Week 15: April 12 - April 18, 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, 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: 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:
- Due to low influenza activity around the state, Florida reported local activity to the CDC in week 15. Local refers to the geographic spread of influenza across Florida.
  - The 2014-15 influenza season began early.
  - Influenza and ILI activity levels continue to decline statewide in most surveillance systems, and data indicate 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 and are slightly below levels seen in previous years at this time. After being elevated, visits in adults ≥65 years old are slightly below levels seen in previous years at this time.
  - 74 (72%) 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 have declined in recent weeks but are above levels seen during 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, 0.0% of nine specimens submitted to BPHL for influenza testing were PCR positive for seasonal strains of influenza.
  - One outbreak of influenza-like illness (two or more cases of influenza or ILI in a specific setting) was reported to EpiCom in week 15.
  - No pediatric influenza-associated deaths were reported in week 15.

Map 1: County Influenza Activity Week 15, 2015

Zero counties reported moderate influenza activity. For more information, see page 7.

Map 2: Influenza and ILI Outbreaks Week 15, 2015

One hundred and three outbreaks of ILI or influenza have been reported since Week 40, 2014. For more information, see page 11.

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Weekly state influenza activity:

Predominantly circulating influenza strain this season:

A (H3)
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 15**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Difference from Previous Week</th>
<th>Current Week 15</th>
<th>Previous Week 14</th>
<th>Page of Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall statewide activity code reported to CDC</td>
<td>No Change</td>
<td>Local</td>
<td>Local</td>
<td>1</td>
</tr>
<tr>
<td>Percent of visits to ILINet providers for ILI</td>
<td>▼ 0.2%</td>
<td>1.0%</td>
<td>1.2%</td>
<td>2</td>
</tr>
<tr>
<td>Percent of ED and UCC visits (from ESSENCE-FL) due to ILI</td>
<td>▼ 0.1%</td>
<td>1.8%</td>
<td>1.9%</td>
<td>3</td>
</tr>
<tr>
<td>Percent of laboratory specimens that were positive for influenza</td>
<td>▼ 26.1%</td>
<td>0.0%</td>
<td>26.1%</td>
<td>6</td>
</tr>
<tr>
<td>Number of counties reporting moderate influenza activity</td>
<td>No Change</td>
<td>0</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Number of counties reporting widespread influenza activity</td>
<td></td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Number of counties reporting increasing influenza activity</td>
<td>▲ 2</td>
<td>2</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Number of counties reporting decreasing influenza activity</td>
<td>▼ 6</td>
<td>37</td>
<td>43</td>
<td>7</td>
</tr>
<tr>
<td>Number of ILI outbreaks reported in EpiCom</td>
<td>▲ 1</td>
<td>1</td>
<td>0</td>
<td>11</td>
</tr>
</tbody>
</table>

**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 decreased in week 15 and 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 15, the number of ILI visits to ILINet sentinel providers decreased in all age groups.

*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 236 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 15, the percent of visits to EDs and UCCs for ILI is slightly below levels seen in previous years at this time.

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

The proportion of ED and UCC visits for ILI is similar to levels seen in previous years at this time.

In week 15, the proportion of ED and UCC visits for ILI increased slightly in the ≥65 age group and decreased in all other age groups.

**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), April 22, 2015 (N=236)
FIGURE 5 - FIGURE 11 describe ED and UCC chief complaint data from ESSENCE-FL by Regional Domestic Security Task Force (RDSTF) regions.

ED and UCC visits for ILI in RDSTF Regions 1-4 and 6 are at or near levels seen during previous years at this time. ED and UCC visits for ILI in RDSTF Regions 5 and 7 are slightly below levels seen during 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 236 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 Health (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 health 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 15, the number of visits* by pregnant women presenting to EDs and UCCs with mention of influenza has decreased. 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-and-conditions/influenza/_documents/Other/influenza-guidance-for-health-care-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 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 percentage of ED and UCC visits for ILI in adults ≥65 years old is at levels seen in previous years at this time.

* 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.
Bureau of Public Health Laboratories Viral Surveillance

**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 BPHL, what proportion of those test positive for influenza and what subtypes are identified.

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

Influenza A 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.

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

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

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**Table 2: Bureau of Public Health Laboratories (BPHL) Viral Surveillance for Week 15 by Lab Event Date* as reported by 10:00 a.m. April 22, 2015**

<table>
<thead>
<tr>
<th></th>
<th>Current Week 15</th>
<th>Previous Week 14</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Specimens Tested</strong></td>
<td>9</td>
<td>23</td>
</tr>
<tr>
<td>Influenza positive specimens (% of total)</td>
<td>0 (0.0%)</td>
<td>9 (26.1%)</td>
</tr>
<tr>
<td>Influenza A (2009 H1N1) (% of influenza positives)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Influenza A (H3) (% of influenza positives)</td>
<td>-</td>
<td>5 (55.6%)</td>
</tr>
<tr>
<td>Influenza A not yet subtyped (% of influenza positives)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Influenza B Yamagata (% of influenza positives)</td>
<td>-</td>
<td>2 (22.2%)</td>
</tr>
<tr>
<td>Influenza B Victoria (% of influenza positives)</td>
<td>-</td>
<td>1 (11.1%)</td>
</tr>
<tr>
<td>Influenza B not yet subtyped (% of influenza positives)</td>
<td>-</td>
<td>1 (11.1%)</td>
</tr>
</tbody>
</table>

*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:
As of 11:30 a.m. April 22, 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>
<thead>
<tr>
<th>Activity Level</th>
<th>Week 15 Number of Counties</th>
<th>Week 14 Number of Counties</th>
<th>Week 15 Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Report</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Mild</td>
<td>38</td>
<td>42</td>
<td>Alachua, Baker, Bay, Bradford, Brevard, Broward, Charlotte, Clay, Collier, Dade, Desoto, Duval, Escambia, Flagler, Gulf, Hardee, Hillsborough, Lafayette, Lake, Lee, Marion, Martin, Nassau, Okaloosa, Orange, Osceola, Palm Beach, Pasco, Pinellas, Polk, Santa Rosa, Sarasota, Seminole, St. Johns, St. Lucie, Suwannee, Volusia, Walton</td>
</tr>
<tr>
<td>Moderate</td>
<td>0</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Widespread</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

Zero counties reported moderate activity in week 15.

Thirty-seven counties reported decreasing influenza and ILI activity in week 15.

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 15, 37 counties indicated that activity was decreasing, 28 indicated activity was about the same as previous weeks, and two indicated that activity was increasing.

**FIGURE 17** shows the assessment of the overall influenza activity trend in each county as reported by CHD influenza coordinators for week 15 as of 11:30 a.m. April 22, 2015.
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 15 as of 11:30 a.m., April 22, 2015.
FIGURE 22 - FIGURE 26 show the activity levels in various facilities by county as reported by CHD influenza coordinators for week 15 as of 11:30 a.m., April 22, 2015.

No influenza-associated pediatric deaths were reported in week 15.

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 14, 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 14:
- 202 preliminary estimated P&I deaths were reported.
- Upper bound of 95% confidence interval for prediction is 227 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 15, 2015, as reported into ESSENCE-FL.

As of week 15:
- 6,914 P&I deaths have been reported in Florida during the 2014-15 influenza season.
- The number of P&I deaths are above 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 15, 2015, as reported into ESSENCE-FL.

- The number of P&I deaths reported in recent weeks has decreased overall in adults ≥75 years old and is 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.

*Death records data reported into ESSENCE-FL are currently considered to be complete through week 14, 2015.*
In week 15, 2015, one outbreak of ILI was reported to EpiCom.

**Brevard County**
An assisted living facility reported ten residents with ILI. Out of the ten residents, four were diagnosed with pneumonia by portable chest x-ray. No ill residents were hospitalized. Three specimens were collected from the six residents with unknown diagnosis and specimens were tested at BPHL by PCR. One specimen tested positive for rhinovirus, one tested positive for human metapneumovirus, and one tested negative in extended respiratory panel testing. Antibiotics were provided for residents with pneumonia and prophylaxis was recommended for residents with ILI. Infection control measures were reviewed with facility leadership. This investigation is ongoing.

As of week 15: **103 outbreaks** of influenza or ILI have been reported in to EpiCom so far in the 2014-2015 season. One outbreak of ILI was reported in week 15.
### Summary of Florida Influenza and ILI Outbreaks by Facility Status, Week 40-15, 2015

<table>
<thead>
<tr>
<th>Setting</th>
<th>Number of Outbreaks</th>
<th>Implicated Viruses</th>
</tr>
</thead>
</table>
| 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 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 | 74              | - 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 unspecified and RSV  
|          |                     | - One outbreak due to influenza A (2009 H1N1)  
|          |                     | - One outbreak due to influenza B Yamagata  
|          |                     | - Two outbreaks due to influenza B unspecified  
|          |                     | - One outbreak due to RSV  
|          |                     | - One outbreak due to rhinovirus and human metapneumovirus  
|          |                     | - 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   | 103                 | - 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 unspecified and RSV  
|          |                     | - 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 RSV  
|          |                     | - One outbreak due to parainfluenza III  
|          |                     | - One outbreak due to rhinovirus and human metapneumovirus  
|          |                     | - Eleven outbreaks virus information not yet available  |

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**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 visitors 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.*

**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:  