2018-2019
Influenza Surveillance Report
Week 15
Apr. 7 – Apr. 13, 2019

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.

Content

- **State ILI Surveillance**
- **Influenza Outbreaks**
- **Flu Testing Reports**
- **National and Mississippi Pediatric Mortality Surveillance**
- **National ILI Surveillance**
- **Appendix**
  - **Figure 1** (Statewide ILI Data, Current Season compared to Previous Season)
  - **Figure 2** (Percentage of ILI Cases by Age Group, Mississippi)
  - **Figure 3** (Mississippi ILI Rates, 2018-2019 and Previous Seasons)
  - **Figure 4** (State ILI Rates 2014-2018 (YTD))
  - **Figure 5** (Comparison of the BioSense and Statewide ILI Rates)
  - **Figure 6** (Number of Reported Influenza Outbreaks by Type and Subtype, Mississippi)
  - **Figure 7** (Comparison of Statewide ILI Rate to Positive Influenza Isolates by Type and Subtype, Mississippi)
  - **Figure 8** (Number of Influenza-Associated Pediatric Deaths by Week of Death and Influenza Type, Nationwide)
  - **Figure 9** (Percentage of Influenza-Associated Pediatric Deaths by Influenza Type, Nationwide)
  - **Figure 10** (Comparison of Nationwide and Region 4 ILI Rates to Mississippi ILI Rates)
  - **Figure 11** (CDC FluView Weekly Influenza Activity Map)
State ILI Surveillance

During week 15 (04/07/19-04/13/19), the overall state ILI rate (2.6%) decreased from the previous week (3.1%), but was comparable to this time last year (2.6%).

During week 15, one district (2) had an increase in ILI activity, while five districts (1, 3, 4, 5, and 9) had a decrease. Three districts (6, 7, and 8) remained about the same. Information is provisional only and may change depending on additional reporting from sentinel providers.

<table>
<thead>
<tr>
<th>CDC Week</th>
<th>Week Ending</th>
<th>Number of reports received from Sentinel Providers</th>
<th>Total patients</th>
<th>ILI symptoms</th>
<th>ILI Rate (%)</th>
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</thead>
<tbody>
<tr>
<td>15</td>
<td>Apr. 13</td>
<td>162</td>
<td>17761</td>
<td>453</td>
<td>2.6</td>
</tr>
<tr>
<td>14</td>
<td>Apr. 6</td>
<td>164</td>
<td>17425</td>
<td>536</td>
<td>3.1</td>
</tr>
<tr>
<td>13</td>
<td>Mar. 30</td>
<td>163</td>
<td>17575</td>
<td>547</td>
<td>3.1</td>
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</table>

During 2018-2019 Influenza Season

<table>
<thead>
<tr>
<th>District</th>
<th>Week 14</th>
<th>Week 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>3.1</td>
<td>2.6</td>
</tr>
<tr>
<td>I</td>
<td>2.8</td>
<td>1.8</td>
</tr>
<tr>
<td>II</td>
<td>3.0</td>
<td>6.2</td>
</tr>
<tr>
<td>III</td>
<td>5.3</td>
<td>1.2</td>
</tr>
<tr>
<td>IV</td>
<td>3.3</td>
<td>2.6</td>
</tr>
<tr>
<td>V</td>
<td>3.2</td>
<td>2.5</td>
</tr>
<tr>
<td>VI</td>
<td>2.4</td>
<td>2.1</td>
</tr>
<tr>
<td>VII</td>
<td>4.3</td>
<td>3.9</td>
</tr>
<tr>
<td>VIII</td>
<td>1.4</td>
<td>1.2</td>
</tr>
<tr>
<td>IX</td>
<td>3.3</td>
<td>2.8</td>
</tr>
</tbody>
</table>
Overall, the percentage of reported ILI cases has been highest among those in the 0-4 and 5-24 years of age groups. During week 15, the percentage of ILI cases increased in the 0-4 years of age group, but decreased in the 5-24 years of age group. The percentage of ILI cases in the other age groups remained constant when compared to the previous week. | Figure 2

The 2018-19 state ILI rate was slightly above the national and Region 4 baselines, but was below the Mississippi baseline, during week 15. | Figure 3
Syndromic ILI Surveillance

The Mississippi State Department of Health also collects influenza syndromic surveillance data through the CDC BioSense Platform. This data is comprised of chief complaints and diagnosis codes and is submitted electronically by participating hospitals and clinics throughout the state in near real-time. The BioSense data is an additional tool to monitor influenza activity in Mississippi.

The percentage of patients with a chief complaint or diagnosis of influenza-like illness during week 15 decreased from the previous week, as did the statewide ILI rate. The BioSense ILI rate appears to be following the same trend as the statewide ILI rate. | Figure 5
**Influenza Outbreaks**

Outbreaks are reportable in Mississippi as a Class 1A event and must be reported by telephone within **24 hours** of first knowledge or suspicion to the Mississippi State Department of Health. For more information on reportable diseases and conditions, please refer to the [MSDH List of Reportable Diseases and Conditions](http://www.msdh.state.ms.us).  

Between week 40 (week ending October 6th) and week 15 (week ending April 13th), 64 outbreaks were reported to MSDH. MSDH investigates all reported outbreaks, and of the 64 reported outbreaks, complete information was available for 58 of them. Three (5%) of the outbreaks were attributed to influenza A/H1, 43 (74%) were attributed to influenza A/H3, six (10%) were due to an influenza A virus, unknown subtype, and six (10%) were due to an unknown influenza type. | Figure 6

The influenza outbreaks occurred in the following counties: Attala (1), Bolivar (1), Calhoun (1), Covington (1), DeSoto (1), Forrest (3), Franklin (1), Greene (1), Hancock (1), Harrison (2), Hinds (3), Jackson (2), Jones (4), Kemper (1), Lafayette (2), Lauderdale (1), Leake (1), Lee (1), Lincoln (3), Madison (2), Marion (3), Monroe (2), Neshoba (2), Newton (1), Oktibbeha (1), Pearl River (2), Perry (1), Pike (2), Pontotoc (1), Rankin (3), Smith (2), Stone (1), Tallahatchie (1), Tate (2), Tishomingo (1), Tunica (1), Union (1), Warren (1), Webster (1), and Yazoo (2).

For additional information on infection control measures in health care facilities and managing influenza outbreaks in long-term care facilities, please refer to the CDC’s webpages: [https://www.cdc.gov/flu/professionals/infectioncontrol/index.htm](https://www.cdc.gov/flu/professionals/infectioncontrol/index.htm) and [https://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm](https://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm), respectively.
Flu Testing Reports

Since week 40 (week ending October 6th), 309 laboratory confirmed influenza samples have been identified by the MSDH Public Health Laboratory. Twenty-three (7%) were identified as influenza A/H1, 284 (92%) were identified as influenza A/H3, and two (0.6%) was identified as an influenza B/Yamagata. | Figure 7

The influenza cases were identified from the following counties: Attala (36), Bolivar (2), Calhoun (1), Carroll (1), Choctaw (2), Clarke (1), Copiah (1), Covington (4), DeSoto (1), Forrest (16), Franklin (2), George (3), Greene (2), Hancock (6), Harrison (28), Hinds (27), Holmes (3), Jackson (11), Jones (9), Kemper (2), Lafayette (3), Lamar (1), Lauderdale (3), Leake (18), Lee (2), Leflore (2), Lincoln (4), Lowndes (1), Madison (7), Marion (9), Marshall (6), Monroe (3), Neshoba (14), Newton (4), Oktibbeha (6), Pearl River (9), Pike (9), Pontotoc (1), Rankin (23), Scott (1), Smith (2), Tallahatchie (1), Tate (3), Tishomingo (2), Tunica (2), Union (2), Winston (7), and Yazoo (3). The county of residence for two of the cases was unknown.

National and Mississippi Pediatric Mortality Surveillance

Nationally, five influenza-associated pediatric deaths were reported to CDC during week 15. Three deaths were associated with an influenza A(H3) virus and occurred during weeks 8, 12 and 15 (the weeks ending February 23, March 23 and April 13, 2019). Two deaths were associated with an influenza A virus for which no subtyping was performed and occurred during weeks 12 and 13 (the weeks ending March 23 and March 30, 2019, respectively). Ninety-one influenza-associated pediatric deaths have been reported to CDC for the 2018-2019 season. | Figure 8

Mississippi has had one influenza-associated pediatric death reported during this influenza season.
Of the 91 influenza-associated pediatric deaths reported nationally during the 2018-2019 season, 85 (93%) have been attributed to influenza A viruses, five (5%) to influenza B viruses, and one (1%) to an influenza virus for which type was not determined. | Figure 9
National ILI Surveillance

During week 15, the Mississippi (2.6%), national (2.3%), and Region 4 (2.0%) ILI rates decreased. The national ILI rate was at its baseline, while the Region 4 and Mississippi ILI rates were below their respective baselines. | Figure 10
During week 15, influenza activity continued to decrease but remained elevated in the United States.¹ | Figure 11

Mississippi reported “Local” for the influenza activity during week 15. | Table 3

<table>
<thead>
<tr>
<th>Level of Flu Activity</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Activity</td>
<td>Overall clinical activity remains low and there are no lab confirmed cases.</td>
</tr>
<tr>
<td>Sporadic</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>Local</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>Regional</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>Widespread</td>
<td>Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least half of the regions</td>
</tr>
</tbody>
</table>

¹For up-to-date information on flu activity nationwide, please refer to the CDC’s website: [http://www.cdc.gov/flu/weekly/fluactivitysurv.htm](http://www.cdc.gov/flu/weekly/fluactivitysurv.htm)
AND recent (within the past 3 weeks) lab confirmed influenza in the state.

### Additional influenza information:

<table>
<thead>
<tr>
<th>Source</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>
Appendix

Figure 1

Statewide ILI Data, Week 15 ending Apr. 13, 2019
Current Season compared to Previous Season

% of ILI Patients

Week Ending

Sep. 1
Sep. 15
Sep. 29
Oct. 13
Oct. 27
Nov. 10
Nov. 24
Dec. 8
Dec. 22
Jan. 5
Jan. 19
Feb. 2
Feb. 16
Mar. 2
Mar. 16
Mar. 30
Apr. 13
Apr. 27
May 11

2018-2019
2017-2018
Figure 2

Percentage of ILI Cases by Age Group, Mississippi,
August 26, 2018 - Apr. 13, 2019
(CDC Week 35, 2018 - Week 15, 2019)

Week Ending
Figure 3

Mississippi ILI Rates,
2018-2019 and Previous Influenza Seasons

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

State ILI Rates 2014-2019 (YTD)
Figure 5

Comparison of the BioSense and Statewide ILI Rates, Mississippi
August 26, 2018 - Apr. 13, 2019
(CDC Week 35, 2018 - Week 15, 2019)

% of ILI Patients

Week Ending

Statewide
BioSense
Figure 6

Number of Reported Influenza Outbreaks by Influenza Type and Subtype by Onset Week, Mississippi, 2018-2019 Flu Season

(N = 58)
Figure 7

Comparison of Statewide ILI Rate to Positive Influenza Isolates by Type and Subtype, Mississippi
Sept. 30, 2018 - May 18, 2019
(CDC Weeks 40, 2018 - 20, 2019)
Figure 8

Number of Influenza-Associated Pediatric Deaths by Week of Death and Influenza Type, Nationwide, Sept. 30, 2018 - April 13, 2019
(CDC Week 40, 2018 - Week 15, 2019)
Figure 9

Percentage of Influenza-Associated Pediatric Deaths by Influenza Type, Nationwide, Sept. 30, 2018 - April 13, 2019 (CDC Week 40, 2018 - Week 15, 2019)
N = 91

- Flu A
- Flu B
- Flu A/B Not Distinguished
- Flu A/B
**Figure 10**

Comparison of Nationwide and Region 4* ILI Rates to Mississippi ILI Rates

*Region 4 consists of AL, FL, GA, KY, MS, NC, SC, and TN.*
Figure 11

A Weekly Influenza Surveillance Report Prepared by the Influenza Division

Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists*

Week Ending Apr 13, 2019 - Week 15

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