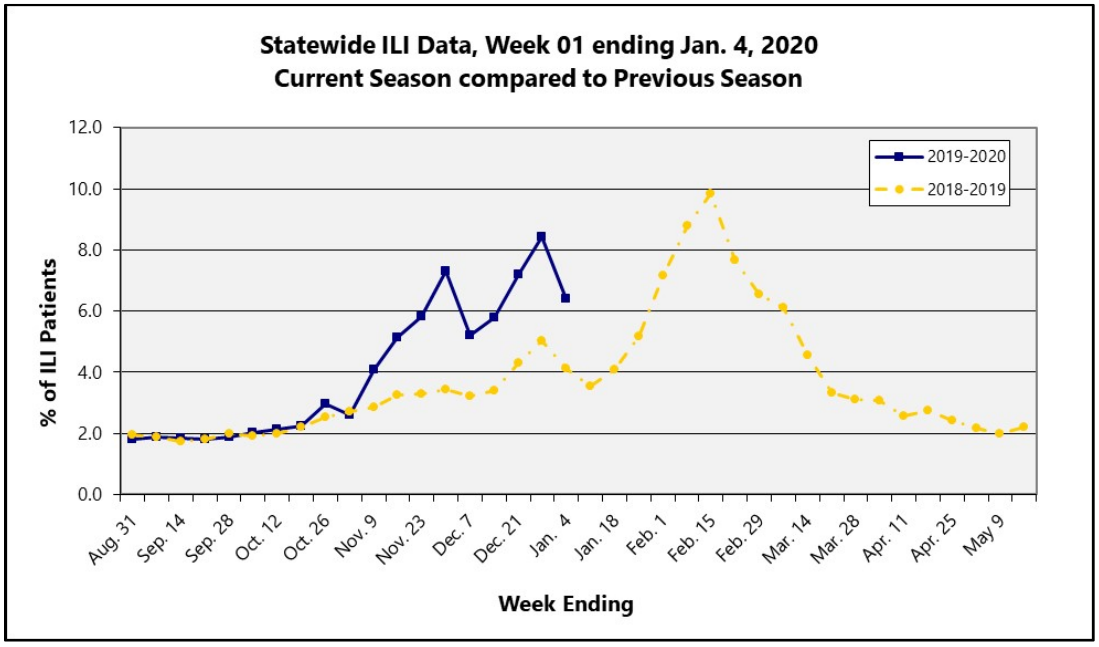
2019-2020
Influenza Surveillance Report
Week 01
Dec. 29, 2019 – Jan. 4, 2020

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

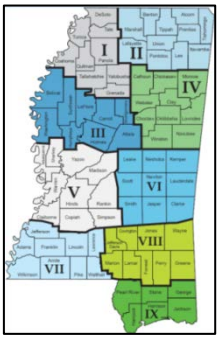


During week **01** (12/29/19-01/04/20), the overall state ILI rate (**6.4%**) **decreased** from the previous week (**8.4%**), but was higher than this time last year (**4.1%**). | **Figure 1**

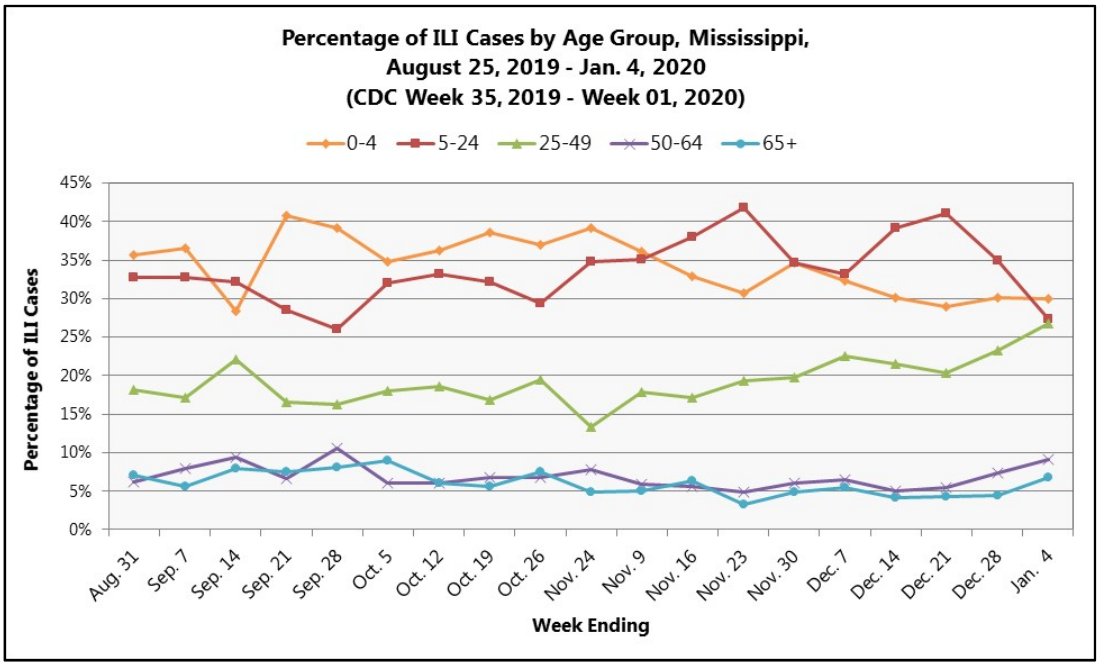
Total number of patients treated by sentinel providers in the last three weeks.| **Table 1**

2019-2020 Influenza Season					
CDC Week	**Week Ending**	**Number of reports received from Sentinel Providers**	**Total patients**	**ILI symptoms**	**ILI Rate (%)**
01	**Jan. 4**	**145**	**17904**	**1147**	**6.4**
52	Dec. 28	124	16032	1352	8.4
51	Dec. 21	149	17442	1255	7.2

During week **01**, all nine districts had a decrease in ILI activity. *Information is provisional only and may change depending on additional reporting from sentinel providers.* | **Table 2**

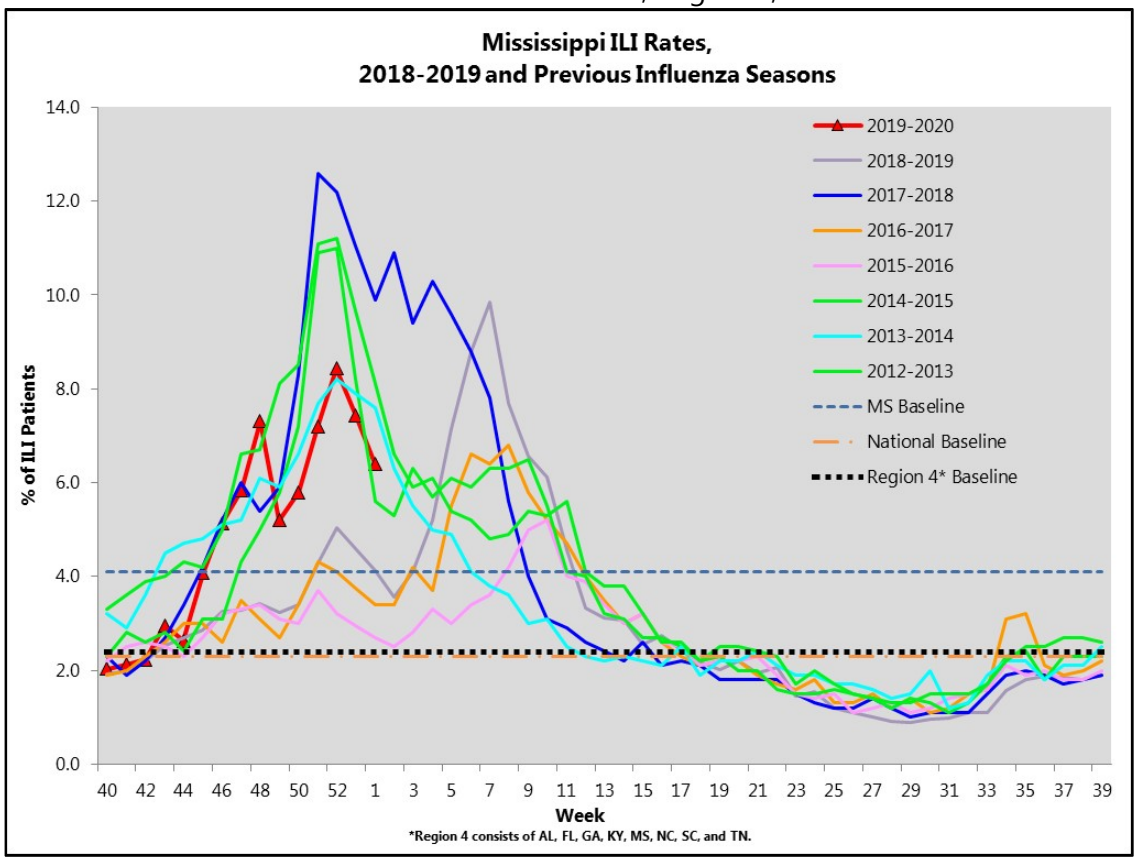


MSDH District ILI Rates (%) 2019-2020		
District	**Week 52**	**Week 01**
State	*8.4*	*6.4*
I	12.6	6.0
II	5.5	4.1
III	5.7	4.8
IV	14.3	11.8
V	4.0	3.5
VI	7.8	5.7
VII	9.2	7.5
VIII	8.2	4.2
IX	7.0	5.9

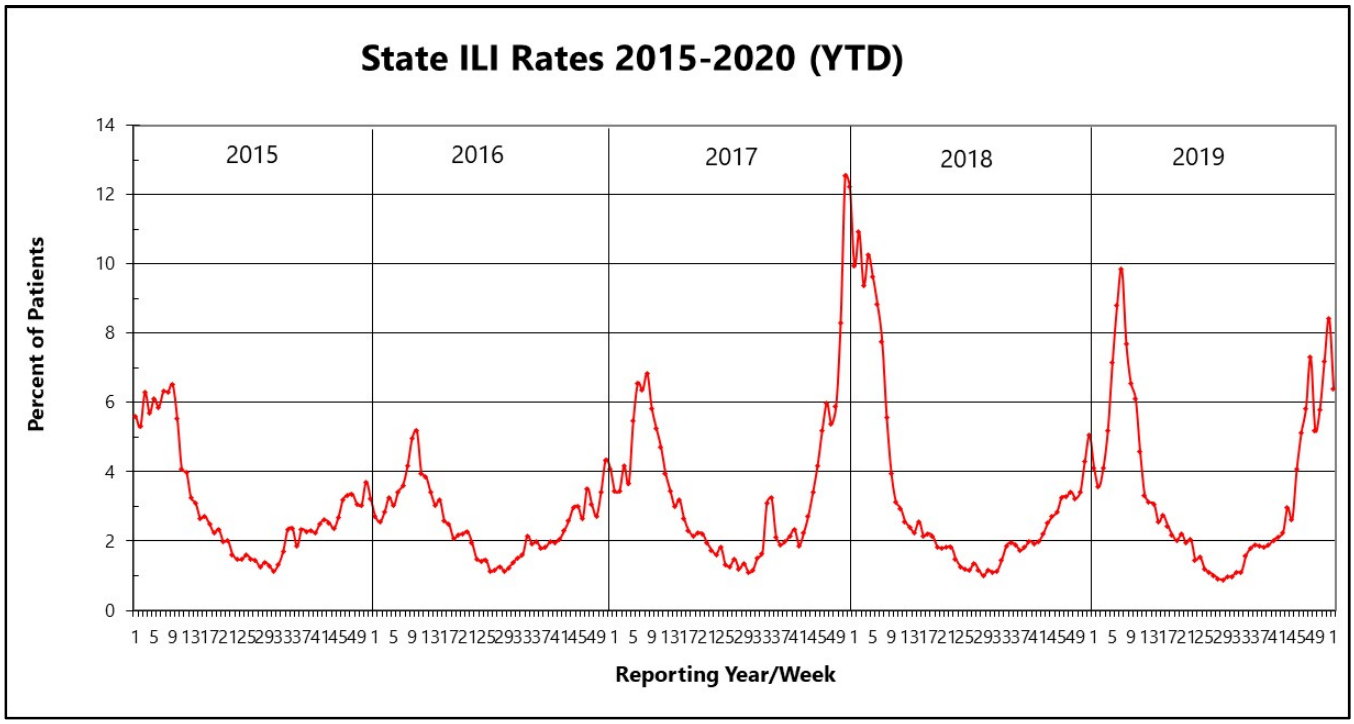


Overall, the percentage of reported ILI cases has been highest among those in the **0-4** and **5-24 years** of age groups. During week **01**, the percentage of ILI cases in the 25-49, 50-64, and 65+ years of age groups increased, but decreased in the 5-24 years of age group, when compared to the previous week. The percentage of ILI cases in the 0-4 age group remained constant. | **Figure 2**

The 2019-20 state ILI rate was **above** the national, Region 4, and state baselines for week **01**. | **Figure 3**

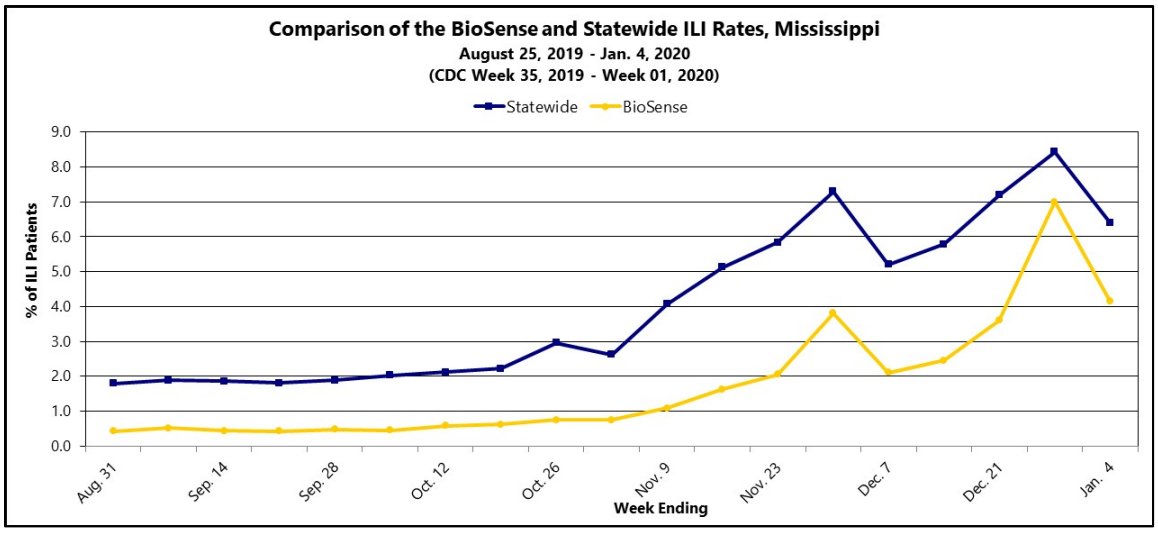


Mississippi ILI Rates 2015-2019 | **Figure 4**



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 **01 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.

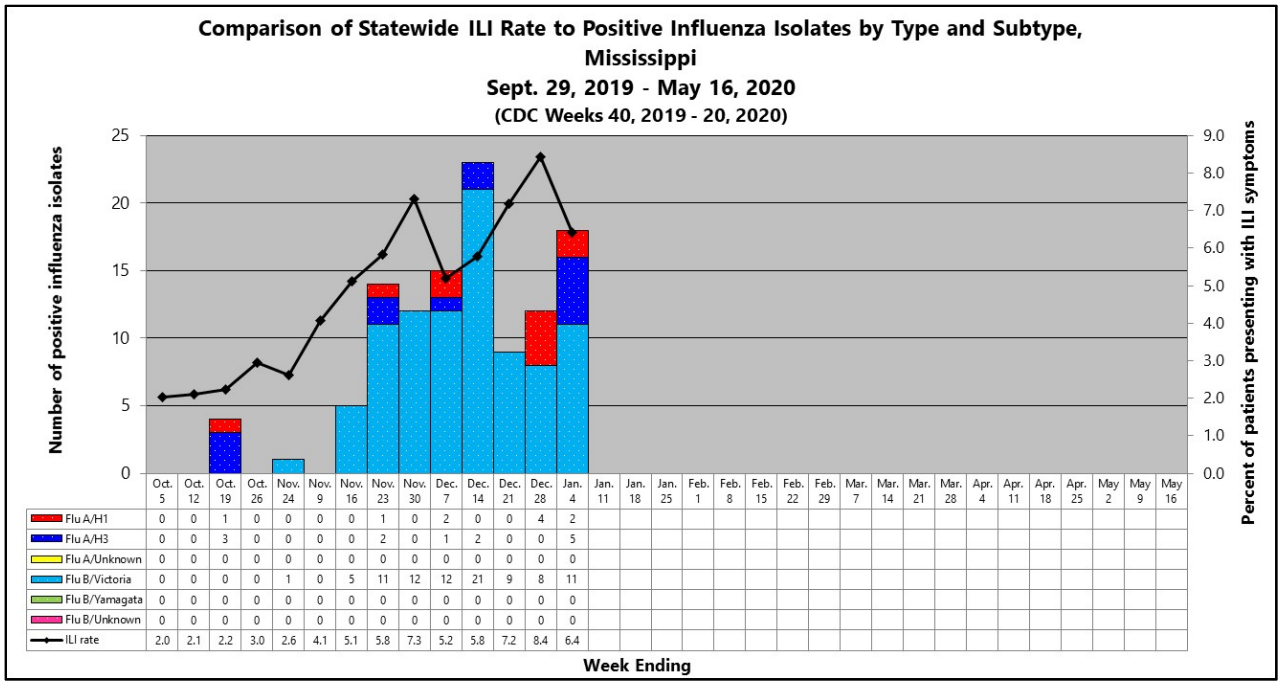
Between week 40 (ending October 5, 2019) and week **01** (week ending January 4, 2020), five outbreaks were reported to MSDH. MSDH investigates all reported outbreaks, and of the five reported outbreaks, complete information was available for three of them. All three outbreaks were attributed to influenza A/H1.

The influenza outbreaks have occurred in the following counties: Alcorn, Amite, Pontotoc, Scott, and Tunica.

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 5th), **113** laboratory confirmed influenza samples have been identified by the MSDH Public Health Laboratory. Ten (9%) were identified as influenza A/H1, 13 (12%) were identified as influenza A/H3, and 90 (80%) was identified as an influenza B/Victoria. | **Figure 6**

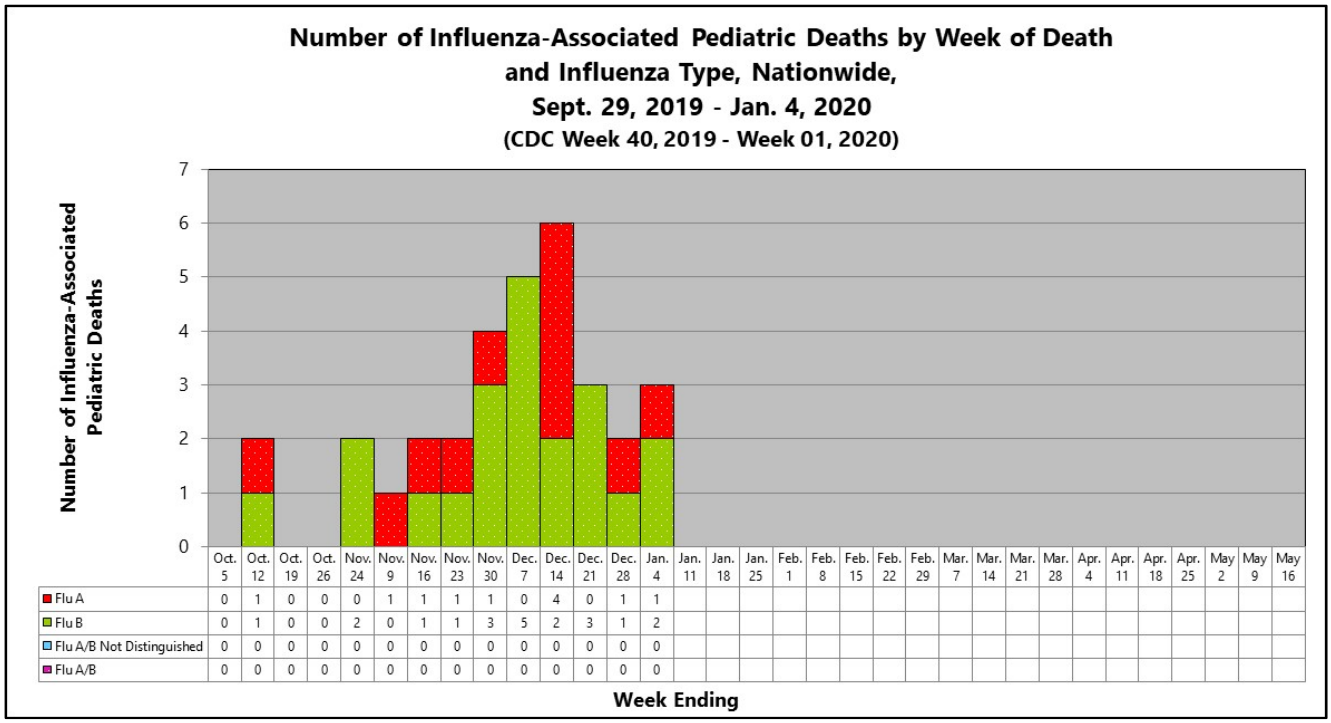


The influenza cases were identified from the following counties: Adams (2), Alcorn (1), Amite (2), Attala (2), Coahoma (5), Copiah (1), Covington (1), DeSoto (1), Forrest (3), George (3), Hancock (2), Harrison (12), Hinds (11), Jackson (11), Jefferson (2), Jones (1), Lauderdale (1), Lawrence (1), Leake (6), Lincoln (3), Madison (2), Marion (1), Neshoba (1), Oktibbeha (2), Panola (9), Pearl River (2), Pike (2), Pontotoc

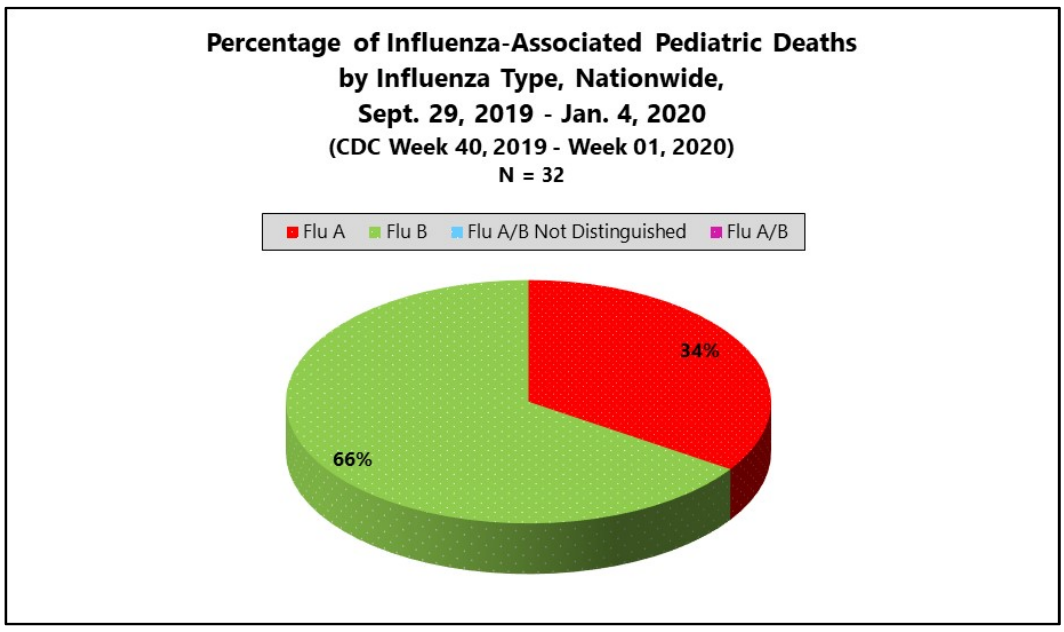
(2), Rankin (10), Tunica (2), Walthall (1), Warren (1), and Winston (6). The county of residence for one of the cases was unknown.

National and Mississippi Pediatric Mortality Surveillance

Nationally, **five** influenza-associated pediatric deaths were reported to CDC during week **01**. Two deaths occurred during week 52 (week ending December 28, 2019) and three deaths occurred during week 01 (week ending January 4, 2020). Three were associated with influenza B viruses that did not have a lineage determined, and two were associated with influenza A(H1N1)pdm09 viruses. **Thirty-two** influenza-associated pediatric deaths have been reported to CDC for the 2019-2020 season. | **Figure 7**



	Oct. 5	Oct. 12	Oct. 19	Oct. 26	Nov. 24	Nov. 9	Nov. 16	Nov. 23	Nov. 30	Dec. 7	Dec. 14	Dec. 21	Dec. 28	Jan. 4	Jan. 11	Jan. 18	Jan. 25	Feb. 1	Feb. 8	Feb. 15	Feb. 22	Feb. 29	Mar. 7	Mar. 14	Mar. 21	Mar. 28	Apr. 4	Apr. 11	Apr. 18	Apr. 25	May 2	May 9	May 16
Flu A	0	1	0	0	0	1	1	1	1	0	4	0	1	1																		
Flu B	0	1	0	0	2	0	1	1	3	5	2	3	1	2																		
Flu A/B Not Distinguished	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
Flu A/B	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		



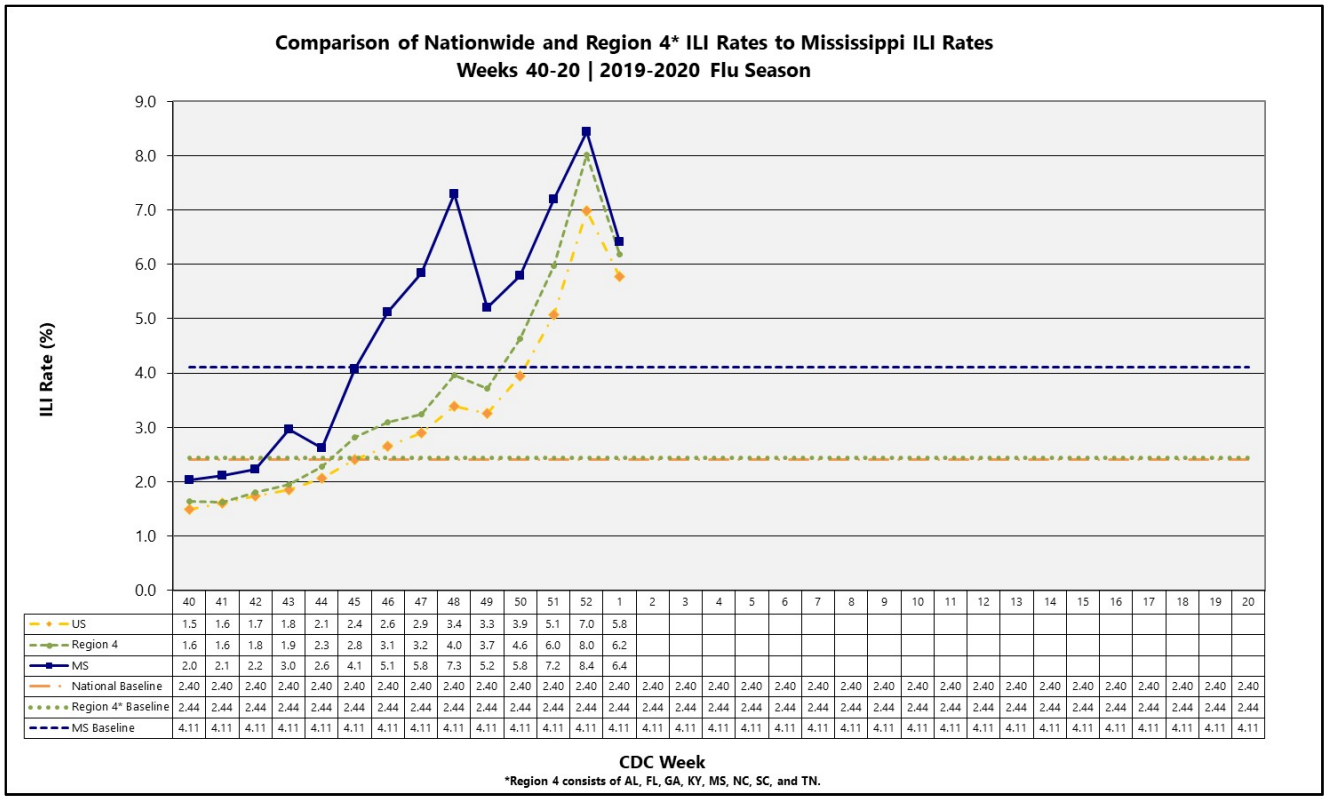
Of the **32** influenza-associated pediatric deaths reported nationally during the 2019-2020 season, 11 (34%) have been attributed to influenza A viruses and 21 (66%) to influenza B viruses. | **Figure 8**

Mississippi has had **no** influenza-associated pediatric deaths reported during this influenza season.

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

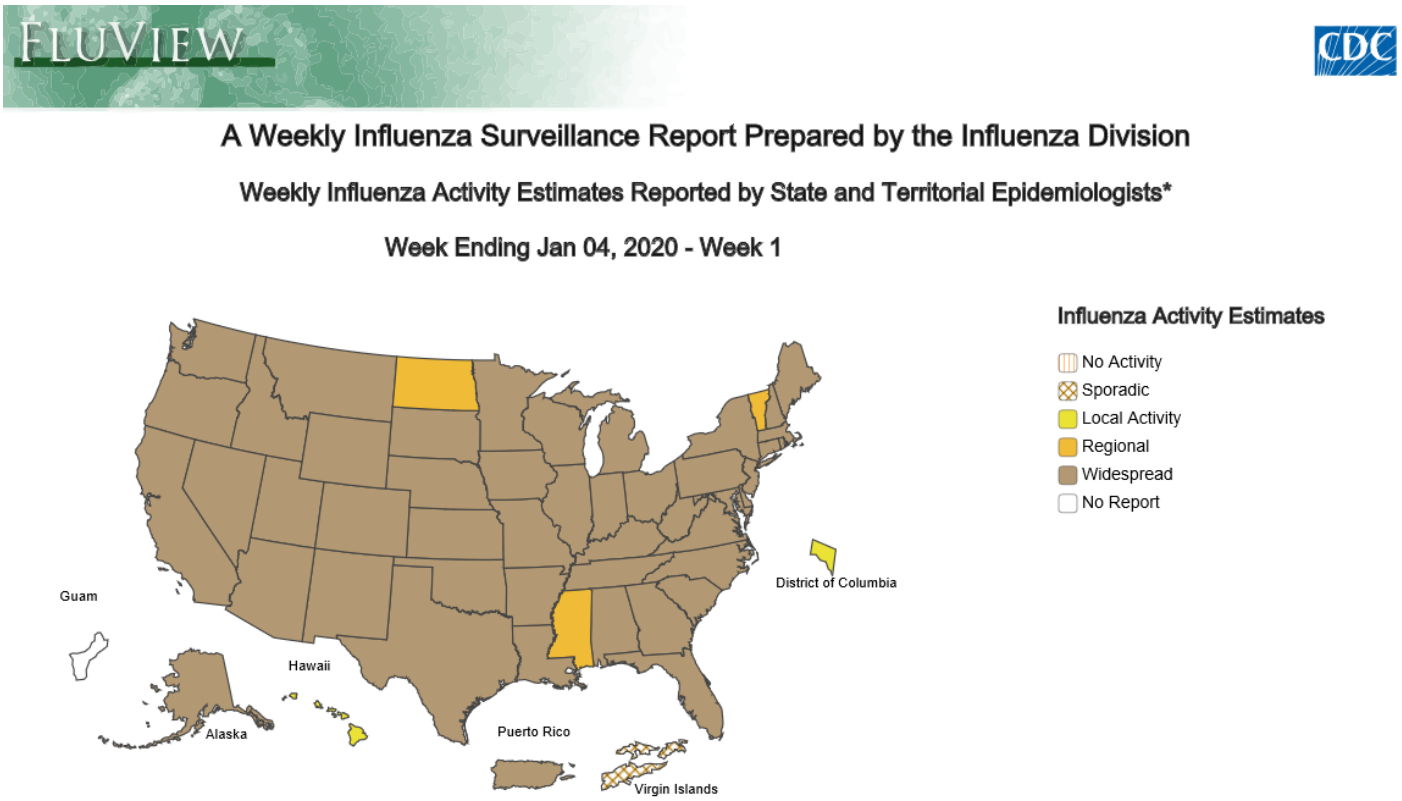
National ILI Surveillance

During week **01**, the Mississippi (6.4%), national (5.8%) and Region 4 (6.2%) ILI rates decreased, but were still above their respective baselines. | **Figure 9**



	40	41	42	43	44	45	46	47	48	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
US	1.5	1.6	1.7	1.8	2.1	2.4	2.6	2.9	3.4	3.3	3.9	5.1	7.0	5.8																			
Region 4	1.6	1.6	1.8	1.9	2.3	2.8	3.1	3.2	4.0	3.7	4.6	6.0	8.0	6.2																			
MS	2.0	2.1	2.2	3.0	2.6	4.1	5.1	5.8	7.3	5.2	5.8	7.2	8.4	6.4																			
National Baseline	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
Region 4* Baseline	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44
MS Baseline	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11

During week **01**, influenza activity **decreased** in the United States.[1] | **Figure 10**



[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.

Mississippi reported "**Regional**" for the influenza activity during week **01**. | **Table 3**

Level of Flu Activity	**Definition**
No Activity	Overall clinical activity remains low and there are no lab confirmed cases.
Sporadic	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.
Local	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
Regional	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.
Widespread	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.

Additional influenza information:

Centers for Disease Control and Prevention	**http://cdc.gov/flu/**
Centers for Disease Control and Prevention FluView	**http://www.cdc.gov/flu/weekly/**
MSDH Flu and Pneumonia	**http://msdh.ms.gov/msdhsite/_static/14,0,199.html**
World Health Organization FluNet	**http://www.who.int/influenza/gisrs_laboratory/flunet/en/**

Appendix

Figure 1

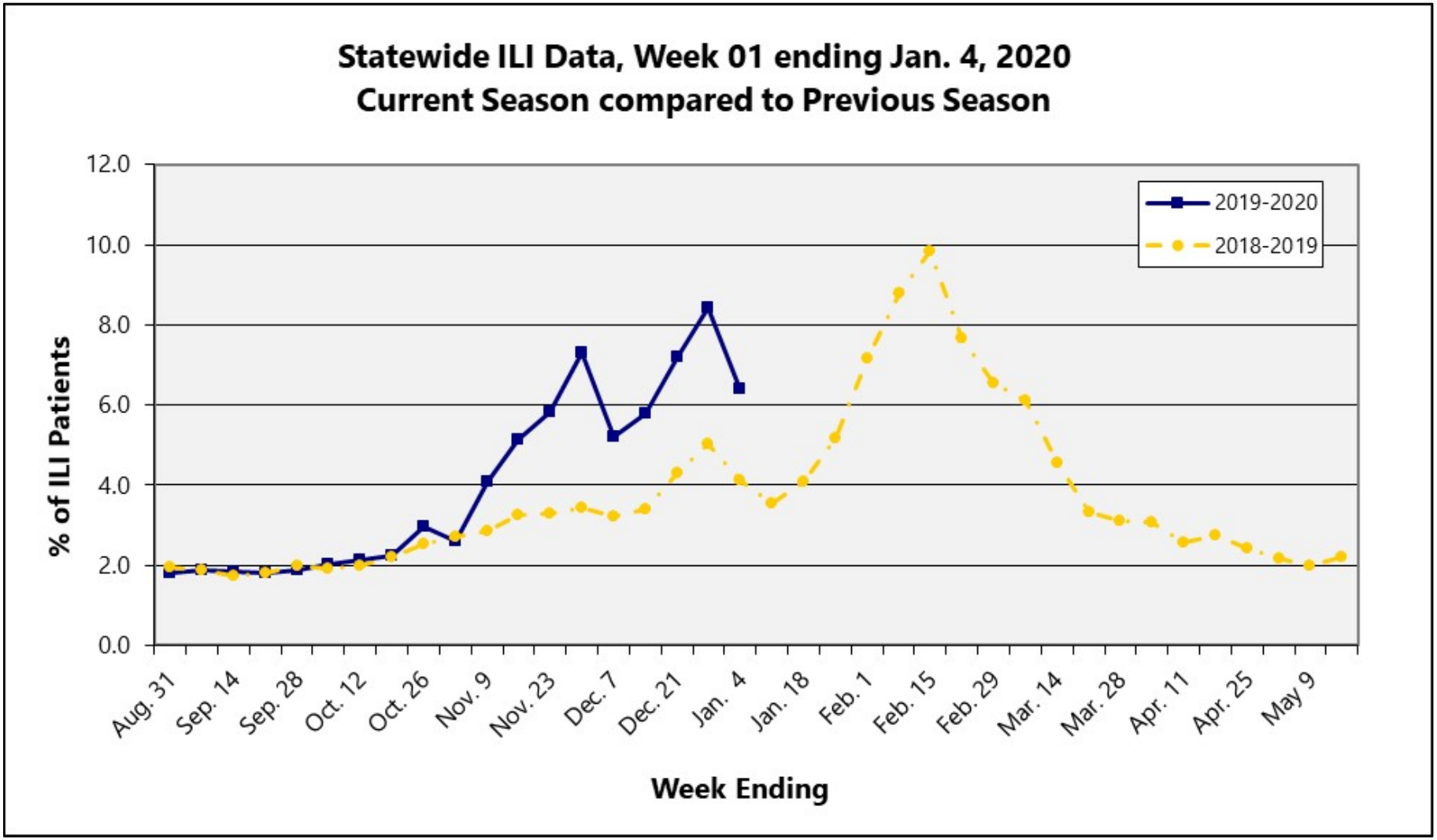


Figure 2

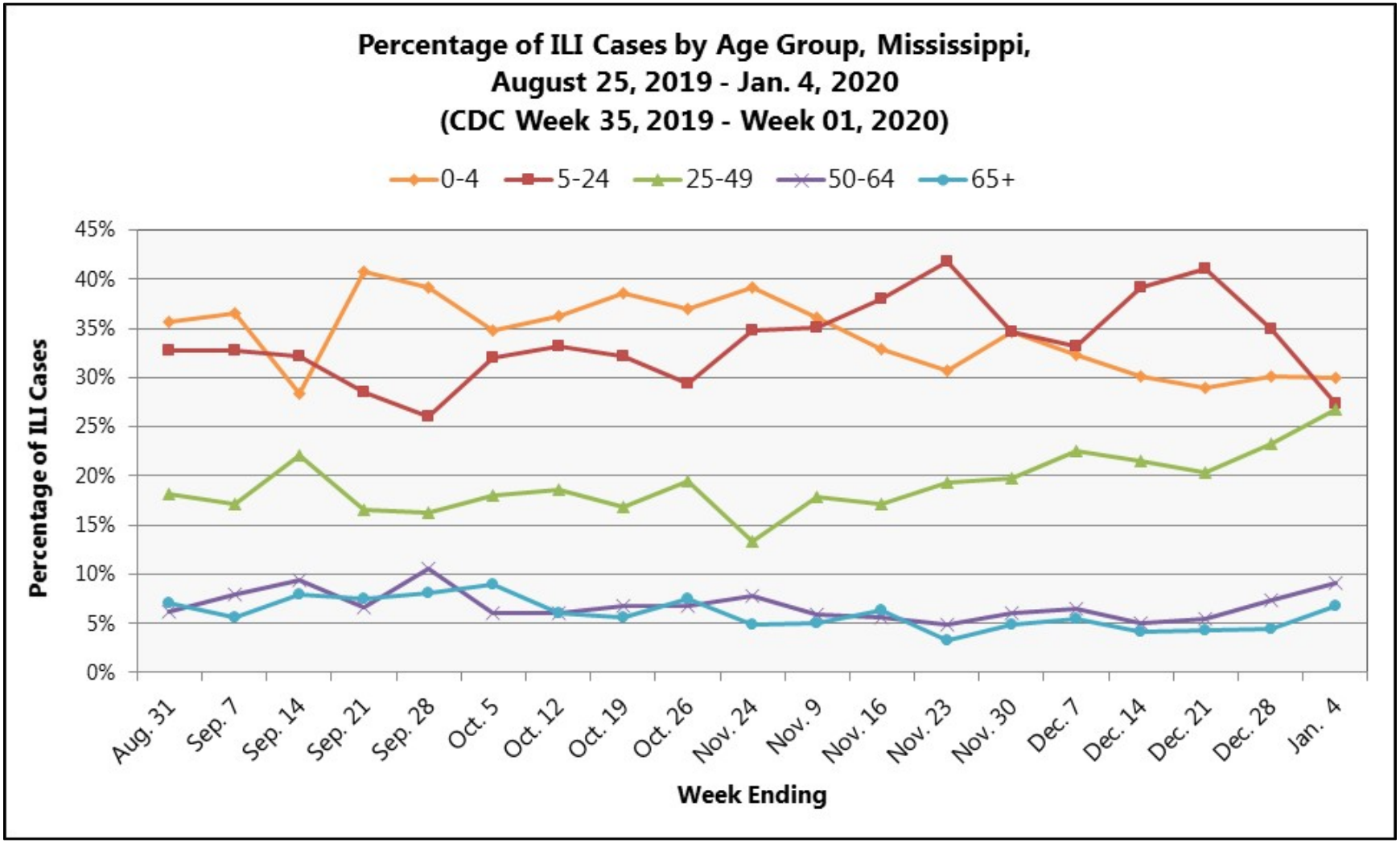

Percentage of ILI Cases by Age Group, Mississippi,
August 25, 2019 - Jan. 4, 2020
(CDC Week 35, 2019 - Week 01, 2020)
0-4
5-24
25-49
50-64
65+
Percentage of ILI Cases
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Aug. 31
Sep. 7
Sep. 14
Sep. 21
Sep. 28
Oct. 5
Oct. 12
Oct. 19
Oct. 26
Nov. 24
Nov. 9
Nov. 16
Nov. 23
Nov. 30
Dec. 7
Dec. 14
Dec. 21
Dec. 28
Jan. 4
Week Ending

Figure 3

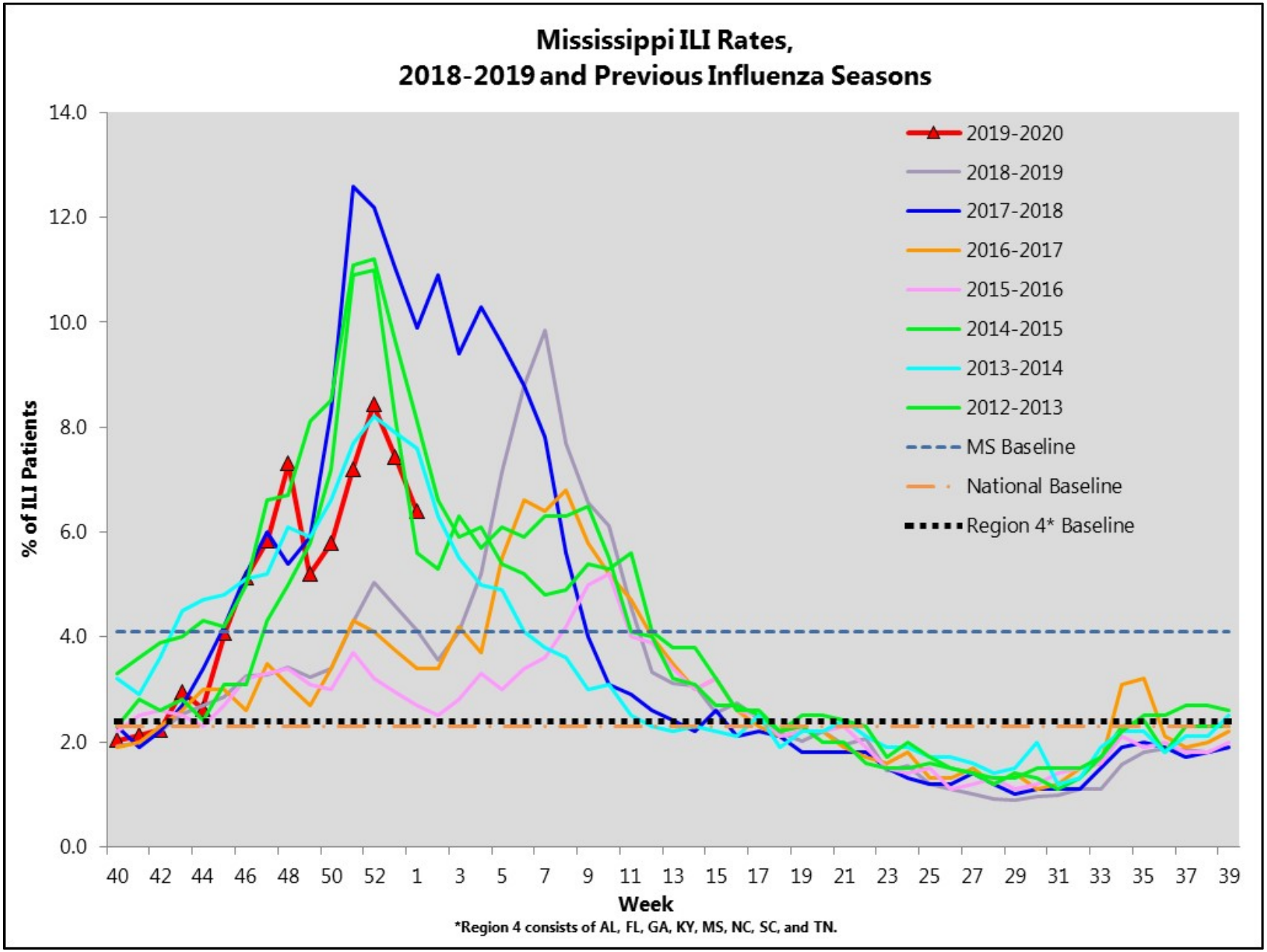

Mississippi ILI Rates,
2018-2019 and Previous Influenza Seasons
% of ILI Patients
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
40 42 44 46 48 50 52 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39
Week
2019-2020
2018-2019
2017-2018
2016-2017
2015-2016
2014-2015
2013-2014
2012-2013
MS Baseline
National Baseline
Region 4* Baseline
*Region 4 consists of AL, FL, GA, KY, MS, NC, SC, and TN.

Figure 4

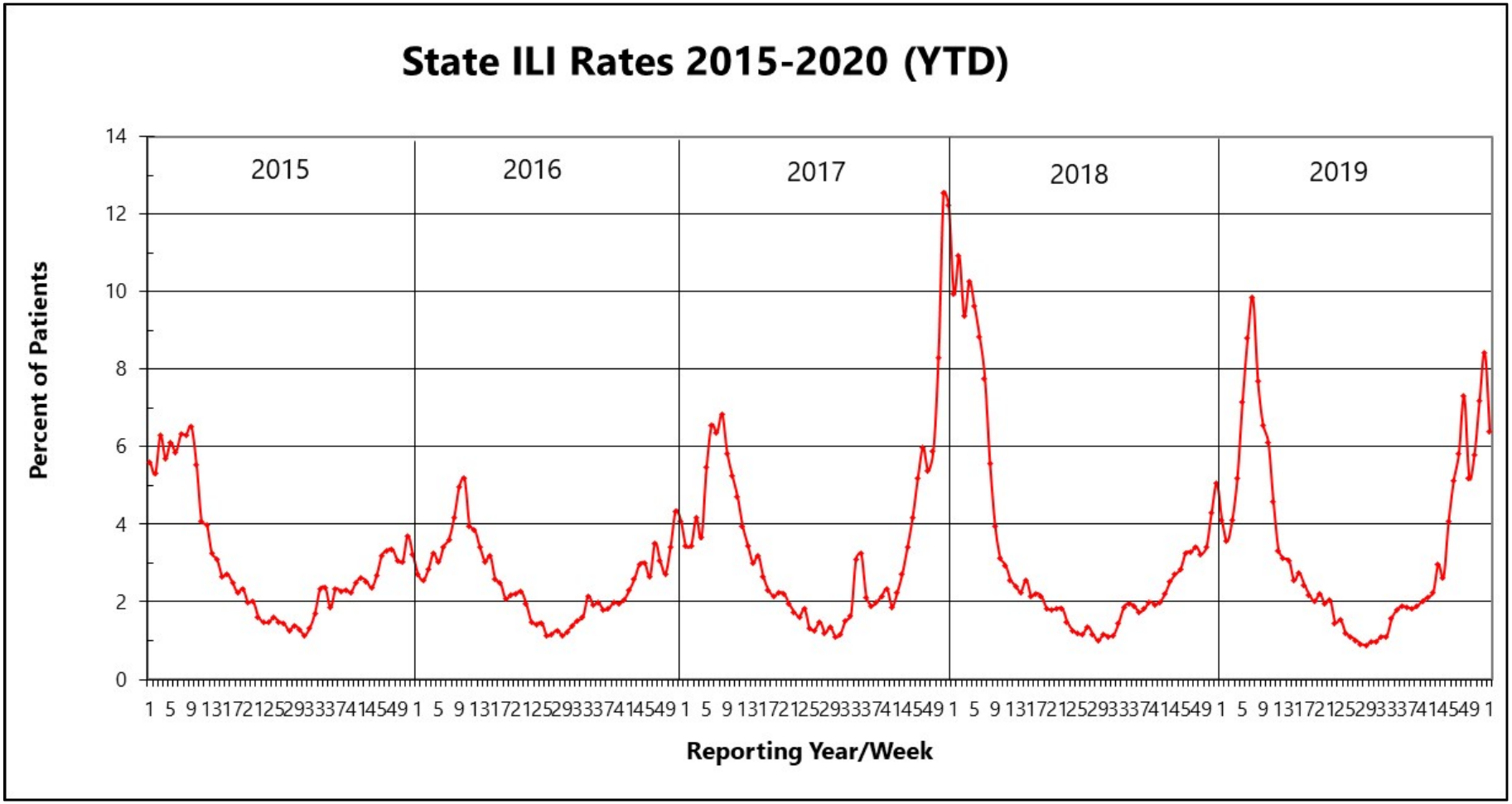

State ILI Rates 2015-2020 (YTD)
Percent of Patients
0
2
4
6
8
10
12
14
2015
2016
2017
2018
2019
1 5 9 13 17 21 25 29 33 37 41 45 49 1 5 9 13 17 21 25 29 33 37 41 45 49 1 5 9 13 17 21 25 29 33 37 41 45 49 1 5 9 13 17 21 25 29 33 37 41 45 49 1 5 9 13 17 21 25 29 33 37 41 45 49 1
Reporting Year/Week

Figure 5

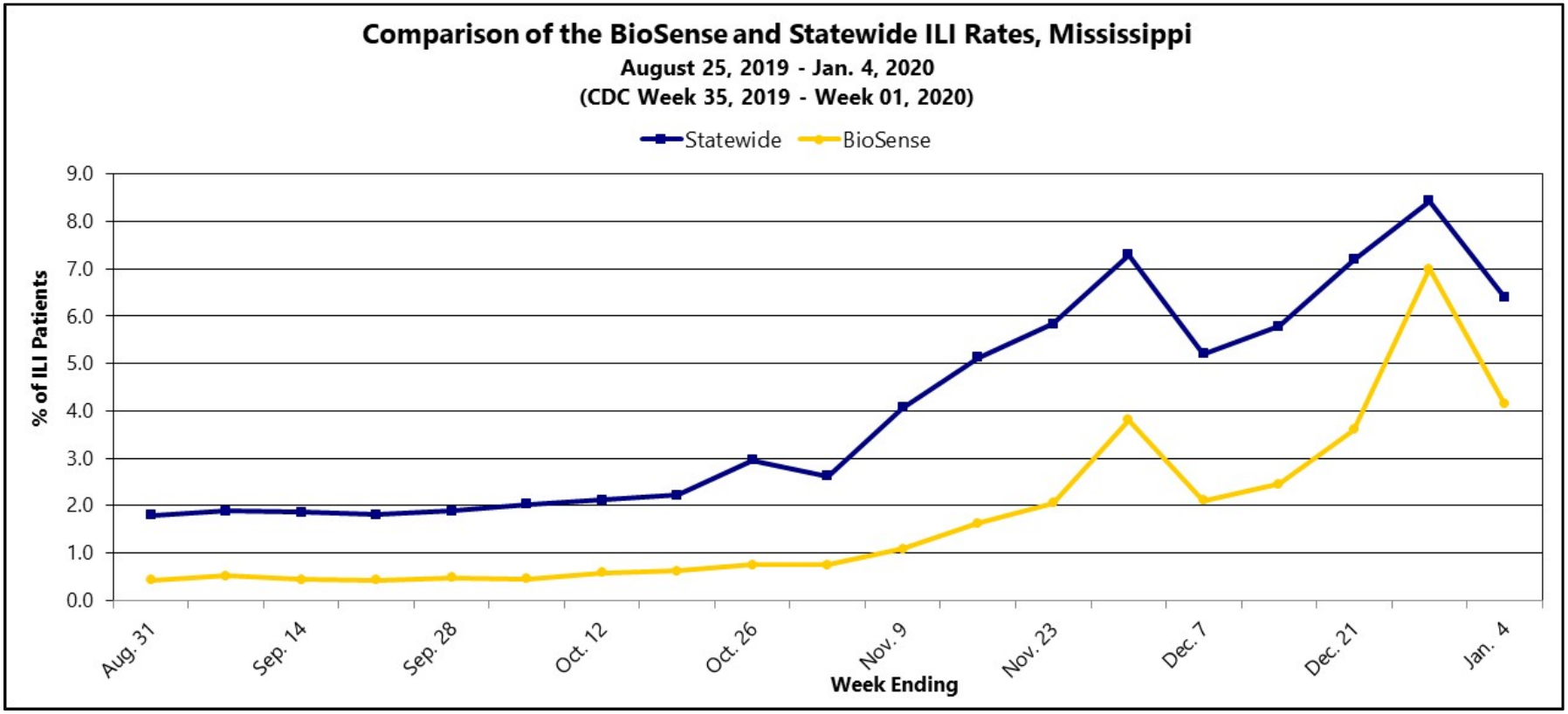
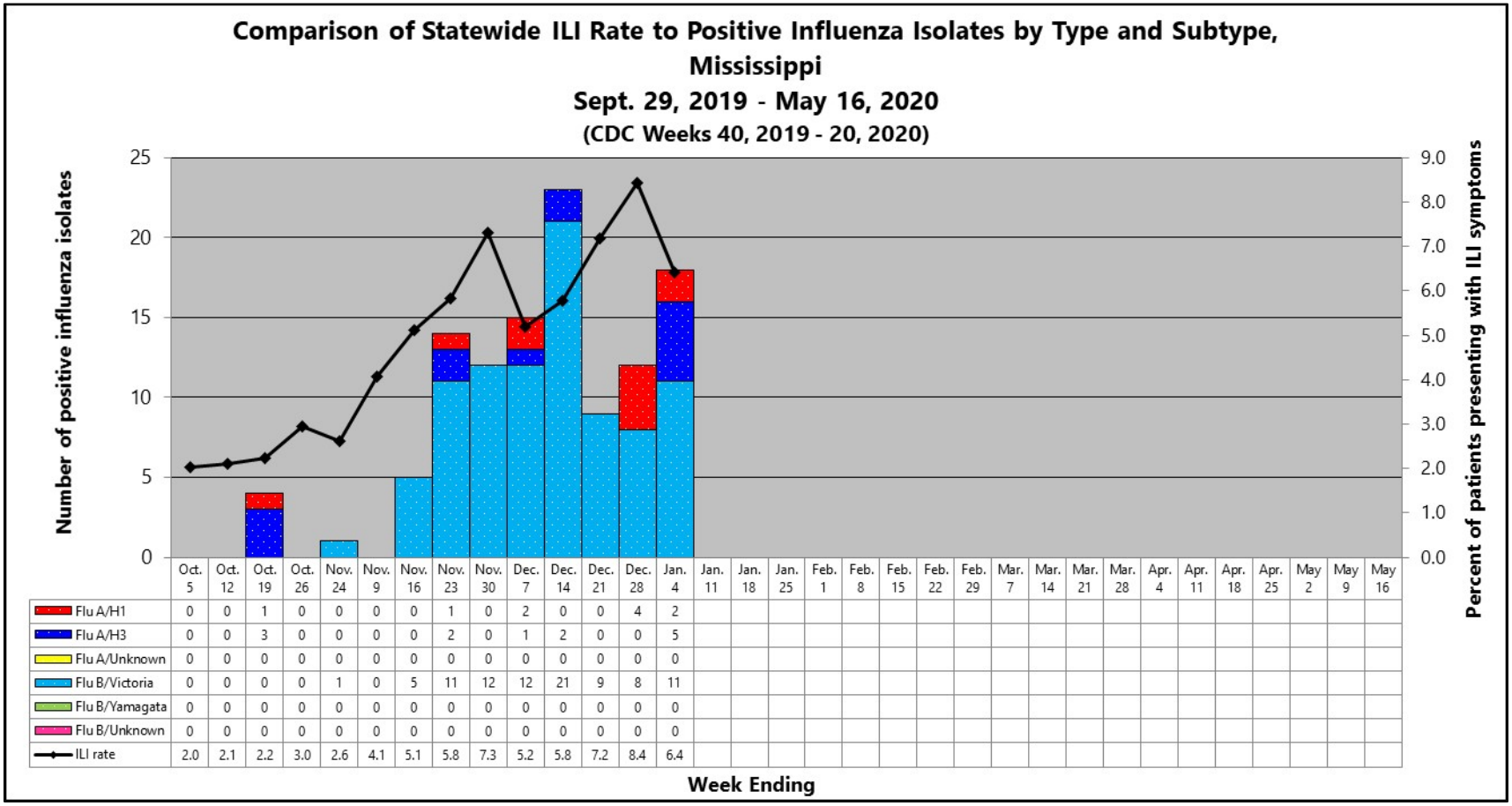
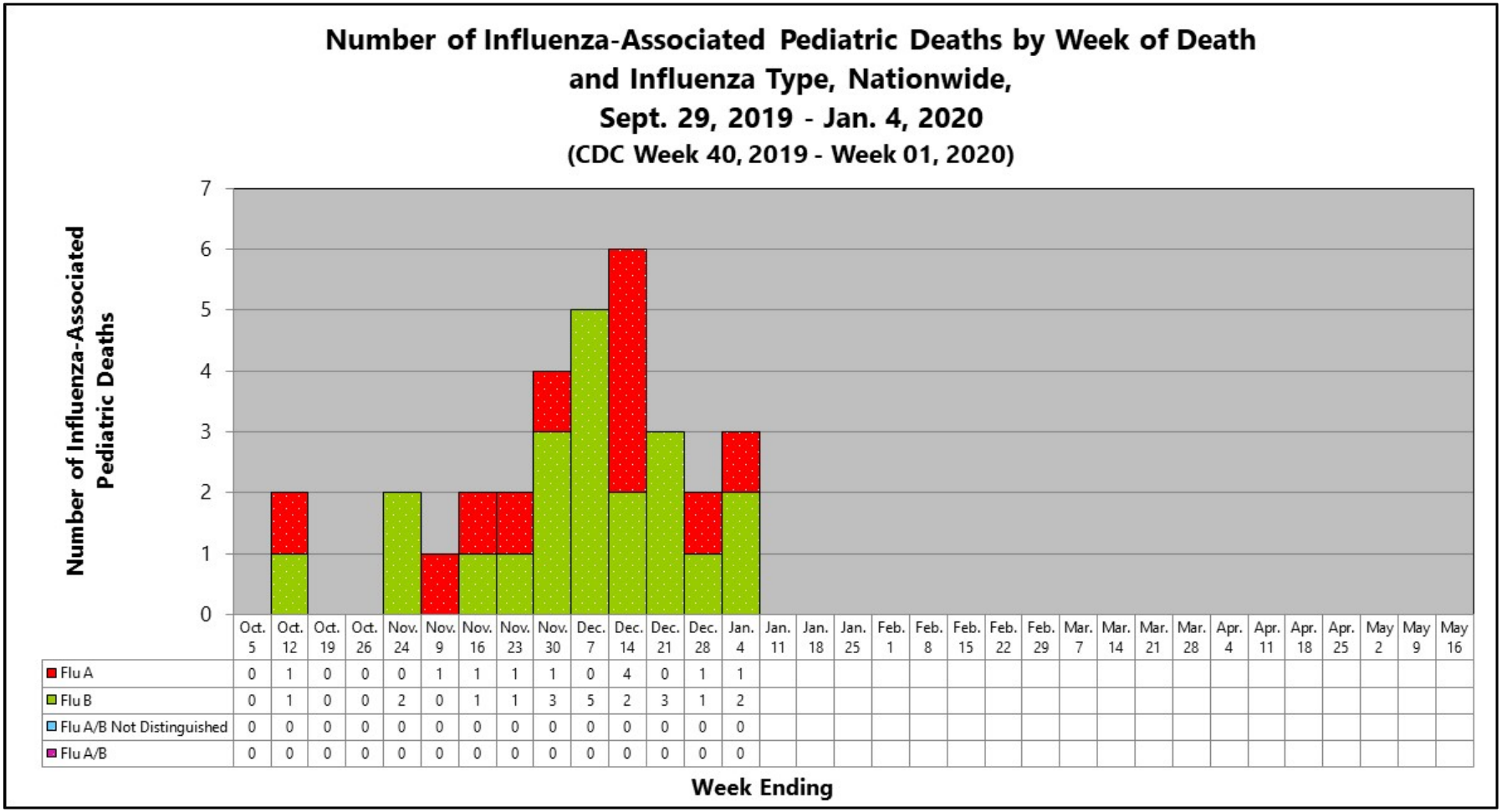

Comparison of the BioSense and Statewide ILI Rates, Mississippi
August 25, 2019 - Jan. 4, 2020
(CDC Week 35, 2019 - Week 01, 2020)
Statewide
BioSense
% of ILI Patients
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Aug. 31
Sep. 14
Sep. 28
Oct. 12
Oct. 26
Nov. 9
Nov. 23
Dec. 7
Dec. 21
Jan. 4
Week Ending

Figure 6



	Oct. 5	Oct. 12	Oct. 19	Oct. 26	Nov. 24	Nov. 9	Nov. 16	Nov. 23	Nov. 30	Dec. 7	Dec. 14	Dec. 21	Dec. 28	Jan. 4	Jan. 11	Jan. 18	Jan. 25	Feb. 1	Feb. 8	Feb. 15	Feb. 22	Feb. 29	Mar. 7	Mar. 14	Mar. 21	Mar. 28	Apr. 4	Apr. 11	Apr. 18	Apr. 25	May 2	May 9	May 16
Flu A/H1	0	0	1	0	0	0	0	1	0	2	0	0	4	2																		
Flu A/H3	0	0	3	0	0	0	0	2	0	1	2	0	0	5																		
Flu A/Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
Flu B/Victoria	0	0	0	0	1	0	5	11	12	12	21	9	8	11																		
Flu B/Yamagata	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
Flu B/Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
ILI rate	2.0	2.1	2.2	3.0	2.6	4.1	5.1	5.8	7.3	5.2	5.8	7.2	8.4	6.4																		

Figure 7



	Oct. 5	Oct. 12	Oct. 19	Oct. 26	Nov. 24	Nov. 9	Nov. 16	Nov. 23	Nov. 30	Dec. 7	Dec. 14	Dec. 21	Dec. 28	Jan. 4	Jan. 11	Jan. 18	Jan. 25	Feb. 1	Feb. 8	Feb. 15	Feb. 22	Feb. 29	Mar. 7	Mar. 14	Mar. 21	Mar. 28	Apr. 4	Apr. 11	Apr. 18	Apr. 25	May 2	May 9	May 16
Flu A	0	1	0	0	0	1	1	1	1	0	4	0	1	1																			
Flu B	0	1	0	0	2	0	1	1	3	5	2	3	1	2																			
Flu A/B Not Distinguished	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
Flu A/B	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			

Figure 8

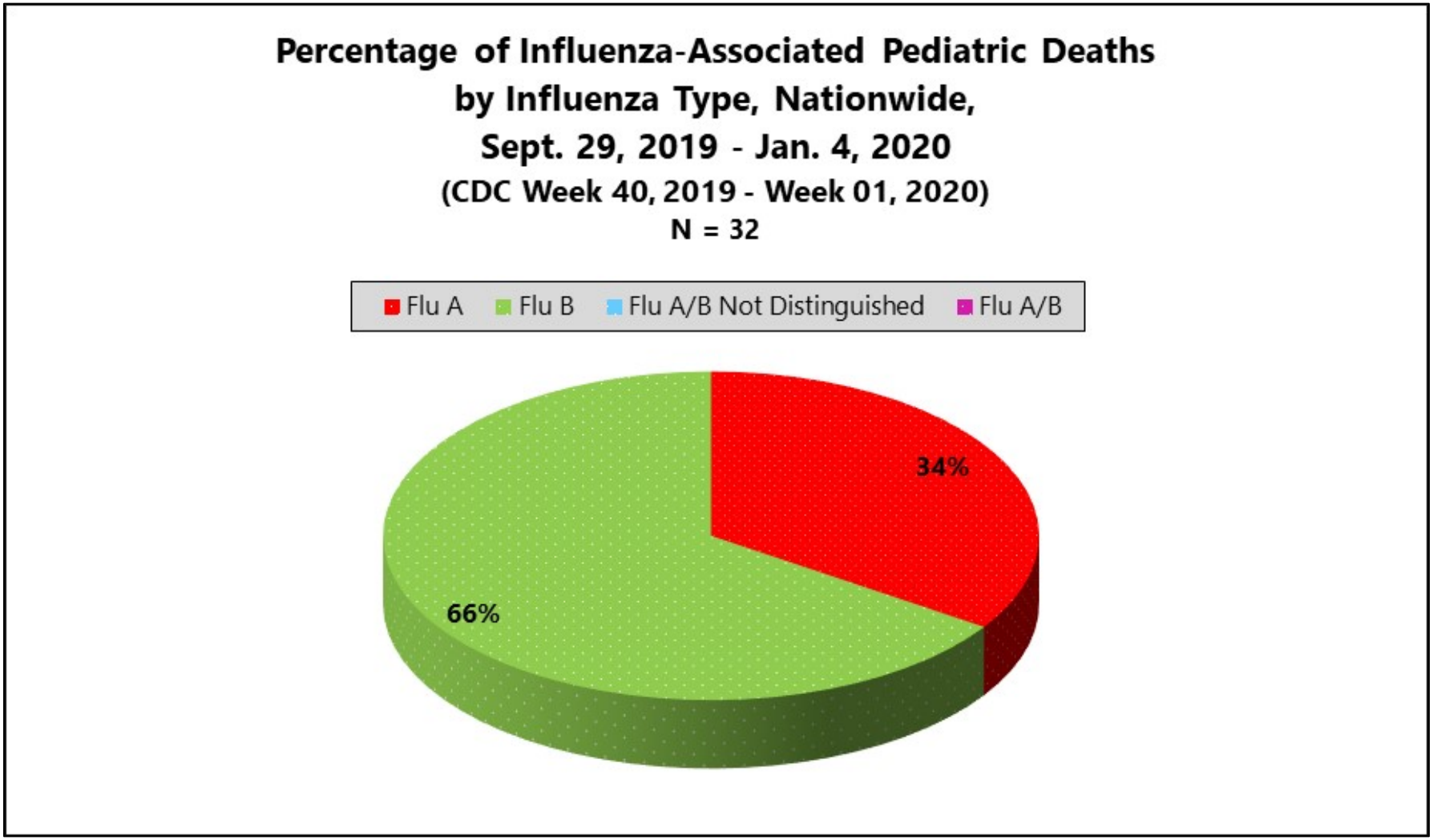
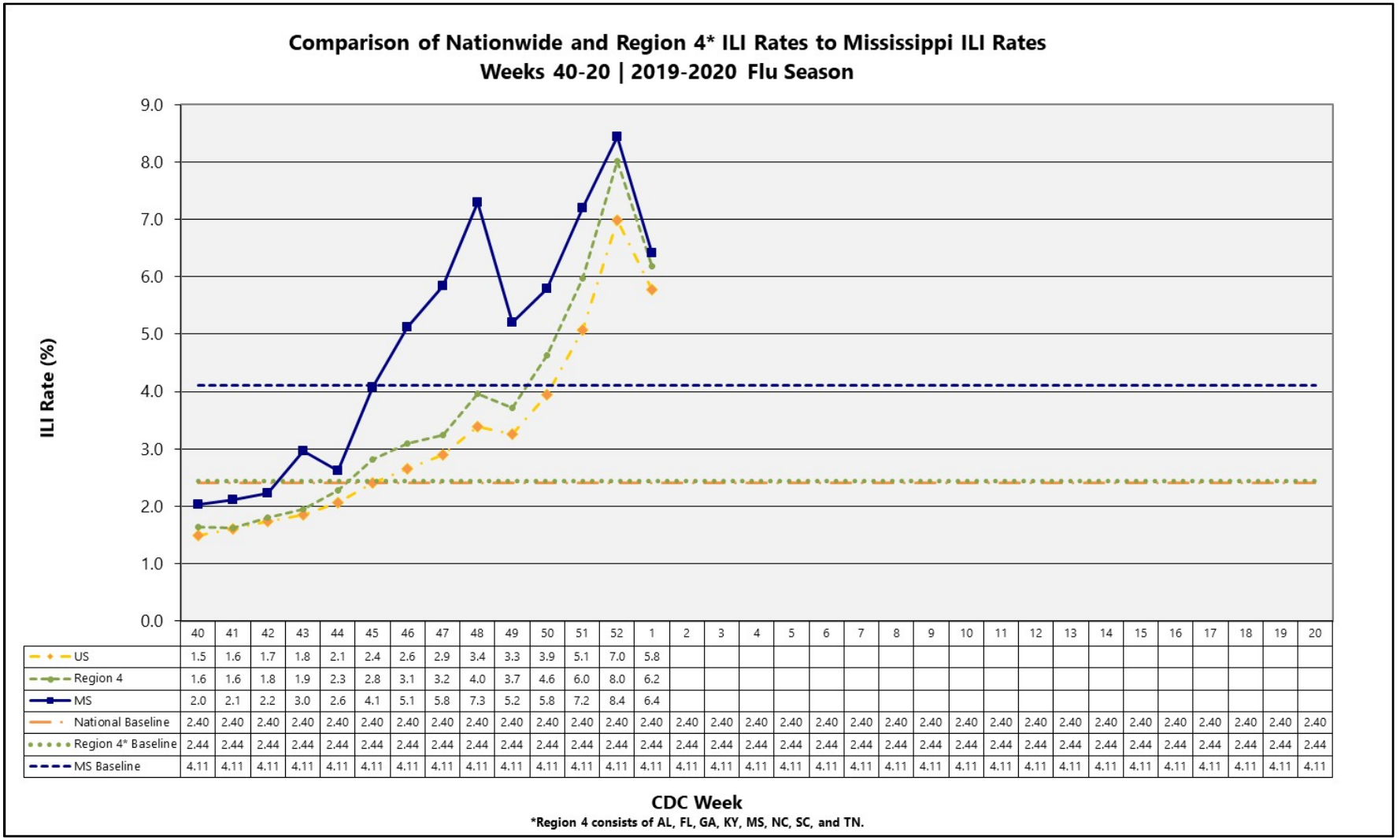

Percentage of Influenza-Associated Pediatric Deaths
by Influenza Type, Nationwide,
Sept. 29, 2019 - Jan. 4, 2020
(CDC Week 40, 2019 - Week 01, 2020)
N = 32
Flu A
Flu B
Flu A/B Not Distinguished
Flu A/B
34%
66%

Figure 9



	40	41	42	43	44	45	46	47	48	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
US	1.5	1.6	1.7	1.8	2.1	2.4	2.6	2.9	3.4	3.3	3.9	5.1	7.0	5.8																			
Region 4	1.6	1.6	1.8	1.9	2.3	2.8	3.1	3.2	4.0	3.7	4.6	6.0	8.0	6.2																			
MS	2.0	2.1	2.2	3.0	2.6	4.1	5.1	5.8	7.3	5.2	5.8	7.2	8.4	6.4																			
National Baseline	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
Region 4* Baseline	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44
MS Baseline	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11

Figure 10

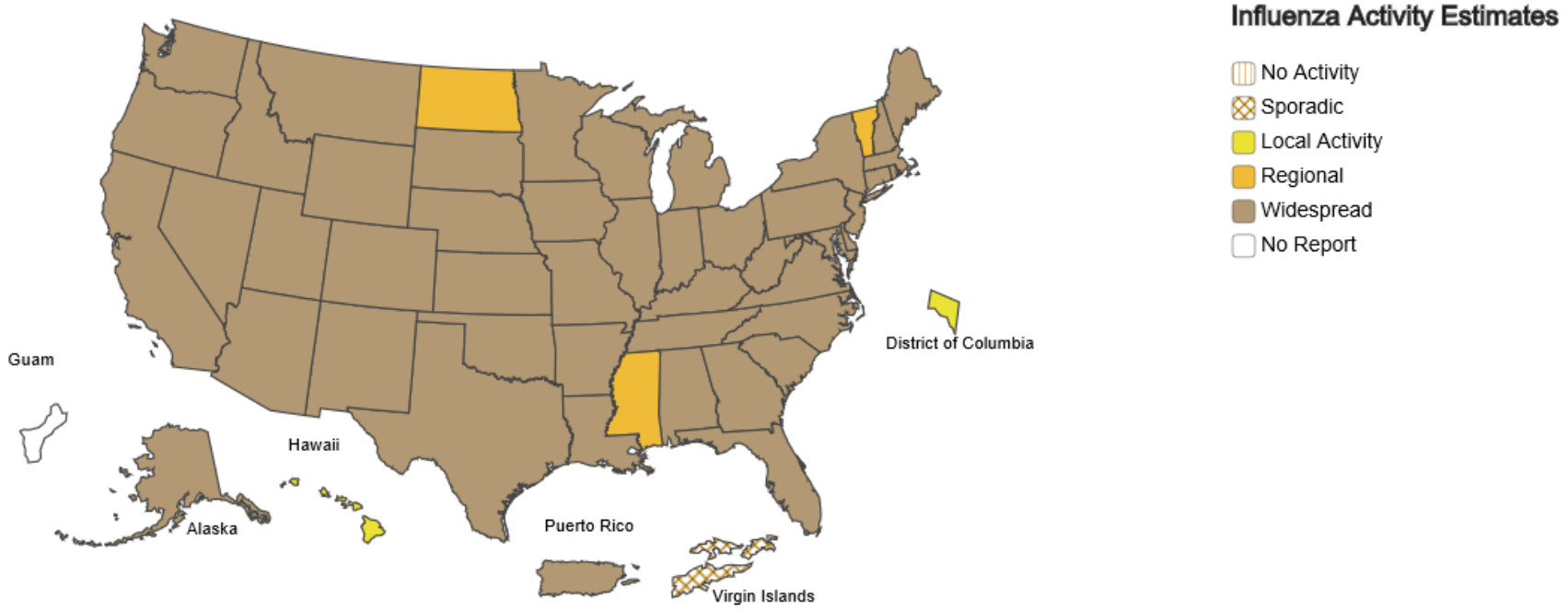
FLUVIEW

CDC

A Weekly Influenza Surveillance Report Prepared by the Influenza Division

Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists*

Week Ending Jan 04, 2020 - Week 1



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