



Week 11: March 13, 2011-March 19, 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 levels of influenza during week 10 that ranged from minimal to high, both around the country and in the southeast region. Influenza activity has been generally decreasing nationwide. 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 activity, and 6 counties reported moderate activity. One county reported increasing influenza activity, and 37 counties reported 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 influenza-like illness, include adenovirus, rhinovirus, parainfluenza and RSV. RSV is currently active, but has been decreasing. RSV can cause severe respiratory illness in infants.
- There were no ILI or influenza outbreaks reported into EpiCom during week 11. There have been 25 influenza or ILI outbreaks and three 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 11. 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 10

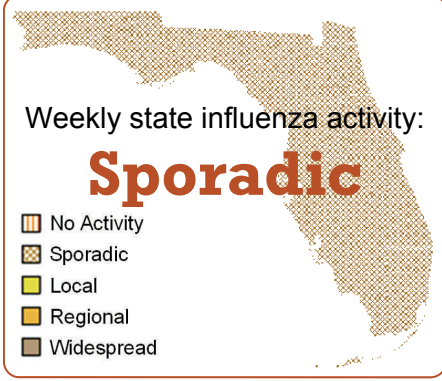
| Measure | Difference from previous week | Current week 10 | Previous week 10 | Page of Report |
|--|-------------------------------|-----------------|------------------|-------------------|
| Overall statewide activity code reported to CDC | ▼ 2 | Sporadic | Regional | 1 |
| Percent of visits to ILINet providers for ILI | ▼ 0.3 | 1.9% | 2.2% | 2 |
| Percent of emergency department visits (from ESSENCE) due to ILI | ▼ 0.2 | 2.3% | 2.5% | 4 |
| Percent of hospital admissions (from ESSENCE) due to ILI | ▼ 0.1 | 0.4% | 0.5% | 4 |
| Percent of laboratory specimens that were positive for influenza | ▲ 1.6 | 28.1% | 26.5% | 6 |
| Number of ILI outbreaks reported in Epi Com | No Change | 0 | 0 | 6 |
| Number of counties reporting moderate influenza activity | ▼ 5 | 6 | 11 | 7 |
| Number of counties reporting widespread influenza activity | No Change | 0 | 0 | 7 |
| Number of counties reporting increasing influenza activity | ▼ 1 | 1 | 2 | 8 |
| Number of counties reporting decreasing influenza activity | No Change | 37 | 37 | 8 |

March 23, 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)

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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.

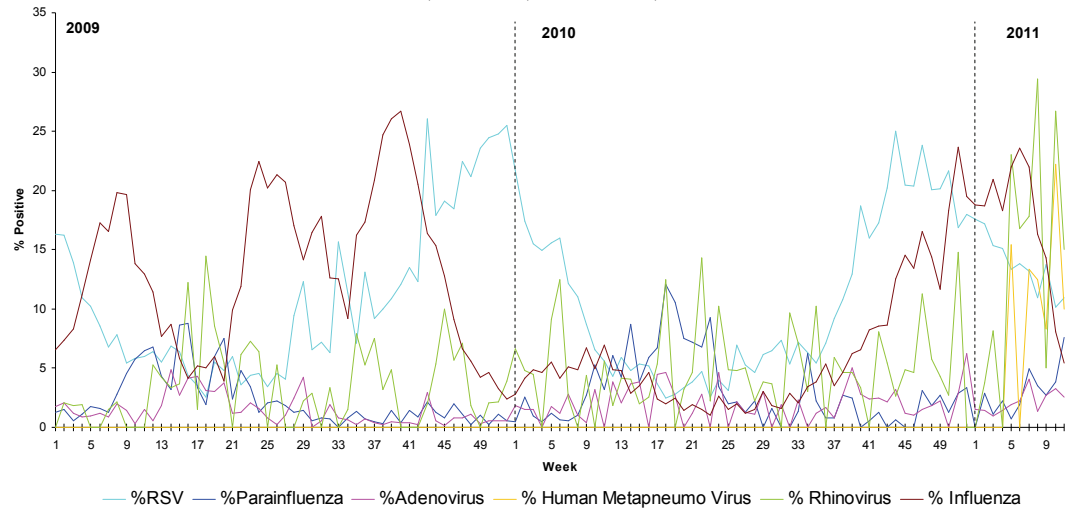
FIGURE 1 shows the percentage of positive tests for multiple respiratory viruses reported by NREVSS-participating laboratories in Florida

The six respiratory viruses summarized in Figure 1 are:

- RSV
- Parainfluenza 1-3 (HPIV)
- Adenovirus
- Human Metapneumo Virus (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 March 22, 2011

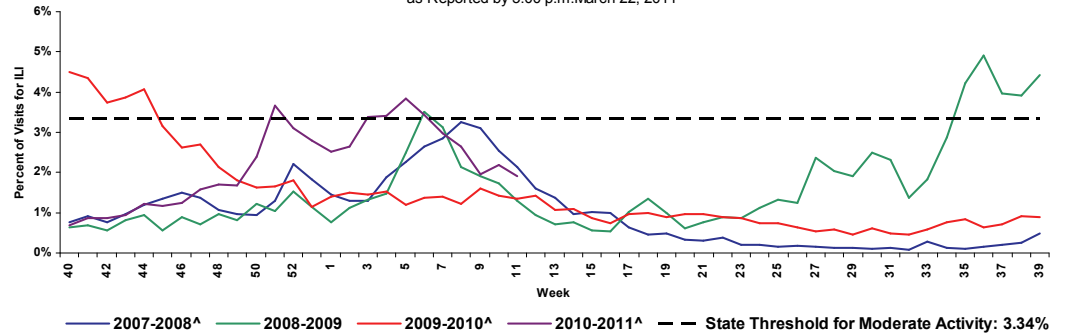


ILINET Influenza-like Illness-Statewide

FIGURE 2 shows the percentage of visits for influenza-like illness* 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 40-11) as Reported by 5:00 p.m. March 22, 2011

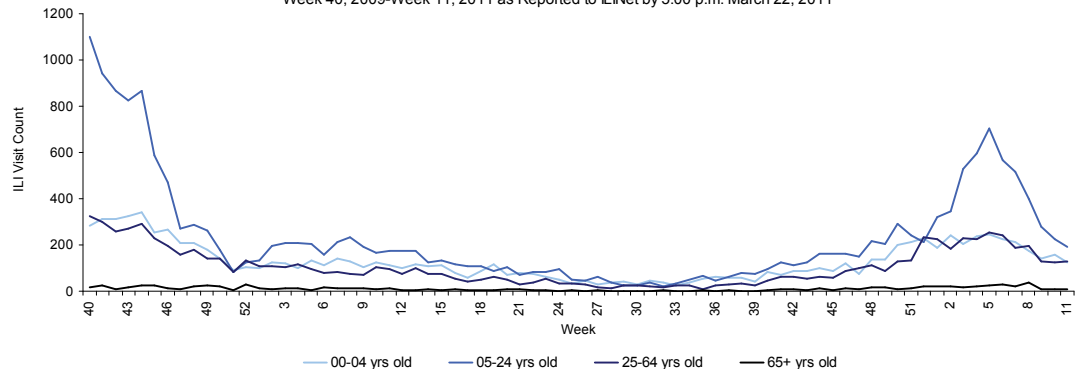


*ILI = Influenza-like illness, fever >100°F AND sore throat and/or cough *in the absence* of another known cause.
 **The 2009—2010 threshold for moderate activity is calculated from ILINet data. The threshold for moderate activity is the mean percentage of patient visits for ILI during influenza weeks 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.

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 11, 2011 as Reported to ILINet by 5:00 p.m. March 22, 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

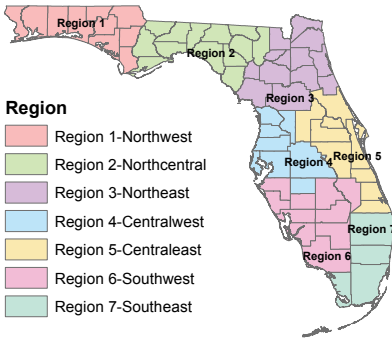


TABLE 2: ILINet Providers and Percent of Visits for ILI by Region, Week 11, as Reported by 5:00 p.m. March 22, 2011

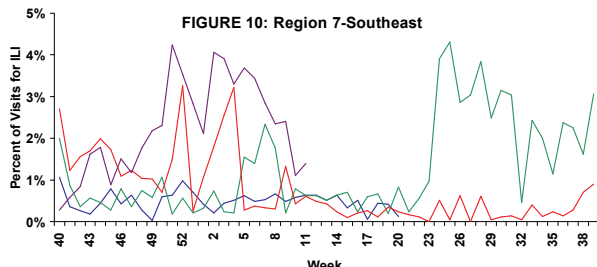
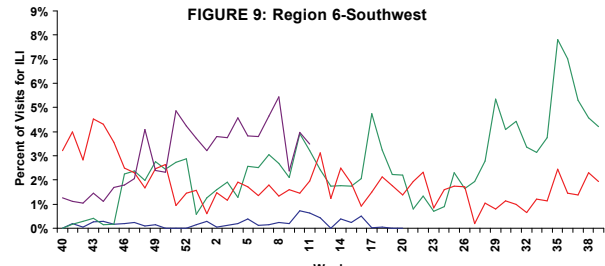
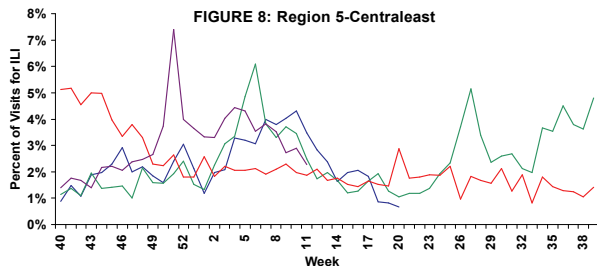
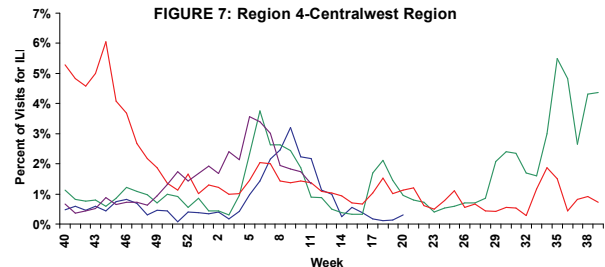
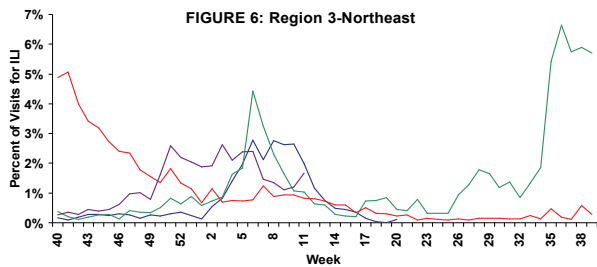
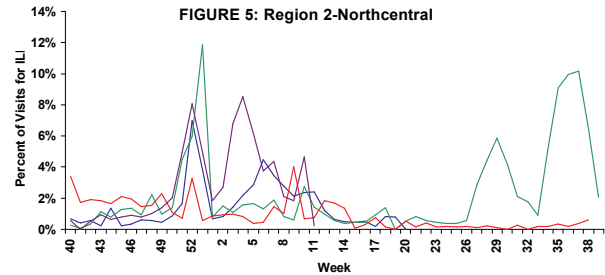
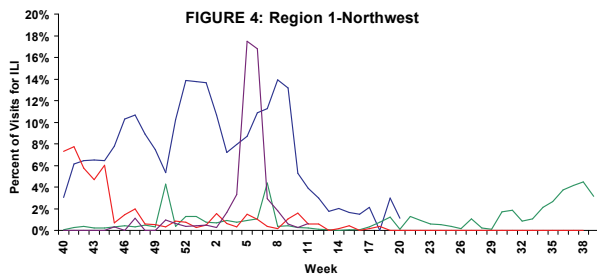
| | Number of Participating Providers | Providers that Reported | | Percent Visits for ILI |
|-----------------------|-----------------------------------|-------------------------|---------------|------------------------|
| | | (n) | (%) | |
| Region 1-Northwest | 14 | 5 | 35.71% | 0.62% |
| Region 2-Northcentral | 6 | 1 | 16.67% | 0.22% |
| Region 3-Northeast | 26 | 17 | 65.38% | 1.67% |
| Region 4-Centralwest | 40 | 16 | 40.00% | 1.33% |
| Region 5-Centraleast | 45 | 33 | 73.33% | 2.28% |
| Region 6-Southwest | 14 | 5 | 35.71% | 3.49% |
| Region 7-Southeast | 25 | 6 | 24.00% | 1.40% |
| Total | 170 | 83 | 48.82% | 1.91% |

TABLE 2 shows the ILI activity by Regional Domestic Security Task Force (RDSTF) as reported by Florida ILINet physicians for week 11 (ending March 19, 2011).

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

Regions 1, 2, 4, 5 and 6 show decreases in ILI activity similar to previous years. Regions 3 and 7 show increased activity, and remain at levels similar to previous years at this time. 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 40-11) as Reported by 5:00 p.m. March 22, 2011.



Graph Legend

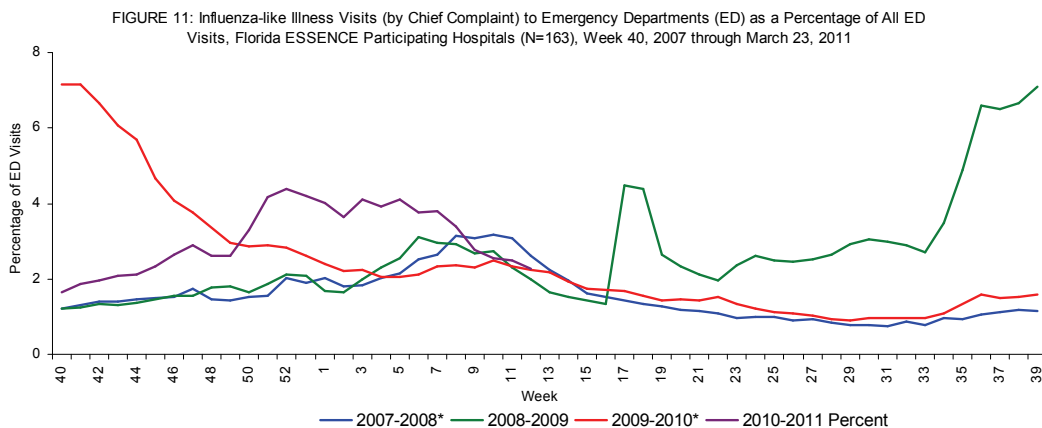
- 2007-2008*
- 2008-2009*
- 2009-2010
- 2010-2011*

*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 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. 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 EDs as a percentage of all ED Visits.

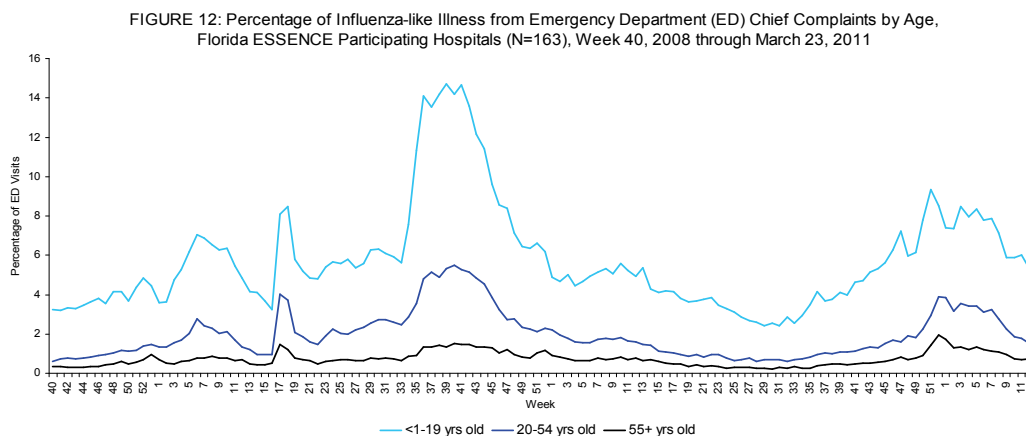
Overall activity for influenza-like illness reported in ESSENCE is declining, and is now similar to levels seen during the same time period in non-pandemic years.



*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 ILI activity is slightly increased in the youngest age group, and declining or flat in those 20+ years old.



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.

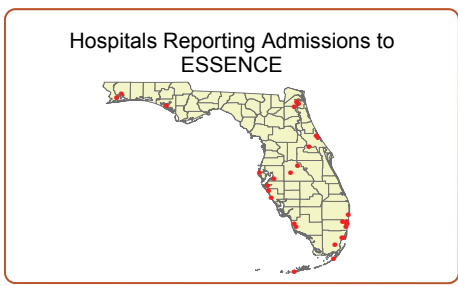


FIGURE 13: Percentage Admitted to Hospital for Influenza-Like Illness (ILI) Among All Persons Admitted in the Hospital through the ED Based on ED Chief Complaint, Hospitals Reporting Admissions Data (N=95) for Week 40, 2008 to March 23, 2011

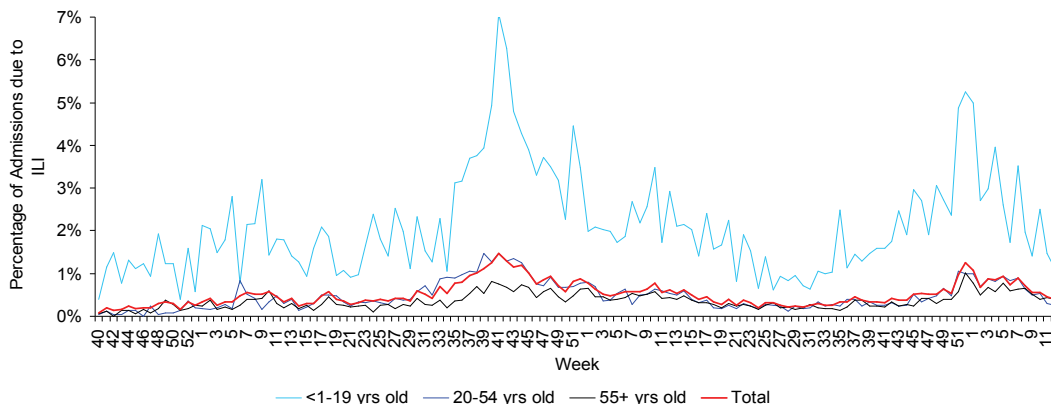


FIGURE 14 - FIGURE 20 describe ED chief complaint data from ESSENCE by Domestic Security Task Force Region

ILI activity in ESSENCE has decreased in all regions. 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, March 23, 2011 (N=163)

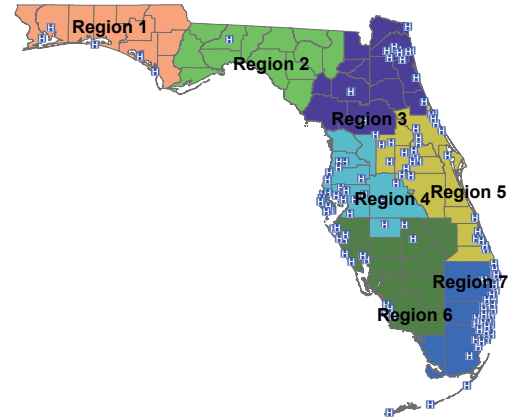


FIGURE 14: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 1 ESSENCE Participating Hospitals (N=5), Week 40, 2007 through March 23, 2011

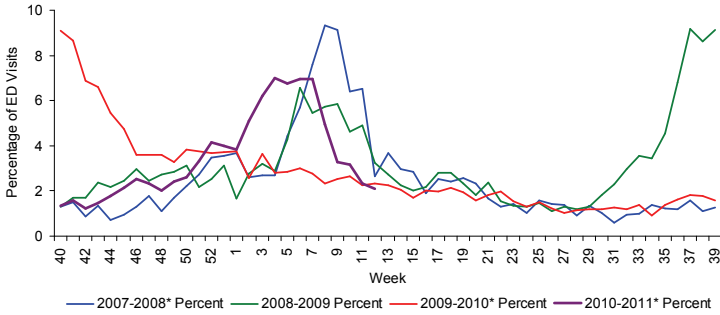


FIGURE 15: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 2 ESSENCE Participating Hospitals (N=1), Week 1, 2009 through March 23, 2011

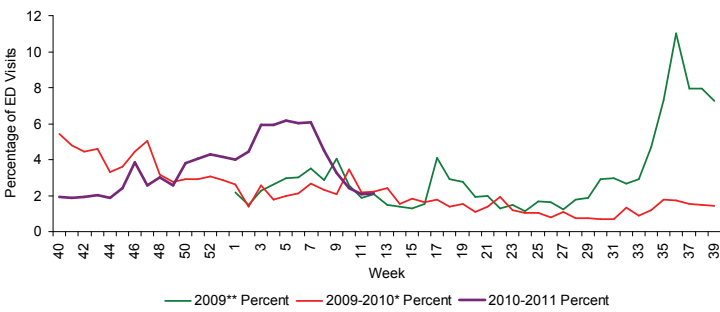


FIGURE 16: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 3 ESSENCE Participating Hospitals (N=14), Week 40, 2007 through March 23, 2011

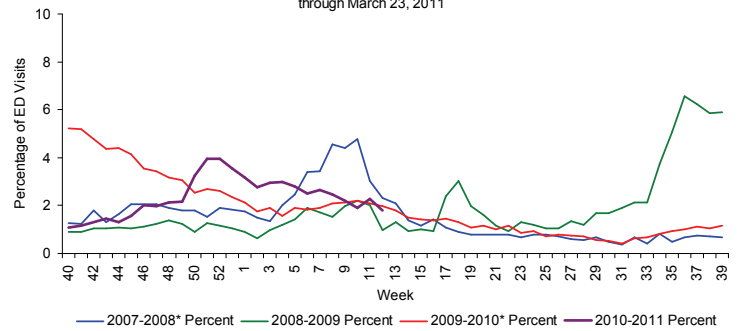


FIGURE 17: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 4 ESSENCE Participating Hospitals (N=31), Week 40, 2007 through March 23, 2011

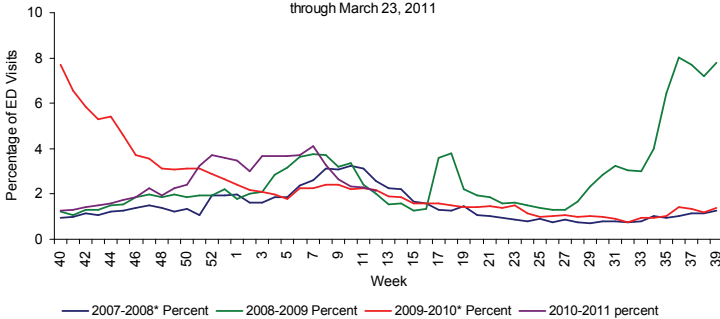


FIGURE 18: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 5 ESSENCE Participating Hospitals (N=49), Week 40, 2007 through March 23, 2011

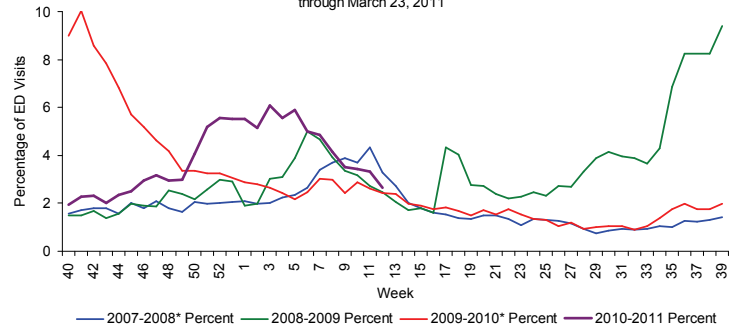


FIGURE 19: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 6 ESSENCE Participating Hospitals (N=15), Week 40, 2007 through March 23, 2011

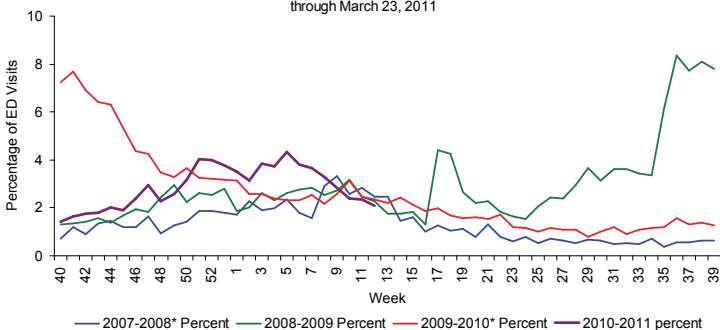


FIGURE 20: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints, RDSTF Region 7 ESSENCE Participating Hospitals (N=48), Week 40, 2006 through March 23, 2011

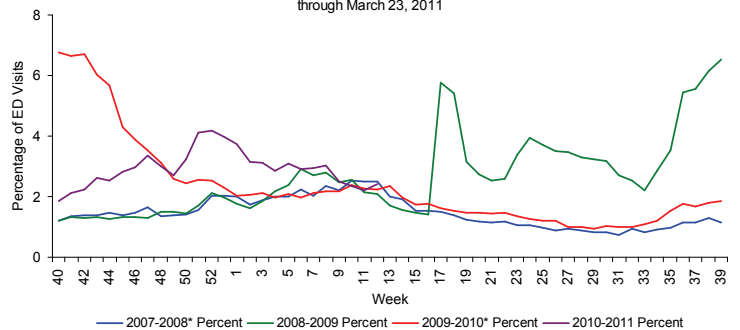


Table 3 shows the number of specimens tested by the Bureau of Laboratories (BOL), how many are influenza positive, and how many are H1N1 or other influenza subtypes.

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 Bureau of Laboratories 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 11 by Lab Event Date* as reported by 2:00 p.m. March 23, 2011

| | Current Week 11 | Previous Week 10 |
|--|-----------------|------------------|
| Total Specimens Tested | 32 | 83 |
| Influenza Positive Specimens (% of total) | 9 (28.1%) | 22 (26.5%) |
| H1N1 Positive Specimens (% of influenza positives) | 1 (11.1%) | 12 (54.5%) |
| H3 Influenza A | - | 4 (18.2%) |
| Influenza A Unspecified | 3 (33.3%) | 1 (4.5%) |
| Influenza B Unspecified | 5 (55.6%) | 5 (22.7%) |

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 11, 2011 as Reported in Merlin by 1:00 p.m. March 23, 2011

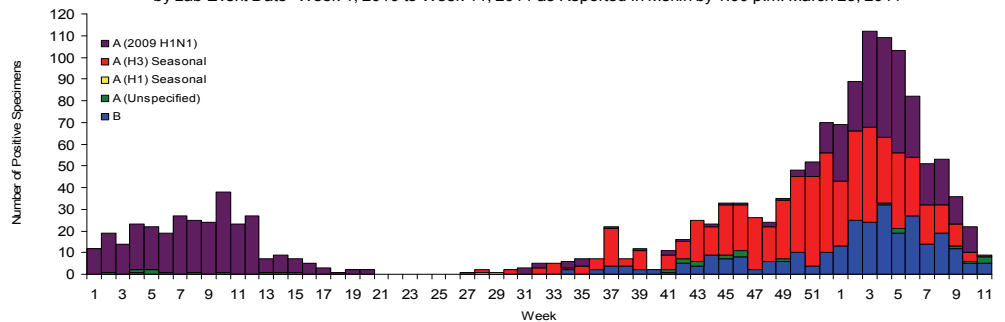
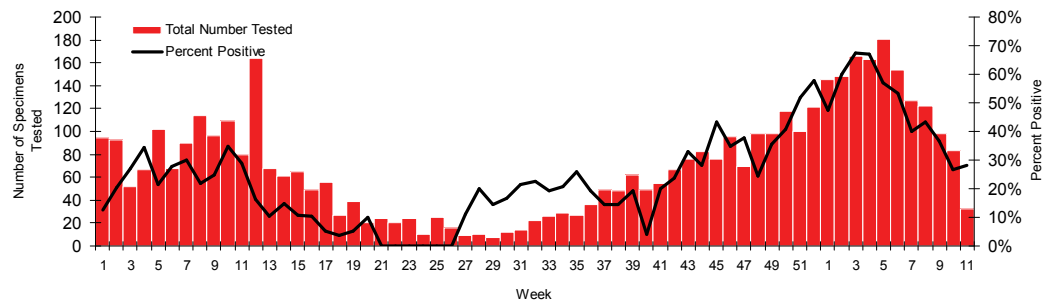


FIGURE 22: Number of Specimens Tested by Florida Bureau of Laboratories (BOL) and Percent Positive for Influenza by Lab Event Date* Week 1, 2010 to Week 11, 2011 as Reported in Merlin by 1:00 p.m. March 23, 2011



*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 11 there were **no** influenza or ILI outbreaks reported into EpiCom.

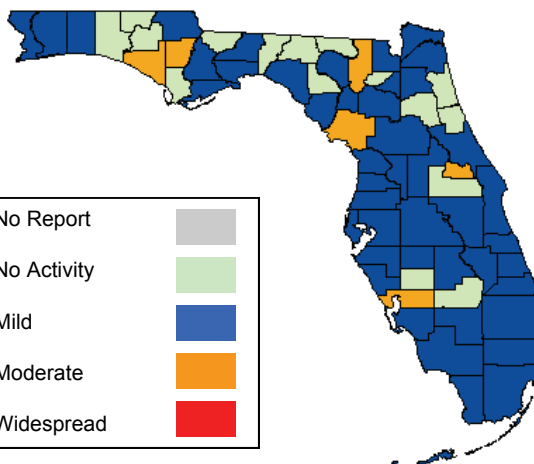
A total of **twenty-five** influenza or ILI outbreaks and **four** respiratory disease outbreaks have been reported into EpiCom in the 2010-11 influenza season. Influenza A H3 or 2009 H1N1 influenza A have been isolated in PCR-confirmed influenza outbreaks.

As of 10:00 a.m. March 23, 2011 a total of 67 (100%) counties had reported their weekly level of influenza activity. We have achieved 100% reporting for the 23rd 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 11 (ending March 19, 2011) as Reported by 11:00 a.m. March 23, 2011

| Activity Level | Week 10 Number of Counties | Week 11 Number of Counties | Week 11 Counties |
|----------------|----------------------------|----------------------------|---|
| No Report | 0 | 0 | - |
| No Activity | 13 | 16 | Desoto, Flagler, Gadsden, Glades, Gulf, Hamilton, Holmes, Jefferson, Lafayette, Madison, Orange, Putnam, St. Johns, Union, Walton, Washington |
| Mild | 43 | 45 | Alachua, Baker, Bradford, Brevard, Broward, Citrus, Clay Collier, Dade, Dixie, Duval, Escambia, Franklin, Gilchrist, Hardee, Hendry, Hernando, Highlands, Hillsborough, Indian River, Jackson, Lake, Lee, Leon, Liberty, Manatee, Marion, Martin, Monroe, Nassau, Okaloosa, Okeechobee, Osceola, Palm Beach, Pasco, Pinellas, Polk, Santa Rosa, Sarasota, St. Lucie, Sumter, Suwannee, Taylor, Volusia, Wakulla |
| Moderate | 11 | 6 | Bay, Calhoun, Charlotte, Columbia, Levy, Seminole |
| Widespread | 0 | 0 | - |

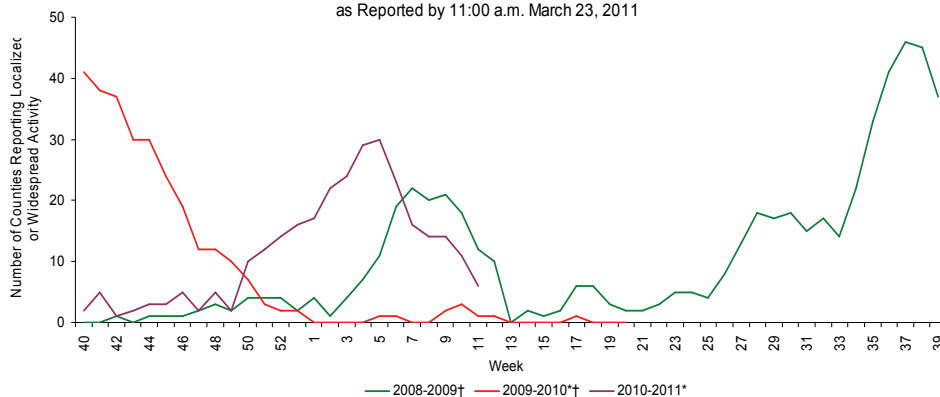
Map 3: Weekly County Influenza Activity for Week 11 as Reported by 11:00 a.m. March 23, 2011



No counties report widespread activity and 6 report moderate 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 40-11) as Reported by 11:00 a.m. March 23, 2011



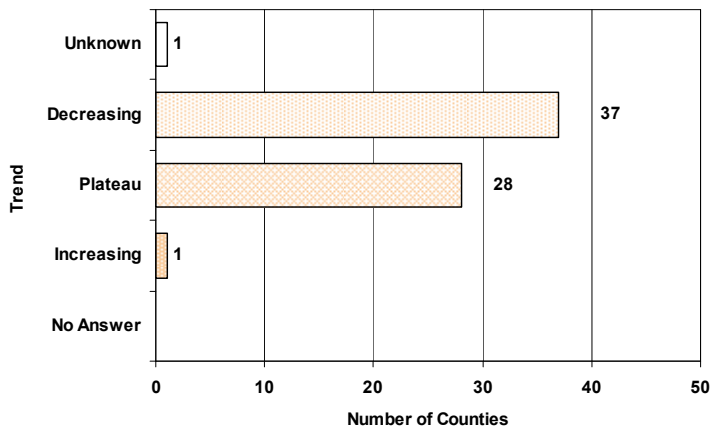
*there is no week 53 in 2009 or 2010.

† As of Week 40 2010, the influenza activity code categorizations have changed. Please see http://www.doh.state.fl.us/disease_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 11 (ending March 19), 37 counties indicated that activity was decreasing, 28 indicated it was about the same, and 1 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 11 as of 11:00 a.m. March 23, 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 11 as of 11:00 a.m. March 23, 2011.

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

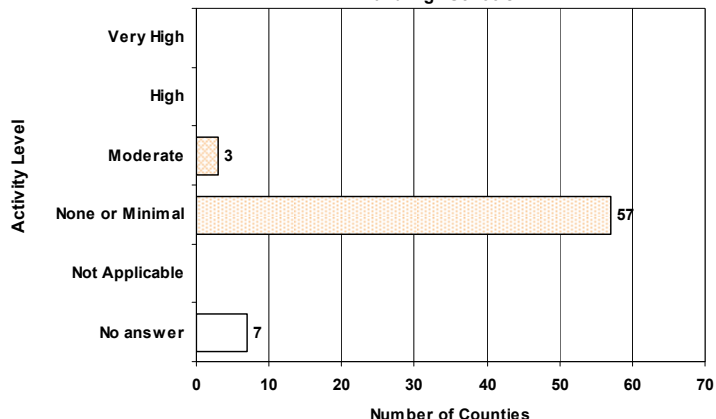


FIGURE 26: Assessment of Influenza Activity in Colleges and Universities

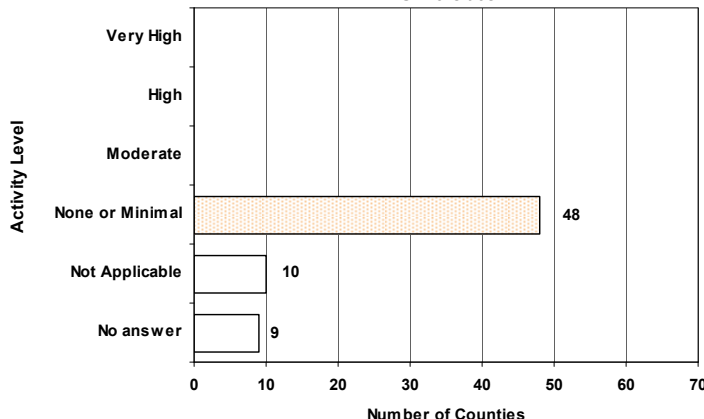


FIGURE 27 - FIGURE 32 show the activity levels in various Facilities by county as reported by county health department flu coordinators week 11 as of 11:00 a.m. March 23, 2011.

FIGURE 27: Assessment of Influenza Activity in Jails/Prisons

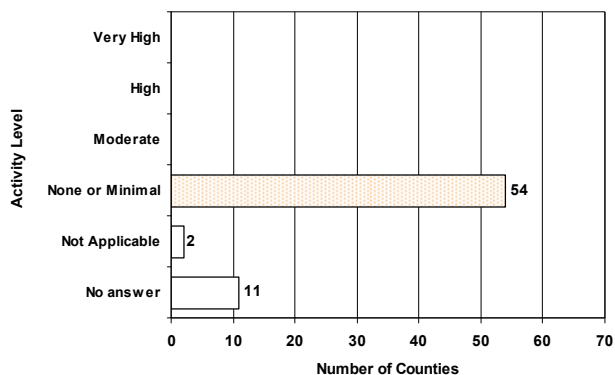


FIGURE 28: Assessment of Influenza Activity in Retirement Facilities

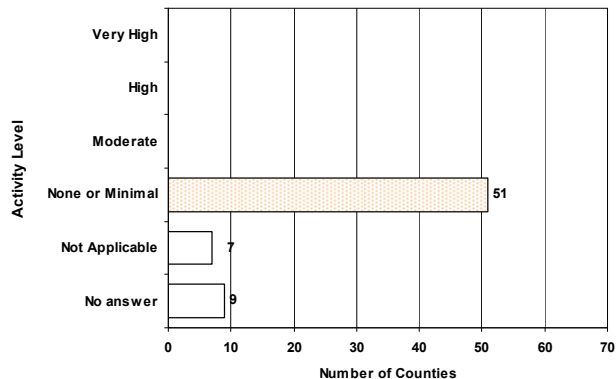


FIGURE 29: Assessment of Influenza Activity in Nursing Homes

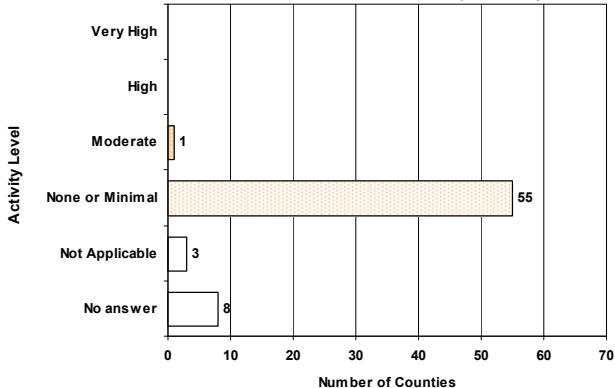


FIGURE 30: Assessment of Influenza Activity in Health Care Facilities

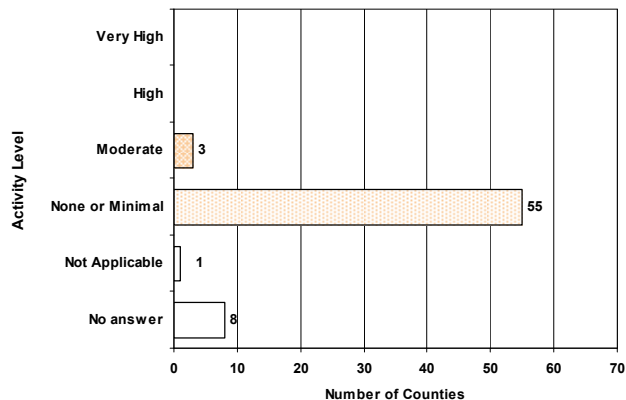


FIGURE 31: Assessment of Influenza Activity in Daycare Centers

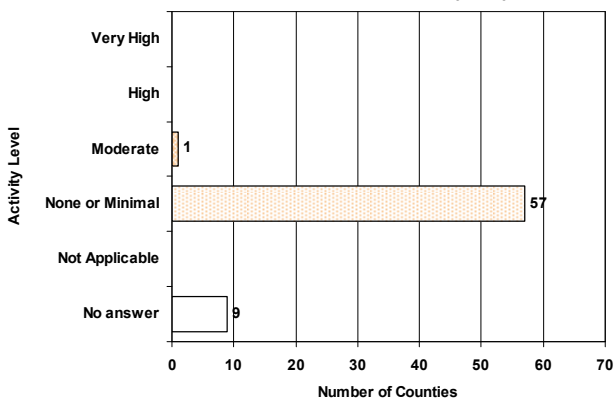


FIGURE 32: Assessment of Influenza Activity in Businesses

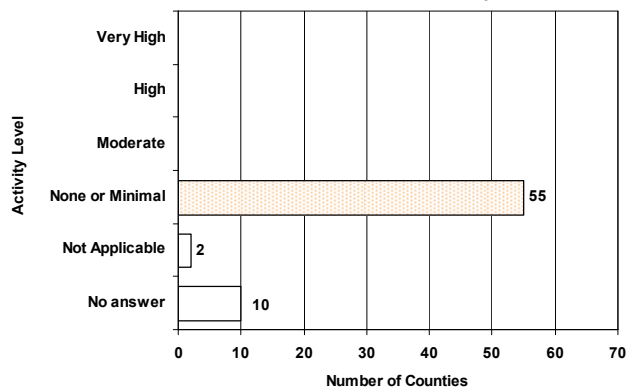
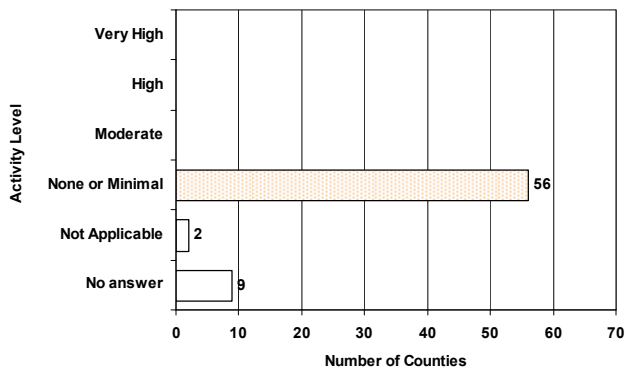


FIGURE 33: Assessment of Influenza Activity in State or Local Government Offices



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 11 (ending March 19) there were:

- **170 deaths reported**
- **Upper bound of 95% confidence interval for prediction: 209 deaths**
- **No excess deaths**

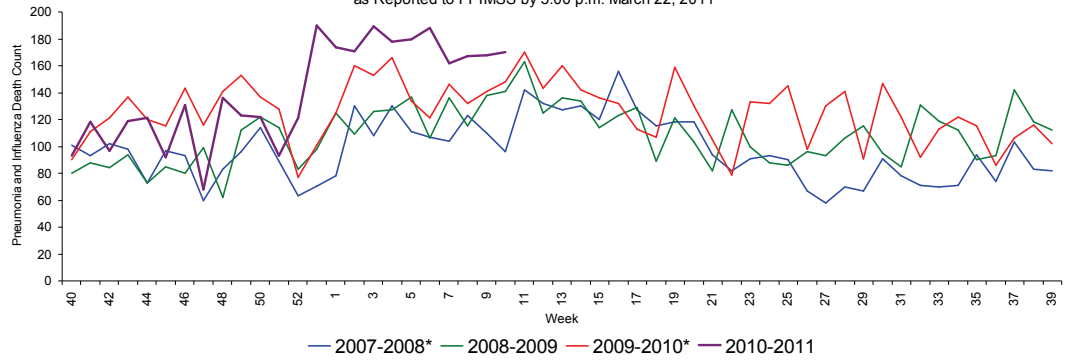
The majority of the deaths are in those aged 75 years and older. After a rise in overall P&I mortality driven by the 75+ age group, mortality appears to have plateaued.

24 of 24 counties reported data for week 11.

FIGURE 35 shows Pneumonia and Influenza Deaths for 24 Florida Counties, week 1, 2008 - week 11, 2011 as reported to FPIMSS by 5:00 p.m. March 22, 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

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 40-11) as Reported to FPIMSS by 5:00 p.m. March 22, 2011



*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 11, 2011 as Reported to FPIMSS by 5:00 p.m. March 22, 2011

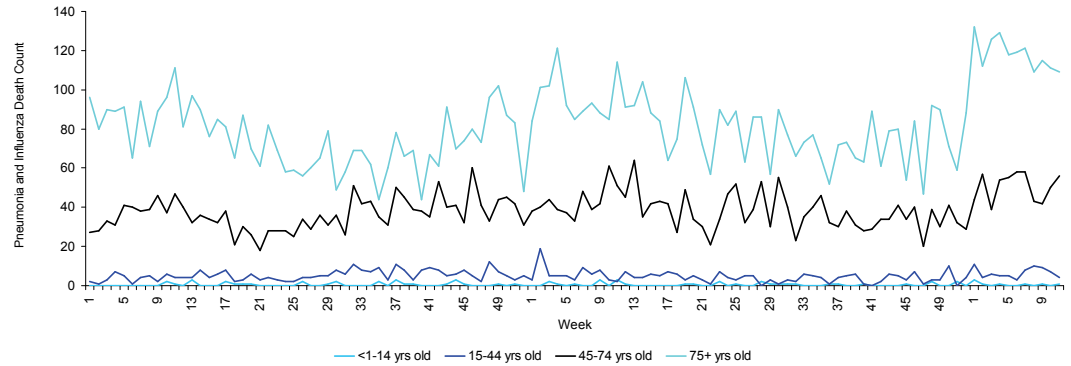


Figure 36: Pneumonia and Influenza Deaths for 24 Counties, Serfling Model January 24, 2009-March 19, 2011 as Reported to FPIMSS as of 5:00 p.m. March 22, 2011

