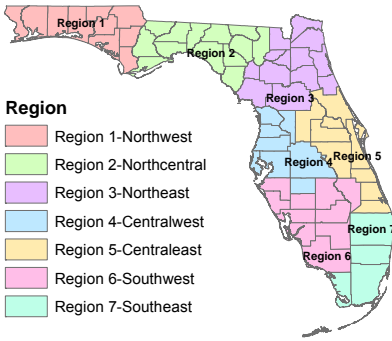


TABLE 2: ILINet Providers and Percent of Visits for ILI by Region, Week 51, as Reported by 5:00 p.m. December 28, 2010

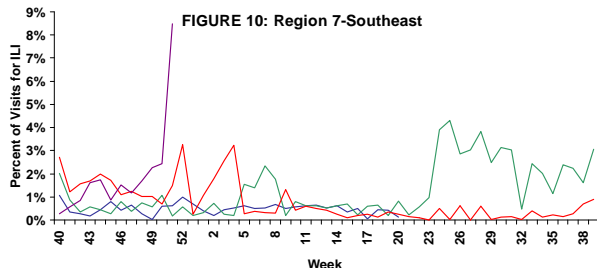
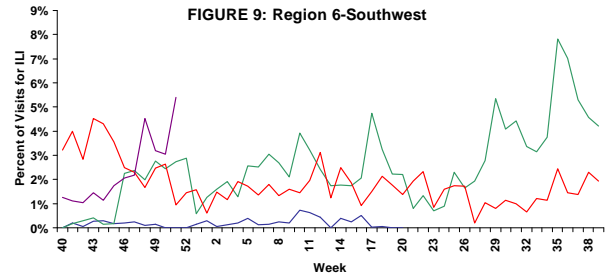
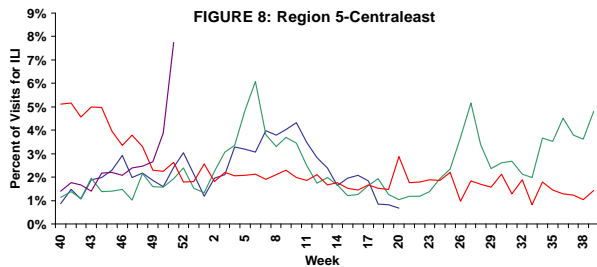
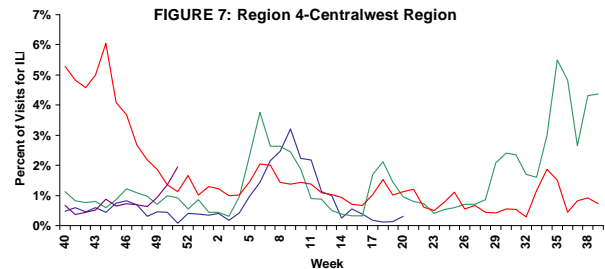
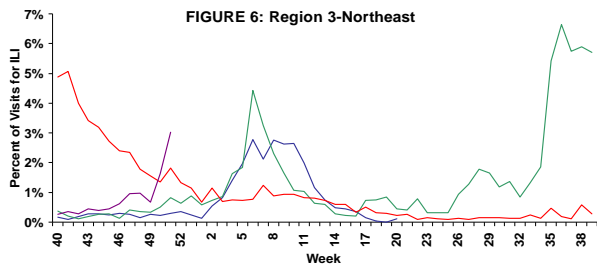
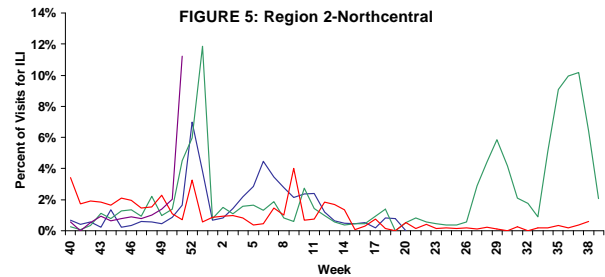
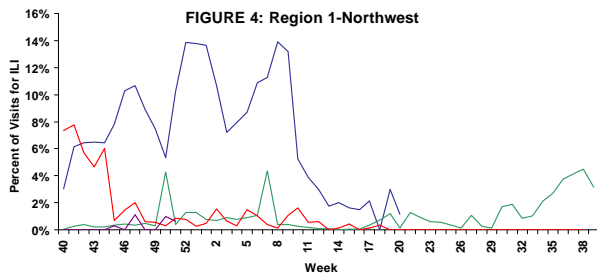
	Number of Participating Providers	Providers that Reported		Percent Visits for ILI
		(n)	(%)	
Region 1-Northwest	15	4	26.67%	0.63%
Region 2-Northcentral	6	2	33.33%	11.22%
Region 3-Northeast	28	15	53.57%	3.02%
Region 4-Centralwest	40	13	32.50%	1.95%
Region 5-Centraeast	46	11	23.91%	7.73%
Region 6-Southwest	20	4	20.00%	5.39%
Region 7-Southeast	26	7	26.92%	8.49%
<b>Total</b>	<b>181</b>	<b>56</b>	<b>30.94%</b>	<b>4.40%</b>

TABLE 2 shows the ILI activity by Regional Domestic Security Task Force (RDSTF) as reported by Florida ILINet physicians for week 51 (ending December 25, 2010).

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

Regions 2, 3, 5, 6 and 7 are showing large continual increases in ILI. Region 1 and 4 are showing a slight increase in ILI from the previous week. 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.

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 40-51) as Reported by 5:00 p.m. December 28, 2010.



Graph Legend

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

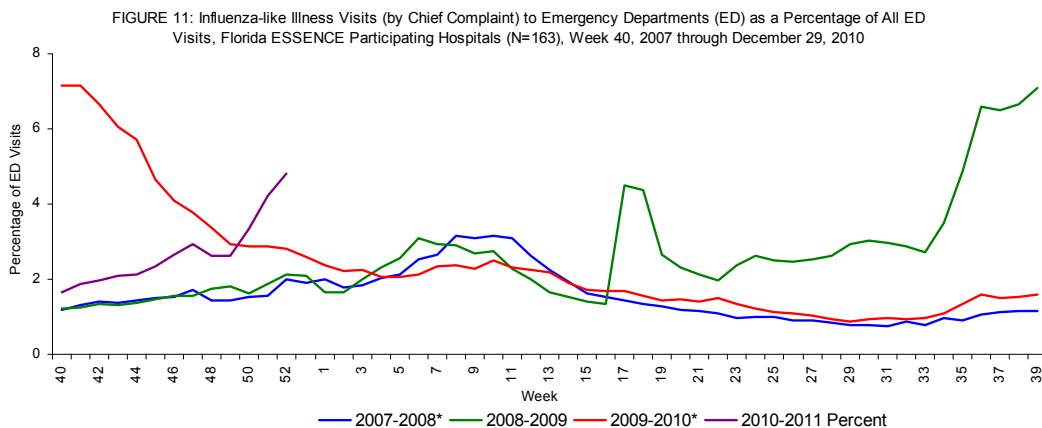
\*There is no week 53 during the 2006-07, 2007-08, and 2009-10 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.

Florida uses the Electronic Surveillance System for the Early Notification of Community-based Epidemics (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 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. Ninety-five facilities participating in ESSENCE have been able to provide historical admissions data and are included here.

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

**Overall activity for influenza-like illness reported in ESSENCE is elevated for this time of year compared to previous, non-pandemic seasons.**

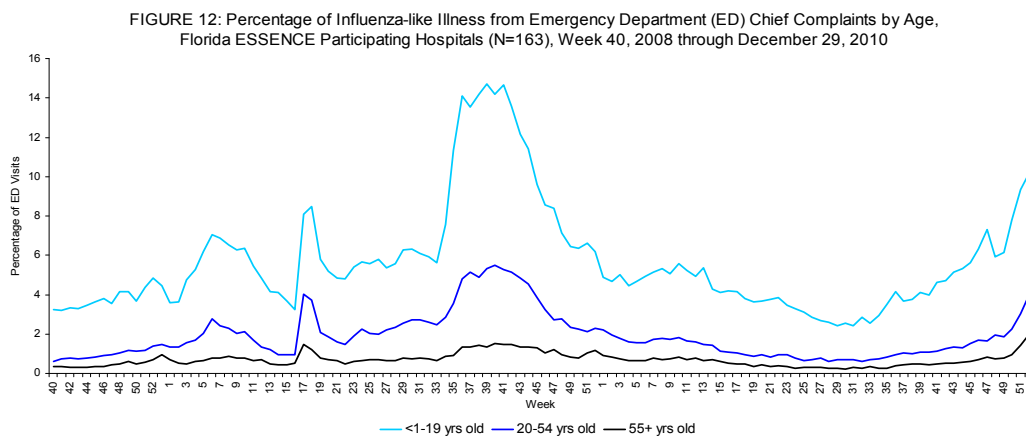
The majority of the increase in ED visits is occurring in younger age groups.



\*There is no week 53 for the 2006-2007, 2007-2008, or 2009-2010 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.

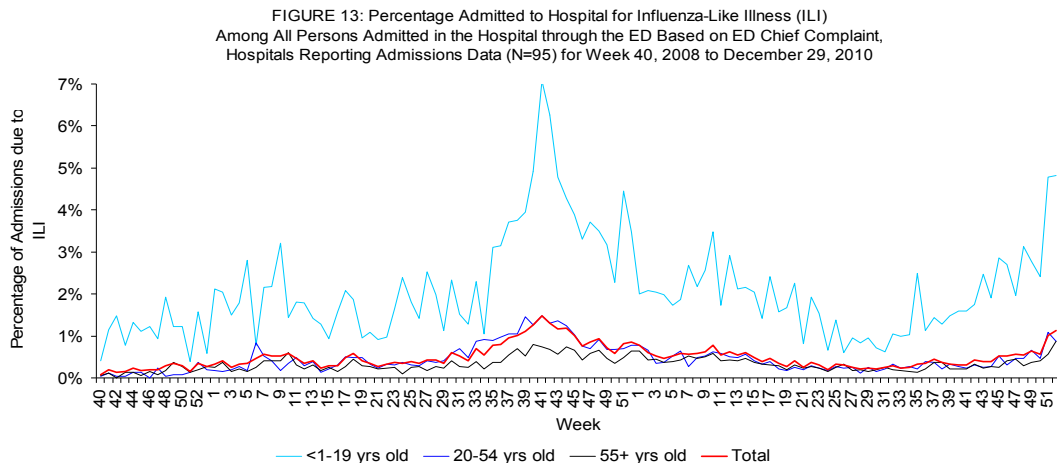
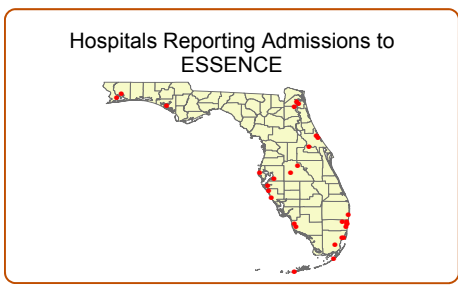
**FIGURE 12** shows percentage of ILI among all ED visits by age group.

Age-specific trends show that there are increases in ILI activity for younger age groups (<1-19), with smaller increases in the older age groups.



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 emergency department chief complaint data from ESSENCE by Domestic Security Task Force Region

Regions 1-7 all showed sharp increases in ILI activity in the past weeks, greater than non-pandemic years.

Map 2: Hospitals Reporting Emergency Department (ED) Data to Florida ESSENCE, December 29, 2010 (N=163)

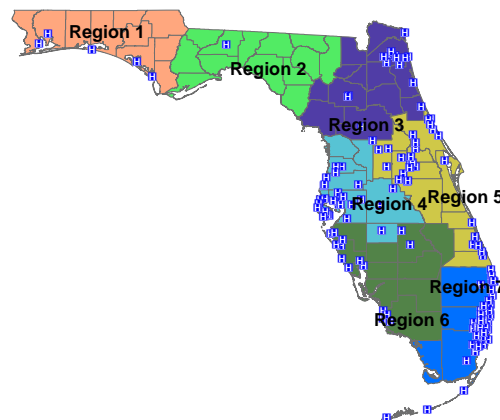


FIGURE 14: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 1 ESSENCE Participating Hospitals (N=5), Week 40, 2007 through December 29, 2010

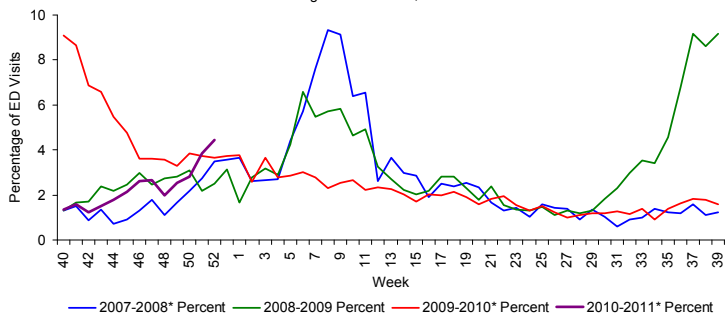


FIGURE 15: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 2 ESSENCE Participating Hospitals (N=1), Week 1, 2009 through December 29, 2010

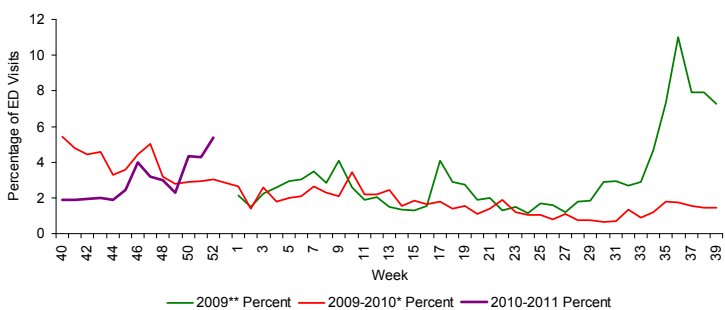


FIGURE 16: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 3 ESSENCE Participating Hospitals (N=14), Week 40, 2007 through December 29, 2010

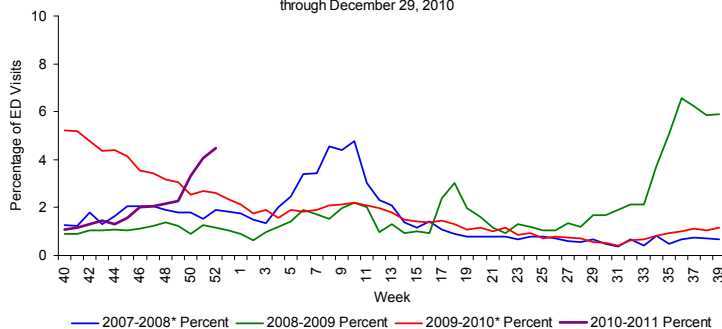


FIGURE 17: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 4 ESSENCE Participating Hospitals (N=31), Week 40, 2007 through December 29, 2010

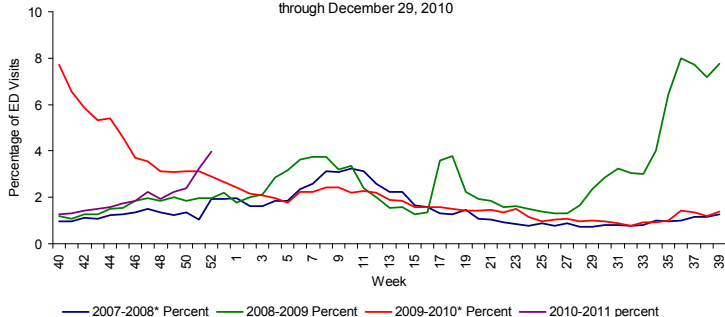


FIGURE 18: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 5 ESSENCE Participating Hospitals (N=49), Week 40, 2007 through December 29, 2010

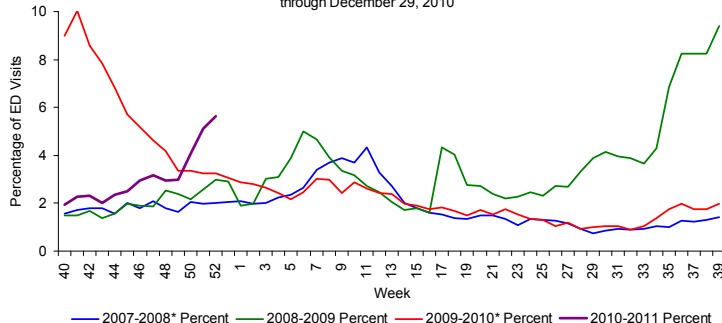


FIGURE 19: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 6 ESSENCE Participating Hospitals (N=15), Week 40, 2007 through December 29, 2010

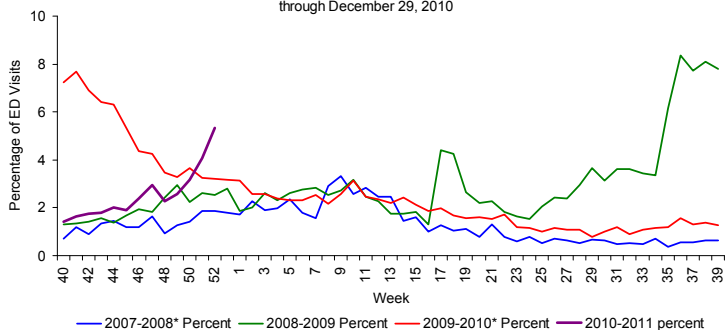
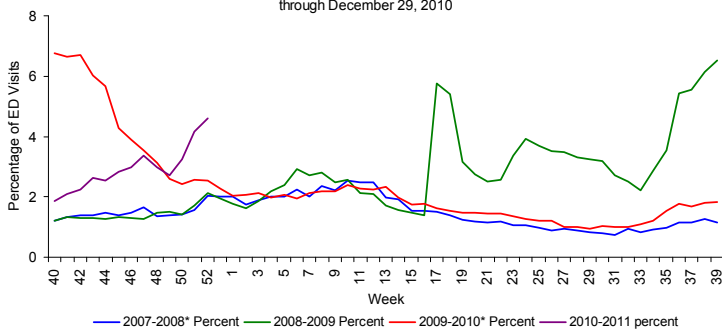


FIGURE 20: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 7 ESSENCE Participating Hospitals (N=48), Week 40, 2006 through December 29, 2010



**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.

**Table 3: Bureau of Laboratories Viral Surveillance for Week 51 by Lab Event Date\* as reported by 12:00 p.m. December 29, 2010**

	Current Week 51	Previous Week 50
<b>Total Specimens Tested</b>	<b>62</b>	<b>114</b>
Influenza Positive Specimens (% of total)	28 (45.2%)	45 (39.5%)
H1N1 Positive Specimens (% of influenza positives)	2 (7.1%)	3 (6.7%)
H3 Influenza A	18 (64.3%)	33 (73.3%)
Influenza A Unspecified	5(17.9%)	-
Influenza B Unspecified	3 (10.7%)	(20.0%)

**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.

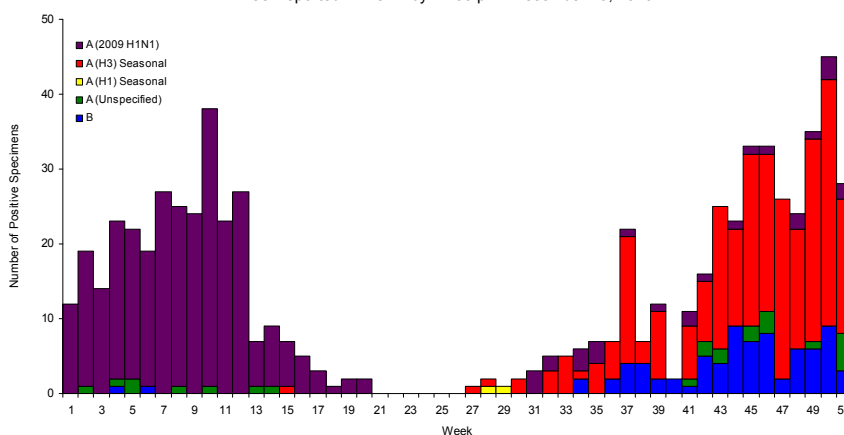
**In recent weeks the Bureau of Laboratories has had specimens test positive for 2009 H1N1 influenza A, H3 seasonal influenza A, and influenza B unspecified.**

Although H3 influenza A has been identified in all recent outbreaks of influenza A, there is no strain of influenza currently dominating in Florida.

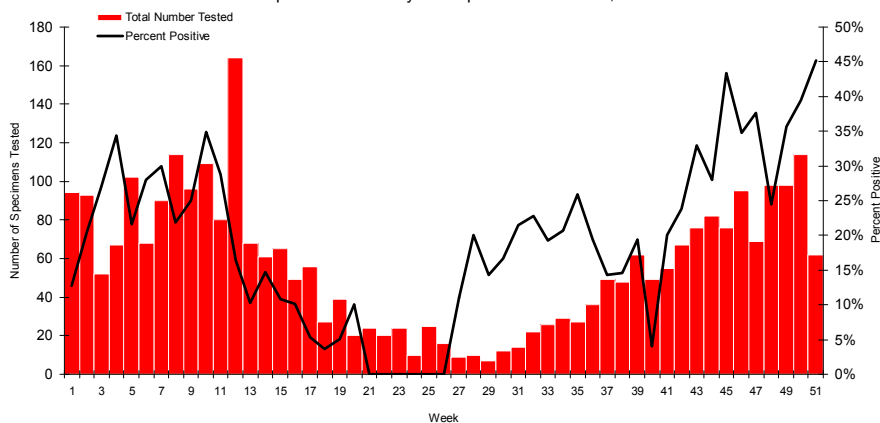
**A selection of specimens tested at the Bureau of Laboratories are sent to the CDC on a regular basis for pyrosequencing, which determines the genetic make-up of those viruses.**

All twelve of the H3 specimens that have been forwarded to CDC have come back as "A/PERTH/16/2009-LIKE (H3N2)". Four out of five influenza B specimens are "B/BRISBANE/60/2008-LIKE" and 6 out of 6 H1N1 specimens have come back as "A/CALIFORNIA/07/2009-LIKE (H1N1)". All three of these strains are extremely close to the viruses against which the vaccine was made this year.

**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 51, 2010 as Reported in Merlin by 12:00 p.m. December 29, 2010**



**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 51, 2010 as Reported in Merlin by 12:00 p.m. December 29, 2010**



\*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](http://www.doh.state.fl.us/disease_ctrl/epi/htopics/flu/FluLabReportGuide.pdf)

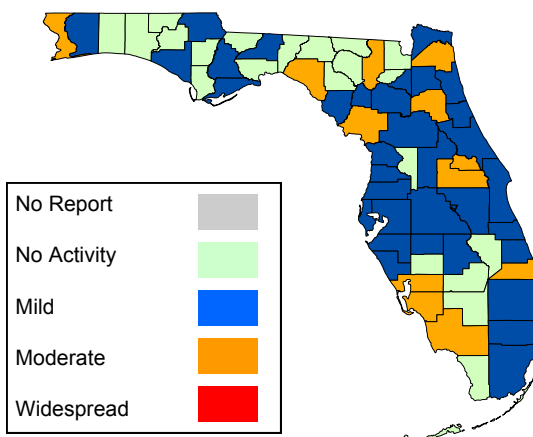
As of 5:00 p.m. December 28, 2010 a total of 67 (100%) counties had reported their weekly level of influenza activity. We have achieved 100% reporting for the twelfth consecutive week, due to enhanced follow-up with counties. *Please note that data reported by counties after the deadline Tuesday at 5 p.m. are recorded but may not be included in the activity map for previous weeks.*

**TABLE 4: Weekly County Influenza Activity for Week 51 (ending December 25, 2010) as Reported by 5:00 p.m. December 28, 2010**

Activity Level	Week 50 Number of Counties	Week 51 Number of Counties	Week 51 Counties
No Report	0	0	-
No Activity	22	21	Baker, Calhoun, Desoto, Gadsden, Glades, Gulf, Hamilton, Hendry, Holmes, Jefferson, Lafayette, Madison, Monroe, Okaloosa, Okeechobee, Sumter, Suwannee, Union, Wakulla, Walton, Washington
Mild	35	34	Alachua, Bay, Bradford, Brevard, Broward, Citrus, Clay, Dade, Dixie, Flagler, Franklin, Gilchrist, Hardee, Hernando, Highlands, Hillsborough, Indian River, Jackson, Lake, Leon, Liberty, Manatee, Marion, Nassau, Osceola, Palm Beach, Pasco, Pinellas, Polk, St. Johns, St. Lucie, Santa Rosa, Sarasota, Volusia
Moderate	10	12	Charlotte, Collier, Columbia, Duval, Escambia, Lee, Levy, Martin, Orange, Putnam, Seminole, Taylor
Widespread	0	0	-

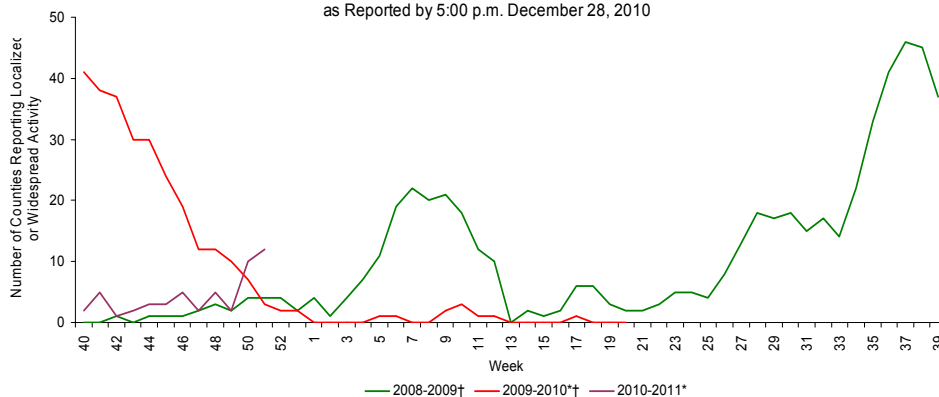
**Map 3: Weekly County Influenza Activity for Week 51 as Reported by 5:00 p.m. December 28, 2010**

No counties reported widespread influenza activity



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

**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 40-51) as Reported by 5:00 p.m. December 28, 2010**

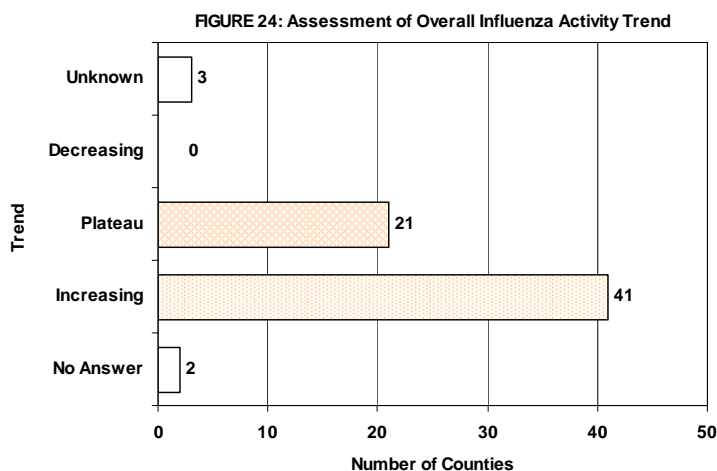


\*there is no week 53 in 2009 or 2010.

† As of Week 40 2010, the influenza activity code categorizations have changed. Please see [http://www.doh.state.fl.us/disease\\_ctrl/epi/FluActivityDef.htm](http://www.doh.state.fl.us/disease_ctrl/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 the week ending December 25th, no counties indicated that activity was decreasing, 21 indicated it was about the same, and 41 indicated that activity was increasing.

**FIGURE 24** shows the assessment of Overall Influenza Activity Trend in County as Reported by County Health Department Flu Coordinators for week 51 as of 5:00 p.m. December 28, 2010.



Definitions for the County Influenza Activity Trends are available at:  
[http://www.doh.state.fl.us/disease\\_ctrl/epi/CountyInfluenzaTrendGuide.html](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.

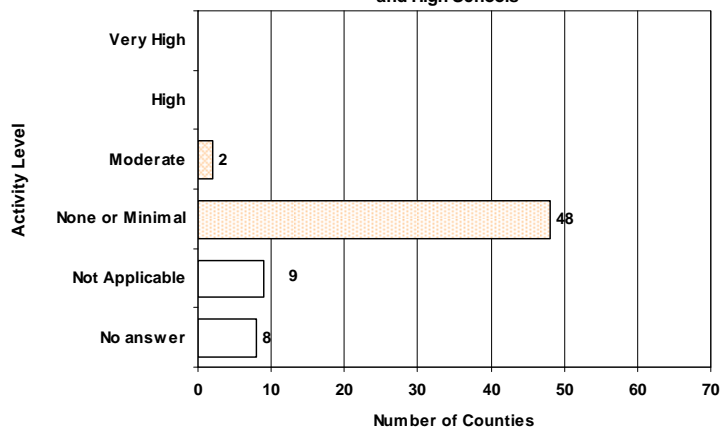
High activity -- Absenteeism elevated above baseline (in range of 10 to 25%) in more than half of schools; most schools sending several or many children home each day because of ILI.

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

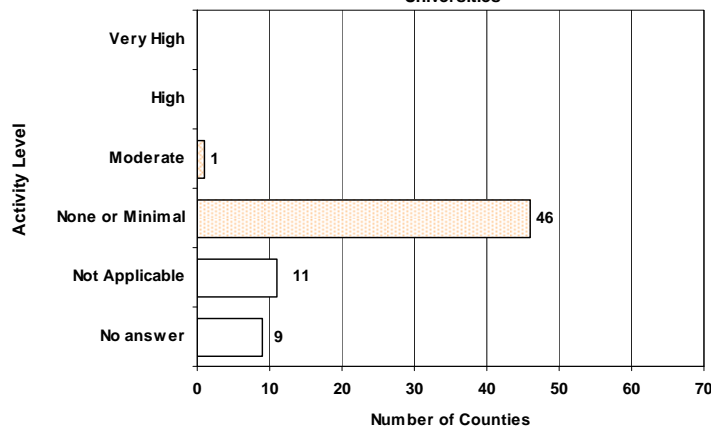
County influenza settings assessment guides are available at:  
[http://www.doh.state.fl.us/disease\\_ctrl/epi/FluAssessment.htm](http://www.doh.state.fl.us/disease_ctrl/epi/FluAssessment.htm)

**FIGURE 25 - FIGURE 26** show the activity levels in various facilities by county as reported by county health department flu coordinators for week 51 as of 5:00 p.m. December 28, 2010.

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



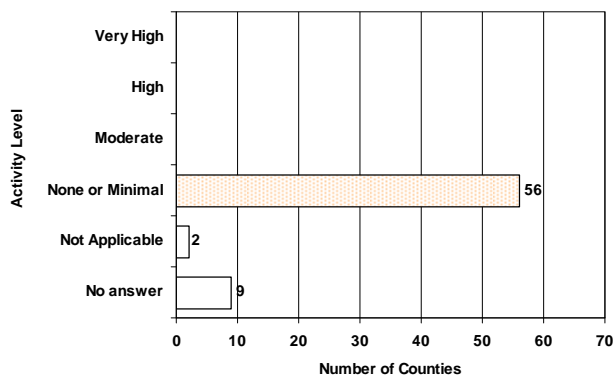
**FIGURE 26: Assessment of Influenza Activity in Colleges and Universities**



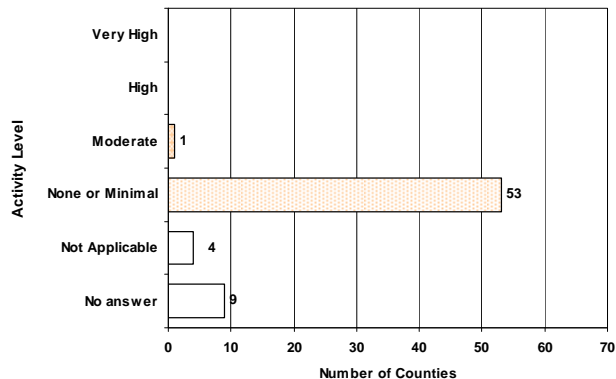


**FIGURE 27 - FIGURE 32** show the activity levels in Various Facilities by county as reported by county health department flu coordinators week 51 as of 5:00 p.m. December 28, 2010.

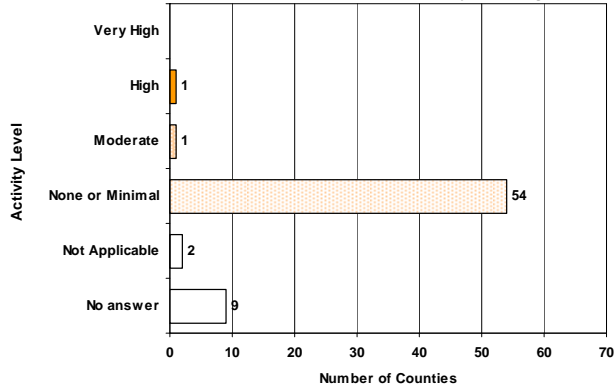
**FIGURE 27: Assessment of Influenza Activity in Jails/Prisons**



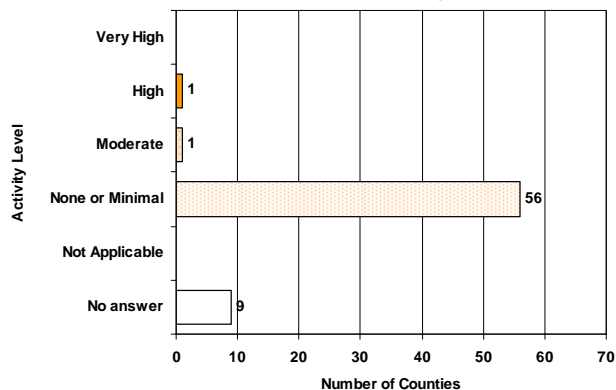
**FIGURE 28: Assessment of Influenza Activity in Retirement Facilities**



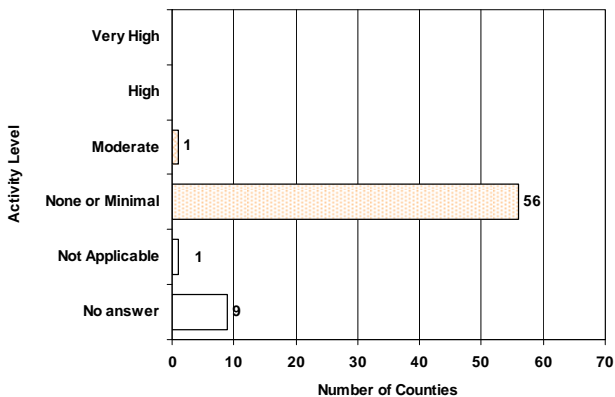
**FIGURE 29: Assessment of Influenza Activity in Nursing Homes**



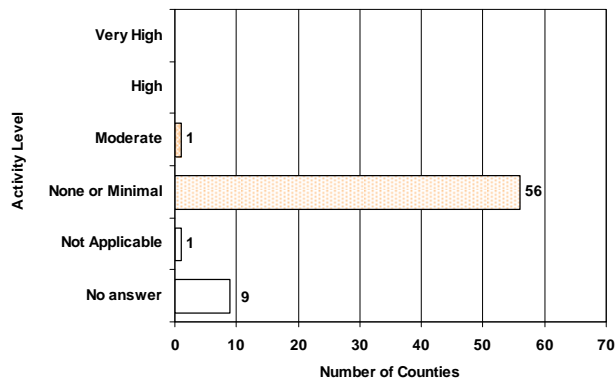
**FIGURE 30: Assessment of Influenza Activity in Health Care Facilities**



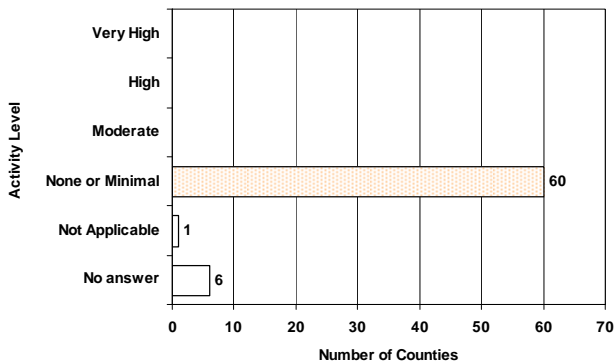
**FIGURE 31: Assessment of Influenza Activity in Daycare Centers**



**FIGURE 32: Assessment of Influenza Activity in Businesses**



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



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.

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

For week 51 (ending December 25, 2010) there were:

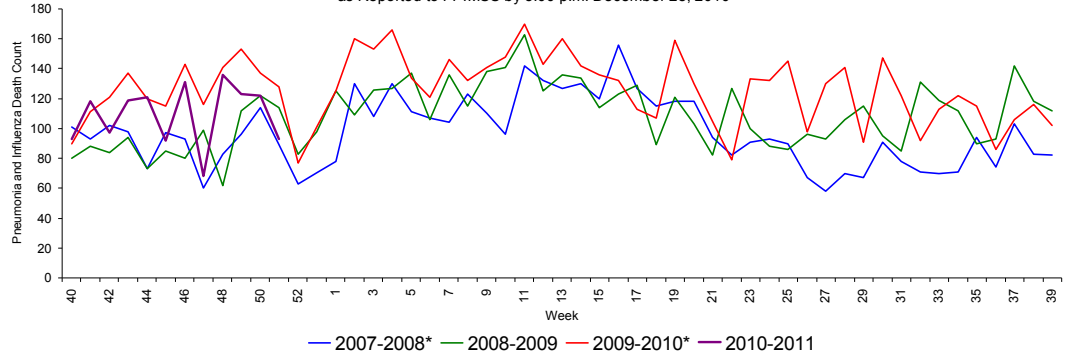
- **93 deaths reported**
- **Upper bound of 95% confidence interval for prediction: 173 deaths**
- **NO excess deaths**

The majority of the deaths are in those aged 75 years and older.

23 of 24 counties reported data for week 51.

**FIGURE 35** shows Pneumonia and Influenza Deaths for 24 Florida Counties, week 1, 2008 - week 51, 2010 as reported to FPIMSS by 5:00 p.m. December 28, 2010

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 40-51) as Reported to FPIMSS by 5:00 p.m. December 28, 2010



\*There is no week 53 for the 2006-2007, 2007-2008, or 2009-2010 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.

FIGURE 35: Pneumonia and Influenza Deaths in 4 Age Groups for 24 Florida Counties, Week 1, 2009-Week 51, 2010 as Reported to FPIMSS by 5:00 p.m. December 28, 2010

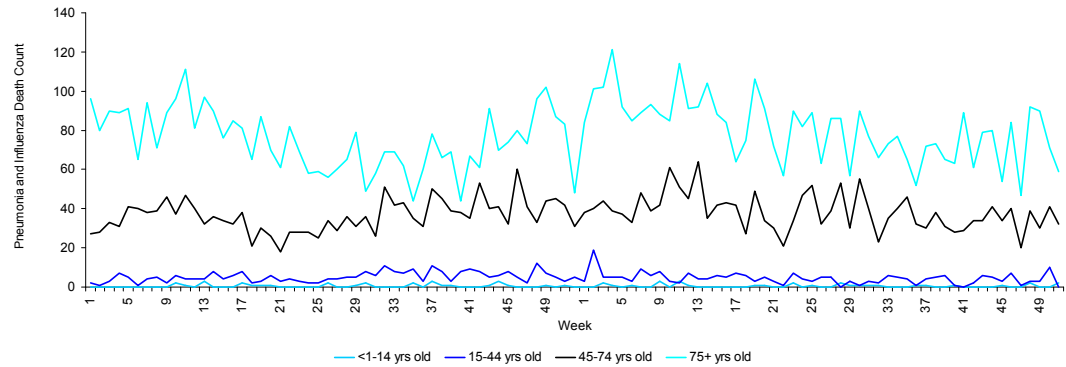


Figure 36: Pneumonia and Influenza Deaths for 24 Counties, Serfling Model January 24, 2009-December 25, 2010 as Reported to FPIMSS as of 5:00 p.m. December 28, 2010

**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

