

Week 7: February 15 - 21, 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, so the 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 influenza should be treated with antivirals as early as possible, even prior to laboratory confirmation. More information can be found here: <u>http://www.floridahealth.gov/</u> <u>diseases-and-conditions/influenza/_documents/Other/influenza-letter-for-health-careproviders.pdf</u>.
 - 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:

- Due to declining activity across the state, Florida reported regional activity to the CDC in week 7. Regional refers to the geographic spread of influenza across Florida.
 - The 2014-15 influenza season began early.
 - Influenza and ILI continue to decline in all surveillance systems, and data suggest that the season peaked in week 52.
- Seasons like this one, where influenza A (H3) is the predominantly circulating strain, are typically associated with higher morbidity and mortality, particularly in adults ≥ 65 years old.
- Visits for ILI to emergency departments (ED) have declined in recent weeks and are now at levels similar to previous years at this time. Visits are highest in children <5 years old and adults ≥65 years old.
 - 64 (69%) of reported outbreaks of ILI have been in facilities that primarily serve **adults** ≥65 years old.
- The number of pneumonia and influenza (P&I) associated deaths are similar to levels seen during previous years at this time. Increases in deaths at this point in the season are expected during severe influenza years where vaccine effectiveness is reduced, like this one.
- 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, 14 of 25 (56.0%) specimens submitted to BPHL for influenza testing were PCR positive for seasonal strains of influenza: eight were positive for influenza A (H3), one was influenza B Yamagata lineage, one was influenza B Victoria lineage, and four were influenza B not yet subtyped.
- Two outbreaks of influenza or ILI (two or more cases of influenza or ILI in a specific setting) were reported to EpiCom in week 7.
- No pediatric influenza-associated deaths were reported in week 7.



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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 12.

TABLE 1: Summary of Florida Influenza-Like Illness (ILI) Activity for Week 7					
Measure	Difference from Previous Week	Current Week 7	Previous Week 6	Page of Report	
Overall statewide activity code reported to CDC	No Change	Regional	Regional	1	
Percent of visits to ILINet providers for ILI	▲ 0.9	2.1%	1.2%	2	
Percent of ED and UCC visits (from ESSENCE-FL) due to ILI	▲ 0.1	2.7%	2.6%	3	
Percent of laboratory specimens that were positive for influenza	▲ 12.8	56.0%	43.2%	6	
Number of counties reporting moderate influenza activity	▲ 1	5	4	7	
Number of counties reporting widespread influenza activity	No Change	0	0	7	
Number of counties reporting increasing influenza activity	▼ 1	2	3	7	
Number of counties reporting decreasing influenza activity	▼ 4	28	32	7	
Number of ILI outbreaks reported in EpiCom	▼ 2	2	4	11	

ILINet Influenza-Like Illness-Statewide

ILI Visit Count

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 7, the number of ILI visits to ILINet sentinel providers increased in the 0-4 age group and continued to decline in the 5-24, 25-64, and 65 and older 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.

FIGURE 2: Influenza-Like Illness (ILI)*r Visit Counts Reported by ILINet Sentinel Providers Statewide by Age GroupWeek 40, 2011 through Week 7, 2015 as Reported to by 5:00 p.m February 24, 2015

Week

25-64 yrs old

yrs old

ESSENCE-FL Syndromic Surveillance-Statewide

ESSENCE-FL collects data daily from 220 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.



FIGURE 4: Percentage of Influenza Like-Illness visits from Emergency Department (ED) and Urgent Care Center (UCC) Chief Complaints by Age, ESSENCE-FL Participating Facilities (N=220), Week 40, 2011 through Week 7, 2015 accessed February 25, 2015

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.

In the past week, the proportion of ED and UCC visits for ILI has increased slightly in all age groups. Activity still remains highest in children.



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 25, 2015 (N=220)



ESSENCE-FL Syndromic Surveillance: Regional (Continued)

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FIGURE 6: Percentage of Influenza Like-Ilness Visits from ED and UCC Chief Complaints, RDSTF Region 2 ESSENCE-FL Participating Facilities (N=7), Week 40, 2011 through Week 7, 2015 accessed February 25, 2015



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 7, 2015 accessed February 25, 2015



FIGURE 10: Percentage of of Influenza Like-Illness Visits from ED and UCC Chief Complaints, RDSTF Region 6 ESSENCE-FL Participating Facilities (N=24), Week 40, 2011 through Week 7, 2015 accessed February 25, 2015



ED and UCC visits for ILI in RDSTF Regions 1 and 3-7 are at or near levels seen during previous years at this time.

ED and UCC visits for ILI in RDSTF Region 2 is above levels seen during previous years at this time.





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 7, 2015 accessed February 25, 2015



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ESSENCE-FL Syndromic Surveillance: At-Risk Populations

The Florida Department of Healthuses ED and UCC chief complaint data to monitor influenza and ILI activity in a timely manner in groups at higher risk of severe heath outcomes (such as hospitalization and death) from influenza infection. These at-risk groups include pregnant women, children \leq 18, and adults \geq 65 years old.

FIGURE 12 shows ESSENCE-FL data on the number of visits for influenza to EDs and UCCs by pregnant women.

In the past few weeks, the number of visits for influenza by pregnant women presenting to EDs and UCCs 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/diseasesand-conditions/influenza/_documents/ Other/influenza-guidance-for-healthcare-providers.pdf

FIGURE 13 shows the percentage of ILI among all ED and UCC visits for children ≤18 years old.

The percentage of ED and UCC visits for ILI in children ≤18 years old has declined in recent weeks and is similar to levels seen in previous years at this time.

FIGURE 14 shows the percentage of ILI among all ED and UCC visits for adults \geq 65 years old.

The percentage of ED and UCC visits for ILI in adults \geq 65 years old has declined is recent weeks and is similar to levels seen in previous years at this time.





FIGURE 14: Percentage of ILI Visits from Emergency Department (ED) and Urgent Care Center (UCC) Chief Complaints in Adults ≥ 65 years, ESSENCE-FL Participating Facilities (N=220), Week40, 2011 through Week 7, 2015 accessed February 25



Bureau of Public Health Laboratories Viral Surveillance

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

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Current Previous Week 7 Week 6 **Total Specimens Tested** 25 44 Influenza positive specimens (% of total) 14 (56.0%) 19 (43.2%) Influenza A (2009 H1N1) (% of influenza positives) _ Influenza A (H3) (% of influenza positives) 8 (57.2%) 11 (58.0%) Influenza A not yet subtyped (% of influenza positives) 2 (10.5%) Influenza B Yamagata (% of influenza positives) 1(7.1%)2 (10.5%) Influenza B Victoria (% of influenza positives) 1 (7.1%) 2 (10.5%) Influenza B not yet subtyped (% of influenza positives) 4 (28.6%) 2 (10.5%)

Table 2: Bureau of Public Health Laboratories (BPHL) Viral Surveillance for

Week 7 by Lab Event Date* as reported by 10:00 a.m. February 25, 2015

FIGURE 15: 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 7, 2015 as Accessed in Merlin by 10:00 a.m. February 25, 2015



FIGURE 16: Number of Specimens Tested by Florida Bureau of Public Health Laboratories (BPHL) and Percent Positive for Influenza by Lab Event Date* Week 1, 2012 to Week 7, 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

FIGURE 15 - FIGURE 16 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.

County Influenza and ILI Activity

As of 11:30 a.m. February 25, 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 7 (ending February 21, 2015) as Reported by 11:30 a.m. February 25, 2015					
Activity Level	Week 7 Number of Counties	Week 6 Number of Counties	Week 7 Counties		
No Report	0	0	-		
No Activity	15	9	Bay, Broward, Desoto, Dixie, Gilchrist, Hamilton, Holmes, Jefferson, Liberty, Madison, Manatee, Sumter, Taylor, Union, Washington		
Mild	47	54	Alachua, Bradford, Brevard, Calhoun, Charlotte, Citrus, Clay, Collier, Columbia, Dade, Duval, Escambia, Flagler, Franklin, Gadsden, Glades, Gulf, Hendry, Hernando, Highlands, Hillsborough, Indian River, Jackson, Lafayette, Lake, Lee, Leon, Levy, Martin, Monroe, Nassau, Okaloosa, Okeechobee, Osceola, Palm Beach, Pasco, Pinellas, Polk, Santa Rosa, Sarasota, Seminole, St. Johns, St. Lucie, Suwannee, Volusia, Wakulla, Walton		
Moderate	5	4	Baker, Hardee, Marion, Orange, Putnam		
Widespread	0	0	-		

Map 4: Weekly County Influenza Activity Level for Week 7 Reported by 11:30 a.m. February 25, 2015



Five counties reported moderate activity.

Map 5: Weekly County Influenza Activity Trend for Week 7 Reported by 11:30 a.m. February 25, 2015



Two 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 7, 28 counties indicated that activity was decreasing, 37 indicated activity was about the same as previous weeks and two indicated that activity was increasing.



County Influenza and ILI Activity (Continued)

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 18 - FIGURE 21 show the activity levels in various facilities by county as reported by CHD influenza coordinators for week 7 as of 11:30 a.m., February 25, 2015.







Number of Counties

FIGURE 20: Assessment of Influenza Activity in Jails/Prisons



FIGURE 21: Assessment of Influenza Activity in Retirement

Activity Level

County Influenza and ILI Activity (Continued)

FIGURE 22 - FIGURE 26 show the activity levels in various facilities by county as reported by CHD influenza coordinators for week 7 as of 11:30 a.m., February 25, 2015.



Pediatric Influenza-Associated Mortality

No influenza-associated pediatric deaths were reported in week 7.

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

ESSENCE-FL Pneumonia and Influenza Mortality

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 6, 2015.*

FIGURE 27 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 6 (ending Feb 14, 2015):

- 230 preliminary estimated P&I deaths were reported.
- Upper bound of 95% confidence interval for prediction: 271 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 28 shows P&I deaths for all Florida counties, week 40, 2010 through week 7, 2015, as reported into ESSENCE-FL.

As of week 7 (ending Feb 21, 2015):

- 4,815 P&I deaths have been reported so far in the 2014-15 influenza season.
- After having been elevated, the number of P&I deaths has decreased in recent weeks.

FIGURE 29 shows P&I deaths for all Florida counties by age group, week 40, 2012 through week 7, 2015, as reported into ESSENCE-FL.

The number of P & I deaths reported in recent weeks are similar to levels seen in previous years in all age groups at this time.

Seasons were influenza A (H3) is the predominantly circulating strain are associated with higher mortality and morbidity, particularly in adults \geq 65 years old.











Death records data reported into ESSENCE-FL are currently considered to be complete through week 6, 2015.

Figure 27: Vital Statistics Statewide Pneumonia and Influenza Deaths, Multi-Year Regression Model Week 17, 2000 through Week 6, 2015, Reported into ESSENCE-FL

NREVSS Respiratory Virus Surveillance

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 7.

FIGURE 30 shows the percentage of positive tests for multiple respiratory viruses reported by NREVSS-participating laboratories in Florida.

Figure 30: Percentage of Positive Respiratory Virus Tests as Collected by NREVSS, Florida Week 40, 2012 to Week 7, 2015, as of February 25, 2015

The 6 respiratory viruses summarized in Figure 30 are:

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



Influenza and ILI Outbreaks Reported in EpiCom

In week 7, 2015, two outbreaks of influenza or ILI were reported in to EpiCom.

Pinellas County

A nursing facility reported eight residents with ILI. No specimens were available for collection. All of the eight ill residents had received the 2014-15 influenza vaccine. The 2014-15 influenza vaccination rates were 96% among all residents and unknown among staff. Infection control measures were reviewed with facility leadership. No new cases have been reported. This investigation is closed.

Duval County

A psychiatric facility reported five residents with ILI. One ill resident was hospitalized. Specimens from all five ill residents were collected and all five tested positive for influenza A by rapid antigen test at local healthcare providers. Two of the three ill residents and one of two ill staff had declined influenza vaccination for the 2014-15 season. Chemoprophylaxis was recommended to all residents and staff. This investigation is ongoing.



Map 6: Influenza and ILI Outbreaks by County Week 7, 2015





Influenza and ILI Outbreaks (Continued)

TABLE 4 : Summary of Florida Influenza and ILI Outbreaks by Facility Status, Week 40-7, 2015

Setting	Number of outbreaks	Implicated Viruses
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	3	 Two outbreaks due to influenza A (H3) One outbreak due to influenza A unspecified and influenza B unspecified
Mental health facilities	2	 One outbreak due to influenza A unspecified One outbreak, virus information not yet available
Nursing homes and long term care facilities	64	 Seven outbreaks due to influenza A (H3) Forty outbreaks due to influenza A unspecified Three outbreaks due to influenza A unspecified and influenza B unspecified One outbreaks due to influenza A (H3) and rhinovirus Two outbreaks due to influenza A (H3) and rhinovirus Two outbreaks due to influenza A (2009 H1N1) One outbreak due to influenza B Yamagata One outbreak due to influenza B unspecified One outbreak due to RSV Seven outbreaks, virus information not yet available
Rehabilitation facilities	1	One outbreak due to influenza A unspecified
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
Colleges and universities, private businesses, local and state government offices, retirement homes, healthcare facilities, other	0	No outbreaks
Total	93	 Fourteen outbreaks due to influenza A (H3) Fifty-two outbreaks due to influenza A unspecified Seven 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 (H3) and rhinovirus Two outbreaks due to influenza A (H3) and rhinovirus One outbreak due to influenza A (2009 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 Eleven outbreaks virus information not yet available

Florida ILI Surveillance System Summary

Florida ILINet

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 LLI 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