Week 5: February 1 - 7, 2015

Summary

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

State Influenza and influenza-like illness (ILI) activity:
- Flu activity remains widespread. Widespread refers to the geographic spread of influenza across Florida.
  - The 2014-15 flu season began early.
  - Influenza activity has continued to decline in some surveillance systems, and preliminary data suggest that the season has peaked.
  - Seasons like this one, where influenza A (H3) is the predominantly circulating strain, are typically associated with higher morbidity and mortality, particularly in the 65 and older age group.
  - Visits for ILI to emergency departments (ED) is highest in children<5 and those 65 and older.
    - 61 (70%) of reported outbreaks of ILI have been in facilities that primarily serve the 65+ and older age group.
  - In recent weeks, the number of pneumonia and influenza (P&I) associated deaths, particularly in those 65 and older are increased. While greater in number than in recent years, increases in deaths at this point in the season are expected during severe flu years, like this one.
    - During the flu season, increases in ED visits typically come before increased hospitalizations and deaths. P&I deaths may reach higher levels later this season since mortality trends lag behind other indicators.
  - In Florida, the most common influenza subtype detected at the Bureau of Public Health Laboratories (BPHL) in recent weeks has been influenza A (H3).
    - In the past week, 14 of 27 (51.9%) specimens submitted for influenza testing at BPHL were PCR positive for seasonal strains of influenza: ten were positive for influenza A (H3), three were influenza A not yet subtyped and one was influenza B not yet subtyped.
    - Five outbreaks of influenza (two or more cases of influenza or ILI in a specific setting) were reported to EpiCom in week 5.
    - No pediatric influenza-associated deaths were reported in week 5.

Map 1: County Influenza Activity
Week 5, 2015

No Report
No Activity
Mild
Moderate
Widespread

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

Map 2: Influenza and ILI Outbreaks
Week 5, 2015

0 Outbreaks
1-2 Outbreaks
3-4 Outbreaks
5+ Outbreaks
Week 5 Outbreaks
Eighty-seven outbreaks of ILI or influenza have been reported since Week 40, 2014. For more information, see page 10.

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

**TABLE 1: Summary of Florida Influenza-Like Illness (ILI) Activity for Week 5**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Difference from Previous Week</th>
<th>Current Week 5</th>
<th>Previous Week 4</th>
<th>Page of Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall statewide activity code reported to CDC</td>
<td>No Change</td>
<td>Widespread</td>
<td>Widespread</td>
<td>1</td>
</tr>
<tr>
<td>Percent of visits to ILINet providers for ILI</td>
<td>▼ 0.3</td>
<td>1.6%</td>
<td>1.9%</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>2.8%</td>
<td>2.9%</td>
<td>3</td>
</tr>
<tr>
<td>Percent of laboratory specimens that were positive for influenza</td>
<td>▲ 26</td>
<td>51.9%</td>
<td>25.9%</td>
<td>5</td>
</tr>
<tr>
<td>Number of counties reporting moderate influenza activity</td>
<td>▼ 7</td>
<td>6</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>Number of counties reporting widespread influenza activity</td>
<td>No Change</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Number of counties reporting increasing influenza activity</td>
<td>No Change</td>
<td>4</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Number of counties reporting decreasing influenza activity</td>
<td>No Change</td>
<td>32</td>
<td>32</td>
<td>6</td>
</tr>
<tr>
<td>Number of ILI outbreaks reported in EpiCom</td>
<td>▼ 1</td>
<td>5</td>
<td>6</td>
<td>10</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 BP HL for confirmatory testing.

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

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

ESSENCE-FL collects data daily from 219 Emergency Departments (EDs) and Urgent Care Centers (UCCs). These data are processed into 11 different syndrome categories based on the patient’s chief complaint. One of the categories is ILI, which is composed of chief complaints that include the words “influenza” or “flu,” or complaints that contain fever plus cough or sore throat.

**FIGURE 3** shows ESSENCE-FL data on ILI visits to EDs and UCCs as a percentage of all visits.

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

Map 3: Emergency Departments and Urgent Care Centers Reporting Data to ESSENCE-FL by Regional Domestic Security Task Force (RDSTF), February 11, 2015 (N=219)
FIGURE 5 - FIGURE 11 describe ED and UCC chief complaint data from ESSENCE-FL by Regional Domestic Security Task Force (RDSTF) regions.

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

*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. February 11, 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 5 (ending February 7, 2015) as Reported by 11:30 a.m. February 11, 2015

<table>
<thead>
<tr>
<th>Activity Level</th>
<th>Week 5 Number of Counties</th>
<th>Week 4 Number of Counties</th>
<th>Week 5 Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Report</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>No Activity</td>
<td>8</td>
<td>7</td>
<td>Desoto, Gilchrist, Hamilton, Hernando, Jefferson, Taylor, Union, Washington</td>
</tr>
<tr>
<td>Moderate</td>
<td>6</td>
<td>13</td>
<td>Baker, Broward, Glades, Hardee, Marion, Orange</td>
</tr>
<tr>
<td>Widespread</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Six counties reported moderate activity.

Four counties reported increasing influenza and ILI activity.

County influenza activity data are reported to BOE through EpiGateway on a weekly basis by each county influenza coordinator. Specific information is requested about laboratory results, outbreak reports and surveillance system activity. Figures 14-23, displayed below, reflect a county’s assessment of influenza activity within their county as a whole as well as influenza activity within specific settings. For week 5, 32 counties indicated that activity was decreasing, 31 indicated activity was about the same as previous weeks and four indicated that activity was increasing.

FIGURE 14 shows the assessment of the overall influenza activity trend in each county as reported by CHD influenza coordinators for week 5 as of 11:30 a.m. February 11, 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 5 as of 11:30 a.m., February 11, 2015.
FIGURE 19 - FIGURE 23 show the activity levels in various facilities by county as reported by CHD influenza coordinators for week 5 as of 11:30 a.m., February 11, 2015.

Pediatric Influenza-Associated Mortality

No influenza-associated pediatric deaths were reported in week 5.

Three influenza-associated pediatric deaths have been reported so far in the 2014-15 influenza season.
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 4 (ending Jan 31, 2015):
- 238 preliminary estimated P&I deaths were reported.
- Upper bound of 95% confidence interval for prediction: 267 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 25 shows P&I deaths for all Florida counties, week 40, 2010 - week 5, 2015, as reported into ESSENCE-FL.

As of week 5 (ending Feb 7, 2015):
- 4,292 P&I deaths have been reported so far in the 2014-15 influenza season.
- In recent weeks the number of P&I have been increased.

FIGURE 26 shows P&I deaths for all Florida counties by age group, week 40, 2012 - week 5, 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 4, 2015.*
In week 5, 2015, five outbreaks of influenza or ILI were reported into EpiCom.

**Calhoun County**
A long term care facility reported 14 residents and two staff with ILI. Six of the ill residents tested positive for influenza A by rapid antigen test at local healthcare providers. The 2014-15 vaccination rate was 98% among residents and unknown among staff. Antiviral treatment was administered to all ill residents and chemoprophylaxis was administered to all non-ill residents. Infection control measures were reviewed with facility leadership. This investigation is closed.

**Orange County**
A nursing facility reported five residents and four staff with ILI. Specimens tested positive for influenza A by PCR. This was the second influenza outbreak for this facility during the 2014-2015 influenza season. Twenty-eight days have elapsed between outbreaks. Both were outbreaks of influenza A outbreak. Antiviral treatment was administered to all ill individuals and chemoprophylaxis was administered to all non-ill residents and staff. Infection control measures were reviewed with facility leadership. This investigation is ongoing.

**Monroe County**
A long term care facility reported an outbreak of ILI. Two of the ill cases tested positive for influenza A by rapid antigen test at local healthcare providers. The 2014-15 vaccination rate was 75% among residents and 25% among staff. Antiviral treatment was administered to all ill residents and chemoprophylaxis was recommended for all non-ill residents and staff. Infection control measures were reviewed with facility leadership. This investigation is ongoing.

**Palm Beach County**
A nursing/rehabilitation facility reported 19 residents with ILI. One ill resident tested positive for influenza A by rapid antigen test at local healthcare providers. Four ill residents were hospitalized. Two specimens were collected and sent to BPHL. The 2014-15 vaccination rate was around 100% among residents and unknown among staff. Antiviral treatment was administered to all ill residents and chemoprophylaxis was recommended to all non-ill residents and staff. Infection control measures were reviewed with facility leadership. This investigation is ongoing.

**Pinellas County**
A rehabilitation facility reported six residents with ILI. All six ill residents tested positive for influenza A by rapid antigen test at local healthcare providers. Five of the six all residents had received the 2014-15 influenza vaccination. Chemoprophylaxis was recommended for all residents. Infection control measures were reviewed with facility leadership. This investigation is ongoing.

Eighty-seven outbreaks of influenza or ILI have been reported into EpiCom so far in the 2014-2015 season.
TABLE 4: Summary of Florida Influenza and ILI Outbreaks by Facility Status, Week 40-5, 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>59</td>
<td>• Seven outbreaks due to influenza A (H3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Thirty-six 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 (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>• Two outbreaks due to influenza A unspecified and influenza B unspecified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Three outbreaks, virus information not yet available</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>87</td>
<td>• Fourteen outbreaks due to influenza A (H3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Forty-seven 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 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/