Week 2: January 11 - 17, 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. High risk individuals with suspected flu should be treated with antivirals as early as possible (even prior to laboratory confirmation).
- 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 high in Florida and is widespread.
  - The 2014-15 flu season began early and is in full swing in Florida.
  - Although influenza activity has decreased in recent weeks in some surveillance systems, overall activity levels remain high and it is too early to tell if 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+ age group.**
  - More hospitalizations and deaths are typical of H3N2-seasons, which hit young children and older people harder.
- **While biggest increases in ED visits for ILI have most recently been identified in the 65+ age group, activity is still greatest in children.**
  - Forty-seven (66%) of reported outbreaks of ILI have been in facilities that primarily serve the 65+ years old age group.
- **In the past week, the number of pneumonia and influenza associated deaths, particularly in those over the age of 65 have increased to above levels seen during previous years at this time.** Increases in hospitalizations and deaths at this point in the season are expected during severe flu years, like this one.
  - During flu season, increases in ED visits typically come before increases hospitalizations and deaths.
  - It is likely that flu deaths will reach higher levels later this season since mortality tends to 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, 24 of 37 (64.9%) specimens submitted for influenza testing at BPHL were PCR positive for seasonal strains of influenza:** 13 were positive for influenza A (H3), nine were influenza A (H3) not yet subtyped, and two influenza B not yet subtyped.
- Eight outbreaks of influenza (two or more cases of influenza or ILI in a specific setting) were reported to EpiCom in week 2.
- No pediatric influenza-associated deaths were reported in week 2.

**Map 1: County Influenza Activity**
Week 2, 2015

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

**Map 2: Influenza and ILI Outbreaks**
Week 2, 2015

- Seventy-one outbreaks of ILI or influenza have been reported since Week 40, 2014. For more information, see page 10.

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**Weekly state influenza activity:**

- **Widespread**
  - No Activity
  - Sporadic
  - Local
  - Regional
  - Widespread

**Predominantly circulating influenza strain this season:**

- A (H3)
  - A (2009 H1N1)
  - A (H5)
  - A (unspecified)
  - B (unspecified)
  - B Victoria
  - B Yamagata

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**In this Issue:**

1. Summary
2. ILINet ILI-Statewide
3. ESSENCE-FL Syndromic Surveillance
4. FL Syndromic Surveillance
5. Summary-Statewide
6. Summary-Regional
7. Bureau of Public Health
8. Laboratories Viral Surveillance
9. County Influenza and ILI Activity
10. Pediatric Influenza-Associated Mortality
11. ESSENCE-FL Pneumonia and Influenza Mortality
12. NREVSS Respiratory Virus Surveillance
13. Influenza and ILI Outbreaks Reported
14. In EpiCom
15. Florida ILI Surveillance System
ILINet is a nationwide surveillance system composed of sentinel providers. Florida has 107 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 outpatient physicians 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 2, the number of ILI visits to ILINet sentinels decreased in the all age groups in concordance with the decline seen in previous weeks.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Difference from Previous Week</th>
<th>Current Week 2</th>
<th>Previous Week 1</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>▲ 0.2</td>
<td>2.5%</td>
<td>2.3%</td>
<td>2</td>
</tr>
<tr>
<td>Percent of ED and UCC visits (from ESSENCE-FL) due to ILI</td>
<td>▼ 0.7</td>
<td>3.3%</td>
<td>4.0%</td>
<td>3</td>
</tr>
<tr>
<td>Percent of laboratory specimens that were positive for influenza</td>
<td>▲ 14.9</td>
<td>64.9%</td>
<td>50.0%</td>
<td>5</td>
</tr>
<tr>
<td>Number of counties reporting moderate influenza activity</td>
<td>No Change</td>
<td>15</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>Number of counties reporting widespread influenza activity</td>
<td>▲ 1</td>
<td>1</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Number of counties reporting increasing influenza activity</td>
<td>No Change</td>
<td>13</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>Number of counties reporting decreasing influenza activity</td>
<td>▲ 2</td>
<td>21</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>Number of ILI outbreaks reported in EpiCom</td>
<td>▼ 8</td>
<td>9</td>
<td>17</td>
<td>10</td>
</tr>
</tbody>
</table>

**TABLE 1: Summary of Florida Influenza-Like Illness (ILI) Activity for Week 2**

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

*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 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.

**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 has been above levels seen in previous years at this time, but has declined in recent weeks. There continues to be increased levels of influenza in pregnant women presenting to EDs for care that is above expected levels for this time of year. 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](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 almost 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), January 21, 2015 (N=219)
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.
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.

### Table 2: Bureau of Public Health Laboratories (BPHL) Viral Surveillance for Week 2 by Lab Event Date* as reported by 10:00 a.m. January 21, 2015

<table>
<thead>
<tr>
<th>Current Week 2</th>
<th>Previous Week 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Specimens Tested</td>
<td>37</td>
</tr>
<tr>
<td>Influenza positive specimens (% of total)</td>
<td>24 (64.9%)</td>
</tr>
<tr>
<td>Influenza A (2009 H1N1) (% of influenza positives)</td>
<td>-</td>
</tr>
<tr>
<td>Influenza A (H3) (% of influenza positives)</td>
<td>13 (54.2%)</td>
</tr>
<tr>
<td>Influenza A not yet subtyped (% of influenza positives)</td>
<td>9 (37.5%)</td>
</tr>
<tr>
<td>Influenza B Yamagata (% of influenza positives)</td>
<td>-</td>
</tr>
<tr>
<td>Influenza B Victoria (% of influenza positives)</td>
<td>-</td>
</tr>
<tr>
<td>Influenza B not yet subtyped (% of influenza positives)</td>
<td>2 (8.3%)</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.

As of 11:30 a.m. January 21, 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 2 (ending January 17, 2015) as Reported by 11:30 a.m. January 21, 2015

<table>
<thead>
<tr>
<th>Activity Level</th>
<th>Week 2 Number of Counties</th>
<th>Week 1 Number of Counties</th>
<th>Week 2 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>6</td>
<td>5</td>
<td>Bay, Desoto, Dixie, Hamilton, Leon, Taylor</td>
</tr>
<tr>
<td>Moderate</td>
<td>15</td>
<td>15</td>
<td>Baker, Brevard, Charlotte, Glades, Hardee, Hillsborough, Holmes, Lee, Marion, Okeechobee, Orange, Polk, Putnam, St. Lucie, Volusia</td>
</tr>
<tr>
<td>Widespread</td>
<td>1</td>
<td>0</td>
<td>Liberty</td>
</tr>
</tbody>
</table>

Fifteen counties reported moderate activity.

### FIGURE 14 shows the assessment of the overall influenza activity trend in each county as reported by CHD influenza coordinators for week 2 as of 11:30 a.m. January 21, 2015.

FIGURE 14: Assessment of Overall Influenza Activity Trend

- **Unknown**
- **Decreasing** 21
- **Platue** 33
- **Increasing** 13
- **No Answer**

Thirteen counties reported increasing influenza and ILI activity.
Counties are asked to evaluate influenza activity in certain settings within their county. Each setting has a scale for activity that ranges from none 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 2 as of 11:30 a.m., January 21, 2015.
FIGURE 19 - FIGURE 23 show the activity levels in various facilities by county as reported by CHD influenza coordinators for week 2 as of 11:30 a.m., January 21, 2015.

Pediatric Influenza-Associated Mortality

No influenza-associated pediatric deaths were reported in week 2.

Three influenza-associated pediatric deaths have been reported so far in the 2014-15 influenza season.
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 1, 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 1 (ending Jan 10, 2015):
- 259 preliminary estimated P&I deaths were reported.
- Upper bound of 95% confidence interval for prediction: 262 deaths.
- No excess deaths.

**FIGURE 25** shows P&I deaths for all Florida counties, week 40, 2010 - week 2, 2015, as reported into ESSENCE-FL. Deaths due to P&I are above levels seen during previous years at this time.

As of week 2 (ending Jan 17, 2015):
- 3,373 P&I deaths have been reported so far in the 2014-15 influenza season.

**FIGURE 26** shows P&I deaths for all Florida counties by age group, week 40, 2012 - week 2, 2015, as reported into ESSENCE-FL.

Increases in the preliminary number of P&I deaths are expected for this time of year.

Seasons were influenza A (H3) is the predominantly circulating strain are associated with higher mortality and morbidity, particularly in the over 65 age group.

It is likely that flu deaths will reach higher levels later this season since mortality tends to lag behind other indicators.

*Death records data reported into ESSENCE-FL are currently considered to be complete through week 1, 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. Eight Florida facilities reported in week 2.

**FIGURE 27** 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 2, 2014, nine outbreaks of influenza or ILI were reported in to EpiCom.

**Hillsborough County**
- A school reported 14 children with ILI. Four specimens tested positive for influenza A by rapid antigen test at local healthcare providers. Infection control measures were reviewed with facility leadership. Investigation is ongoing.
- An assisted living facility reported 15 residents with ILI. Two residents were hospitalized. Two specimens tested positive for influenza A by rapid antigen test at local healthcare providers. Fourteen of the fifteen ill residents (93%) had received the 2014-15 vaccine. Chemoprophylaxis was recommended for all residents. Investigation is ongoing.
- A school reported 15 students with ILI. Eight specimens tested positive for influenza A by rapid antigen test at local healthcare providers. Infection control measures were reviewed with facility leadership. Investigation is ongoing.
- An assisted living facility reported 29 residents and two staff with ILI. Two residents were hospitalized. Two specimens tested positive for influenza A by rapid antigen test at local healthcare providers. The 2014-15 vaccination rate for residents and staff was 90% and 75%, respectively. Chemoprophylaxis was recommended for all residents. Investigation is ongoing.

**Liberty County**
- A correctional facility reported 68 inmates with ILI. At a local healthcare provider, three specimens tested positive for influenza A, two specimens tested positive for influenza B, and two specimens were negative for influenza. Chemoprophylaxis was recommended. Investigation is ongoing.

**Pinellas County**
- A long term care facility reported eight residents and one staff with ILI. Eight additional residents reported minor respiratory symptoms. Four residents tested positive for influenza A by rapid antigen test at local providers. Chemoprophylaxis was recommended at the facility. All four residents that tested positive for influenza A had received the 2014-15 vaccine. Infection control measures were reviewed with facility leadership. Investigation is ongoing.
- A nursing facility reported 18 residents with ILI. One resident was hospitalized. Two specimens tested positive for influenza A by rapid antigen test at local providers. Chemoprophylaxis was recommended for all residents. The 2014-15 vaccination rate for residents was about 100%. Infection control measures were reviewed with facility leadership. Investigation is ongoing.

**Sarasota County**
- A nursing facility reported eight residents and three staff with ILI. Two specimens tested positive for influenza A by rapid antigen test at local healthcare providers; one being collected from a hospitalized resident. Chemoprophylaxis was recommended for all residents and staff. Eight of nine ill residents (88%) and none of the ill staff had received the 2014-15 vaccine. Infection control measures were reviewed with facility leadership. Investigation is ongoing.
- A nursing facility reported six residents and four staff with ILI. One specimen tested positive for influenza A at local healthcare providers and five samples tested negative for influenza. Five of six (75%) ill residents and three out of four (75%) ill staff had received the 2014-15 vaccine. Chemoprophylaxis was recommended for all residents and staff. Investigation is ongoing.

**Seventy-one** outbreaks of influenza or ILI have been reported into EpiCom so far in the 2014-2015 season.

**Map 6: Influenza and ILI outbreaks by county, Week 2, 2015 as Reported by 11:30 a.m., January 21, 2015**
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/