About our flu activity reporting

MSDH relies upon selected sentinel health practitioners across the state to report the percentage of total patient visits consistent with an influenza-like illness (ILI: fever of 100°F or higher AND cough and/or sore throat). Also, providers are supplied with specimen collection kits. Samples are submitted to the Mississippi Public Health Laboratory for influenza PCR testing. Reports are used to estimate the state’s ILI rate and the magnitude of the state’s influenza activity. Reports represent only the distribution of flu in the state, not an actual count of all flu cases statewide. Information is provisional only and may change depending on additional reporting from sentinel providers.

State ILI Surveillance

The state ILI rate had been slowly, but steadily increasing since week 41. Beginning in week 01 however, the overall state ILI rate began to decrease. During week 12 (03/16/14-03/22/14), the overall state ILI rate (2.3%) was comparable to the previous week (2.7%), but was lower than this time last year (4.1%). | Figure 1

Total number of patients treated by sentinel providers in the last three weeks. | Table 1

<table>
<thead>
<tr>
<th>CDC Week</th>
<th>Week Ending</th>
<th>Total patients</th>
<th>ILI symptoms</th>
<th>ILI Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>March 22</td>
<td>13407</td>
<td>311</td>
<td>2.3%</td>
</tr>
<tr>
<td>11</td>
<td>March 15</td>
<td>14492</td>
<td>395</td>
<td>2.7%</td>
</tr>
<tr>
<td>10</td>
<td>March 8</td>
<td>16363</td>
<td>526</td>
<td>3.2%</td>
</tr>
</tbody>
</table>
During week 12, one district (6) had an increase in ILI activity, while four districts (1, 4, 7, and 9) had a decrease. Three districts (2, 5, and 8) remained about the same. No data was available for one district. Information is provisional only and may change depending on additional reporting from sentinel providers. | Table 2

| MSDH District ILI Rates (%) 2013-2014 |
|-----------------|-----------------|
| District | Week 11 | Week 12 |
| State | 2.7 | 2.3 |
| I | 1.1 | 0.0 |
| II | 1.3 | 1.7 |
| III | 0.6 | --- |
| IV | 3.4 | 2.4 |
| V | 1.9 | 1.5 |
| VI | 4.3 | 7.8 |
| VII | 2.4 | 1.9 |
| VIII | 1.1 | 1.1 |
| IX | 3.9 | 2.6 |

Since week 35, the percentage of reported ILI cases has been highest among those in the 0-4 and 5-24 years of age groups. This trend continued into week 12. | Figure 2
The 2013-14 state ILI rate was comparable to the national and Region 4 baselines, but was below the state baseline for week 12. | Figure 3

Mississippi ILI Rates 2010-2014 | Figure 4
Flu Testing Reports

From week 40 (week ending October 5th) through week 12 (week ending March 22nd), 133 positive influenza samples were identified by MSDH. One hundred thirteen (113) of the samples were identified as influenza A (2009 H1N1). Sixteen samples were identified as influenza A (subtype not performed) and four were identified as influenza B.

The influenza cases were identified from the following counties: Adams (4), Alcorn (1), Amite (2), Benton (2), Chickasaw (1), Clay (1), Coahoma (5), Copiah (2), Covington (1), Forrest (4), George (2), Grenada (2), Hancock (3), Harrison (17), Hinds (2), Itawamba (1), Jackson (16), Jones (2), Lamar (1), Lauderdale (1), Lawrence (3), Leake (2), Lee (16), Lincoln (1), Marion (1), Marshall (7), Monroe (7), Neshoba (1), Oktibbeha (5), Pearl River (2), Pike (1), Prentiss (1), Stone (1), Tallahatchie (1), Tate (4), Tunica (1), Washington (3), Wayne (1), and Yalobusha (1). The counties of four influenza cases were unknown. | Figure 5
National and Mississippi Pediatric Mortality Surveillance

Nationally, **four** influenza-associated pediatric deaths were reported to CDC during week 12. One death was associated with a 2009 H1N1 virus and occurred during week 05 (week ending February 1st) and two deaths were associated with influenza A viruses for which no subtyping was performed and occurred during weeks 06 (week ending February 8th) and 12 (week ending March 22nd). One death was associated with an influenza B virus and occurred during week 10 (week ending March 8th).  

Figure 6

Seventy-nine influenza-associated pediatric deaths have been reported nationally during the 2013-2014 season. Of the 79 deaths, 70 (89%) have been attributed to influenza A viruses, five (6%) to an influenza B virus, two (2.5%) to an influenza A/B virus not distinguished, and two (2.5%) to an influenza A and B virus co-infection.  

Figure 7
Mississippi has had one influenza-associated pediatric death reported during this influenza season. For additional information on influenza-associated pediatric deaths, please refer to the CDC’s FluView.

**National ILI Surveillance**

For week 12, the MS ILI rate (2.3%) continued to remain above the national ILI rate (1.6%), but followed national trends. | **Figure 8**

### Table 3

<table>
<thead>
<tr>
<th>Level of Flu Activity</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No Activity</strong></td>
<td>Overall clinical activity remains low and there are no lab confirmed cases.</td>
</tr>
<tr>
<td><strong>Sporadic</strong></td>
<td>Isolated cases of lab confirmed influenza in the state; ILI activity is not increased OR A lab-confirmed outbreak in a single institution in the state; ILI activity is not increased.</td>
</tr>
<tr>
<td><strong>Local</strong></td>
<td>Increased ILI within a single region AND recent (within the past 3 weeks) laboratory evidence of influenza in that region. ILI activity in other regions is not increased OR two of more institutional outbreaks (ILI or lab confirmed) within a single region AND recent (within the past 3 weeks) lab confirmed influenza in that region. Other regions do not have increased ILI and virus activity is no greater than sporadic in those regions</td>
</tr>
<tr>
<td><strong>Regional</strong></td>
<td>Increased ILI in at least 2 regions but fewer than half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the affected regions OR Institutional outbreaks (ILI or lab confirmed) in at least 2 regions but fewer than half of the regions AND recent lab confirmed influenza in the affected regions.</td>
</tr>
<tr>
<td><strong>Widespread</strong></td>
<td>Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the state.</td>
</tr>
</tbody>
</table>
During week 12, influenza activity continued to decrease in the United States.\textsuperscript{1} \textbf{Figure 9}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{fluactivity_map.png}
\caption{A Weekly Influenza Surveillance Report Prepared by the Influenza Division
Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists*
Week Ending March 22, 2014 - Week 12}
\end{figure}

\textsuperscript{1}For up-to-date information on flu activity nationwide, please refer to the CDC’s website: http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

Additional information:

<table>
<thead>
<tr>
<th>Centers for Disease Control and Prevention</th>
<th><a href="http://cdc.gov/flu/">http://cdc.gov/flu/</a></th>
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<tr>
<td>Centers for Disease Control and Prevention FluView</td>
<td><a href="http://www.cdc.gov/flu/weekly/">http://www.cdc.gov/flu/weekly/</a></td>
</tr>
<tr>
<td>Flu.gov</td>
<td><a href="http://www.flu.gov/">http://www.flu.gov/</a></td>
</tr>
<tr>
<td>MSDH Flu and Pneumonia</td>
<td><a href="http://msdh.ms.gov/msdhsite_static/14,0,199.html">http://msdh.ms.gov/msdhsite_static/14,0,199.html</a></td>
</tr>
<tr>
<td>Google Flu Trends</td>
<td><a href="http://www.google.org/flutrends/">http://www.google.org/flutrends/</a></td>
</tr>
</tbody>
</table>
Appendix

Figure 1

Statewide ILI Data, Week 12 ending March 22, 2014
Current Season compared to Previous Season

% of ILI Patients

CDC Week

2012-2013
2013-2014
Figure 2

Percentage of ILI Cases by Age Group, Mississippi, August 25, 2013 - March 22, 2014
(CDC Week 35, 2013 - Week 12, 2014)
Figure 3

Mississippi ILI Rates, 2013-2014 and Previous Seasons

- 2013-2014 (current season)
- 2012-2013
- 2011-2012
- 2010-2011
- MS Baseline
- National Baseline
- Region 4* Baseline

*Region 4 consists of AL, FL, GA, KY, MS, NC, SC, and TN.
Figure 4

State ILI/URI Rates 2010-2014 (YTD)

Percent of Patients

0 2 4 6 8 10 12 14

Reporting Year/Week

01 05 09 13 17 21 25 29 33 37 41 45 49 01 05 09 13 17 21 25 29 33 37 41 45 49 01 05 09

2010 2011 2012 2013
Figure 5

Comparison of Statewide ILI Rate to Positive Influenza Isolates by Type and Subtype, Mississippi, September 29, 2013 - March 22, 2014
(CDC Weeks 40, 2013 - 12, 2014)
Figure 6

Number of Influenza-Associated Pediatric Deaths by Week of Death and Influenza Type, Nationwide, September 29, 2013 - March 22, 2014
(CDC Week 40, 2013 - Week 12, 2014)
Figure 7

Percentage of Influenza-Associated Pediatric Deaths by Influenza Type, Nationwide, September 30, 2013 - March 22, 2014 (CDC Week 40, 2013 - Week 12, 2014)

N=79
Figure 8

Comparison of Nationwide ILI Rates to Mississippi ILI Rates
Weeks 40-12 | 2013-2014 Flu Season

US ILI rates from the Centers for Disease Control and Prevention: http://www.cdc.gov/flu/weekly/
A Weekly Influenza Surveillance Report Prepared by the Influenza Division
Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists*

Week Ending March 22, 2014 - Week 12

*This map indicates geographic spread and does not measure the severity of influenza activity.