



Week 51: December 16 – 22, 2012



Summary

The Florida Department of Health (FDOH) uses many different surveillance systems to measure influenza activity. A summary of all these systems can be found at the top of page 2.

National:

- According to CDC, influenza activity is increasing nationwide and is most elevated in the southern region of the country. Nationwide, influenza A H3N2 is the most commonly detected influenza subtype.
- There were no new cases of H3N2 influenza A (H3N2v) reported in week 51. **No cases of H3N2v have been reported in Florida.** More information on H3N2v is at: <http://www.cdc.gov/flu/swineflu/influenza-variant-viruses-h3n2v.htm>

State:

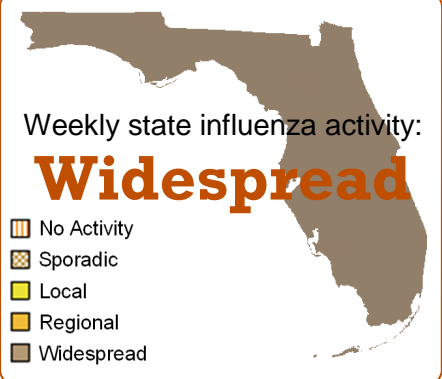
- **Influenza-like illness (ILI) activity is increasing statewide**
 - Currently, influenza and influenza-like illness activity is increasing in all regions of Florida, which is normal for this time of year.
 - Panhandle and Central Florida regions are showing higher than expected ILI activity in emergency department (ED) visits for ILI, as monitored through ESSENCE-FL.
 - Fifteen counties across all regions of Florida report moderate influenza activity in week 51.
 - **Because of the statewide reports of increasing influenza and ILI activity, FDOH is reporting Widespread influenza activity to CDC for week 51.**
 - The activity level refers to the geographic spread of influenza, not its severity or intensity.
 - In Florida, flu is typically most active beginning in late December or early January, so flu activity in these regions is rising a few weeks earlier than most previous years at this time.
- **Influenza A is the most common flu type in Florida this season**
 - The Bureau of Public Health Laboratories (BPHL) tests select influenza surveillance specimens, such as those from outbreak investigations and sentinel healthcare providers.
 - Of the tests that have been influenza positive, most have been positive for influenza A H3; the rest have been influenza B. These are both seasonal subtypes of influenza.
 - Of the fifteen ILI outbreaks reported this season, seven have had confirmed influenza A infections.
 - In week 51, BPHL tested 65 specimens. Forty-six tested positive: 10 for influenza B, 27 for influenza A H3, and 9 for influenza A (not yet subtyped).
- **There were eight influenza outbreaks reported in week 51.**
 - Hillsborough County: An ILI cluster consisting of five elementary schools, one middle school and one private school reported 213 students and 18 teachers with ILI. Fourteen specimens tested rapid-antigen positive for influenza A, one tested rapid-antigen positive for influenza B, and six tested positive for influenza of unknown subtype.
 - Seminole County: A domestic violence shelter reported seven residents with ILI. No specimens were available for analysis.
- **One pediatric influenza-associated mortality was reported in week 51.**
 - Polk County: Unvaccinated patient with confirmed influenza infection. No specimens were available for subtyping.

December 27, 2012

Posted on the Bureau of Epidemiology website: <http://www.doh.state.fl.us/floridaflu/>

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

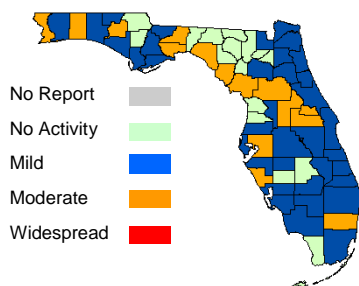
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In this Issue:

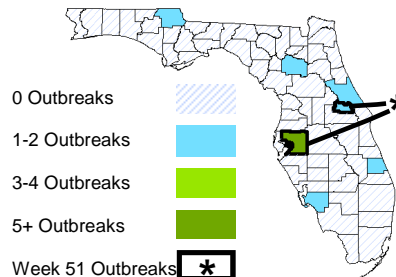
Summary	2
Outpatient Influenza-Like Illness Surveillance Network (ILINET)-Statewide	2
ESSENCE-FL Syndromic Surveillance Summary-Statewide	3
ESSENCE-FL Syndromic Surveillance Summary-Regional	4
Florida Bureau of Public Health Laboratories Viral Surveillance	5
County Influenza Activity	6
ESSENCE Pneumonia and Influenza Mortality Data	9
NREVSS Respiratory Virus Surveillance	10
Influenza and ILI Outbreaks Reported in EpiCom	10
Pediatric Influenza-Associated Mortality	10

County Influenza Activity Week 51, 2012



Most counties report no or mild influenza activity. Fifteen report moderate activity in week 51. For more information, see page 6.

Influenza Outbreaks Weeks 40-51, 2012



Fifteen outbreaks of influenza or ILI have been reported since October, 2012. For more information, see page 10.

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-FL), 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. FDOH does not count individual cases of influenza, except in cases of novel influenza infection or pediatric influenza mortality.

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	Widespread	Widespread	1
Percent of visits to ILINet providers for ILI	▼ 0.2	2.6%	2.8%	2
Percent of emergency department visits (from ESSENCE-FL) due to ILI	▲ 1	4.8%	3.8%	3
Percent of laboratory specimens that were positive for influenza	▲ 4.8	65.2%	55.4%	5
Number of counties reporting moderate influenza activity	▼ 1	15	16	6
Number of counties reporting widespread influenza activity	No Change	0	0	6
Number of counties reporting increasing influenza activity	▼ 1	32	33	7
Number of counties reporting decreasing influenza activity	▼ 1	2	3	7
Number of ILI outbreaks reported in EpiCom	▲ 7	8	1	10

ILINet Influenza-like Illness-Statewide

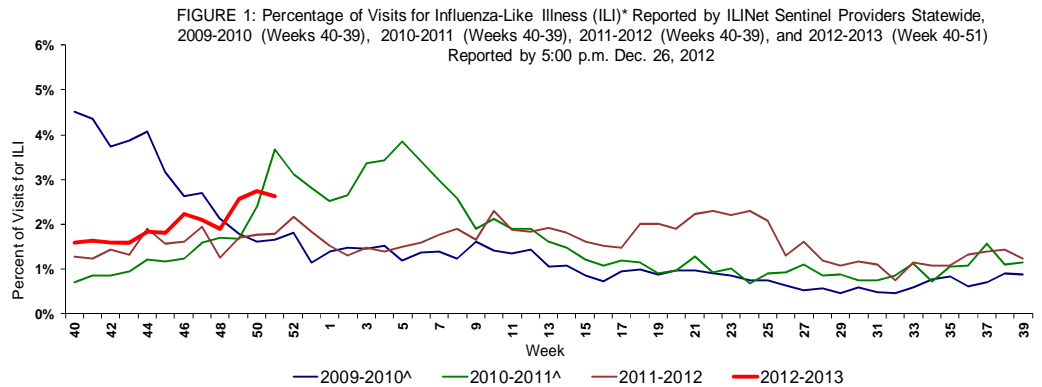
ILINet is a nationwide surveillance system composed of sentinel providers. Florida has 110 providers enrolled in ILINet who submit weekly ILI and total visit counts, as well as submitting ILI specimens to the Bureau of Public Health Laboratories (BPHL) for confirmatory testing. For this season, the Bureau of Epidemiology (BOE) has designated 16 of these ILINet physicians' offices as Super-Sentinels. These Super-Sentinels will receive more active follow-up from BOE and participating county health departments, with the goal of increasing data quality and surveillance specimen submission. Complete laboratory and visit data from Florida ILINet Super-Sentinels will be presented in the Florida Flu Review in future weeks.

FIGURE 1 shows the percentage of visits for ILI* reported by ILINet Sentinel Providers statewide.

ILI percent positive has increased in recent weeks and is similar to other non-pandemic seasons at this time.

47 of 110 ILINet Sentinels reported visit counts as of 12:30 p.m., December 27, 2012.

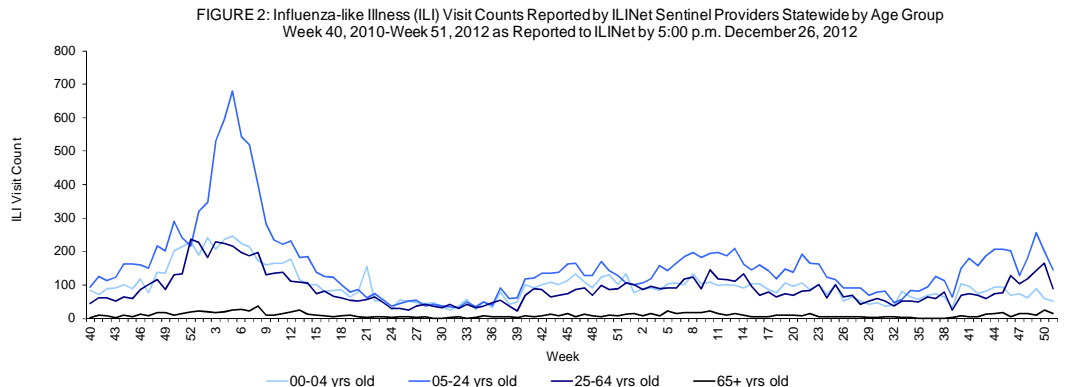
6 of 14 ILINet Super-Sentinels reported visit counts as of 12:30 p.m., December 27, 2012.



*ILI = Influenza-like illness, fever >100°F AND sore throat and/or cough *in the absence* of another known cause.
 ^There is no week 53 during the 2009-2010, 2010-2011, and 2011-12 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.

FIGURE 2 shows ILI visit counts reported by ILINet sentinel providers statewide by age group.

ILI visit counts are decreasing in the 0-55+ age groups in week 51.

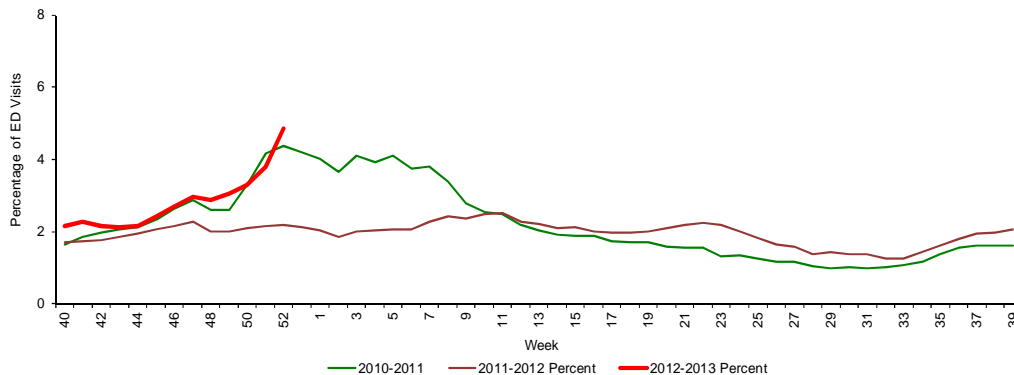


Florida uses ESSENCE-FL for syndromic surveillance, which currently collects data daily from 174 hospital emergency departments (ED). These data are processed into 11 different syndrome categories based on the patient's chief complaint. One of the categories is ILI, which is composed of chief complaints that include the words "influenza" or "flu," or complaints that contain fever plus cough or sore throat.

FIGURE 3 shows ESSENCE-FL data on ILI visits to EDs as a percentage of all ED Visits.

Overall activity for influenza-like illness reported in ESSENCE-FL is similar to levels seen during the 2010-2011 season.

FIGURE 3: Influenza-Like Illness Visits (by Chief Complaint) to Emergency Departments (ED) as a Percentage of All ED Visits, ESSENCE-FL Participating Hospitals (N=174), Week 40, 2010 through December 26, 2012

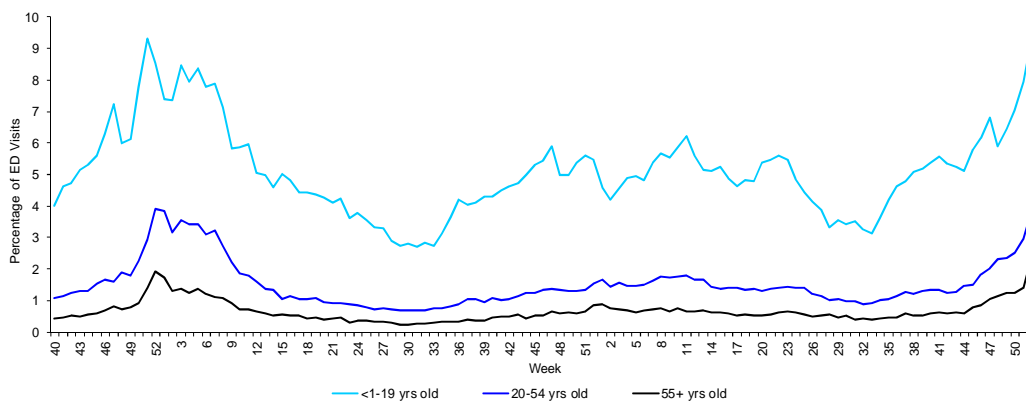


*There is no week 53 for the 2007-2008, 2009-2010, and 2010-2011 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.

FIGURE 4 shows percentage of ILI among all ED visits by age group.

Age-specific trends show that percent ILI in the 0 to 55+ age group is increasing for week 51.

FIGURE 4: Percentage of Influenza-Like Illness from Emergency Department (ED) Chief Complaints by Age, ESSENCE-FL Participating Hospitals (N=174), Week 40, 2010 through December 26, 2012



One hundred five ESSENCE-FL participating facilities are able to provide discharge disposition data for their ED visits going back to week 40, 2010. Using this information, the percent of ED visits for ILI that result in hospitalization can be calculated. The highest percentage of admissions is in the 55+ years old age group. The low number of visits in the 55+ age group causes variability in the ILI admission percentage from week to week.

FIGURE 5 shows the percentage of ED visits for ILI that resulted in hospitalization, by age group.

FIGURE 5: Percentage of ED Visits for ILI Resulting in Hospital Admission, Hospitals Reporting Discharge Disposition (N=105), Week 40, 2010 to Week 51, 2012

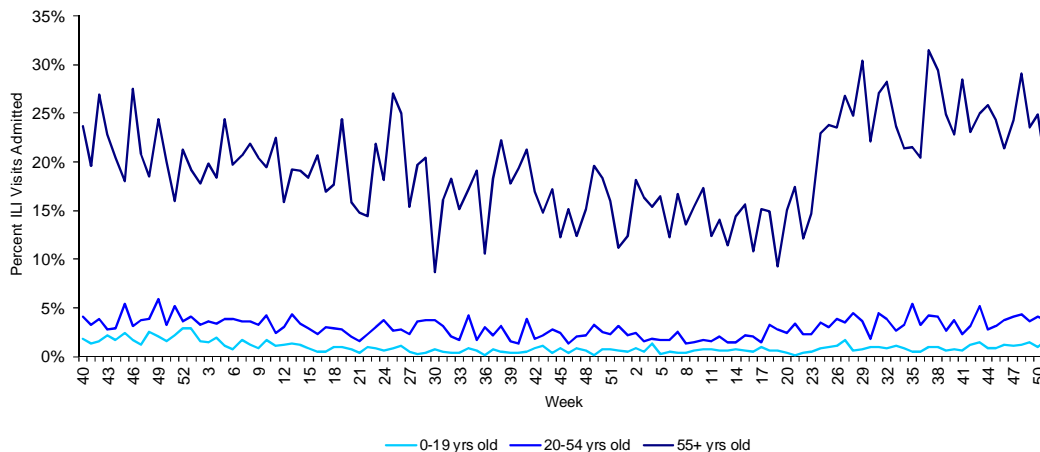
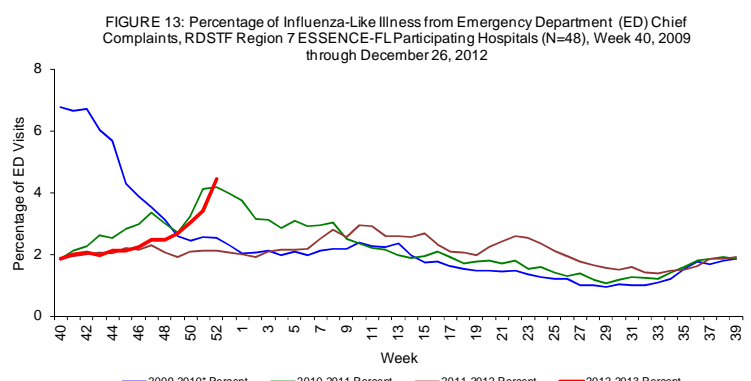
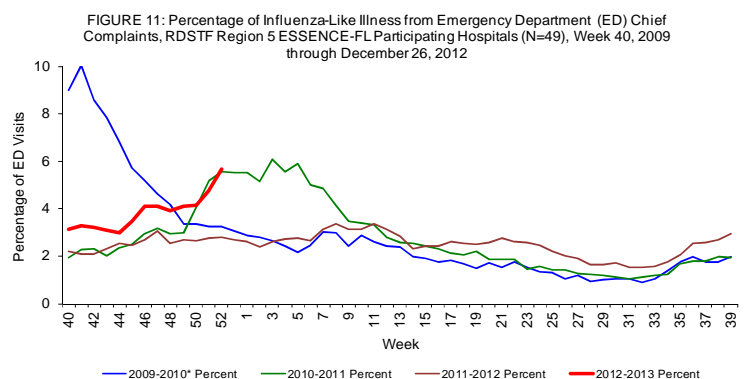
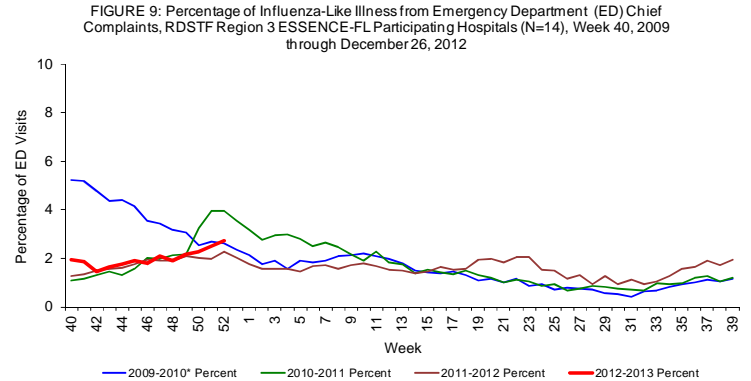
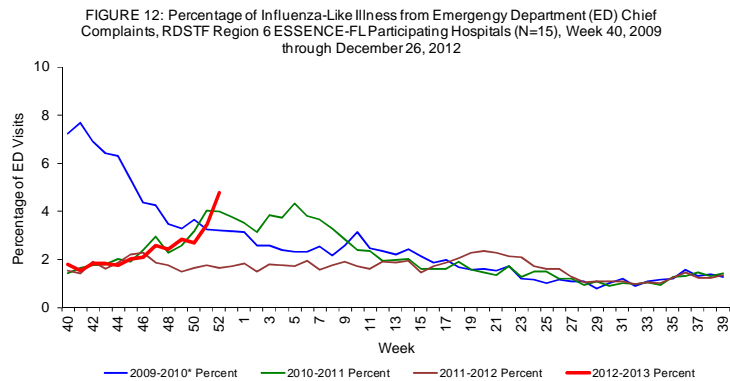
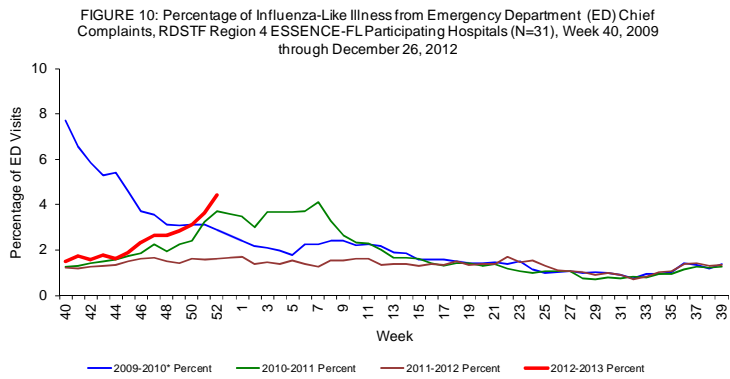
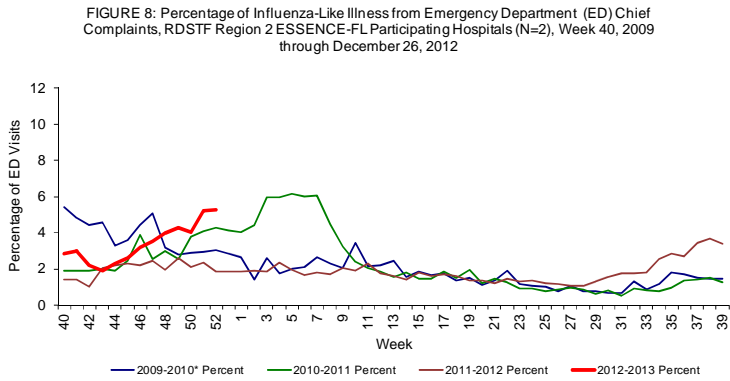
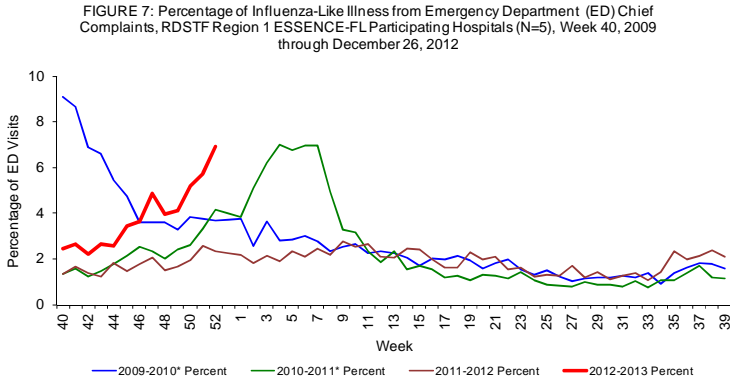
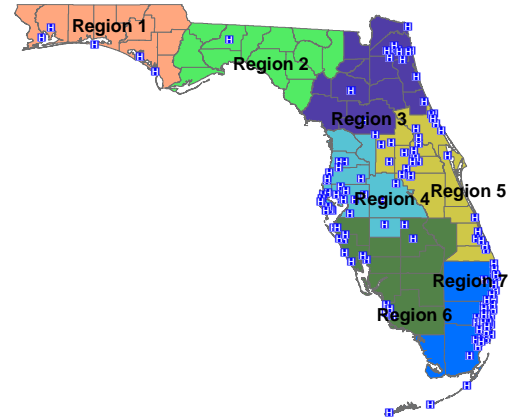


FIGURE 6 - FIGURE 12 describe ED chief complaint data from ESSENCE-FL by Regional Domestic Security Task Force (RDSTF).

ILI activity is trending upward in all regions of Florida. ILI activity in ESSENCE-FL is elevated in Regions 1, 2, 4, 5, 6, and 7.

Map 1: Hospitals Reporting Emergency Department (ED) Data to ESSENCE-FL, December 27, 2012 (N=174)



*There is no week 53 for the 2009-2010, 2010-2011 and 2011-2012 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.
 **Historical data for region 2 is only available beginning week 1, 2009

TABLE 2 shows the number of specimens tested by BPHL, how many are influenza positive, and their subtypes.

Table 2: Bureau of Public Health Laboratories (BPHL) Viral Surveillance for Week 51 by Lab Event Date* as reported by 10:00 a.m. December 27, 2012

	Current Week 51	Previous Week 50
Total Specimens Tested	69	95
Influenza Positive Specimens (% of total)	45 (65.2%)	51 (55.4%)
H1N1 Positive Specimens (% of influenza positives)	-	-
H3 Influenza A	27 (58.7%)	40 (67.8%)
Influenza A Unspecified	9 (19.6%)	-
Influenza B Unspecified	10 (21.7%)	19 (32.2%)

FIGURE 14 - FIGURE 15 use BPHL viral surveillance data to track the progress of influenza infection over time. They include weekly information on how many specimens are tested by the BPHL, what proportion of those test positive for influenza, and what subtypes are found for the positive influenza specimens.

Recent influenza specimens submitted to BPHL tested positive for influenza A H3, 2009 H1N1, and influenza B.

Influenza B was the most common strain type in the early weeks of the 2012-2013 influenza season. In recent weeks, influenza A H3 has been the most common strain detected by BPHL.

In addition to PCR testing, BPHL also uses culture testing for influenza specimens, including those positive for influenza B.

There are two distinct antigenic lineages of influenza B, known as Victoria and Yamagata. Both have circulated in Florida in the past year.

This season, 12 specimens have tested positive for influenza B, Victoria lineage and one specimen has tested positive for influenza B, Yamagata lineage. Last year's 2011-12 vaccine included a Victoria lineage virus, while this year's 2012-2013 vaccine includes a Yamagata lineage virus. Influenza viruses that circulate at the beginning of the flu season may be different than those that circulate later in the year, and these specimens represent a very small sample of statewide influenza activity. Not all flu positive specimens receive culture testing. FDOH will continue to monitor subtype and lineage for influenza viruses.

FIGURE 14: Number of Influenza-Positive Specimens Tested by the Florida Bureau of Public Health Laboratories (BPHL) by Subtype by Lab Event Date* Week 1, 2011 to Week 51, 2012 as Reported in Merlin by 10:00 a.m. December 27, 2012

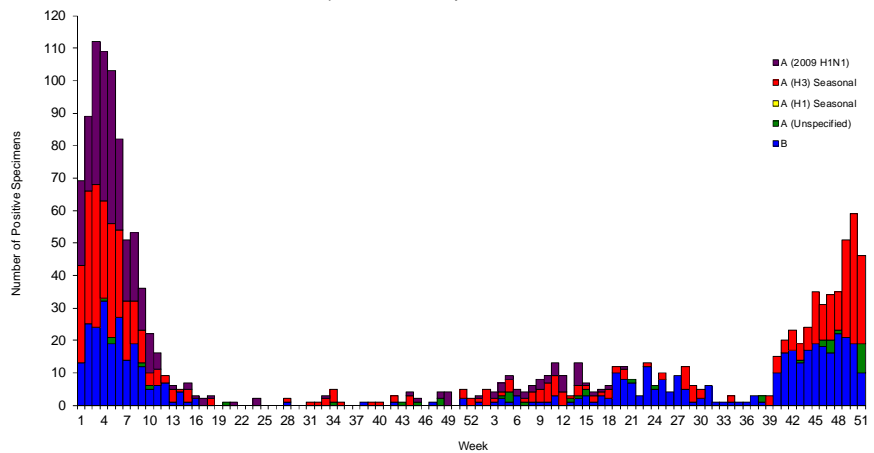
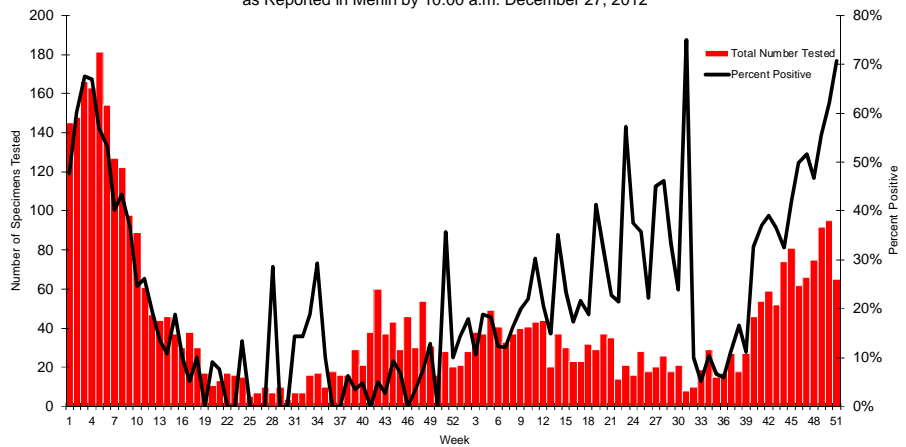


FIGURE 15: Number of Specimens Tested by Florida Bureau of Public Health Laboratories (BPHL) and Percent Positive for Influenza by Lab Event Date* Week 1, 2011 to Week 51, 2012 as Reported in Merlin by 10:00 a.m. December 27, 2012



*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

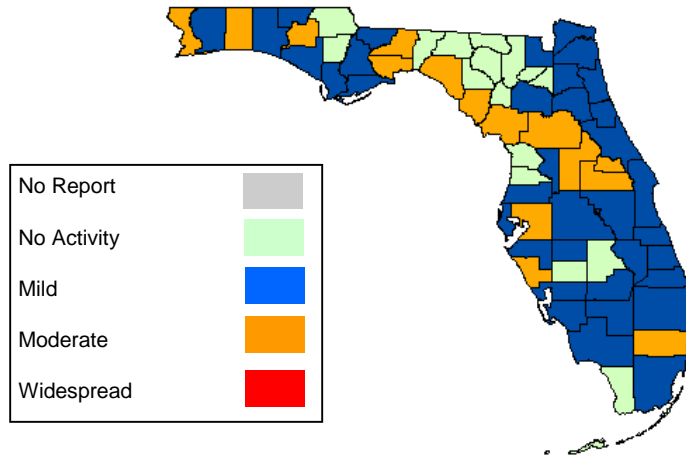
As of 12:00 p.m. December 27, 2012 a total of 67 (100%) counties had reported their weekly level of influenza activity. *Please note that data reported by counties after the deadline Tuesday at 5 p.m. are recorded but may not be included in the activity map for previous weeks.*

TABLE 3: Weekly County Influenza Activity for Week 51 (ending December 22, 2012) as Reported by 12:00 p.m. December 27, 2012

Activity Level	Week 50 Number of Counties	Week 51 Number of Counties	Week 51 Counties
No Report	-	-	
No Activity	16	16	Bradford, Calhoun, Citrus, Columbia, Desoto, Gilchrist, Hamilton, Hernando, Highlands, Jackson, Jefferson, Lafayette, Madison, Monroe, Suwannee, Union
Mild	35	36	Alachua, Baker, Bay, Brevard, Charlotte, Clay, Collier, Dade, Duval, Flagler, Franklin, Gadsden, Glades, Gulf, Hardee, Hendry, Holmes, Indian River, Lee, Liberty, Manatee, Martin, Nassau, Okeechobee, Osceola, Palm Beach, Pasco, Pinellas, Polk, Putnam, Santa Rosa, St. Johns, St. Lucie, Sumter, Volusia, Walton
Moderate	16	15	Broward, Dixie, Escambia, Hillsborough, Lake, Leon, Levy, Marion, Okaloosa, Orange, Sarasota, Seminole, Taylor, Wakulla, Washington
Widespread	-	-	-

Map 2: Weekly County Influenza Activity for Week 51 as Reported by 12:00 p.m. December 27, 2012

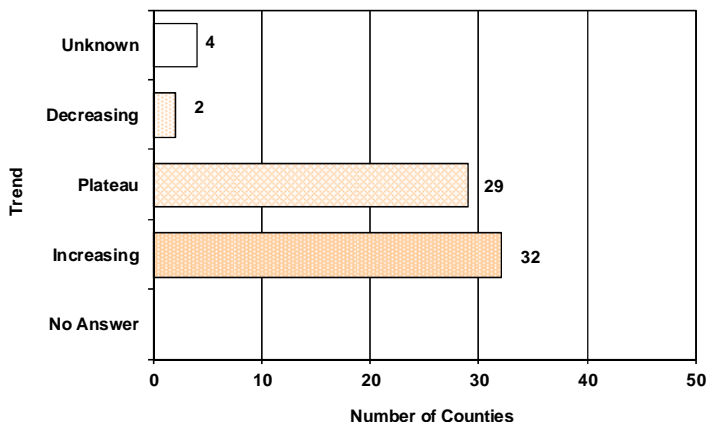
Most counties report no or mild activity. Fifteen counties report moderate activity.



County influenza activity data is reported to the BOE 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 16-25 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 51, two counties indicated that activity was decreasing, 29 indicated it was about the same as previous weeks, and 32 indicated that activity was increasing.

FIGURE 16 shows the assessment of the overall influenza activity trend in each county as reported by county health department flu coordinators for week 51 as of 12:00 p.m. December 27, 2012.

FIGURE 16: 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 17 - FIGURE 18 show the activity levels in various facilities by county as reported by county health department flu coordinators for week 51 as of 10:00 a.m. December 27, 2012.

FIGURE 17: Assessment of Influenza Activity in Elementary, Middle, and High Schools

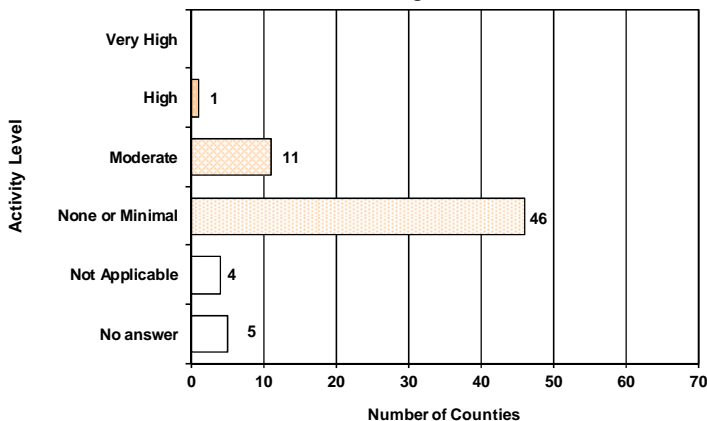


FIGURE 18: Assessment of Influenza Activity in Colleges and Universities

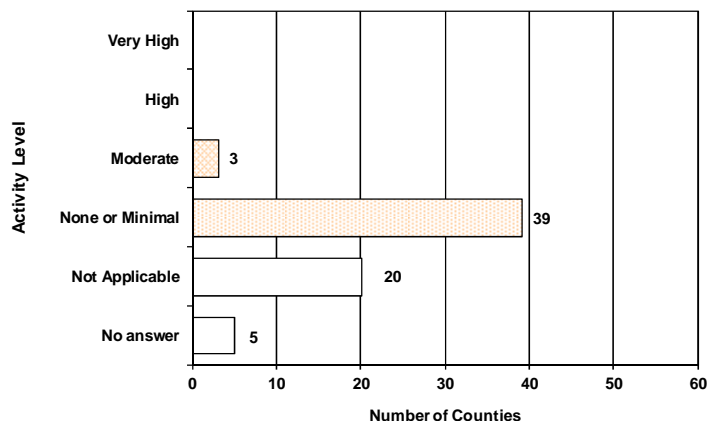


FIGURE 19 - FIGURE 25 show the activity levels in various facilities by county as reported by county health department flu coordinators for week 51 as of 12:00 p.m. December 27, 2012.

FIGURE 19: Assessment of Influenza Activity in Jails/Prisons

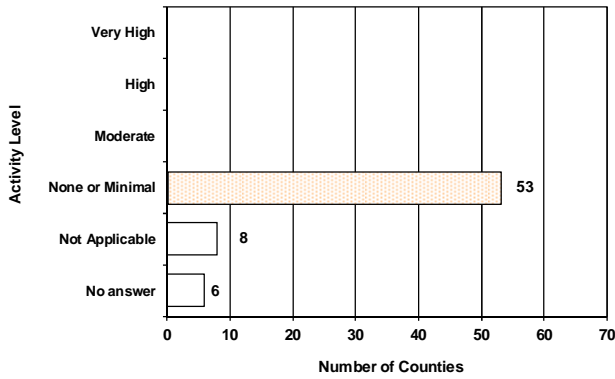


FIGURE 20: Assessment of Influenza Activity in Retirement Facilities

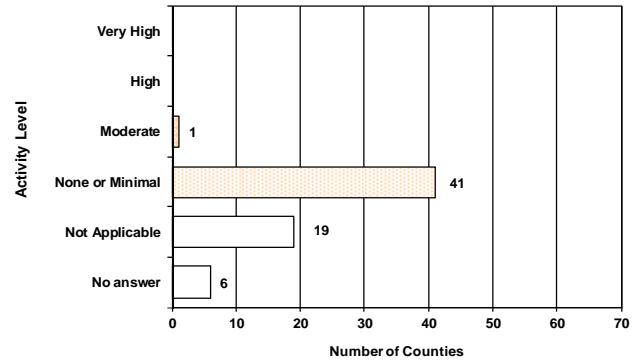


FIGURE 21: Assessment of Influenza Activity in Nursing Homes

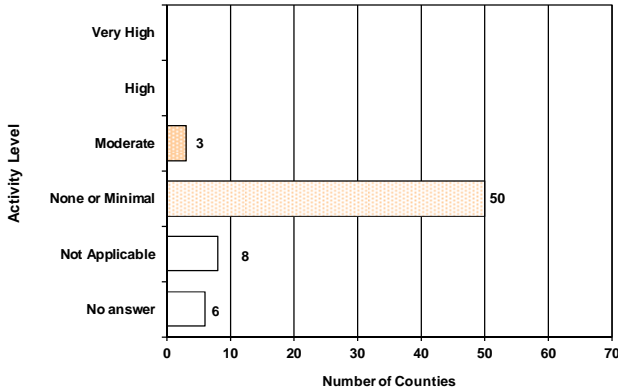


FIGURE 22: Assessment of Influenza Activity in Health Care Facilities

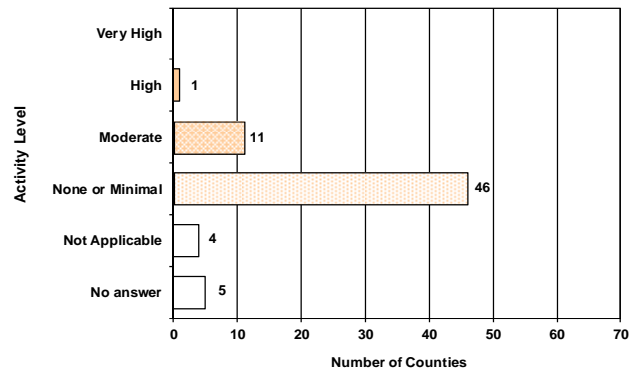


FIGURE 23: Assessment of Influenza Activity in Daycare Centers

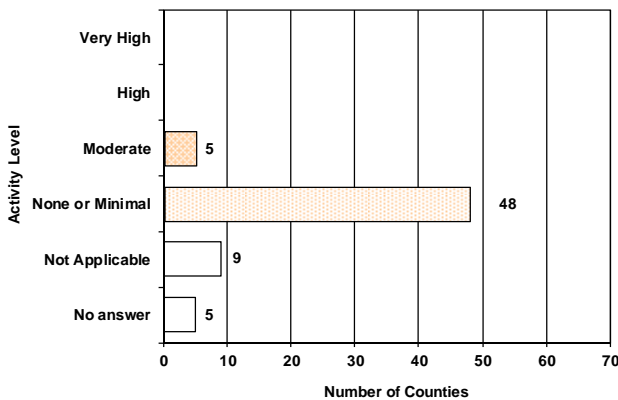


FIGURE 24: Assessment of Influenza Activity in Businesses

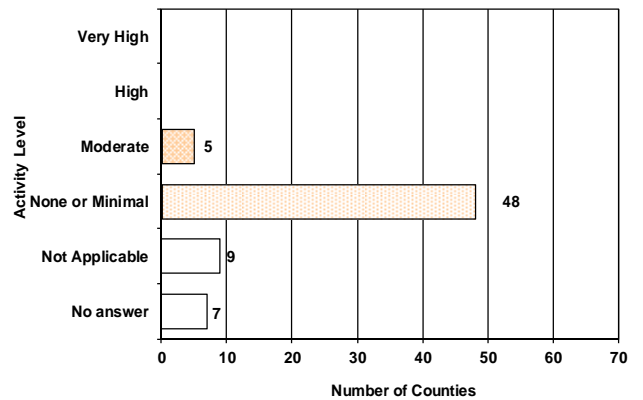
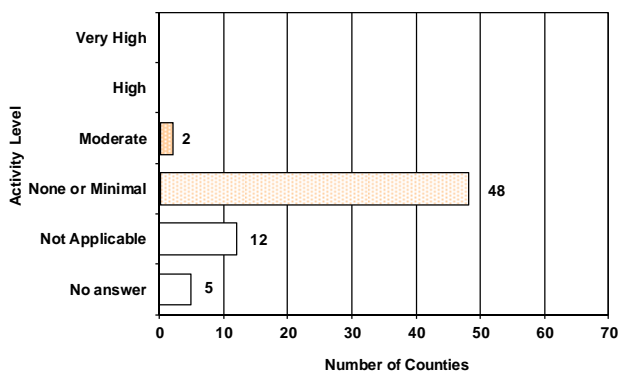


FIGURE 25: Assessment of Influenza Activity in State or Local Government Offices



Over the past year, the FDOH Bureau of Vital Statistics and County Health Departments have been rolling out an electronic death record system for Florida. ESSENCE-FL now displays electronic death record data from all 67 Florida counties. For P&I surveillance, death record literals are queried in ESSENCE-FL using a free-text query that searches for references to pneumonia and influenza on death certificates. Any mention of pneumonia or influenza in the death certificate literals, with certain exceptions, is counted as a P&I death. Numbers may change as more data are received. *The most recent data available are displayed here. ESSENCE-FL death records data are currently considered to be reliable through week 50, 2012.*

FIGURE 26 shows the reported count of pneumonia and influenza deaths for all Florida counties, the number of deaths predicted using a multi-year regression model, and the upper bound of the 95% confidence interval for this prediction

For week 49 (ending December 8, 2012) there were:

- 172 deaths reported
- Upper bound of 95% confidence interval for prediction: 210 deaths
- NO excess deaths

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

Figure 26: Pneumonia and Influenza Deaths for all Florida Counties, Multi-Year Regression Model Week 1, 2009-Week 50, 2012, as reported into ESSENCE-FL

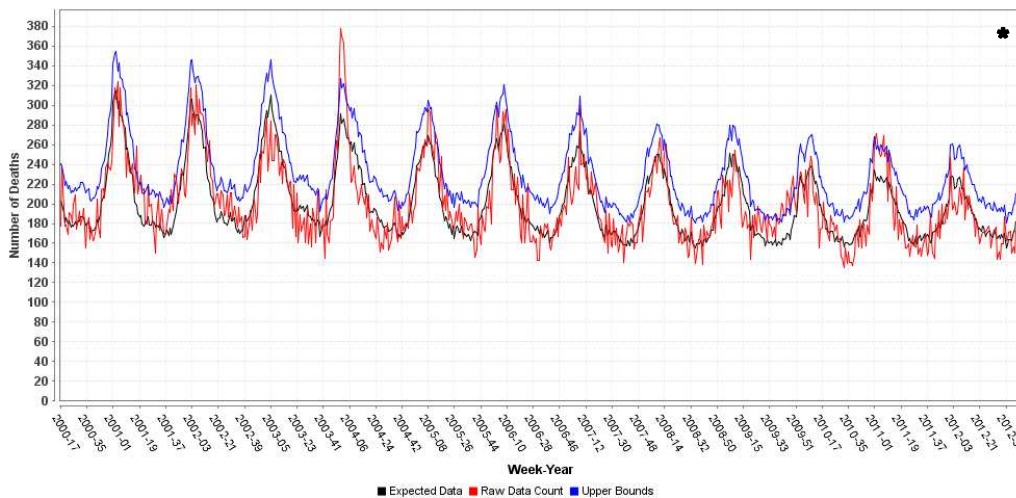


FIGURE 27 shows pneumonia and influenza deaths for all Florida counties, Week 40, 2010 - Week 52, 2012, as reported into ESSENCE-FL

FIGURE 27: ESSENCE-FL Statewide Pneumonia and Influenza Deaths, Week 40, 2009-Week 52, 2012

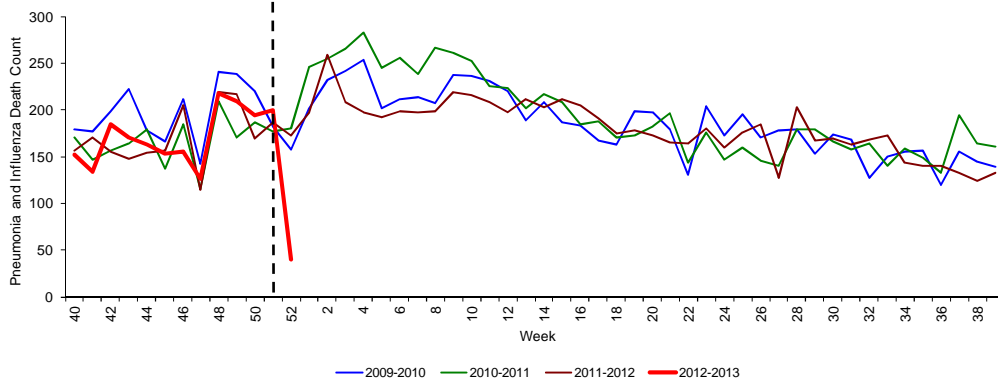
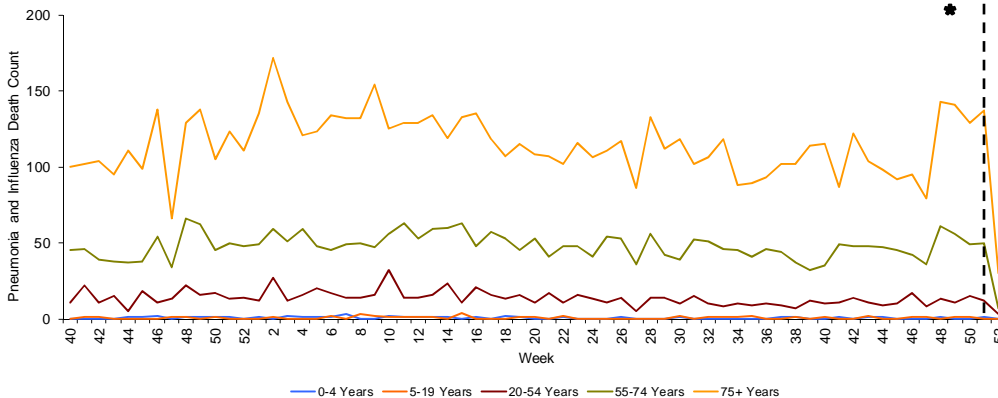


FIGURE 28 shows pneumonia and influenza deaths for all Florida counties by age group, Week 40, 2010 - Week 52, 2012, as reported into ESSENCE-FL

FIGURE 28: ESSENCE-FL Florida Pneumonia and Influenza Deaths by Age Group, Week 40, 2010-Week 52, 2012



* ESSENCE-FL death records data are currently considered to be reliable through week 50, 2012.

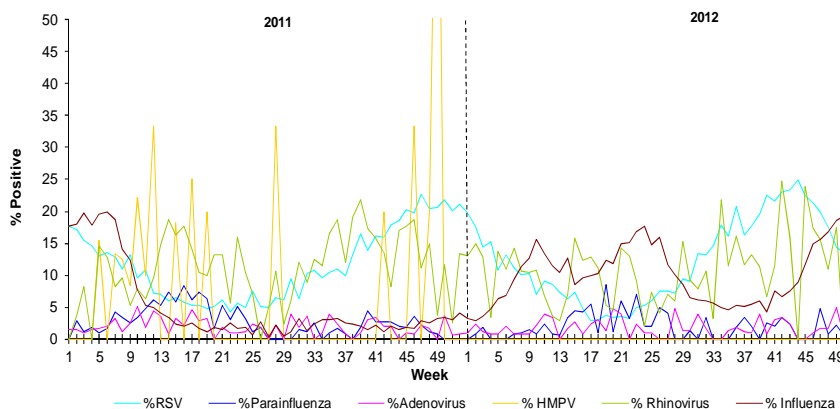
The National Respiratory and Enteric Virus Surveillance System (NREVSS) collects data from laboratories around the country on a weekly basis. NREVSS monitors temporal and geographic patterns of six common respiratory viruses. Eighteen facilities reported in week 51.

FIGURE 29 shows the percentage of positive tests for multiple respiratory viruses reported by NREVSS-participating laboratories in Florida

The 6 respiratory viruses summarized in Figure 29 are:

- Respiratory Syncytial Virus (RSV)
- Parainfluenza 1-3
- Adenovirus
- Human Metapneumovirus (HMPV)
- Rhinovirus
- Influenza

FIGURE 29: Percentage of Positive Respiratory Virus Tests as Collected by NREVSS, Florida, 2010-2012, as of December 26, 2012

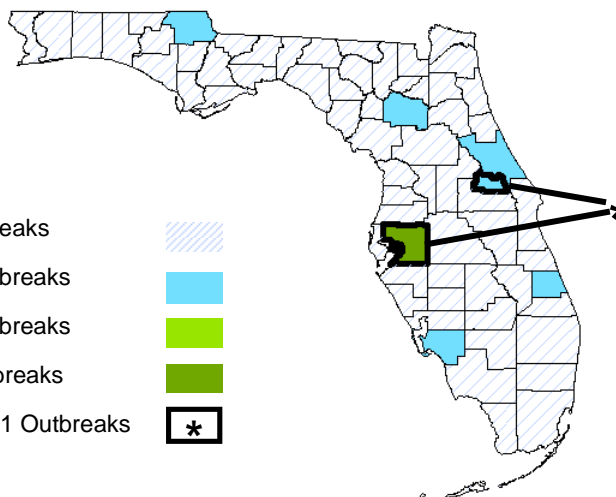


Influenza and ILI Outbreaks

In week 51 there were eight ILI outbreaks reported into EpiCom.

- Hillsborough County: An elementary school reported 35 of 850 students with ILI. Three specimens were collected. Two specimens tested rapid-antigen positive for influenza A and one specimen tested PCR positive for influenza A at the Bureau of Public Health Laboratories.
- Hillsborough County: A middle school reported 12 students with ILI. Four tested rapid antigen positive for influenza A, 1 for influenza B and 6 were of unknown subtype. Ten of the 12 were treated with Tamiflu. Influenza prevention and control measures were discussed with the school nurse.
- Hillsborough County: An elementary school reported 25 students and 4 teachers with ILI. Six specimens were collected and tested positive by rapid antigen test for influenza A. Influenza prevention and control measures were discussed with the school nurse.
- Hillsborough County: An elementary school reported that 31 out of 500 students had ILI. No lab results are available. Influenza prevention and control measures were discussed with the school nurse.
- Hillsborough County: An elementary school reported that 95 out of 798 students and 6 out of 60 staff had ILI. Influenza prevention and control measures were discussed with the school nurse.
- Hillsborough County: An elementary school reported 3 students and 8 out of 48 staff members with ILI. Three specimens tested rapid antigen positive for influenza A. Influenza prevention and control measures were discussed with the school nurse.
- Hillsborough County: A private school reported that 12 out of 75 students had ILI. One specimen tested positive for influenza A by rapid antigen test. Influenza prevention and control measures were discussed with the principal.
- Seminole County: A Domestic Violence Shelter reported seven residents with ILI. No specimens were collected. Influenza prevention and control measures were discussed with the staff. Vaccinations were recommended.

Map 3: Weekly County Influenza Outbreak Activity for Week 51 as Reported by 11:00 a.m. December 27, 2012



Fifteen influenza or ILI outbreaks have been reported into EpiCom in the 2012-2013 season.

Pediatric Influenza-Associated Mortality

In week 51 there was one influenza-associated pediatric death in a resident of Polk County. The resident was unvaccinated, and no specimen information is available.

Two influenza-associated pediatric deaths have been reported in Florida so far in the 2012-13 season.