National influenza activity:

- Influenza activity continues to increase 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.
  - Vaccination is still recommended as it provides some protection against drifted viruses and it can also protect against other circulating strains. People who have not yet been vaccinated should get vaccinated now.
  - The CDC recommends the use of neuraminidase inhibitor antiviral medications, when indicated, for treatment and prevention to influenza, as an adjunct to vaccination. More information can be found here: http://www.floridahealth.gov/diseases-and-conditions/influenza/_documents/Other/influenza-letter-for-health-care-providers.pdf.

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

- The 2014-15 flu season is in full swing in Florida.
  - While it is not uncommon for influenza and ILI activity levels to increase during this time of year, current activity levels are above levels seen during previous years at this time. Influenza activity is highest in children and overall is widespread throughout Florida.
  - Due to increased influenza activity in all regions of the state, Florida reported widespread influenza activity to CDC in week 51. This is the second week reporting widespread activity; this represents the geographic spread of influenza in Florida.
  - Most Florida counties reported increasing influenza activity. In week 51, 41 counties reported increasing influenza activity; 22 counties indicated activity is at a plateau.
  - Emergency department (ED) and urgent care center (UCC) ILI visits are increasing in all regions.
    - The proportion of visits to EDs and UCCs with a chief complaint of ILI and the proportion of visits resulting in a discharge diagnosis of influenza for those ≤19 years old are at or near what we typically see at the peak of flu season. Increased influenza activity in children typically comes ahead of increases in activity in adults and the elderly.
    - Recently, there has been an increase 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/2013/flu-fact-sheet-pregnant-women.pdf.
  - 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 week 51, 42 of 69 (60.9%) specimens submitted for influenza testing at BPHL were PCR positive for seasonal strains of influenza: 37 were positive for influenza A (H3), one was positive for influenza A not yet subtyped, two were positive for influenza B Yamagata lineage, and two were positive for influenza B not yet subtyped. While it is too early to tell if this flu season will be worse than other years, seasons when influenza A (H3) predominantly circulates are often associated with higher morbidity and mortality, particularly in the elderly and very young.
  - Five outbreaks of influenza (epidemiologically-linked cases of influenza in a single setting) were reported to EpiCom in week 51.
  - One pediatric influenza-associated death was reported in week 51.
  - The preliminary estimated number of Florida deaths due to pneumonia or influenza in week 50 was below the excess threshold.

Map 1: County Influenza Activity

Week 51, 2014

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

Map 2: Influenza and ILI Outbreaks

Week 51, 2014

- Thirty-six outbreaks of ILI or influenza have been reported since Week 40, 2014. For more information, see page 10.
Summary (Continued)

Descriptions of Florida influenza and ILI surveillance systems can be found on page 11.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Difference from Previous Week</th>
<th>Current Week 51</th>
<th>Previous Week 50</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>▲ 2.0</td>
<td>4.5%</td>
<td>2.5%</td>
<td>2</td>
</tr>
<tr>
<td>Percent of ED and UCC visits (from ESSENCE-FL) due to ILI</td>
<td>▲ 1.0</td>
<td>4.9%</td>
<td>3.9%</td>
<td>3</td>
</tr>
<tr>
<td>Percent of laboratory specimens that were positive for influenza</td>
<td>▲ 4.9</td>
<td>60.9%</td>
<td>56.0%</td>
<td>5</td>
</tr>
<tr>
<td>Number of counties reporting moderate influenza activity</td>
<td>▼ 1</td>
<td>21</td>
<td>22</td>
<td>6</td>
</tr>
<tr>
<td>Number of counties reporting widespread influenza activity</td>
<td>▲ 2.0</td>
<td>2</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Number of counties reporting increasing influenza activity</td>
<td>▲ 5</td>
<td>41</td>
<td>36</td>
<td>6</td>
</tr>
<tr>
<td>Number of counties reporting decreasing influenza activity</td>
<td>▲ 1</td>
<td>3</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Number of ILI outbreaks reported in EpiCom</td>
<td>▼ 5</td>
<td>5</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

**TABLE 1: Summary of Florida Influenza-Like Illness (ILI) Activity for Week 51**

**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 above levels seen at this time in previous years:
- Fifty-four of 107 ILINet providers reported visit counts as of 5:00 p.m., December 23, 2014.
- Eight of 13 ILINet Super-Sentinels reported visit counts as of 5:00 p.m., December 23, 2014.

**FIGURE 2** shows ILI visit counts reported by ILINet sentinel providers statewide by age group.

In week 51, the number of visits to ILINet sentinels for ILI increased in all age groups.

**ILINet Influenza-Like Illness-Statewide**

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. For this season, the Bureau of Epidemiology (BOE) has designated 13 of these ILINet physicians’ offices as Super-Sentinels. These Super-Sentinels receive more active follow-up from BOE and participating county health departments (CHDs), with the goal of increasing data quality and surveillance specimen submission.

*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 is at or near levels seen in previous years at this time.

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

The percent of ED and UCC visits for ILI is above levels seen in previous years at this time for all 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), December 24 (N=219)

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FIGURE 5 - FIGURE 11 describe Emergency Department (ED) and Urgent Care Center (UCC) chief complaint data from ESSENCE-FL by Regional Domestic Security Task Force (RDSFT) regions.

- ED and UCC visits for ILI in RDSFT Regions 3-5 and 7 are above levels seen during previous years at this time.
- ED and UCC visits for ILI in RDSFT Regions 1, 2 and 6 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) and influenza B Yamagata lineage.
- Influenza A (H3) has been the most common strain of influenza detected by BPHL so far in the 2014-2015 influenza season.

Table 2: Bureau of Public Health Laboratories (BPHL) Viral Surveillance for Week 51 by Lab Event Date* as reported by 10:00 a.m. December 24, 2014

<table>
<thead>
<tr>
<th>Total Specimens Tested</th>
<th>Current Week 51</th>
<th>Previous Week 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza positive specimens (% of total)</td>
<td>42 (60.9%)</td>
<td>51 (56.0%)</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>37 (88.0%)</td>
<td>47 (92.2%)</td>
</tr>
<tr>
<td>Influenza A not yet subtyped (% of influenza positives)</td>
<td>1 (2.4%)</td>
<td>1 (2.0%)</td>
</tr>
<tr>
<td>Influenza B Yamagata (% of influenza positives)</td>
<td>2 (4.8%)</td>
<td>3 (5.8%)</td>
</tr>
<tr>
<td>Influenza B Victoria (% of influenza positives)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Influenza B not yet subtyped (% of influenza positives)</td>
<td>2 (4.8%)</td>
<td>-</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.

As of 11:30 a.m. December 24, 2014, 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 51 (ending December 20, 2014) as Reported by 11:30 a.m. December 24, 2014

<table>
<thead>
<tr>
<th>Activity Level</th>
<th>Week 51</th>
<th>Week 50</th>
<th>Week 51 Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Counties</td>
<td>Number of Counties</td>
<td></td>
</tr>
<tr>
<td>No Report</td>
<td>0</td>
<td>0</td>
<td>Bay, Desoto, Gilchrist, Hamilton, Madison, Taylor, Walton</td>
</tr>
<tr>
<td>No Activity</td>
<td>7</td>
<td>9</td>
<td>Bradford, Calhoun, Charlotte, Citrus, Clay, Collier, Dade, Dixie, Flagler, Franklin, Gadsden, Glades, Gulf, Hernando, Highlands, Hillsborough, Holmes, Indian River, Jackson, Lafayette, Lake, Levy, Liberty, Manatee, Martin, Monroe, Osceola, Palm Beach, Polk, Santa Rosa, Sarasota, Seminole, St. Johns, Sumter, Union, Wakulla, Washington</td>
</tr>
<tr>
<td>Mild</td>
<td>37</td>
<td>36</td>
<td>Alachua, Brevard, Broward, Duval, Escambia, Hardee, Hendry, Jefferson, Lee, Leon, Marion, Nassau, Okaloosa, Okeechobee, Orange, Pasco, Pinellas, Putnam, St. Lucie, Suwannee, Volusia</td>
</tr>
<tr>
<td>Moderate</td>
<td>21</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Widespread</td>
<td>2</td>
<td>0</td>
<td>Baker, Columbia</td>
</tr>
</tbody>
</table>

FIGURE 14 shows the assessment of the overall influenza activity trend in each county as reported by CHD influenza coordinators for week 51 as of 11:30 a.m. December 24, 2014.
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 51 as of 11:30 a.m., December 24, 2014.
FIGURE 19 - FIGURE 23 show the activity levels in various facilities by county as reported by CHD influenza coordinators for week 51 as of 11:30 a.m., December 24, 2014.

One influenza-associated pediatric death was reported in an unvaccinated Manatee County resident in week 51.

Three influenza-associated pediatric deaths have been reported so far in the 2014-15 influenza season.
ESSENCE-FL Pneumonia and Influenza Mortality

FDH 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 surveillance, death record literals are queried in ESSENCE-FL using a free-text query that searches for references to pneumonia and influenza on death certificates. Any mention of pneumonia or influenza in the death certificate literals, with certain exceptions, is counted as a pneumonia and influenza death. Current season pneumonia and influenza 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 50, 2014.

**FIGURE 24** shows the count of preliminary estimated pneumonia and influenza 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 50 (ending Dec 14, 2014):
- 202 preliminary estimated pneumonia and influenza deaths were reported.
- Upper bound of 95% confidence interval for prediction: 240 deaths.
- No excess deaths.

**FIGURE 25** shows pneumonia and influenza deaths for all Florida counties, week 40, 2010 - week 51 2014, as reported into ESSENCE-FL. Deaths due to pneumonia and influenza are at or near levels seen during previous years at this time.

**FIGURE 26** shows pneumonia and influenza deaths for all Florida counties by age group, week 40, 2012 through week 51, 2014, as reported into ESSENCE-FL.

*Death records data reported into ESSENCE-FL are currently considered to be complete through week 50, 2014.*
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 51, 2014, five outbreaks of influenza or ILI were reported in to EpiCom.

Palm Beach County:
- An elementary school reported four students with influenza. One student was hospitalized. All ill tested positive for influenza A by rapid antigen tests at their local health care providers. Infection control measures were reviewed with facility leadership. This investigation is ongoing.

Nassau County:
- A school reported four people (two students, one staff) with ILI. One of the ill students was hospitalized and tested positive for influenza A by rapid antigen test at the hospital. An additional three ill tested positive for influenza A by rapid antigen test at their local healthcare providers. Infection control measures were reviewed with facility leadership. This investigation is ongoing.

Okaloosa County:
- An assisted living facility reported an outbreak of ILI. Specimens were collected and tested positive for influenza A (H3) at BPHL. This investigation is ongoing. Infection control measures were reviewed with facility leadership.

Hillsborough County:
- An elementary school reported five students with ILI. Four students tested positive for influenza A, and one for influenza B by rapid antigen test at their local health care providers. Only one of the ill children had received the 2014-15 influenza vaccine. Infection control measures were reviewed with facility leadership.

Pinellas County:
- A long-term care facility reported twenty-three residents and 13 staff with ILI. Seven of the ill residents tested positive for influenza A by rapid antigen test One of the ill residents tested positive for influenza A by rapid antigen test. Infection control measures were reviewed with facility leadership.

Thirty-six outbreaks of influenza or ILI have been reported into EpiCom so far in the 2014-2015 season.
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

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/