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 06 (02/03/19-02/09/19), the overall state ILI rate (8.5%) increased from the previous week (7.2%), but was comparable to this time last year (8.8%).

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

<table>
<thead>
<tr>
<th>2018-2019 Influenza Season</th>
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<tbody>
<tr>
<td>CDC Week</td>
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<tr>
<td>----------</td>
</tr>
<tr>
<td>06</td>
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<td>05</td>
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</tbody>
</table>

During week 06, six districts (1, 2, 3, 4, 6, and 9) had an increase in ILI activity, while one district (7) had a decrease. Two districts (5 and 8) remained about the same. 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>
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<tbody>
<tr>
<td>District</td>
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<td>----------</td>
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<tr>
<td>State</td>
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<td>I</td>
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<td>II</td>
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<td>VI</td>
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<tr>
<td>VII</td>
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<tr>
<td>VIII</td>
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<tr>
<td>IX</td>
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</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. The percentage of ILI cases increased in the 0-4 years of age group during week 06, but decreased in the 5-24 years of age group. The percentage of ILI cases in the remaining 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 06. | Figure 3
Mississippi ILI Rates 2014-2019 | 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 06 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.

Between week 40 (week ending October 6th) and week 06 (week ending February 9th), 24 outbreaks were reported to MSDH. MSDH investigates all reported outbreaks, and of the 24 reported outbreaks, complete information was available for 11 of them. One (9%) of the outbreaks was attributed to influenza A/H1, eight (73%) were attributed to influenza A/H3, one (9%) was due to an influenza A virus, unknown subtype, and one (9%) was due to an unknown influenza type.

The influenza outbreaks occurred in the following counties: Bolivar (1), Greene (1), Hinds (3), Jones (3), Kemper (1), Lafayette (2), Lauderdale (1), Lincoln (2), Madison (2), Marion (1), Oktibbeha (1), Pike (1), Smith (1), Tate (1), Tunica (1), Union (1), and Yazoo (1).

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), 106 laboratory confirmed influenza samples have been identified by the MSDH Public Health Laboratory. Thirteen (12%) were identified as influenza A/H1, 92 (87%) were identified as influenza A/H3, and one (1%) was identified as an influenza B/Yamagata. | 

Figure 6

![Comparison of StatewideILI Rate to Positive Influenza Isolates by Type and Subtype, Mississippi, Sept. 30, 2018 - May 18, 2019 (CDC Weeks 40, 2018 - 20, 2019)](chart.png)
The influenza cases were identified from the following counties: Attala (6), Calhoun (1), Carroll (1), Choctaw (1), Copiah (2), Covington (1), DeSoto (1), Forrest (3), George (1), Greene (2), Hancock (3), Harrison (17), Hinds (16), Jones (7), Kemper (2), Lafayette (1), Lamar (1), Leake (2), Leflore (1), Lincoln (2), Madison (3), Marion (4), Neshoba (1), Newton (2), Pearl River (5), Pike (2), Rankin (6), Tate (1), Union (2), and Winston (7). The county of residence for two of the cases was unknown.

National and Mississippi Pediatric Mortality Surveillance

Nationally, six influenza-associated pediatric deaths were reported to CDC during week 06. Two deaths were associated with an influenza A(H1N1)pdm09 virus and occurred during weeks 5 and 6 (weeks ending February 2 and February 9, 2019, respectively). Four deaths were associated with an influenza A virus for which no subtyping was performed and occurred during weeks 4, 5, and 6 (weeks ending January 26, February 2 and February 9, 2019, respectively). Thirty-four influenza-associated pediatric deaths have been reported to CDC for the 2018-2019 season. | Figure 7

Mississippi has had one influenza-associated pediatric death reported during this influenza season.
Of the 34 influenza-associated pediatric deaths reported nationally during the 2018-2019 season, 33 (97%) have been attributed to influenza A viruses and one (3%) to an influenza B virus.

Figure 8
For additional information on influenza-associated pediatric deaths, please refer to the CDC’s FluView.

National ILI Surveillance

During week 06, the Mississippi (8.5%), national (4.8%) and Region 4 (5.7%) ILI rates increased and all were above their respective baselines.

Figure 9
During week 06, influenza activity increased in the United States.\footnote{For up-to-date information on flu activity nationwide, please refer to the CDC’s website: \url{http://www.cdc.gov/flu/weekly/fluactivitysurv.htm}.}

Mississippi reported “Widespread” for the influenza activity during week 06. \textbf{Table 3}

<table>
<thead>
<tr>
<th>Level of Flu Activity</th>
<th>Definition</th>
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<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 AND recent (within the past 3 weeks) lab confirmed influenza in the state.</td>
</tr>
</tbody>
</table>
### Additional influenza information:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></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 06 ending Feb. 9, 2019
Current Season compared to Previous Season

% of ILI Patients

Week Ending


2018-2019

2017-2018
Figure 2

Percentage of ILI Cases by Age Group, Mississippi, August 26, 2018 - Feb. 9, 2019
(CDC Week 35, 2018 - Week 06, 2019)

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

Week Ending

Percentage of ILI Cases

- Sep. 1
- Sep. 8
- Sep. 15
- Sep. 22
- Sep. 29
- Oct. 6
- Oct. 13
- Oct. 20
- Oct. 27
- Nov. 3
- Nov. 10
- Nov. 17
- Nov. 24
- Dec. 1
- Dec. 8
- Dec. 15
- Dec. 22
- Dec. 29
- Jan. 5
- Jan. 12
- Jan. 19
- Jan. 26
- Feb. 2
- Feb. 9
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)

<table>
<thead>
<tr>
<th>Reporting Year/Week</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Of Patients</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
</tr>
</tbody>
</table>

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Figure 5

Comparison of the BioSense and Statewide ILI Rates, Mississippi
August 26, 2018 - Feb. 9, 2019
(CDC Week 35, 2018 - Week 06, 2019)

% 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 - February 9, 2019
(CDC Week 40, 2018 - Week 06, 2019)
Figure 8

Percentage of Influenza-Associated Pediatric Deaths by Influenza Type, Nationwide, Sept. 30, 2018 - February 9, 2019 (CDC Week 40, 2018 - Week 06, 2019) N = 34

- Flu A: 97%
- Flu B: 3%
- Flu A/B Not Distinguished: 0%
- Flu A/B: 0%
Figure 9

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

Weeks 40-20 | 2018-2019 Flu Season

*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 Feb 09, 2019 - Week 6

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