2018-2019
Influenza Surveillance Report
Week 52
Dec. 23 – Dec. 29, 2018

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.

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State ILI Surveillance

During week 52 (12/23/18-12/29/18), the overall state ILI rate (5.5%) increased from the previous week (4.3%), but was lower than this time last year (12.2%). | **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>Number of reports received from Sentinel Providers</th>
<th>Total patients</th>
<th>ILI symptoms</th>
<th>ILI Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>52</td>
<td>Dec. 29</td>
<td>144</td>
<td>11879</td>
<td>656</td>
<td>5.5</td>
</tr>
<tr>
<td>51</td>
<td>Dec. 22</td>
<td>162</td>
<td>16487</td>
<td>708</td>
<td>4.3</td>
</tr>
<tr>
<td>50</td>
<td>Dec. 15</td>
<td>163</td>
<td>17052</td>
<td>581</td>
<td>3.4</td>
</tr>
</tbody>
</table>

During week 52, four districts (1, 2, 7, and 8) had an increase in ILI activity, while one district (4) had a slight decrease. Three districts (3, 6, and 9) remained about the same. Data was unavailable for one district (5). Information is provisional only and may change depending on additional reporting from sentinel providers. | **Table 2**

<table>
<thead>
<tr>
<th>MSDH District ILI Rates (%) 2018-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>District</strong></td>
</tr>
<tr>
<td>State</td>
</tr>
<tr>
<td>I</td>
</tr>
<tr>
<td>II</td>
</tr>
<tr>
<td>III</td>
</tr>
<tr>
<td>IV</td>
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<td>V</td>
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<tr>
<td>VI</td>
</tr>
<tr>
<td>VII</td>
</tr>
<tr>
<td>VIII</td>
</tr>
<tr>
<td>IX</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. While the percentage of ILI cases in the 0-4 years of age group decreased during week 52, the percentage of ILI cases in all of the other age groups remained constant when compared to the previous week. | Figure 2

The 2018-19 state ILI rate was above the national, Region 4, and Mississippi baselines during week 52. | Figure 3
Mississippi ILI Rates 2014-2018 | Figure 4

 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 52 increased 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.

No influenza outbreaks were reported to MSDH during week 52 (week ending December 29th). One outbreak was reported to MSDH during week 51. MSDH investigates all reported outbreaks; however, complete information on this outbreak was not available at the time of this report.

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 and https://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm, respectively.

Flu Testing Reports

Since week 40 (week ending October 6th), 12 laboratory confirmed influenza samples have been identified by the MSDH Public Health Laboratory. Three were identified as influenza A (H1) and nine were identified as influenza A, H3. | Figure 6

The influenza cases were identified from the following counties: Copiah (1), Harrison (2), Marion (4), Neshoba (1), Pearl River (1), Rankin (2), and Winston (1).
Nationally, two influenza-associated pediatric deaths were reported to CDC during week 52. Both deaths were associated with influenza A(H1N1)pdm09 viruses and occurred during weeks 51 and 52 (weeks ending December 22 and December 29, 2018, respectively). Thirteen influenza-associated pediatric deaths have been reported to CDC for the 2018-2019 season. | Figure 7

Of the 13 influenza-associated pediatric deaths reported nationally during the 2018-2019 season, 12 (92%) have been attributed to influenza A viruses and one (8%) to an influenza B virus. | Figure 8

Mississippi has had one influenza-associated pediatric death reported during this influenza season.
National ILI Surveillance

During week 52, the Mississippi (5.5%), national (4.1%), and Region 4 (4.1%) ILI rates increased and all were above their respective baselines. [Figure 9]
During week 52, influenza activity increased in the United States.¹ | **Figure 10**

Mississippi reported “Local” for the influenza activity during week 52. | **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>

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).
Additional influenza information:

<table>
<thead>
<tr>
<th></th>
<th>Link</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 52 ending Dec. 29, 2018
Current Season compared to Previous Season
Figure 2

Percentage of ILI Cases by Age Group, Mississippi, August 26, 2018 - Dec. 29, 2018
(CDC Week 35, 2018 - Week 52, 2018)

- 0-4
- 5-24
- 25-49
- 50-64
- 65+

Week Ending

Percentage of ILI Cases

Mississippi ILI Rates, 2018-2019 and Previous Influenza Seasons

% of ILI Patients

Week

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

State ILI Rates 2014-2018 (YTD)
Figure 5

Comparison of the BioSense and Statewide ILI Rates, Mississippi
August 26, 2018 - Dec. 29, 2018
(CDC Week 35, 2018 - Week 52, 2018)

% of ILI Patients

Week Ending

Statewide  BioSense
Figure 6

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 7

Number of Influenza-Associated Pediatric Deaths by Week of Death and Influenza Type, Nationwide, Sept. 30, 2018 - December 29, 2018
(CDC Week 40 - Week 52, 2018)
Figure 8

Percentage of Influenza-Associated Pediatric Deaths by Influenza Type, Nationwide, Sept. 30, 2018 - December 29, 2018 (CDC Week 40 - Week 52, 2018)

N = 13

- Flu A
- Flu B
- Flu A/B Not Distinguished
- Flu A/B

92%
8%
Figure 9

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

Weeks 40-20 | 2018-2019 Flu Season

CDC Week

US
Region 4
MS
National Baseline
Region 4 Baseline
MS Baseline

*Region 4 consists of AL, FL, GA, KY, MS, NC, SC, and TN.
Figure 10

A Weekly Influenza Surveillance Report Prepared by the Influenza Division

Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists*

Week Ending Dec 29, 2018 - Week 52

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