Week 9: March 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, so the 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 influenza 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 influenza activity in most regions around the state, Florida reported regional activity to the CDC in week 9. Regional refers to the geographic spread of influenza across Florida.
  - The 2014-15 influenza season began early.
  - Influenza and ILI continues to decline statewide in all surveillance systems, and data suggest that the season peaked in week 52.
  - While influenza activity is overall declining, activity in the North region of the state has increased in recent weeks and is elevated over previous years at this time.

- 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 years and older age group.
- Visits for ILI to emergency departments (ED) have declined and are at similar levels to those seen during previous years at this time. Visits in adults ≥65 years old have overall declined but have remained higher for the last three weeks.
- 68 (70%) of reported outbreaks of ILI have been in facilities that primarily serve adults ≥65 years old.
- The number of pneumonia and influenza (P&I) associated deaths have increased in recent weeks and are similar to levels seen during previous years at this time. Increases in deaths at this point in the season are expected during severe influenza 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), although a growing number of specimens have tested positive for influenza B. This increase in influenza B detections late in the season while expected and following previous yearly trends may also be responsible for increased influenza activity in the north region of the state.
  - In the past week, nine of 29 (31.0%) specimens submitted to BPHL for influenza testing were PCR positive for seasonal strains of influenza: four were positive for influenza A not yet subtyped, one was influenza B Victoria lineage, and four were influenza B not yet subtyped.

- Two outbreaks of influenza (two or more cases of influenza or ILI in a specific setting) were reported to EpiCom in recent weeks.
- No pediatric influenza-associated deaths were reported in week 9.

Map 1: County Influenza Activity
Week 9, 2015

Five counties reported moderate influenza activity. For more information, see page 7.

Map 2: Influenza and ILI Outbreaks
Week 9, 2015

Ninety-seven outbreaks of ILI or influenza have been reported since Week 40, 2014.
Summary (Continued)

Descriptions of Florida influenza and ILI surveillance systems can be found on page 12.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Difference from Previous Week</th>
<th>Current Week 9</th>
<th>Previous Week 8</th>
<th>Page of Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall statewide activity code reported to CDC</td>
<td>No Change</td>
<td>Regional</td>
<td>Regional</td>
<td>1</td>
</tr>
<tr>
<td>Percent of visits to ILINet providers for ILI</td>
<td>▲ 0.4</td>
<td>1.6%</td>
<td>1.2%</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>2.6%</td>
<td>2.7%</td>
<td>3</td>
</tr>
<tr>
<td>Percent of laboratory specimens that were positive for influenza</td>
<td>▼ 14.7</td>
<td>31.0%</td>
<td>45.7%</td>
<td>6</td>
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<tr>
<td>Number of counties reporting moderate influenza activity</td>
<td>No Change</td>
<td>5</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Number of counties reporting widespread influenza activity</td>
<td>No Change</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Number of counties reporting increasing influenza activity</td>
<td>▼ 1</td>
<td>8</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Number of counties reporting decreasing influenza activity</td>
<td>▲ 3</td>
<td>29</td>
<td>26</td>
<td>7</td>
</tr>
<tr>
<td>Number of ILI outbreaks reported in EpiCom</td>
<td>No Change</td>
<td>2</td>
<td>2</td>
<td>11</td>
</tr>
</tbody>
</table>

**TABLE 1: Summary of Florida Influenza-Like Illness (ILI) Activity for Week 9**

**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 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 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 9, the number of ILI visits to ILINet sentinel providers decreased or remained the same in the 0-4, 5-24 and 65 and older age groups and increased in the 25-64 age group.

*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 collects data daily from 225 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.

**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. In recent weeks, the proportion of ED and UCC visits for ILI has decreased or remained the same in the 5-24, 25-64 and 65 and older age groups and increased in the 0-4 age group. Activity still remains highest in children.

**ESSENCE-FL Syndromic Surveillance-Statewide**

Map 3: Emergency Departments and Urgent Care Centers Reporting Data to ESSENCE-FL by Regional Domestic Security Task Force (RDSTF), March 11, 2015 (N=225)
FIGURE 5 - FIGURE 11 describe ED and UCC chief complaint data from ESSENCE-FL by Regional Domestic Security Task Force (RDSTF) regions.

ED and UCC visits for ILI in RDSTF Regions 1 and 3-7 are at or near levels seen during previous years at this time.

ED and UCC visits for ILI in RDSTF Region 2 is above 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.
ESSENCE-FL Syndromic Surveillance-At-Risk Populations

ESSENCE-FL collects data daily from 225 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. DOH uses ED and UCC chief complaint data to monitor influenza and ILI activity in a timely manner in groups at higher risk of severe health outcomes (such as hospitalization and death) from influenza infection. These at-risk groups include pregnant women, children ≤18, and adults ≥ 65 years old.

**FIGURE 12** shows ESSENCE-FL data on the number* of visits where influenza was mentioned in the chief complaint when presenting for care at EDs and UCCs by pregnant women.

In the past few weeks, the number* of visits with mention of influenza by pregnant women presenting to EDs and UCCs has declined. Pregnant women are among those at high risk for severe complications due to influenza infection. More information can be found here:


**FIGURE 13** shows the percentage of ILI among all ED and UCC visits for children ≤18 years old.

The percentage of ED and UCC visits for ILI in children ≤18 years old is similar to levels seen in previous years at this time.

**FIGURE 14** shows the percentage of ILI among all ED and UCC visits for adults ≥ 65 years old.

The percentage of ED and UCC visits for ILI in adults ≥ 65 years old is slightly above levels seen in previous years at this time.

* This overall count under-represents the true number of pregnant women presenting for care to EDs and UCCs with influenza while this under-represents the true number of pregnant women seeking care for influenza. The overall trend has been validated through review of hospital discharge data collected by the Agency for Health Care Administration.
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.

Overall, influenza A (H3) has been the most common strain of influenza detected by BPHL so far in the 2014-2015 influenza season, although in the last week, a greater proportion of influenza B viruses have been isolated.

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.
County Influenza and ILI Activity

As of 11:30 a.m. March 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 9 (ending March 7, 2015) as Reported by 11:30 a.m. March 11, 2015

<table>
<thead>
<tr>
<th>Activity Level</th>
<th>Week 9 Number of Counties</th>
<th>Week 8 Number of Counties</th>
<th>Week 9 Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Report</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Activity</td>
<td>12</td>
<td>8</td>
<td>Bay, Charlotte, Desoto, Dixie, Gilchrist, Hamilton, Madison, Manatee, Nassau, Taylor, Union, Washington</td>
</tr>
<tr>
<td>Moderate</td>
<td>5</td>
<td>5</td>
<td>Baker, Marion, Okeechobee, St. Lucie, Walton</td>
</tr>
<tr>
<td>Widespread</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Map 4: Weekly County Influenza Activity Level for Week 9 Reported by 9:30 a.m. March 11, 2015

Five counties reported moderate activity.

Map 5: Weekly County Influenza Activity Trend for Week 9 Reported by 9:30 a.m. March 11, 2015

Eight counties reported increasing influenza and ILI

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 9, 29 counties indicated that activity was decreasing, 29 indicated activity was about the same as previous weeks and eight indicated that activity was increasing.

**FIGURE 17** shows the assessment of the overall influenza activity trend in each county as reported by CHD influenza coordinators for week 9 as of 11:30 a.m. March 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 18 - FIGURE 21** show the activity levels in various facilities by county as reported by CHD influenza coordinators for week 9 as of 11:30 a.m., March 11, 2015.
FIGURE 22 - FIGURE 26 show the activity levels in various facilities by county as reported by CHD influenza coordinators for week 9 as of 11:30 a.m., March 11, 2015.

No influenza-associated pediatric deaths were reported in week 9.

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

**Pediatric Influenza-Associated Mortality**

No influenza-associated pediatric deaths were reported in week 9.

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 8, 2015.

**FIGURE 27** 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 8 (ending Feb 28, 2015):
- 244 preliminary estimated P&I deaths were reported.
- Upper bound of 95% confidence interval for prediction: 276 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 28** shows P&I deaths for all Florida counties, week 40, 2010 - week 9, 2015, as reported into ESSENCE-FL.

As of week 9 (ending Mar 7, 2015):
- 5,364 P&I deaths have been reported so far in the 2014-15 influenza season.
- The number of P&I deaths is above levels seen in previous years at this time.

**FIGURE 29** shows P&I deaths for all Florida counties by age group, week 40, 2012 - week 9, 2015, as reported into ESSENCE-FL.

The number of P&I deaths reported in recent weeks is slightly elevated in the in the 55-74 and 75 and older age groups and similar to levels in the 0-4, 5-19 and 20-54 age groups to levels seen in previous years at this time.

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 8, 2015.*
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 9.

**FIGURE 30** 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 9, 2015, two outbreaks of influenza or ILI were reported in to EpiCom.

**Orange County**
- A nursing facility reported eight residents with ILI. Three specimens were collected and tested positive for influenza A by rapid antigen test at local healthcare providers. The 2014-15 influenza vaccination rates among residents and staff is unknown at this time. Prophylaxis was prescribed to all residents in the affected areas. Two residents declined prophylaxis. Infection control measures were reviewed with facility leadership. This investigation is ongoing.
- A nursing facility reported 40 residents with ILI. Twenty-one specimens were collected and tested positive for influenza A by rapid antigen test at local healthcare providers. The 2014-15 influenza vaccination rates were 68% among residents and 88% among staff. Prophylaxis was prescribed to all residents in the affected areas. Infection control measures were reviewed with facility leadership. This investigation is ongoing.

**Map 6: Influenza and ILI Outbreaks by County Week 9, 2015**

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

- **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

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**TABLE 4 : Summary of Florida Influenza and ILI Outbreaks by Facility Status, Week 40-9, 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>
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<tr>
<td>Mental health facilities</td>
<td>2</td>
<td>- One outbreak due to influenza A unspecified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- One outbreak, virus information not yet available</td>
</tr>
<tr>
<td>Nursing homes and long term care facilities</td>
<td>68</td>
<td>- Eight outbreaks due to influenza A (H3)</td>
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<td></td>
<td></td>
<td>- Forty-three outbreaks due to influenza A unspecified</td>
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<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>- Seven outbreaks, virus information not yet available</td>
</tr>
<tr>
<td>Rehabilitation facilities</td>
<td>1</td>
<td>- One outbreak due to influenza A unspecified</td>
</tr>
<tr>
<td>Schools</td>
<td>14</td>
<td>- Two outbreaks due to influenza (H3)</td>
</tr>
<tr>
<td></td>
<td></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>97</td>
<td>- Fifteen outbreaks due to influenza A (H3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Fifty-five outbreaks due to influenza A unspecified</td>
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<td></td>
<td>- Seven outbreaks due to influenza A unspecified and influenza B unspecified</td>
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<tr>
<td></td>
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<td>- One outbreak due to influenza A (H3) and rhinovirus</td>
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<td>- Two outbreaks due to influenza A unspecified and RSV</td>
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<tr>
<td></td>
<td></td>
<td>- One outbreak due to influenza A (2009 H1N1)</td>
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<tr>
<td></td>
<td></td>
<td>- One outbreak due to influenza B Yamagata</td>
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<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>- Eleven outbreaks virus information not yet available</td>
</tr>
</tbody>
</table>

Information on locating influenza vaccination can be found using the flu vaccine locator at: [http://flushot.healthmap.org/](http://flushot.healthmap.org/)