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Week 20: May 17- May 23, 2015

Summary

National influenza activity:

Influenza activity continues to decrease 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 offers reduced protection. 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: 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.
- The overall rate of laboratory-confirmed influenza-associated hospitalizations for the season (between October 1, 2014 and April 30, 2015) was 65.5 per 100,000 population. The highest rate of hospitalization was among adults aged ≥65 years (322.2 per 100,000 population). This is the highest hospitalization rate recorded since data collection began in the 2005-2006 influenza season.
 - Higher morbidity and mortality is expected in years where influenza A (H3) is the predominately circulating strain.

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

- Influenza activity continues to decline overall or remain at low levels across the state.
- This season, influenza and ILI activity started early and 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.
 - 75 (71%) of reported outbreaks of ILI have been in facilities primarily serving adults ≥65 years old.
- Most Florida counties are reporting mild or no influenza activity. In week 20, 44 counties reported decreasing influenza activity and 23 counties indicated activity is at a plateau.
- Emergency department (ED) and urgent care center (UCC) ILI visits have decreased in recent weeks and are slightly below levels typical for this time of year. The number of pneumonia and influenza (P&I) associated deaths have declined overall in recent weeks and are similar to levels seen in previous years at this time.
- In Florida, the most common influenza subtype detected at the Bureau of Public Health Laboratories (BPHL) in recent weeks has been influenza B although influenza A (H3) has been the predominantly circulating strain for the majority of the season. The increase in influenza B late in the season follows previous yearly trends.
 - In the past week, five (38.5%) of 13 specimens submitted to BPHL for influenza testing were PCR positive for influenza B Yamagata lineage.
- No outbreaks of influenza-like illness (two or more cases of influenza or ILI in a specific setting) were reported to EpiCom in week 20.
- No pediatric influenza-associated deaths were reported in week 20.



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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 20				
Measure	Difference from Previous Week	Current Week 20	Previous Week 19	Page of Report
Overall statewide activity code reported to CDC	No Change	Sporadic	Sporadic	1
Percent of visits to ILINet providers for ILI	▲ 0.1%	0.8%	0.7%	2
Percent of ED and UCC visits (from ESSENCE-FL) due to ILI	▼ 0.1%	1.4%	1.5%	3
Percent of laboratory specimens that were positive for influenza	▲ 3.5%	38.5%	35.0%	6
Number of counties reporting moderate influenza activity	▼ 1	0	1	7
Number of counties reporting widespread influenza activity	No Change	0	0	7
Number of counties reporting increasing influenza activity	▼ 2	0	2	7
Number of counties reporting decreasing influenza activity	▲ 9	44	35	7
Number of ILI outbreaks reported in EpiCom	No Change	0	0	11

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.

In week 20, the percent of visits to ILINet sentinel providers for ILI is slightly below 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 20, the number of ILI visits to ILINet sentinel providers has increased slightly in the 0-4 age group and has decreased in all other age groups.



†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 Syndromic Surveillance: Statewide

ESSENCE-FL collects data daily from 237 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.

In week 20, the percent of visits to EDs and UCCs for ILI is below levels seen in previous years at this time.



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 at this time.

In week 20, the proportion of ED and UCC visits for ILI has decreased in all age groups.

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=237), Week 40, 2011 Through Week 20, 2015 Accessed May 27, 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), May 27, 2015 (N=237)



ESSENCE-FL Syndromic Surveillance: Regional (Continued)

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FIGURE 6: Percentage of Influenza Like-Illness Visits from ED and UCC Chief Complaints, RDSTF Region 2 ESSENCE-FL Participating Facilities (N=9), Week 40, 2011 Through Week 20, 2015 Accessed May 27, 2015



FIGURE 8: Percentage of Influenza Like-Illness Visits from ED and UCC Chief Complaints, RDSTF Region 4 ESSENCE-FL Participating Facilities (N=47), Week 40, 2011 Through Week 20, 2015 Accessed May 27, 2015



FIGURE 10: Percentage of of Influenza Like-Illness Visits from ED and UCC Chief Complaints, RDSTF Region 6 ESSENCE-FL Participating Facilities (N=28), Week 40, 2011 Through Week 20, 2015 Accessed May 27, 2015



ED and UCC visits for ILI in RDSTF Regions 2 and 4 are at or near levels seen in previous years at this time.

ED and UCC visits for ILI in RDSTF Regions 1, 3 and 5-7 are below levels seen in previous years at this time.









*There is no week 53 for the 2010-2011, 2011-2012, and 2013-2014 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.

ESSENCE-FL Syndromic Surveillance: At-Risk Populations

ESSENCE-FL collects data daily from 237 EDs and 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. The Department of Heath (DOH) uses 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 ≤18 years old and adults ≥65 years old.

FIGURE 12 shows ESSENCE-FL data on the number of visits* where influenza was mentioned in the chief complaint when presenting for care at EDs and UCCs by pregnant women.

In week 20, the number of visits* by pregnant women presenting to EDs and UCCs with mention of influenza is at or near levels seen in previous years at this time.

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 12: Influenza Visits by Pregnant Women* to Emergency Department (ED) and Urgent Care Center

(UCC) Chief Complaints, ESSENCE-FL Participating Facilities (N=237), Week 40, 2011 Through

* This count under-represents the true number of pregnant women presenting for care to EDs and UCCs with influenza and under-represents the true number of pregnant women seeking care for influenza. The overall trend has been validated through review of hospital discharge data collected by the Agency for Health Care Administration.



FIGURE 14: Percentage of ILI Visits from Emergency Department (ED) and Urgent Care Center (UCC) Chief Complaints in Adults ≥65 Years Old, ESSENCE-FL Participating Facilities (N=237), Week40, 2011 Through Week 20, 2015 Accessed May 27, 2015



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

The percent of ED and UCC visits for ILI in children ≤18 years old is slightly below levels seen in previous years at this time.

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

The percent of ED and UCC visits for ILI in adults ≥65 years old is slightly below levels seen in previous years at this time.

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Bureau of Public Health Laboratories Viral Surveillance

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

FIGURE 15 - FIGURE 18 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 BPHL, what proportion of those test positive for influenza, and what subtypes are identified.

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

In recent weeks, influenza specimens submitted to BPHL tested positive for influenza B Yamagata lineage.

Influenza A (H3) has been the most common strain of influenza detected by BPHL in the 2014-2015 influenza season, however, in recent weeks a greater proportion of influenza B viruses have been isolated.

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

Table 2: Bureau of Public Health Laboratories (BPHL) Viral Surveillance for Week 20 by Lab Event Date* as reported by 10:00 a.m. May 27, 2015

	Current Week 20	Previous Week 19
Total Specimens Tested	13	20
Influenza positive specimens (% of total)	5 (38.5%)	7 (35.0%)
Influenza A (2009 H1N1) (% of influenza positives)	-	-
Influenza A (H3) (% of influenza positives)	-	-
Influenza A not yet subtyped (% of influenza positives)	-	1 (14.3%)
Influenza B Yamagata (% of influenza positives)	5 (100%)	4 (57.1%)
Influenza B Victoria (% of influenza positives)	-	-
Influenza B not yet subtyped (% of influenza positives)	-	2 (28.6%)



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 Through Week 20, 2015 as Accessed in Merlin by 10:00 a.m. May 27, 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

County Influenza and ILI Activity

As of 11:30 a.m. May 27, 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 20 (ending May 23, 2015)as Reported by 11:30 a.m. May 27, 2015				
Activity Level	Week 20 Number of Counties	Week 19 Number of Counties	Week 20 Counties	
No Report	0	0	-	
No Activity	33	33	Alachua, Baker, Calhoun, Columbia, Desoto, Dixie, Duval, Escambia, Franklin, Gilchrist, Glades, Hamilton, Hardee, Hernando, Holmes, Indian River, Jackson, Jefferson, Lafayette, Levy, Liberty, Madison, Manatee, Martin, Nassau, Okeechobee, Putnam, St. Johns, Sumter, Suwannee, Taylor, Union, Washington	
Mild	34	33	Bay, Bradford, Brevard, Broward, Charlotte, Citrus, Clay, Collier, Dade, Flagler, Gadsden, Gulf, Hendry, Highlands, Hillsborough, Lake, Lee, Leon, Marion, Monroe, Okaloosa, Orange, Osceola, Palm Beach, Pasco, Pinellas, Polk, Santa Rosa, Sarasota, Seminole, St. Lucie, Volusia, Wakulla, Walton	
Moderate	0	1	-	
Widespread	0	0	_	

Map 4: Weekly County Influenza Activity Level for Week 20 Reported by 11:30 a.m. May 27, 2015



Thirty-four counties reported mild activity in week 20.

Map 5: Weekly County Influenza Activity Trend for Week 20 Reported by 11:30 a.m. May 27, 2015



Forty-four counties reported decreasing influenza and ILI activity in week 20.

County influenza activity data are reported 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 17-26, 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 20, 44 counties indicated that activity was decreasing, 23 counties indicated activity was about the same as previous weeks and no counties indicated that activity was increasing.



County Influenza and ILI Activity (Continued)

Counties are asked to evaluate influenza activity in certain facilities within their county. Each facility 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.

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 20 as of 11:30 a.m., May 27, 2015.





FIGURE 20: Assessment of Influenza Activity in Jails/Prisons







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 20 as of 11:30 a.m., May 27, 2015.



Pediatric Influenza-Associated Mortality

No influenza-associated pediatric deaths were reported in week 20.

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

ESSENCE-FL Pneumonia and Influenza Mortality

350

300

250

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 considered to be complete through week 19, 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 19:

- 183 preliminary estimated P&I deaths were reported.
- Upper bound of 95% confidence . interval for prediction is 217 deaths.
- No excess deaths. .
- Flu deaths commonly 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 20, 2015, as reported into ESSENCE-FL.

As of week 20:

- 8,016 P&I deaths have been reported so far in Florida during the 2014-15 influenza season.
- The number of P&I deaths are similar to levels seen in previous years at this time.

FIGURE 29 shows P&I deaths for all Florida counties by age group, week 40, 2012 through week 20, 2015, as reported into ESSENCE-FL.

- The number of P&I deaths reported • in recent weeks in similar in all age groups to levels seen in previous years at this time.
- Seasons where influenza A (H3) is the predominantly circulating strain are associated with higher mortality and morbidity, particularly in adults ≥ 65 years old.





FIGURE 29: Vital Statistics Florida Pneumonia and Influenza Deaths by Age Group, Week 40, 2012 Through Week 20, 2015 Accessed via ESSENCE-FL, May 27, 2015

2010-2011 -

Weeł

2012-2013 -

-2013-2014

2014-2015



Death records data reported into ESSENCE-FL are currently considered to be complete through week 19. 2015.

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.

FIGURE 30 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 20, 2015, no outbreaks of influenza or ILI were reported in to EpiCom.



• No outbreaks of ILI were reported in week 20.

 Week 20, 2015

 Week 20, 2015

Map 6: Influenza and ILI Outbreaks by County

Influenza and ILI Outbreaks (Continued)

TABLE 4 : Summary of Florida Influenza and ILI Outbreaks by Facility Status, Week 40-20, 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 vet available
Nursing homes and long term care facilities	75	 Eight outbreaks due to influenza A (H3) Forty-seven 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 (2009 H1N1) One outbreak due to influenza B Yamagata Two outbreak due to influenza B unspecified One outbreak due to influenza B unspecified One outbreak due to influenza B Yamagata Two outbreak due to RSV One outbreak due to rhinovirus and human metapneumovirus One outbreak due to human metapneumovirus Seven outbreaks. virus information not vet available
Rehabilitation facilities	1	One outbreak due to influenza A unspecified
Schools	15	 Two outbreaks due to influenza (H3) Seven outbreaks due to influenza A unspecified Two outbreaks due to influenza A unspecified and influenza B unspecified Four 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	105	 Fifteen outbreaks due to influenza A (H3) Fifty-nine 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 One outbreak due to influenza A (2009 H1N1) One outbreak due to influenza B Yamagata Two outbreaks due to influenza B unspecified Two outbreaks due to influenza B Unspecified Two outbreaks due to influenza B Unspecified Two outbreaks due to RSV One outbreak due to rhinovirus and human metapneumovirus One outbreak due to human metapneumovirus Twelve 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/