Florida FLUREVIEW 2014 - 2015 season



Week 4: January 25 - 31, 2015



Summary

National influenza activity:

Influenza activity is elevated nationally.

- The Centers for Disease Control and Prevention (CDC) has identified an antigenically drifted influenza A (H3N2) strain circulating nationally and in Florida that is different from the strain of influenza A (H3N2) contained in the current 2014-15 influenza vaccine formulations.
- The CDC indicates this season's vaccine is offering reduced protection, as such, use of
 neuraminidase inhibitor antiviral medications, for treatment and prevention of influenza, is more
 important than ever. Individuals at high risk of complications from influenza infection with
 suspected flu should be treated with antivirals as early as possible, even prior to laboratory
 confirmation. More information can be found here: http://www.floridahealth.gov/diseases-and-conditions/influenza/ documents/Other/influenza-letter-for-health-care-providers.pdf.
 - The CDC indicates that antiviral medications are underutilized; one study estimates antivirals were only used one out of five times where antivirals use would be recommended.

State Influenza and influenza-like illness (ILI) activity:

- Flu activity remains widespread. Widespread refers to the geographic spread of influenza across Florida.
 - The 2014-15 flu season began early.
 - Influenza activity has decreased in recent weeks in some surveillance systems, and appears that the season has peaked.
- Seasons like this one, where influenza A (H3) is the predominantly circulating strain, are typically associated with higher morbidity and mortality, particularly in the 65 and older.
- Visits for ILI to emergency departments (ED) is highest in children<5 and those 65 and
 - 57 (71%) of reported outbreaks of ILI have been in facilities that primarily serve the 65+ and older age group.
- In recent weeks, the number of pneumonia and influenza (P&I) associated deaths, particularly in those 65 and older have increased, although they are at or above levels seen during previous years at this time. Increases in deaths at this point in the season are expected during severe flu years, like this one.
 - During the flu season, increases in ED visits typically come before increased hospitalizations and deaths. P&I deaths may reach higher levels later this season since mortality trends lag behind other indicators.
- In Florida, the most common influenza subtype detected at the Bureau of Public Health Laboratories (BPHL) in recent weeks has been influenza A (H3).
 - In the past week, 11 of 44 (25.0%) specimens submitted for influenza testing at BPHL were PCR positive for seasonal strains of influenza: six were positive for influenza A (H3), three were influenza A not yet subtyped and two were influenza B Victoria lineage.
- Four outbreaks of influenza (two or more cases of influenza or ILI in a specific setting) were reported to EpiCom in week 3.
- No pediatric influenza-associated deaths were reported in week 4.

Map 1: County Influenza Activity Week 4, 2015 No Report No Activity Mild Moderate Widespread Thirteen counties reported moderate influenza activity. For more information, see page 6.

Map 2: Influenza and ILI Outbreaks Week 4, 2015 0 Outbreaks 1-2 Outbreaks 3-4 Outbreaks 5+ Outbreaks Week 4 Outbreaks of ILI or influenza have been reported since Week 40, 2014. For more information, see page 10.

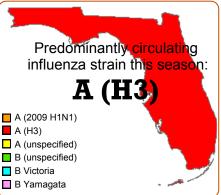
February 4, 2015 Posted on the Bureau of Epidemiology (BOE) website:

http://www.floridahealth.gov/floridaflu

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Descriptions of Florida influenza and ILI surveillance systems can be found on page 11.

TABLE 1: Summary of Florida Influenza-Like Illness (ILI) Activity for Week 4

Measure	Difference from Previous Week	Current Week 4	Previous Week 3	Page of Report
Overall statewide activity code reported to CDC	No Change	Widespread	Widespread	1
Percent of visits to ILINet providers for ILI	No Change	1.9%	1.9%	2
Percent of ED and UCC visits (from ESSENCE-FL) due to ILI	▼ 0.2	2.9%	3.1%	3
Percent of laboratory specimens that were positive for influenza	▼ 28	25.0%	53.9%	5
Number of counties reporting moderate influenza activity	▼ 4	13	19	6
Number of counties reporting widespread influenza activity	No Change	0	0	6
Number of counties reporting increasing influenza activity	▼ 3	4	7	6
Number of counties reporting decreasing influenza activity	▼ 12	32	20	6
Number of ILI outbreaks reported in EpiCom	▼ 1	4	5	10

ILINet Influenza-Like Illness-Statewide

ILINet is a nationwide surveillance system composed of sentinel providers: most of which are sentinel outpatient physicians. Florida has 107 sentinel providers enrolled in ILINet who submit weekly ILI and total visit counts, as well as submit ILI specimens to the BPHL for confirmatory testing.

FIGURE 1 shows the percentage of visits for ILI* reported by ILINet sentinel providers statewide.

The percent of visits to ILINet sentinel providers for ILI is at or near levels seen in previous years at this time.

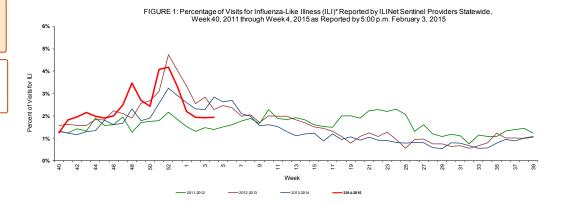
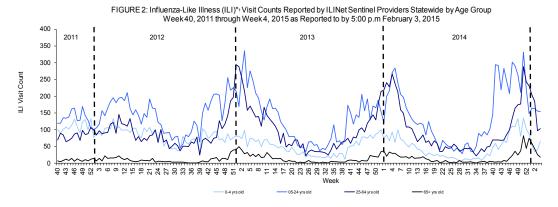


FIGURE 2 shows ILI visit counts reported by ILINet sentinel providers statewide by age group.

In week 4, the number of ILI visits to ILINet sentinel providers continued to decline in the 5-24 and 65+ age groups but increased in the 0-4 and 25-64 age groups.



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†Data presented here are counts, not proportions as included in Figure 1. This is because age group denominator data is not available through ILINet.

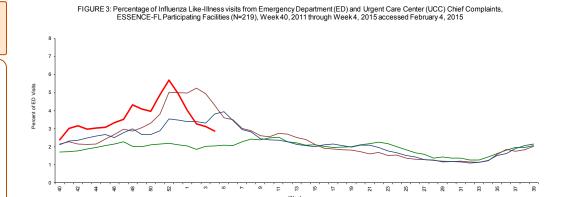
*ILI = Influenza-like illness, fever >100°F AND sore throat and/or cough in the absence of another known cause.

ESSENCE-FL collects data daily from 219 Emergency Departments (EDs) and Urgent Care Centers (UCCs). 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 and UCCs as a percentage of all visits.

The percent of visits to EDs and UCCs for ILI is similar to levels seen in previous years at this time. In the past few weeks, levels of influenza in pregnant women presenting to EDs has declined. Pregnant women are among those at high risk for severe complications due to influenza infection. More information can be found here: http://www.floridahealth.gov/diseases-

http://www.floridahealth.gov/diseasesand-conditions/influenza/_documents/ Other/influenza-guidance-for-healthcare-providers.pdf



2011-2012

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

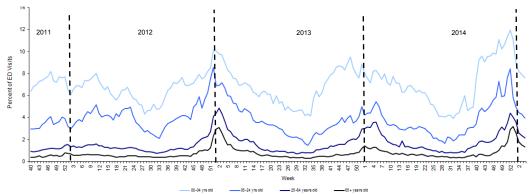
The percent of ED and UCC visits for ILI is similar to levels seen in previous years in all age groups at this time. While the proportion of ED and UCC visits for ILI has decreased in all age groups in the past few weeks, activity still remains highest in children.



-2012-2013

2013-2014

2014-2015



ESSENCE-FL Syndromic Surveillance-Regional

Map 3: Emergency Departments and Urgent Care Centers Reporting Data to ESSENCE-FL by Regional Domestic Security Task Force (RDSTF), February 4, 2015 (N=219)

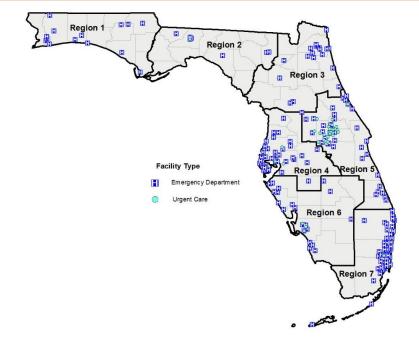
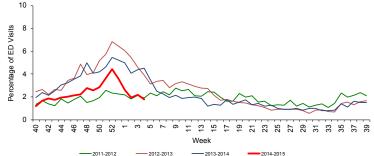


FIGURE 5 - FIGURE 11 describe ED and UCC chief complaint data from ESSENCE-FL by Regional Domestic Security Task Force (RDSTF) regions.

FIGURE 5: Percentage of Influenza Like-Illness Visits from ED and UCC Chief Complaints, RDSTF Region 1 ESSENCE-FL Participating Hospitals (N=14), Week 40, 2011 through Week 4, 2015 accessed February 4, 2015



this time.

FIGURE 6: Percentage of Influenza Like-Illness Visits from ED and UCC Chief Complaints, RDSTF Region 2 ESSENCE-FL Participating Facilities (N=7), Week 40, 2011 through Week 4, 2015 accessed February 4, 2015

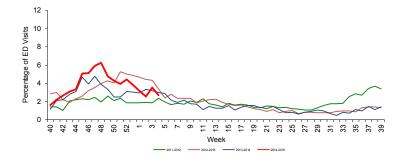


FIGURE 7: Percentage of Influenza Like-Iliness Visits from ED and UCC Chief Complaints, RDSTF Region 3 ESSENCE-FL Participating Facilities (N=20), Week 40, 2011 through Week 4, 2015 accessed February 4, 2015

After having been elevated, ED and UCC visits for ILI in RDSTF Regions 1-7 are at or near levels seen during previous years at

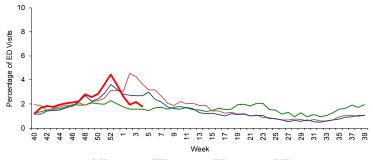


FIGURE 8: Percentage of Influenza Like-Illness Visits from ED and UCC Chief Complaints. RDSTF Region 4 ESSENCE-FL Participating Facilities (N=42), Week 40, 2011 through Week 4, 2015 accessed February 4, 2015

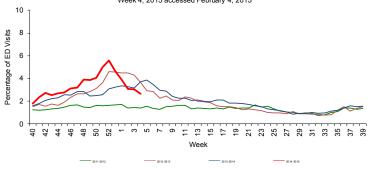


FIGURE 9: Percentage of Influenza-Like Illness Visits from ED and UCC Chief Complaints, RDSTF Region 5 ESSENCE-FL Participating Facilities (N=61), Week 40, 2011 through Week 4, 2015 accessed February 4, 2015

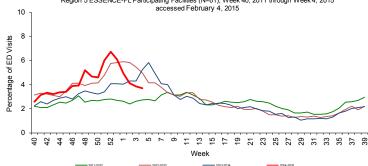


FIGURE 10: Percentage of of Influenza Like-Illness Visits from ED and UCC Chief Complaints, RDSTF Region 6 ESSENCE-FL Participating Facilities (N=23), Week 40, 2011 through Week 4, 2015 accessed February 4, 2015

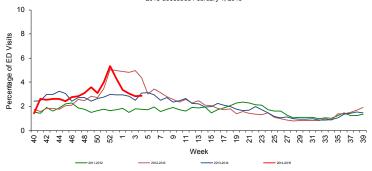


FIGURE 11: Percentage of Influenza Like-Illness Visits from ED and UCC Chief Complaints, RDSTF Region 7 ESSENCE-FL Participating Facilities (N=52), Week 40, 2011 through Week 4, 2014 accessed February 4, 2015

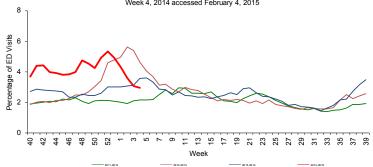


TABLE 2 shows the number of specimens tested by BPHL, how many are influenza positive and their subtypes.

FIGURE 12 - FIGURE 13 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 identified.

Influenza A (H3) and influenza B have been identified by BPHL this season.

In recent weeks, influenza specimens submitted to BPHL tested positive for influenza A (H3), influenza B Yamagata lineage, and influenza B Victoria lineage.

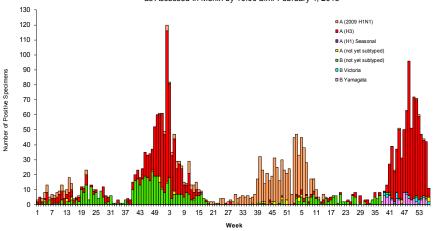
Influenza A (H3) has been the most common strain of influenza detected by BPHL so far in the 2014-2015 influenza season.

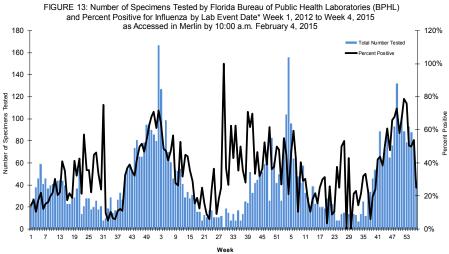
The drifted influenza A (H3) strain has been detected in Florida.

Table 2: Bureau of Public Health Laboratories (BPHL) Viral Surveillance for Week 4 by Lab Event Date* as reported by 10:00 a.m. February 4, 2015

	Current Week 4	Previous Week 3
Total Specimens Tested	44	78
Influenza positive specimens (% of total)	11 (25.0%)	42 (53.9%)
Influenza A (2009 H1N1) (% of influenza positives)	-	-
Influenza A (H3) (% of influenza positives)	6 (54.6%)	37 (88.1%)
Influenza A not yet subtyped (% of influenza positives)	3 (27.3%)	1 (2.4%)
Influenza B Yamagata (% of influenza positives)	-	3 (7.1%)
Influenza B Victoria (% of influenza positives)	2 (18.2%)	1 (2.4%)
Influenza B not yet subtyped (% of influenza positives)	-	-

FIGURE 12: Number of Influenza-Positive Specimens Tested by the Florida Bureau of Public Health Laboratories (BPHL) by Subtype by Lab Event Date*, Week 1, 2012 to Week 4, 2015 as Accessed in Merlin by 10:00 a.m. February 4, 2015





*Please note that lab event date is defined as the earliest of the following dates associated with the lab: date specimen 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.

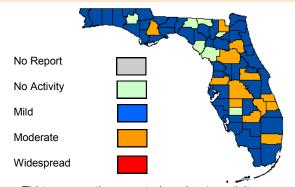
For instructions on how to use the Flu Lab Report, please see the Guide to Flu Lab Report on the Bureau of Epidemiology website: http://www.floridahealth.gov/diseases-and-conditions/influenza/ documents/flulabreportguide.pdf

As of 11:30 a.m. February 4, 2015, a total of 67 (100%) counties 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 4 (ending January 31, 2015) as Reported by 11:30 a.m. February 4, 2015

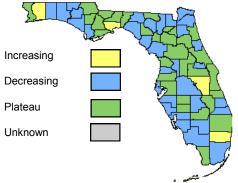
Activity Level	Week 4 Number of Counties	Week 3 Number of Counties	Week 4 Counties
No Report	0	0	-
No Activity	7	7	Desoto, Dixie, Hamilton, Levy, Madison, Union, Washington
Mild	47	41	Alachua, Bay, Bradford, Brevard, Calhoun, Charlotte, Citrus, Clay, Collier, Columbia, Dade, Duval, Escambia, Flagler, Franklin, Gadsden, Gilchrist, Gulf, Hendry, Hernando, Highlands, Hillsborough, Holmes, Jackson, Jefferson, Lafayette, Lake, Lee, Leon, Manatee, Martin, Monroe, Nassau, Okaloosa, Osceola, Palm Beach, Pinellas, Santa Rosa, Sarasota, Seminole, St. Johns, Sumter, Suwannee, Taylor, Volusia, Wakulla, Walton
Moderate	13	19	Baker, Broward, Glades, Hardee, Indian River, Liberty, Marion, Okeechobee, Orange, Pasco, Polk, Putnam, St. Lucie
Widespread	0	0	-

Map 4: Weekly County Influenza Activity Level for Week 4 Reported by 11:30 a.m. February 4, 2015



Thirteen counties reported moderate activity.

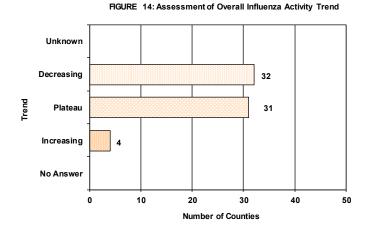
Map 5: Weekly County Influenza Activity Trend for Week 4 Reported by 11:30 a.m. February 4, 2015



Four counties reported increasing influenza and ILI activity.

County influenza activity data are reported to BOE through EpiGateway on a weekly basis by each county influenza coordinator. Specific information is requested about laboratory results, outbreak reports and surveillance system activity. Figures 14-23, 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 4, 32 counties indicated that activity was decreasing, 31 indicated activity was about the same as previous weeks and four indicated that activity was increasing.

FIGURE 14 shows the assessment of the overall influenza activity trend in each county as reported by CHD influenza coordinators for week 4 as of 11:30 a.m. February 4, 2015.



Counties are asked to evaluate influenza activity in certain settings within their county. Each setting has a scale for activity that ranges from no 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.

FIGURE 15 - FIGURE 18 show the activity levels in various facilities by county as reported by CHD influenza coordinators for week 4 as of 11:30 a.m., February 4, 2015.

FIGURE 15: Assessment of Influenza Activity in Elementary, Middle, and High Schools Very High High Moderate None or Minimal 52 Not Applicable

40

Number of Counties

FIGURE 17: Assessment of Influenza Activity in Jails/Prisons

50

60

70

FIGURE 16: Assessment of Influenza Activity in Colleges and Universities Very High High None or Minimal 32 Not Applicable No answer 10 0 10 40 50 60 Number of Counties

Very High High Activity Level Moderate None or Minimal 43 Not Applicable No answer 9 0 10 20 30 40 60 Number of Counties

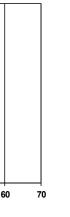


FIGURE 18: Assessment of Influenza Activity in Retirement **Facilities** Very High High Activity Level Moderate None or Minimal 43 Not Applicable No answer 10 20 30 40 60 Number of Counties

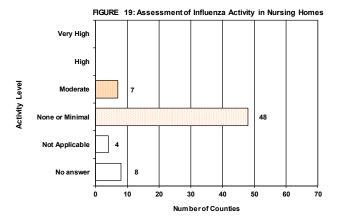
No answer

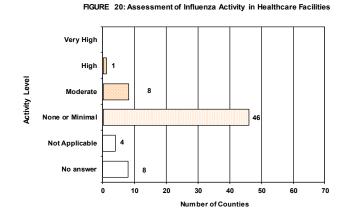
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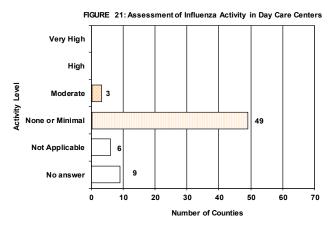
10

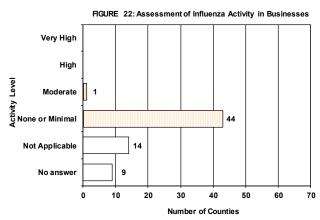
20

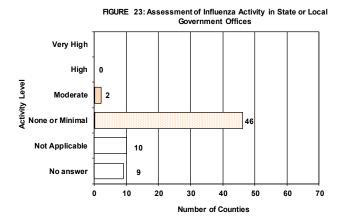
FIGURE 19 - FIGURE 23 show the activity levels in various facilities by county as reported by CHD influenza coordinators for week 4 as of 11:30 a.m., February 4, 2015.











Pediatric Influenza-Associated Mortality

No influenza-associated pediatric deaths were reported in week 4.

Three influenza-associated pediatric deaths have been reported so far in the 2014-15 influenza season.

FDOH Bureau of Vital Statistics and county health departments (CHDs) collect death record data electronically in all 67 Florida counties, which can be accessed using ESSENCE-FL. For pneumonia and influenza (P&I) surveillance, death record literals are queried in ESSENCE-FL using a free-text query that searches for references to P&I on death certificates. Any mention of P&I in the death certificate literals, with certain exceptions, is counted as a P&I death. Current season P&I death numbers are preliminary estimates, and may change as more data are received. The most recent data available are displayed here. ESSENCE-FL vital statistics death records data are currently considered to be complete through week 3, 2015.

FIGURE 24 shows the count of preliminary estimated P&I 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 3 (ending Jan 24, 2015):

- 244 preliminary estimated P&I deaths were reported.
- Upper bound of 95% confidence interval for prediction: 273 deaths.
- No excess deaths.
- It is common that flu deaths reach higher levels later in the season since mortality tends to lag behind other indicators.

Figure 24: Vital Statistics Statewide Pneumonia and Influenza Deaths, Multi-Year Regression Model

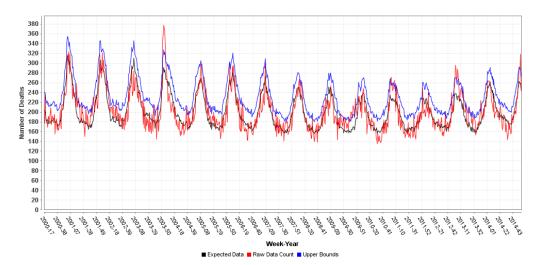


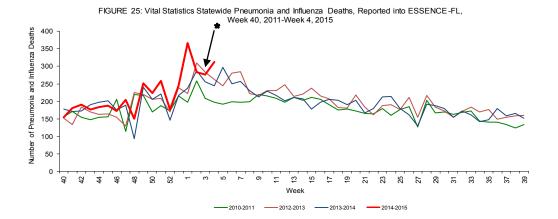
FIGURE 25 shows P&I deaths for all Florida counties, week 40, 2010 - week 4, 2015, as reported into ESSENCE-FL. Deaths due to P&I are at or near levels seen during previous years at this time.

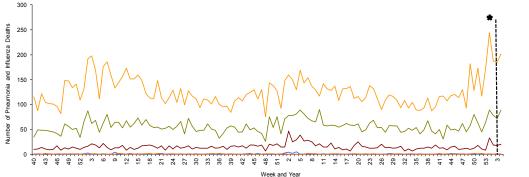
As of week 4 (ending Jan 31, 2015):

 3,994 P&I deaths have been reported so far in the 2014-15 influenza season.

FIGURE 26 shows P&I deaths for all Florida counties by age group, week 40, 2012 - week 4, 2015, as reported into ESSENCE-FL.

Seasons were influenza A (H3) is the predominantly circulating strain are associated with higher mortality and morbidity, particularly in the 65 and older age group.





-55-74 Years

FIGURE 26: Vital Statistics Florida Pneumonia and Influenza Deaths by Age Group, Reported into ESSENCE-FL, Week 40, 2012 through Week 4, 2015

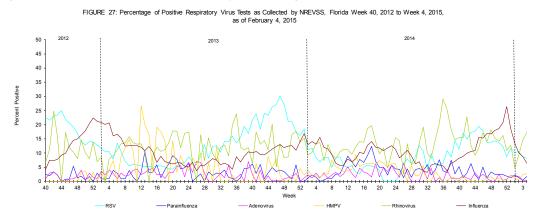
Death records data reported into ESSENCE-FL are currently considered to be complete through week 3, 2015.

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. Eight Florida facilities reported in week 4.

FIGURE 27 shows the percentage of positive tests for multiple respiratory viruses reported by NREVSS-participating laboratories in Florida.

The 6 respiratory viruses summarized in Figure 27 are:

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



Influenza and ILI Outbreaks Reported in EpiCom

In week 4, 2015, four outbreaks of influenza or ILI were reported in to EpiCom.

Volusia County

A correctional facility reported 34 inmates with ILI. Six specimens were collected and four of these specimens tested positive for influenza A (H3) by PCR at BPHL. Of the 34 ill inmates, ten (39%) had received the 2013-14 vaccine. Of the four inmates that tested positive for influenza A (H3), two had received the 2014-15 vaccine. Vaccination was recommended. Infection control measures were reviewed with facility leadership. There have been no additional cases. This investigation is closed.

Pinellas County

A school reported 14 students with ILI. One specimens was collected and tested positive for influenza A (H3) by PCR at BPHL. Infection
control measures were reviewed with facility leadership and letters regarding the prevention of influenza spread were sent home to
parents. There have been no additional cases. This investigation is closed.

Monroe County

A long term care facility reported five cases of ILI. All five ill cases were hospitalized. Four of the ill cases tested positive for influenza A by
rapid antigen test at the local hospital. The 2014-15 vaccination rate was 75% among residents and 30% among staff. Infection control
measures were instituted including the ordering of prophylaxis for the ill and chemoprophylaxis for non-ill residents and staff. This
investigation is ongoing.

Broward County

An assisted living facility reported 11 residents with ILI. Two ill residents tested positive for influenza A by rapid antigen test at local
healthcare providers. The other nine ill residents tested negative for influenza by rapid antigen test at local healthcare providers. Infection
control measures were reviewed with facility leadership. This investigation is ongoing.

Eighty outbreaks of influenza or ILI have been reported into EpiCom so far in the 2014-2015 season.

Map 6: Influenza and ILI Outbreaks by County Week 4, 2015

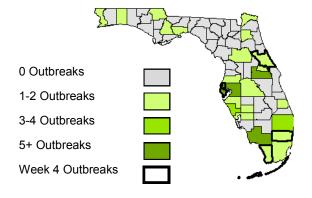


TABLE 4: Summary of Florida Influenza and ILI Outbreaks by Facility Status, Week 40-4, 2015

Setting	Number of outbreaks	Implicated Viruses
Schools	14	 Two outbreaks due to influenza (H3) Seven outbreaks due to influenza A unspecified Two outbreaks due to influenza A unspecified and influenza B unspecified Three outbreaks, virus information not yet available
Daycares	9	 Three outbreaks due to influenza (H3) Three outbreaks due to influenza A unspecified One outbreak due to influenza A unspecified and influenza B unspecified One outbreak due to RSV One outbreak due to parainfluenza III
Jails and prisons	2	 One outbreak due to influenza A (H3) One outbreak due to influenza A unspecified and influenza B unspecified
Nursing homes and long term care facilities	55	 Seven outbreaks due to influenza A (H3) Thirty-two outbreaks due to influenza A unspecified Three outbreaks due to influenza A unspecified and influenza B unspecified One outbreak due to influenza A (H3) and rhinovirus Two outbreaks due to influenza A unspecified and RSV One outbreak due to influenza A (H1N1) One outbreak due to influenza B Yamagata One outbreak due to influenza B unspecified One outbreak due to RSV Six outbreaks, virus information not yet available
Colleges and universities, private businesses, local and state government offices, retirement homes, healthcare facilities, other	0	No outbreaks
Total	80	 Thirteen outbreaks due to influenza A (H3) Forty-two outbreaks due to influenza A unspecified Seven outbreaks due to influenza A unspecified and influenza B unspecified Two outbreaks due to influenza A unspecified and RSV One outbreak due to influenza A (H1N1) One outbreak due to influenza B Yamagata One outbreak due to influenza B unspecified Two outbreaks due to RSV One outbreak due to parainfluenza III Ten outbreaks, virus information not yet available

Florida ILI Surveillance System Summary

Florida ILINet

Measures trends in ILI visits to outpatient doctor's offices

Network of volunteer healthcare providers who:

Report ILI and total visit counts every week

Submit specimens for confirmatory testing

ESSENCE-FL Syndromic Surveillance

Measures trends in ILI visits and hospital admissions from emergency departments and urgent care clinics

EDs and UCCs electronically transmit visit data into ESSENCE-FL daily

Visit data summarized in the Florida Flu Review include:

Percent of ED/urgent care visits due to ILI

Percent of ED/urgent care visitors with ILI who are admitted to the hospital

ESSENCE-FL Vital Statistics Portal

Measures influenza mortality by using death certificates with pneumonia or influenza listed as a cause of death.

Death certificate data from the Bureau of Vital Statistics can be accessed through ESSENCE-FL and are used for pneumonia and influenza mortality surveillance

County Influenza Activity in EpiGateway

Uses data provided by CHDs to create a county-by-county breakdown of influenza and ILI activity around the state

CHD epidemiologists report their county's influenza and ILI surveillance data weekly into the EpiGateway website

Influenza activity is classified as: No Activity, Mild, Moderate or Widespread

Setting-specific influenza activity and influenza trend is also reported

Outbreak Reporting in EpiCom

Tracks influenza and ILI outbreak investigations by CHDs and shows what types of influenza are responsible for outbreaks and where outbreaks are occurring

CHD epidemiologists report outbreaks of influenza or ILI into EpiCom, Florida's online disease communication system Outbreaks are defined as two or more cases of influenza or ILI in a specific setting

BPHL

BPHL performs confirmatory testing and subtyping on surveillance specimens from ILINet sentinel providers, outbreak investigations, patients with severe or unusual influenza presentations and medical examiners

Case-Based Influenza Surveillance

Pediatric Influenza-Associated Mortality

Deaths in children with laboratory-confirmed influenza infection are reportable in Florida

Influenza due to Novel or Pandemic Strains

Patients with influenza infection due to novel or pandemic strains are reportable in Florida

National Respiratory and Enteric Virus Surveillance System (NREVSS)

Measures trends in different viruses that cause respiratory disease

Network of laboratories who report counts of test results for common respiratory viruses, including influenza, RSV, rhinovirus and others

Information on locating influenza vaccination can be found using the flu vaccine locator at: http://flushot.healthmap.org/