

# Influenza Surveillance Report

[www.infectiousdisease.dhh.la.gov](http://www.infectiousdisease.dhh.la.gov)

Week 1: 12/31/17-1/6/2018

**Influenza activity remains very high in Louisiana. Influenza A viruses represent 84% of positive samples tested at the State Laboratory (70% A/H3N2, 30% A/H1N1). The most commonly reported other respiratory viruses are Rhino/Enterovirus, RSV.**

**The Influenza Surveillance Summary Report describes the results of the tracking done by the Louisiana Office of Public Health Infectious Disease Epidemiology Section (IDEpi). This report relies on data supplied by sentinel surveillance sites, including hospital emergency departments (ED), laboratories and physicians' offices. Sentinel sites provide weekly data on Influenza Like Illness (ILI) and/or laboratory confirmed cases.**

Taken together, ILI surveillance and laboratory surveillance provide a clear picture of the influenza activity occurring in Louisiana each week. If you have any questions about our surveillance system or would like more information, please contact Julie Hand at 504-568-8298 or [julie.hand@la.gov](mailto:julie.hand@la.gov).

**ILI** is defined as an illness characterized by cough and/or cold symptoms and a fever of 100° F or greater in the absence of a known cause. While not every case of ILI is a case of influenza, the CDC has found that trends in ILI from sentinel sites are a good proxy measure of the amount of influenza activity in an area. For this reason, all states and territories participating in the national surveillance program monitor weekly ILI ratios from their sentinel surveillance sites.

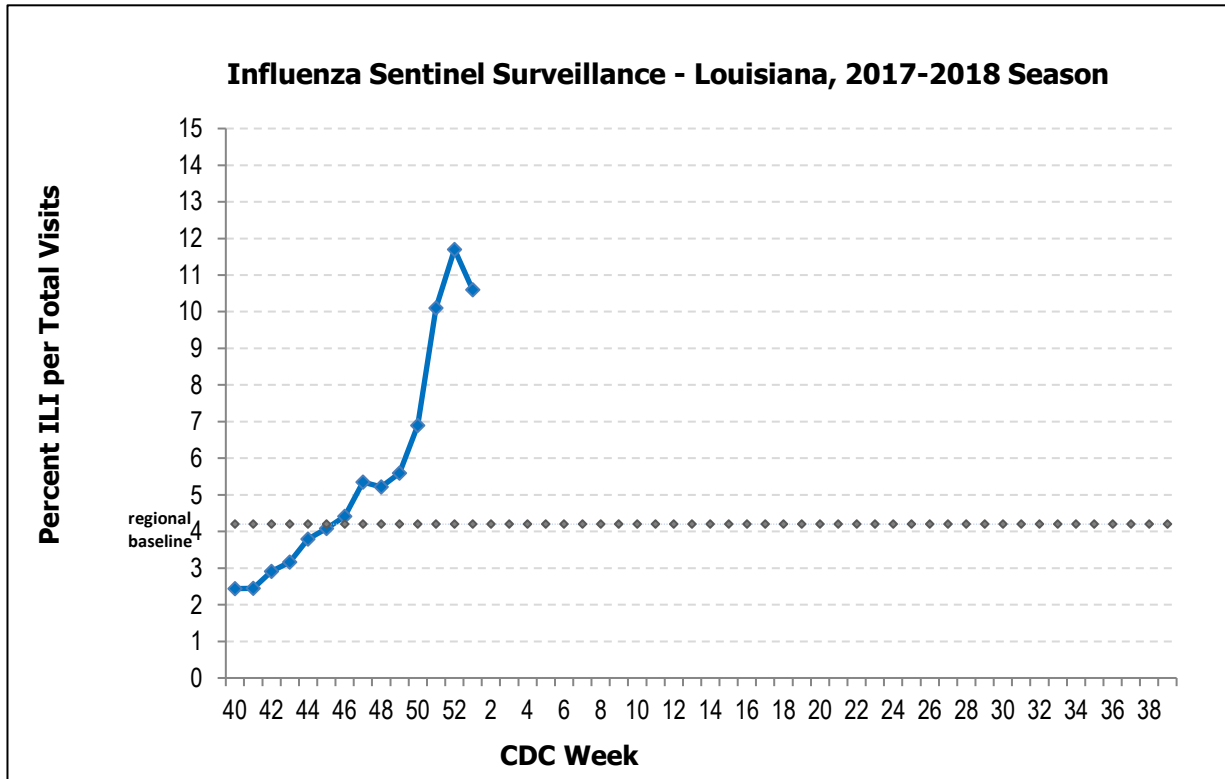


**Laboratory testing:** Not all sentinel sites have access to laboratory testing. However, many hospitals and physicians' offices do perform some influenza testing. Sites that test for influenza report the number of positive tests each week and the total number of tests performed each week. This information is included on page 3 of this report.

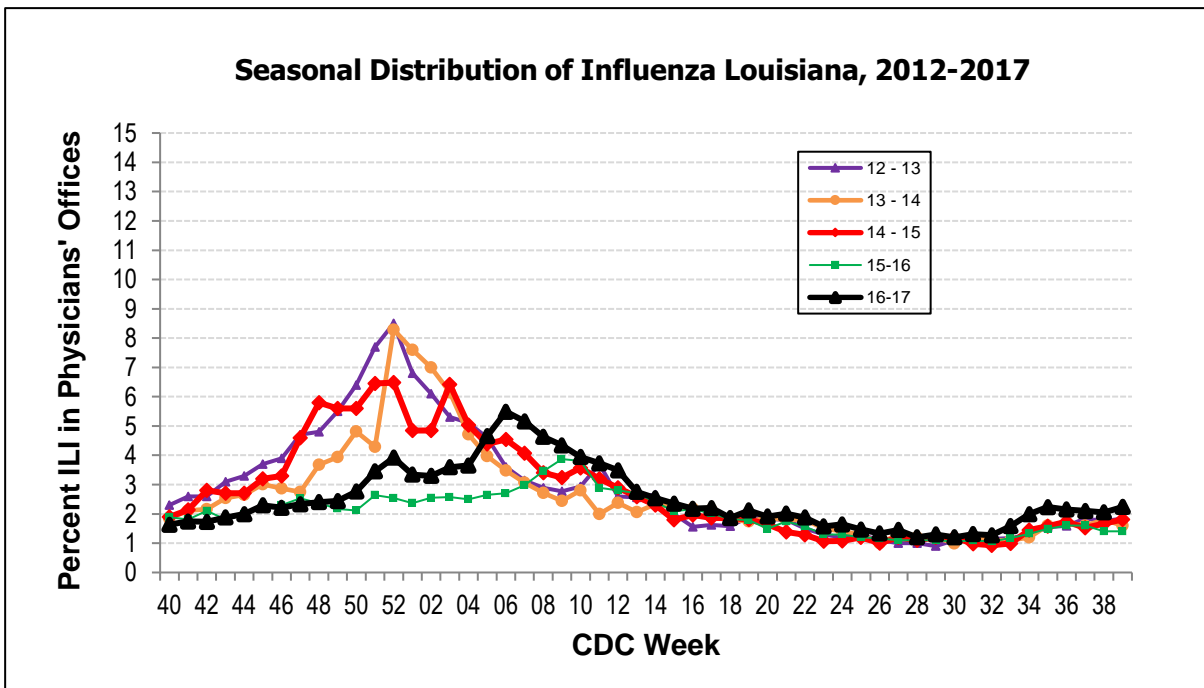
Page 2 : ILI Activity  
Page 3: Virologic Surveillance  
Page 4: Geographic Distribution  
Page 5 & 6: Regional & National Data

## 2017-2018 Season

This graph shows the percentage of visits for ILI over the total number of visits for sentinel surveillance sites. This is the best approach to estimate the magnitude of influenza transmission. ILI counts do include some viral infections other than influenza, but experience over the last 50 years has shown that this approach is a reliable method to estimate influenza transmission. It does not show which strain of influenza virus is responsible. The page on lab surveillance does show the proportion of specimens attributable to each virus strain.

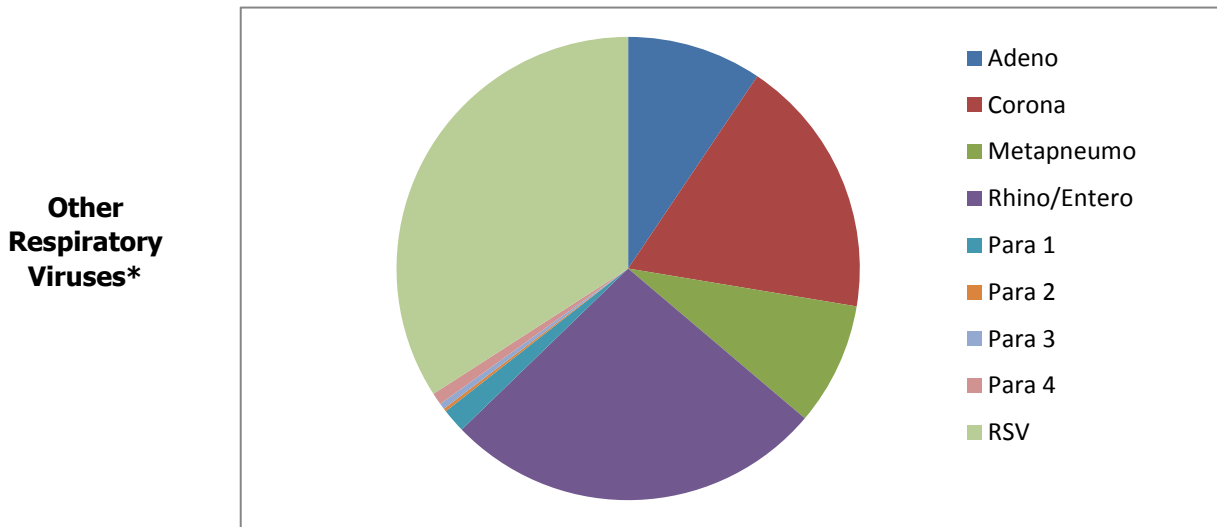
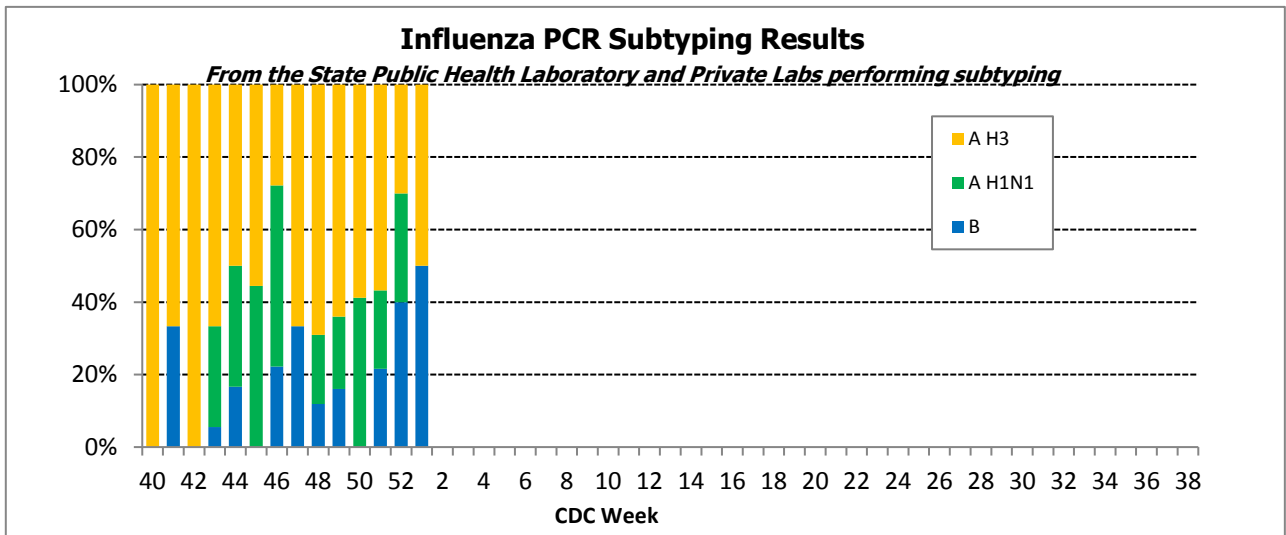
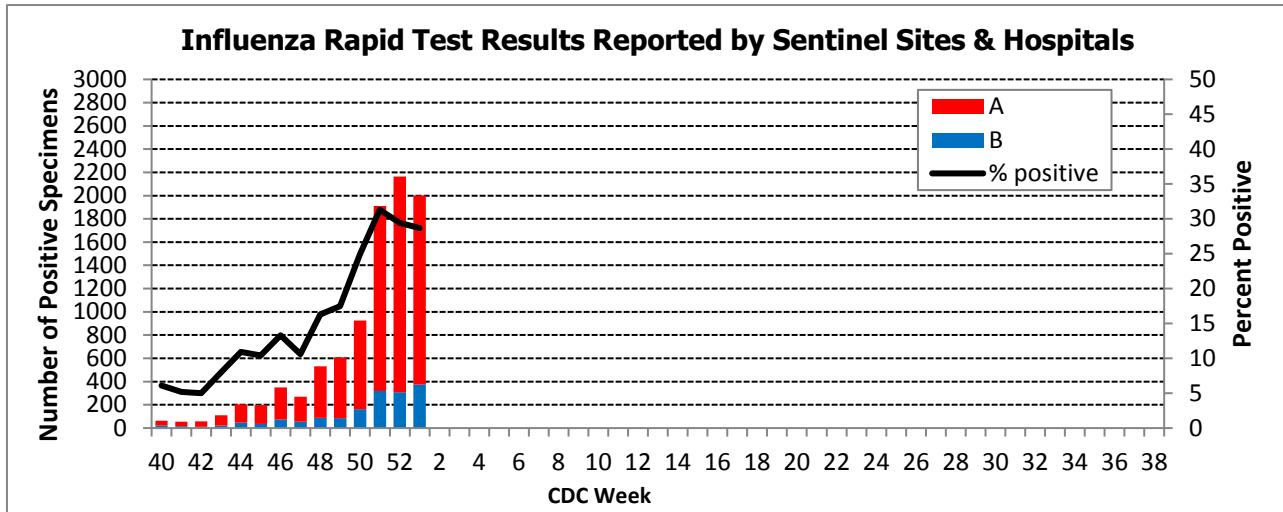


This graph shows the data on ILI surveillance among sentinel physicians' over the past 5 seasons to enable comparisons with previous years and better estimate the amplitude of this season's influenza transmission.



# 2017-2018 Season

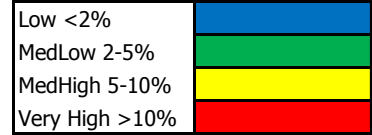
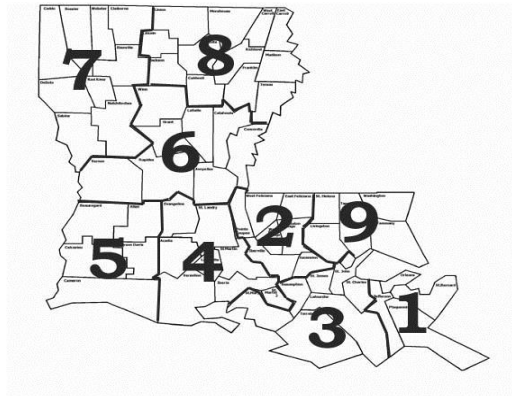
## Virologic Surveillance



\*Based on results from the State Public Health Laboratory Respiratory Virus Panel (RVP) Testing and other labs reporting RVP results over the last 2 weeks.

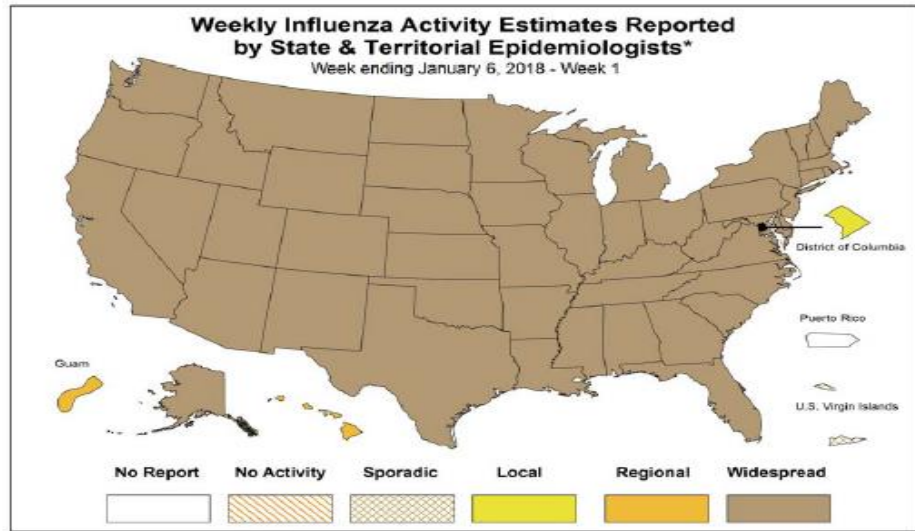
## 2017-2018 Season

### Geographical Distribution of ILI



*\* %ILI over the last 2 weeks based on sentinel surveillance data*

### Geographic Spread of Influenza as Assessed by State and Territorial Epidemiologists



Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet  
2017-18 Influenza Season Week 1 ending Jan 06, 2018

### ILINet Activity Indicator Map



## 2017-2018 Season

### National Surveillance

During week 1, influenza activity increased in the United States.

The proportion of deaths attributed to pneumonia and influenza (P&I) was at the system-specific epidemic threshold.

Seven influenza-associated pediatric deaths were reported.

The proportion of outpatient visits for influenza-like illness (ILI) was 5.8%, which is above the national baseline of 2.2%.

### Clinical Laboratory Data

	Week 1	Data Cumulative since October 1, 2017 (Week 40)
<b>No. of specimens tested</b>	41,712	371,863
<b>No. of positive specimens (%)</b>	10,320 (24.7%)	47,689 (12.8%)
<b>Positive specimens by type</b>		
<b>Influenza A</b>	8,628 (83.6%)	39,529 (82.9%)
<b>Influenza B</b>	1,692 (16.4%)	8,160 (17.1%)

### Public Health Laboratory Data

	Week 1	Data Cumulative since October 1, 2017 (Week 40)
<b>No. of specimens tested</b>	2,401	28,264
<b>No. of positive specimens*</b>	1,398	12,472
<b>Positive specimens by type/subtype</b>		
<b>Influenza A</b>	1,202 (86.0%)	10,872 (87.2%)
(H1N1)pdm09	132 (11.0%)	957 (8.8%)
H3N2	1,021 (84.9%)	9,773 (89.9%)
Subtyping not performed	49 (4.1%)	142 (1.3%)
<b>Influenza B</b>	196 (14.0%)	1,600 (12.8%)
Yamagata lineage	95 (48.5%)	1,036 (64.8%)
Victoria lineage	8 (4.1%)	102 (6.4%)
Lineage not performed	93 (47.4%)	462 (28.9%)

### HHS Surveillance Region Data:

*U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) 2017-2018 Influenza Season  
HHS Region 6 (AR, LA, NM, OK, and TX) (Baseline: 4.2%) Data as of Friday, January 12, 2018*

CDC Week	# Sites Reporting	ILI 0-4 years	ILI 5-24 years	ILI 25-49 years	ILI 50-64 years	ILI 65	Total ILI	Total Patient Visits	%	%
						and older				
201750	278	1705	2881	1883	789	492	7750	115895	6.7	8.1
201751	264	2206	3901	2964	1321	780	11172	117806	9.5	11.9
201752	225	2387	2552	2781	1207	823	9750	97495	10.0	10.6
201801	262	1689	2413	3304	1515	935	9856	100804	9.8	11.2

#### Region 6 (AR, LA, NM, OK, TX)

CDC Week	Public Health Labs	Public Health Specimens Tested	AUNK	AH1N1 pdm09	AH3N2	AH3N2v	B	BVic	BYam	Clinical Labs	Clinical Specimens Tested	Clinical Flu Positive	% Positive	A	B
201750	10	203	1	21	49	0	1	0	11	25	5559	1230	22.13	1078	152
201751	11	256	8	13	117	0	#	0	15	24	7978	2429	30.45	2176	253
201752	11	143	1	7	64	0	5	0	22	24	8127	2394	29.46	2107	287
201801	9	73	0	7	36	0	4	0	6	19	6444	1823	28.29	1513	310

## 2017-2018 Season

### Antiviral Resistance:

Neuraminidase Inhibitor Resistance Testing Results on Samples Collected  
Since October 1, 2017

	Oseltamivir		Zanamivir		Peramivir	
	Virus Samples tested (n)	Resistant Viruses, Number (%)	Virus Samples tested (n)	Resistant Viruses, Number (%)	Virus Samples tested (n)	Resistant Viruses, Number (%)
Influenza A (H1N1)pdm09	164	2 (1.2)	142	0 (0.0)	164	2 (1.2)
Influenza A (H3N2)	555	0 (0.0)	555	0 (0.0)	424	0 (0.0)
Influenza B	201	0 (0.0)	201	0 (0.0)	201	0 (0.0)

### Antigenic & Genetic Characterization:

#### Influenza A Viruses

- A(H1N1)pdm09:** Phylogenetic analysis of the HA genes from 138 A(H1N1)pdm09 viruses showed that all belonged to clade 6B.1. Eighty-five A(H1N1)pdm09 viruses were antigenically characterized, and all were antigenically similar (analyzed using HI with ferret antisera) to the reference 6B.1 virus A/Michigan/45/2015, representing the recommended influenza A(H1N1)pdm09 reference virus for the 2017–18 Northern Hemisphere influenza vaccines.
- A(H3N2):** Phylogenetic analysis of the HA genes from 474 A(H3N2) viruses revealed extensive genetic diversity with multiple clades/subclades co-circulating. The HA genes of circulating viruses belonged to clade 3C.2a (n=384), subclade 3C.2a1 (n=85) or clade 3C.3a (n=5). One hundred sixty two influenza A(H3N2) viruses were antigenically characterized, and 160 (98.8%) A(H3N2) viruses tested were well-inhibited (reacting at titers that were within fourfold of the homologous virus titer) by ferret antisera raised against A/Michigan/15/2014 (3C.2a), a cell propagated A/Hong Kong/4801/2014-like reference virus representing the A(H3N2) component of 2017–18 Northern Hemisphere influenza vaccines.

#### Influenza B Viruses

- B/Victoria:** Phylogenetic analysis of 26 B/Victoria-lineage viruses indicate that all HA genes belonged to genetic clade V1A, the same genetic clade as the vaccine reference virus, B/Brisbane/60/2008. However, a small number of viruses identified in 2017 had a 6-nucleotide deletion (encoding amino acids 162 and 163) in the HA (abbreviated as V1A-2Del). Fifteen (71.4%) B/Victoria lineage viruses were well-inhibited by ferret antisera raised against cell-propagated B/Brisbane/60/2008 reference virus, representing a recommended B virus component of 2017–18 Northern Hemisphere influenza vaccines. Six (28.6%) B/Victoria lineage viruses reacted poorly (at titers that were 8-fold or greater reduced compared with the homologous virus titer) with ferret antisera raised against cell-propagated B/Brisbane/60/2008, and these viruses had the V1A-2Del HA.
- B/Yamagata:** Phylogenetic analysis of 198 influenza B/Yamagata-lineage viruses indicate that the HA genes belonged to clade Y3. A total of 71 influenza B/Yamagata-lineage viruses were antigenically characterized, and all were antigenically similar to cell propagated B/Phuket/3073/2013, the reference vaccine virus representing the influenza B/Yamagata-lineage component of the 2017–18 Northern Hemisphere quadrivalent vaccines.