Week 6: February 8 - 14, 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:
- Due to declining activity across the state, Florida reported regional activity to the CDC in week 6. Regional refers to the geographic spread of influenza across Florida.
  - The 2014-15 flu season began early.
  - Influenza continues 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 the 65 and older age group.
  - 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 and those 65 and over.
    - 63 (69%) of reported outbreaks of ILI have been in facilities that primarily serve the 65+ and older age group.
  - 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 flu 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, 10 of 30 (33.3%) specimens submitted for influenza testing at BPHL were PCR positive for seasonal strains of influenza: five were positive for influenza A (H3), one was influenza A not yet subtyped, two were influenza B Yamagata lineage, one was influenza B Victoria lineage and one was influenza B not yet subtyped.
  - Four outbreaks of influenza (two or more cases of influenza or ILI in a specific setting) were reported to EpiCom in week 6.
  - No pediatric influenza-associated deaths were reported in week 6.

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Map 1: County Influenza Activity Week 6, 2015

No Report
No Activity
Mild
Moderate
Widespread

Four counties reported moderate influenza activity. For more information, see page 6.

Map 2: Influenza and ILI Outbreaks Week 6, 2015

0 Outbreaks
1-2 Outbreaks
3-4 Outbreaks
5+ Outbreaks

Ninety-one outbreaks of ILI or influenza have been reported since Week 40, 2014. For more information, see page 10.
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 BP HL 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 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 6, the number of ILI visits to ILINet sentinel providers continued to decline in all age groups.

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*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 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. 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-and-conditions/influenza/_documents/Other/influenza-guidance-for-health-care-providers.pdf

**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.

**ESSENCE-FL Syndromic Surveillance-Statewide**

**FIGURE 3**: Percentage of Influenza Like Illness visits from Emergency Department (ED) and Urgent Care Center (UCC) Chief Complaints, ESSENCE-FL Participating Facilities (N=220), Week 40, 2011 through Week 6, 2015 accessed February 18, 2015

**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 6, 2015 accessed February 18, 2015

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-and-conditions/influenza/_documents/Other/influenza-guidance-for-health-care-providers.pdf

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.
ESSENCE-FL Syndromic Surveillance-Regional (Continued)

*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.*
**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.

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**Table 2: Bureau of Public Health Laboratories (BPHL) Viral Surveillance for Week 6 by Lab Event Date* as reported by 10:00 a.m. February 18, 2015**

<table>
<thead>
<tr>
<th>Total Specimens Tested</th>
<th>Current Week 6</th>
<th>Previous Week 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza positive specimens (% of total)</td>
<td>10 (33.3%)</td>
<td>24 (54.6%)</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>5 (50.0%)</td>
<td>22 (91.7%)</td>
</tr>
<tr>
<td>Influenza A not yet subtyped (% of influenza positives)</td>
<td>1 (10.0%)</td>
<td>-</td>
</tr>
<tr>
<td>Influenza B Yamagata (% of influenza positives)</td>
<td>2 (20.0%)</td>
<td>2 (8.3%)</td>
</tr>
<tr>
<td>Influenza B Victoria (% of influenza positives)</td>
<td>1 (10.0%)</td>
<td>-</td>
</tr>
<tr>
<td>Influenza B not yet subtyped (% of influenza positives)</td>
<td>1 (10.0%)</td>
<td>-</td>
</tr>
</tbody>
</table>

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*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.

Map 4: Weekly County Influenza Activity Level for Week 6 Reported by 11:30 a.m. February 18, 2015

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 6, 32 counties indicated that activity was decreasing, 31 indicated activity was about the same as previous weeks and three 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 6 as of 11:30 a.m. February 18, 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 6 as of 11:30 a.m., February 18, 2015.

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**FIGURE 15: Assessment of Influenza Activity in Elementary, Middle, and High Schools**

- **Very High**
  - Number of Counties: 1
- **High**
  - Number of Counties: 3
- **Moderate**
  - Number of Counties: 53
- **None or Minimal**
  - Number of Counties: 1
- **Not Applicable**
  - Number of Counties: 1
- **No answer**
  - Number of Counties: 8

**FIGURE 16: Assessment of Influenza Activity in Colleges and Universities**

- **Very High**
  - Number of Counties: 8
- **High**
  - Number of Counties: 23
- **Moderate**
  - Number of Counties: 35
- **None or Minimal**
  - Number of Counties: 2
- **Not Applicable**
  - Number of Counties: 8
- **No answer**
  - Number of Counties: 8

**FIGURE 17: Assessment of Influenza Activity in Jails/Prisons**

- **Very High**
  - Number of Counties: 6
- **High**
  - Number of Counties: 2
- **Moderate**
  - Number of Counties: 50
- **None or Minimal**
  - Number of Counties: 6
- **Not Applicable**
  - Number of Counties: 8
- **No answer**
  - Number of Counties: 8

**FIGURE 18: Assessment of Influenza Activity in Retirement Facilities**

- **Very High**
  - Number of Counties: 2
- **High**
  - Number of Counties: 42
- **Moderate**
  - Number of Counties: 14
- **None or Minimal**
  - Number of Counties: 14
- **Not Applicable**
  - Number of Counties: 2
- **No answer**
  - Number of Counties: 8
FIGURE 19 - FIGURE 23 show the activity levels in various facilities by county as reported by CHD influenza coordinators for week 6 as of 11:30 a.m., February 18, 2015.

No influenza-associated pediatric deaths were reported in week 6.

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

Pediatric Influenza-Associated Mortality
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 5, 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 5 (ending Feb 7, 2015):
- 252 preliminary estimated P&I deaths were reported.
- Upper bound of 95% confidence interval for prediction: 275 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.

As of week 6 (ending Feb 14, 2015):
- 4,553 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 25** shows P&I deaths for all Florida counties, week 40, 2010 - week 6, 2015, as reported into ESSENCE-FL.

**FIGURE 26** shows P&I deaths for all Florida counties by age group, week 40, 2012 - week 6, 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.

*Death records data reported into ESSENCE-FL are currently considered to be complete through week 5, 2015.*
In week 6, 2015, four outbreaks of influenza or ILI were reported into EpiCom.

**Baker County**
- An adult living facility reported three residents and two staff with ILI. All three ill residents were hospitalized. Two specimens were collected and tested positive for influenza and one specimen tested positive for influenza A. One of the two ill staff and two of the three ill residents had declined 2014-15 influenza vaccination. The 2014-15 influenza vaccination rate was reported as high among residents and 50% among staff. Antiviral treatment was administered to all ill residents and prophylaxis was provided to all non-ill residents in the affected area of the facility. This investigation is closed.
- An adult living facility reported six residents with ILI. Specimens from all six ill residents were collected and tested positive for influenza A by rapid antigen test at local healthcare providers. All six residents were started on antiviral treatment. The 2014-15 influenza vaccination rate was 100% among residents and 26% among staff. Infection control measures were reviewed with facility leadership. This investigation is closed.

**Palm Beach County**
- An assisted living facility reported 11 residents and two staff with ILI. One ill resident was hospitalized. Specimens from four ill residents were collected and tested positive for influenza A at local healthcare providers. All six residents were started on antiviral treatment. The 2014-15 influenza vaccination rate was 100% among residents and 26% among staff. Infection control measures were reviewed with facility leadership. No new cases have been reported. This investigation is closed.

**Pinellas County**
- A long term care facility reported five residents and four staff with ILI. Specimen from all five ill residents were collected, four specimens tested negative for influenza and one specimen tested positive for influenza A at local healthcare providers. Infection control measures were reviewed with facility leadership. No new cases have been reported. This investigation is closed.

**Ninety-one** outbreaks of influenza or ILI have been reported into EpiCom so far in the 2014-2015 season.
Influenza and ILI Outbreaks (Continued)

### TABLE 4: Summary of Florida Influenza and ILI Outbreaks by Facility Status, Week 40-6, 2015

<table>
<thead>
<tr>
<th>Setting</th>
<th>Number of outbreaks</th>
<th>Implicated Viruses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daycares</td>
<td>9</td>
<td>- Three outbreaks due to influenza (H3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Three outbreaks due to influenza A unspecified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- One outbreak due to influenza A unspecified and influenza B unspecified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- One outbreak due to RSV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- One outbreak due to parainfluenza III</td>
</tr>
<tr>
<td>Jails and prisons</td>
<td>3</td>
<td>- Two outbreaks due to influenza A (H3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- One outbreak due to influenza A unspecified and influenza B unspecified</td>
</tr>
<tr>
<td>Mental health facilities</td>
<td>1</td>
<td>- One outbreak, virus information not yet available</td>
</tr>
<tr>
<td>Nursing homes and long term care facilities</td>
<td>63</td>
<td>- Seven outbreaks due to influenza A (H3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Forty outbreaks due to influenza A unspecified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Three outbreaks due to influenza A unspecified and influenza B unspecified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- One outbreak due to influenza A (H3) and rhinovirus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Two outbreaks due to influenza A unspecified and RSV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- One outbreak due to influenza A (2009 H1N1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- One outbreak due to influenza B Yamagata</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- One outbreak due to influenza B unspecified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- One outbreak due to RSV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Six outbreaks, virus information not yet available</td>
</tr>
<tr>
<td>Rehabilitation facilities</td>
<td>1</td>
<td>- Two outbreaks due to influenza A (H3)</td>
</tr>
<tr>
<td>Schools</td>
<td>14</td>
<td>- Seven outbreaks due to influenza A unspecified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Three outbreaks due to influenza A unspecified and influenza B unspecified</td>
</tr>
<tr>
<td>Colleges and universities, private businesses, local and state government offices, retirement homes, healthcare facilities, other</td>
<td>0</td>
<td>No outbreaks</td>
</tr>
<tr>
<td>Total</td>
<td>91</td>
<td>- Fourteen outbreaks due to influenza A (H3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Fifty-one outbreaks due to influenza A unspecified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Seven outbreaks due to influenza A unspecified and influenza B unspecified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- One outbreak due to influenza A (H3) and rhinovirus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Two outbreaks due to influenza A unspecified and RSV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- One outbreak due to influenza A (2009 H1N1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- One outbreak due to influenza B Yamagata</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- One outbreak due to influenza B unspecified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Two outbreaks due to RSV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- One outbreak due to parainfluenza III</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Ten outbreaks virus information not yet available</td>
</tr>
</tbody>
</table>

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 visits 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

**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/](http://flushot.healthmap.org/)