Week 4: January 21-26, 2013

Summary

The Florida Department of Health (FDOH) uses many different surveillance systems to measure influenza activity. A summary of all these systems can be found on page 11.

- **Most Florida county health departments report Mild or Moderate influenza activity.** Twenty-four counties reported Moderate influenza activity. One county reports Widespread activity, the first to do so in the 2012-2013 influenza season.

- **Seventeen counties reported increasing influenza activity, which is a decrease from 29 last week.** Thirty-two counties reported that influenza activity has plateaued (flat activity that is neither increasing nor decreasing), the highest number of counties reporting flat activity since October.

- **Emergency department influenza-like illness (ILI) visits remain elevated in Florida but have decreased in recent weeks.** In emergency departments reporting to ESSENCE-FL, the statewide percent of emergency department visits that are for ILI is between 4 and 5%.
  - Although emergency department ILI visits are elevated everywhere except the panhandle, visits appear to be trending downward across the state.
  - In the Panhandle, emergency department ILI visits continue to trend downward, but visits are still above baseline levels.
  - In Northeast, Central, and South Florida, emergency department visits for ILI are still at elevated levels, and have decreased in the past few weeks.

- **Nationally, the most common subtype of influenza detected is influenza A H3, followed by influenza B.** Florida is showing the same trend.
  - In Florida, around two thirds of the specimens that have been submitted for influenza testing at BPHL in recent weeks are testing positive for influenza. Most of these are influenza A H3, but influenza B is also circulating, and small numbers of 2009 influenza A H1N1 specimens have also been reported. All of these are seasonal strains of influenza.
  - Influenza virus is circulating in all regions of the state.
  - Nationally (including Florida) almost all circulating influenza is a good match for the vaccine.

- **Influenza outbreaks (epidemiologically linked cases of influenza in a single setting) continue to be reported by counties around the state.** Most of these are caused by influenza A and are occurring in skilled nursing facilities, nursing homes, and other long-term care facilities.

- **One pediatric influenza-associated mortality was reported in week 4, 2013.**
  - This is the fifth pediatric influenza-associated mortality reported in the 2012-2013 season.

- **The preliminary estimated number of Florida deaths due to pneumonia or influenza in week 3 is higher than the seasonal baseline, based on previous years’ data.** Estimated deaths due to pneumonia and influenza are identified using preliminary death certificate data.
  - Nationwide data from CDC also show higher than expected numbers of pneumonia and influenza deaths for week 3.
  - This is the first week in the 2012-2013 influenza season that the preliminary estimated pneumonia and influenza deaths were higher than the seasonal baseline, bringing Florida in line with national trends.

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**County Influenza Activity Week 4, 2013**

- No Report
- No Activity
- Mild
- Moderate
- Widespread

Most counties reported mild or moderate influenza activity. One county reports widespread activity. For more information, see page 6.

**Influenza Outbreaks Week 40, 2012 – Week 4, 2013**

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

Thirty-four outbreaks of influenza or ILI have been reported since October, 2012 (1 in week 4, 2013). For more information, see page 10.

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**Weekly state influenza activity:**

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

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- County Influenza Activity
- Pediatric Influenza-Associated Mortality
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- NREVSS Respiratory Virus Surveillance
- Influenza and ILI Outbreaks Reported in EpiCom
- Florida ILI Surveillance System
- Summary
ILINet is a nationwide surveillance system composed of sentinel providers. Florida has 110 providers enrolled in ILINet who submit weekly ILI and total visit counts, as well as submitting ILI specimens to the Bureau of Public Health Laboratories (BPHL) for confirmatory testing. For this season, the Bureau of Epidemiology (BOE) has designated 14 of these ILINet physicians' offices as Super-Sentinels. These Super-Sentinels will receive more active follow-up from BOE and participating county health departments, with the goal of increasing data quality and surveillance specimen submission.

**TABLE 1: Summary of Florida Influenza-Like Illness (ILI) Activity for Week 4**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Difference from Previous Week</th>
<th>Current Week 4</th>
<th>Previous Week 3</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>▼ 0.6</td>
<td>2.4%</td>
<td>3.0%</td>
<td>2</td>
</tr>
<tr>
<td>Percent of emergency department visits due to ILI</td>
<td>▼ 0.4</td>
<td>4.2%</td>
<td>4.6%</td>
<td>3</td>
</tr>
<tr>
<td>Percent of laboratory specimens that were positive for influenza</td>
<td>▼18</td>
<td>46.3%</td>
<td>64.3%</td>
<td>5</td>
</tr>
<tr>
<td>Number of counties reporting moderate influenza activity</td>
<td>▲1</td>
<td>24</td>
<td>25</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>▼12</td>
<td>17</td>
<td>29</td>
<td>7</td>
</tr>
<tr>
<td>Number of counties reporting decreasing influenza activity</td>
<td>▲8</td>
<td>13</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Number of ILI outbreaks reported in EpiCom</td>
<td>▼1</td>
<td>1</td>
<td>2</td>
<td>10</td>
</tr>
</tbody>
</table>

### ILINet Influenza-Like Illness-Statewide

ILINet is a nationwide surveillance system composed of sentinel providers. Florida has 110 providers enrolled in ILINet who submit weekly ILI and total visit counts, as well as submitting ILI specimens to the Bureau of Public Health Laboratories (BPHL) for confirmatory testing. For this season, the Bureau of Epidemiology (BOE) has designated 14 of these ILINet physicians’ offices as Super-Sentinels. These Super-Sentinels will receive more active follow-up from BOE and participating county health departments, with the goal of increasing data quality and surveillance specimen submission.

**FIGURE 1** shows the percentage of visits for ILI* reported by ILINet Sentinel Providers statewide.

The percent of visits to sentinel outpatient physicians for ILI has declined in the last three weeks. 65 of 110 ILINet Sentinels reported visit counts as of 12:00 p.m., January 30, 2013. 10 of 14 ILINet Super-Sentinels reported visit counts as of 12:00 p.m., January 30, 2013.

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

In week 4, the number of visits to sentinel outpatient physicians decreased in those 64 and younger, and stayed flat in the 65+ age group.

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*ILI = Influenza-like illness, fever >100°F AND sore throat and/or cough in the absence of another known cause.
^There is no week 53 during the 2009-2010, 2010-2011, and 2011-12 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.

†Data presented here are counts, not proportions as included in Figure 2. This is because age group denominator data is not available through ILINet.
ESSENCE-FL collects data daily from 174 hospital emergency departments (ED). 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 percent of visits to emergency departments for ILI has decreased in recent weeks.

FIGURE 3 shows ESSENCE-FL data on ILI visits to EDs as a percentage of all ED Visits.

FIGURE 4 shows percentage of ILI among all ED visits by age group.

In week 4, the percent of visits to emergency departments for ILI decreased in all age groups.

One hundred five ESSENCE-FL participating facilities are able to provide discharge disposition data for their ED visits going back to week 40, 2010. Using this information, the percent of ED visits for ILI that result in hospitalization can be calculated. The highest percentage of admissions is in the 55+ years old age group. The low number of visits in the 55+ age group causes variability in the ILI admission percentage from week to week.

FIGURE 5 shows the percentage of ED visits for ILI that resulted in hospitalization, by age group.

Of persons 55 years and older that visited the emergency department for complaints of ILI, between 20% and 30% were admitted.
Map 1: Hospitals Reporting Emergency Department (ED) Data to ESSENCE-FL, January 30, 2013 (N=174)

*There is no week 53 for the 2009-2010, 2010-2011 and 2011-2012 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.

**Historical data for region 2 is only available beginning week 1, 2009
Recent influenza specimens submitted to BPHL tested positive for influenza A H3, 2009 H1N1, and influenza B.

In recent weeks, influenza A H3 has been the most common strain detected by BPHL. Influenza B was the most common strain type in the early weeks of the 2012-2013 influenza season.

In addition to PCR testing, BPHL also cultures for influenza specimens, including those positive for influenza B.

There are two distinct antigenic lineages of influenza B, known as Victoria and Yamagata. Both have circulated in Florida in the past year.

At BPHL this season, 12 specimens have tested positive for Victoria lineage influenza B and one specimen has tested positive for Yamagata lineage influenza B. Last year's 2011-12 vaccine included a Victoria lineage virus, while this year's 2012-2013 vaccine includes a Yamagata lineage virus. Influenza viruses that circulate at the beginning of the flu season may be different than those that circulate later in the year, and these specimens represent a very small sample of statewide influenza activity. Not all flu positive specimens are cultured. FDOH will continue to monitor subtype and lineage for influenza viruses.

*Please note that lab event date is defined as the earliest of the following dates associated with the lab: date 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: 
County Influenza Activity

As of 10:00 a.m. January 30, 2013 a total of 67 (100%) counties had 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 4 (ending January 26, 2013) as Reported by 10:00 a.m. January 30, 2013

<table>
<thead>
<tr>
<th>Activity Level</th>
<th>Week 3 Number of Counties</th>
<th>Week 4 Number of Counties</th>
<th>Week 4 Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Report</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No Activity</td>
<td>6</td>
<td>5</td>
<td>Glades, Hamilton, Jefferson, Madison, Union</td>
</tr>
<tr>
<td>Moderate</td>
<td>25</td>
<td>24</td>
<td>Brevard, Calhoun, Collier, Desoto, Dixie, Duval, Flagler, Hillsborough, Holmes, Indian River, Jackson, Lake, Lee, Leon, Levy, Okaloosa, Orange, Osceola, Palm Beach, Pasco, Sarasota, St. Johns, St. Lucie, Taylor</td>
</tr>
<tr>
<td>Widespread</td>
<td>-</td>
<td>1</td>
<td>Putnam</td>
</tr>
</tbody>
</table>

Most counties report mild or moderate activity. Twenty-four counties report moderate activity and one county reports widespread activity.

County influenza activity data is reported to the BOE through EpiGateway on a weekly basis by the county influenza coordinator. Specific information is requested about laboratory results, outbreak reports, and surveillance system activity. Figures 16-25 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 4, 2013 thirteen counties indicated that activity was decreasing, 32 indicated it was about the same as previous weeks, and 17 indicated that activity was increasing.

**FIGURE 16** shows the assessment of the overall influenza activity trend in each county as reported by county health department flu coordinators for week 4 as of 10:00 a.m. January 30, 2013.

Definitions for the County Influenza Activity Trends are available at: [http://www.doh.state.fl.us/disease_ctrl/epi/CountyInfluenzaTrendGuide.html](http://www.doh.state.fl.us/disease_ctrl/epi/CountyInfluenzaTrendGuide.html)
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.

County influenza settings assessment guides are available at: [http://www.doh.state.fl.us/disease Ctrl/epi/FluAssessment.htm](http://www.doh.state.fl.us/disease Ctrl/epi/FluAssessment.htm)

**FIGURE 17 - FIGURE 20** show the activity levels in various facilities by county as reported by county health department flu coordinators for week 4 as of 10:00 a.m. January 30, 2013.
FIGURE 21 - FIGURE 25 show the activity levels in various facilities by county as reported by county health department flu coordinators for week 4 as of 10:00 a.m. January 30, 2013.

Pediatric Influenza-Associated Mortality

In week 4, 2013 there was one reported influenza-associated pediatric mortality in an unvaccinated Miami-Dade County resident with underlying health conditions. The patient tested positive for influenza B by culture.

This is the fifth Influenza-associated pediatric death reported in Florida since October, 2012.
Over the past year, the FDOH Bureau of Vital Statistics and county health departments have been rolling out an electronic death record system for Florida. ESSENCE-FL now displays electronic vital statistics death record data from all 67 Florida counties. 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 3, 2013.

FIGURE 26 shows the reported 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 3 (ending January 19, 2013) there were:
- 246 preliminary estimated pneumonia and influenza deaths reported
- Upper bound of 95% confidence interval for prediction: 241 deaths

This is the first week this season that the provisional deaths have exceeded predicted seasonal baseline levels.

The majority of the deaths are in those aged 75 years and older.

FIGURE 27 shows pneumonia and influenza deaths for all Florida counties, Week 40, 2010 - Week 5, 2013, as reported into ESSENCE-FL.

FIGURE 28 shows pneumonia and influenza deaths for all Florida counties by age group, Week 40, 2010 - Week 5, 2013, as reported into ESSENCE-FL.

* Death records data reported into ESSENCE-FL are currently considered to be complete through week 3, 2013.
FIGURE 29 shows the percentage of positive tests for multiple respiratory viruses reported by NREVSS-participating laboratories in Florida. The 6 respiratory viruses summarized in Figure 29 are:

- Respiratory Syncytial Virus (RSV)
- Parainfluenza 1-3
- Adenovirus
- Human Metapneumovirus (HMPV)
- Rhinovirus
- Influenza

Influenza and ILI Outbreaks

In week 4, 2013 there was one influenza and ILI outbreaks reported in EpiCom.

Duval County:
- A jail reported 12/1500 inmates with ILI. Twelve specimens were collected and tested PCR positive for influenza A H3 at a local hospital laboratory. Eleven of the affects inmates were treated with Oseltamivir. Vaccination status is unknown at this time.

Thirty-four influenza or ILI outbreaks have been reported into EpiCom in the 2012-2013 season.
Influenza and ILI Outbreaks

TABLE 4: Summary of Florida ILI Outbreaks by facility status, Week 40, 2012-Week 4, 2013

<table>
<thead>
<tr>
<th>Setting</th>
<th>Number of outbreaks</th>
<th>Implicated Viruses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correctional facility or jail</td>
<td>4</td>
<td>• Two outbreaks due to influenza A H3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• One outbreak was due to influenza B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• One outbreak was due to influenza A (subtype not identified)</td>
</tr>
<tr>
<td>Domestic violence shelter</td>
<td>1</td>
<td>• One outbreak was due to influenza that was not typed as influenza A or B</td>
</tr>
<tr>
<td>Facility for persons with disability</td>
<td>1</td>
<td>• One outbreak was due to influenza A H3</td>
</tr>
<tr>
<td>Nursing home</td>
<td>8</td>
<td>• Two outbreaks were due to influenza that was not typed as influenza A or B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Five outbreaks were due to influenza A (subtype not identified)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• One outbreak was due to influenza A (subtype not identified) and influenza B</td>
</tr>
<tr>
<td>Long-term care facility</td>
<td>4</td>
<td>• One outbreak was due to influenza A H3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• One outbreak was due to influenza B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Two outbreaks were due to influenza A (subtype not identified)</td>
</tr>
<tr>
<td>Assisted living facility</td>
<td>5</td>
<td>• Four outbreaks were due to influenza A (subtype not identified)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• One outbreak was due to influenza that was not typed as influenza A or B</td>
</tr>
<tr>
<td>School</td>
<td>11</td>
<td>• Eighteen outbreaks were due to influenza A (subtype not identified)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Four outbreaks were due to influenza B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Three outbreaks were due to influenza A H3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Six outbreaks were due to influenza that was not typed as influenza A or B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Two outbreaks were due to influenza A (subtype not identified) and influenza B</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>• Eighteen outbreaks were due to influenza A H3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Four outbreaks were due to influenza B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Three outbreaks were due to influenza A H3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Six outbreaks were due to influenza that was not typed as influenza A or B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Two outbreaks were due to influenza A (subtype not identified) and influenza B</td>
</tr>
</tbody>
</table>

Florida Surveillance System Summary

Florida ILINet
Measures trends in ILI visits to outpatient doctor’s offices
Doctors submit specimens from ill patients for influenza testing
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
Emergency departments and urgent care clinics 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
Death certificates with pneumonia or influenza listed as a cause of death are used as a proxy to measure influenza mortality
Death certificate data from the Bureau of Vital Statistics can be accessed through ESSENCE-FL
Vital statistics data in ESSENCE 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
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 Viral Surveillance
BPHL performs confirmatory testing and subtyping on surveillance specimens
Surveillance specimens come 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

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/