Influenza Surveillance Report

www.infectiousdisease.dhh.louisiana.gov **Week 42: 10/15/17-10/21/17**

Influenza activity is increasing in Louisiana but remains below the regional baseline. The first positives of the season were identified at the state public health laboratory this week and they were influenza A/H3 and B. The most commonly reported other respiratory viruses are Rhino/Enterovirus, Adenovirus, and Parinfluenza Virus 1.

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.

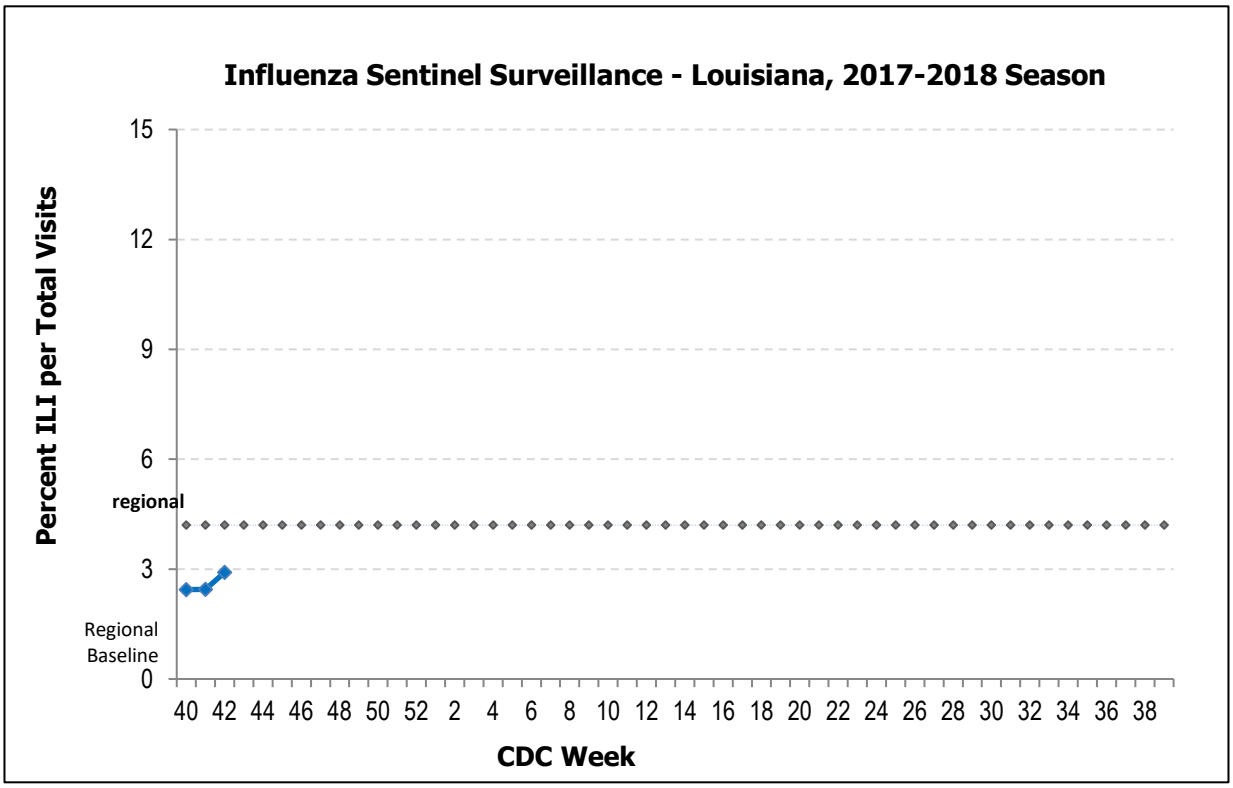
Taken together, ILI surveillance and laboratory surveillance provide a clear picture of the influenza activity occurring in Louisiana each week. If you have any questions about our surveillance system or would like more information, please contact Julie Hand at 504-568-8298 or julie.hand@la.gov.

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.

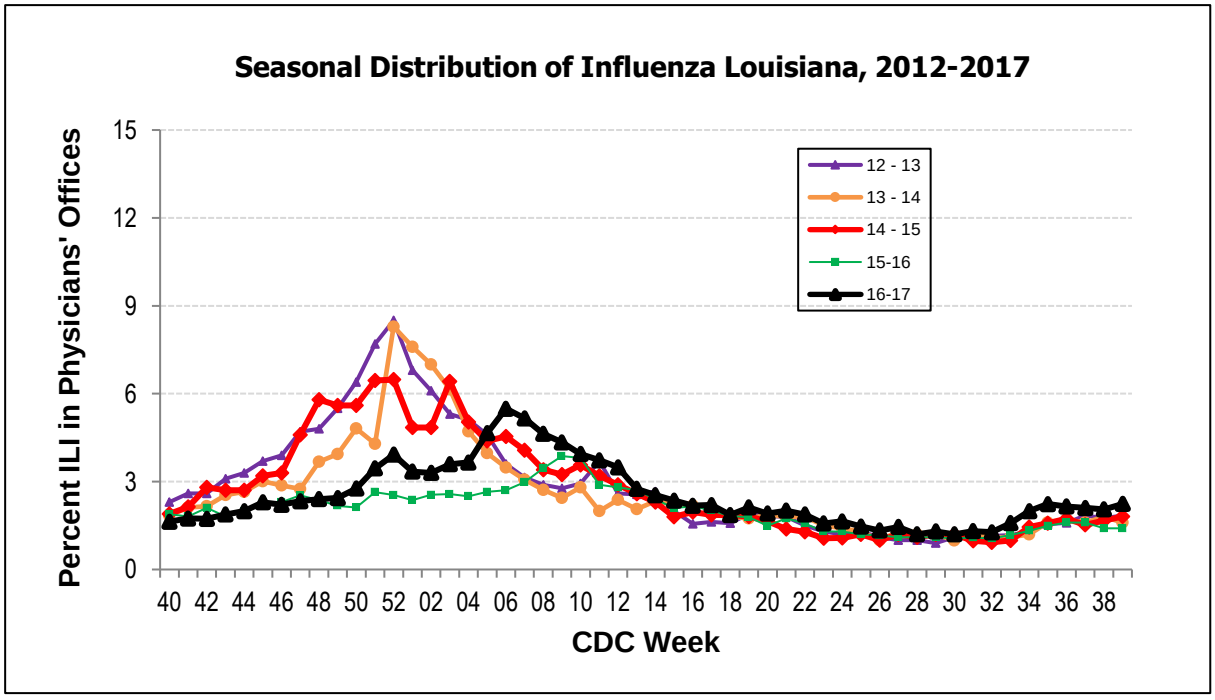
Laboratory testing: Not all sentinel sites have access to laboratory testing. However, many hospitals and physicians' offices do perform some influenza testing. Sites that test for influenza report the number of positive tests each week and the total number of tests performed each week. This information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

2017-2018 Season

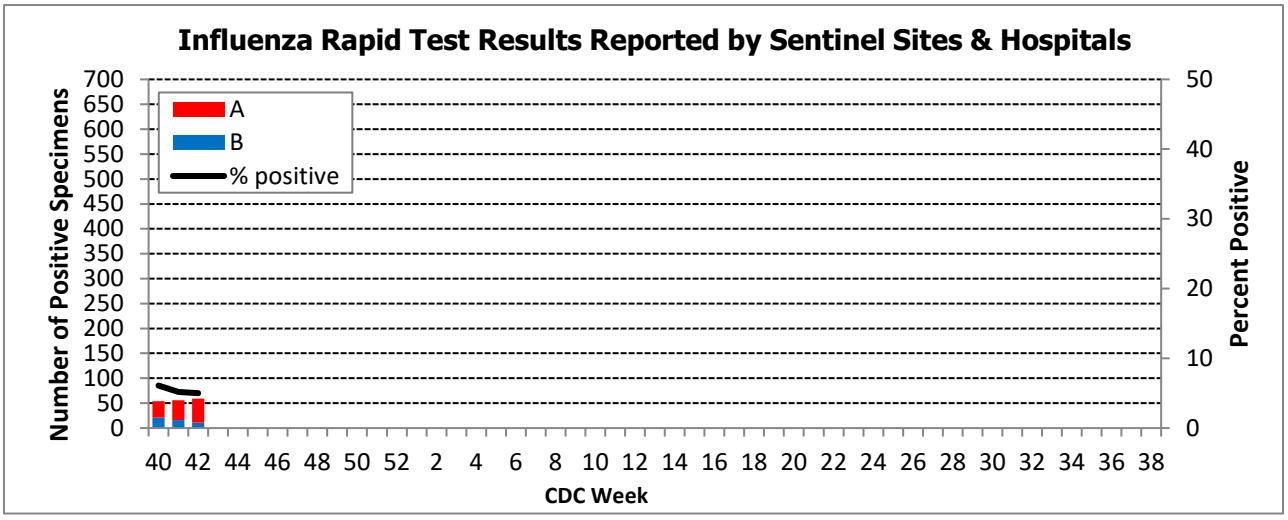
This graph shows the percentage of visits for ILI over the total number of visits for sentinel surveillance sites. This is the best approach to estimate the magnitude of influenza transmission. ILI counts do include some viral infections other than influenza, but experience over the last 50 years has 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.

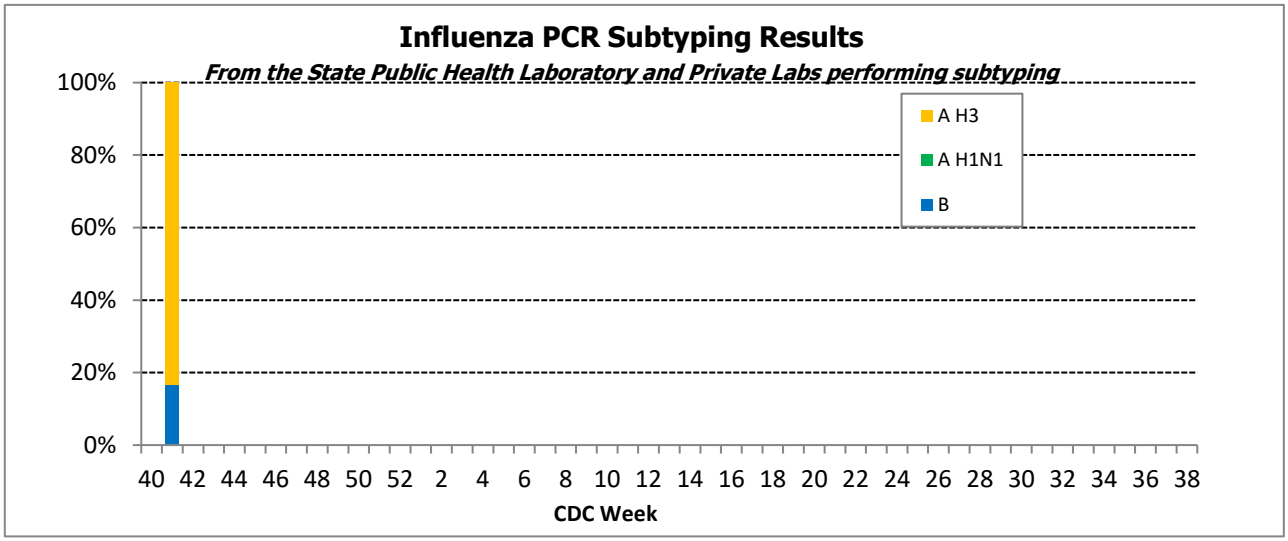


This graph shows the data on ILI surveillance among sentinel physicians' over the past 5 seasons to enable comparisons with previous years and better estimate the amplitude of this season's influenza transmission.

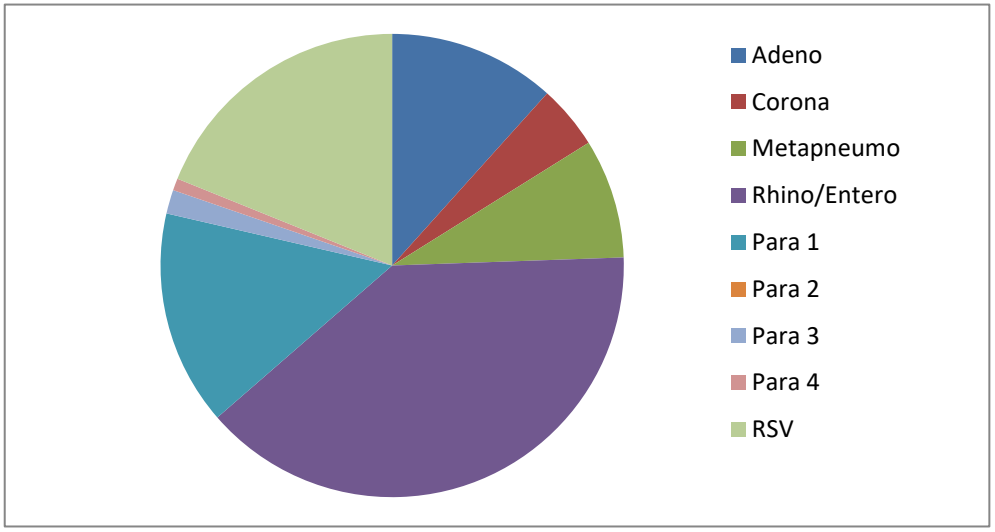


Virologic Surveillance



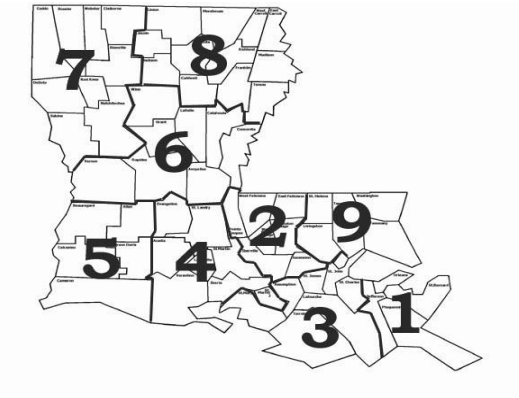


Other Respiratory Viruses*



*Based on results from the State Public Heatlh Laboratory Respiratory Virus Panel (RVP) Testing and other labs reporting RVP results over the last 4 weeks.

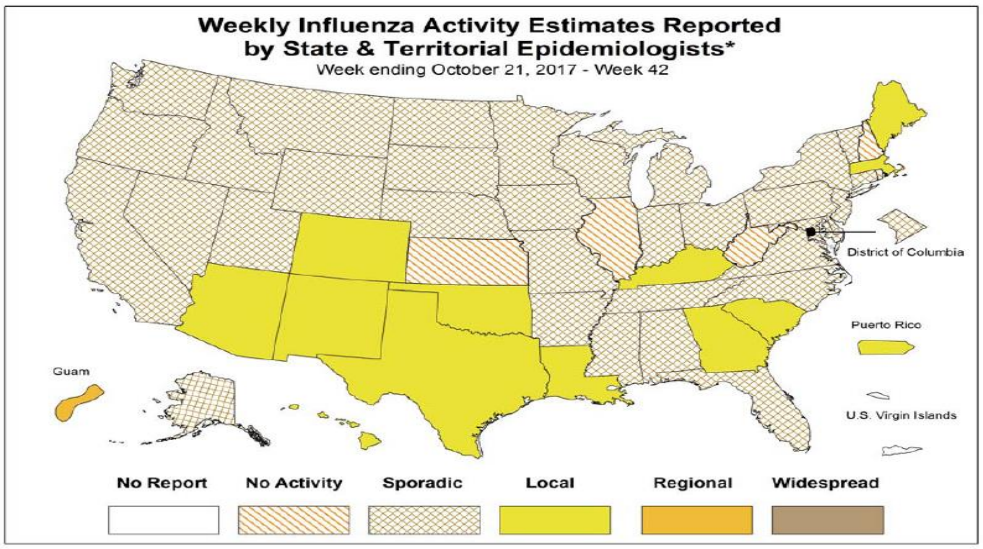
Geographical Distribution of ILI



Low <2%	
MedLow 2-5%	
MedHigh 5-10%	
Very High >10%	

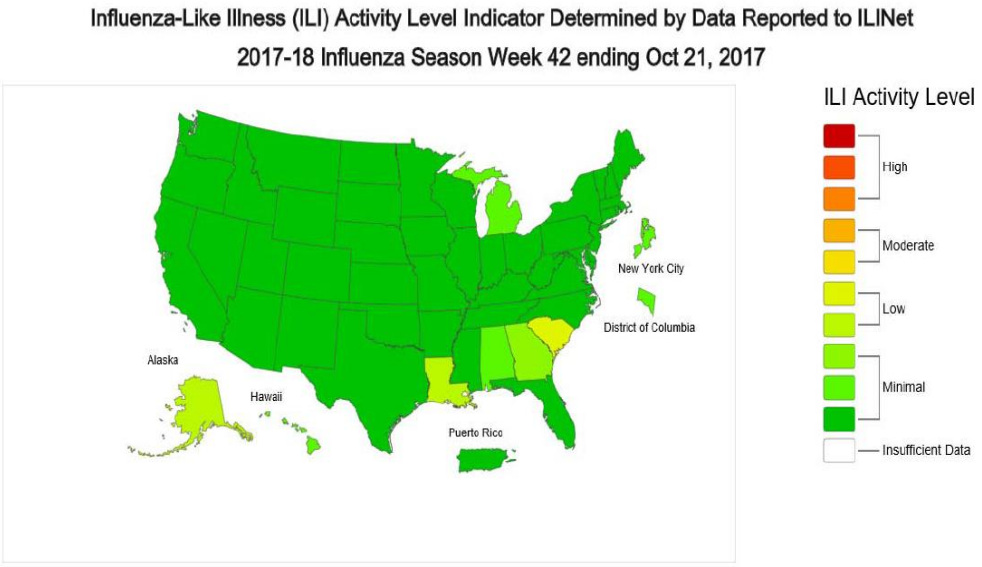
** %ILI over the last 4 weeks based on sentinel surveillance data*

Geographic Spread of Influenza as Assessed by State and Territorial Epidemiologists



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

ILINet Activity Indicator Map



National Surveillance

During week 42, influenza activity was low in the Untied States.

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

One influenza-associated pediatric deaths were reported.

The proportion of outpatient visits for influenza-like illness (ILI) was 1.3%, which is below the national baseline of 2.2%.

Clinical Laboratory Data

	Week 42	Cumulative
Specimens tested	**11,136**	**39,647**
Positive specimens	**274 (2.5%)**	**898 (2.3%)**
Positive specimens by type		
Influenza A	**188 (68.6%)**	**616 (68.6%)**
Influenza B	**86 (31.4%)**	**282 (31.4%)**

Public Health Laboratory Data

	Week 42	Cumulative
Specimens tested	**571**	**1,989**
Positive specimens	**81**	**358**
Positive specimens by type/subtype		
Influenza A	**78 (96.3%)**	**318 (88.8%)**
A (2009 H1N1)	3 (3.8%)	27 (8.5%)
A (H3)	69 (88.5%)	279 (87.7%)
A (subtyping not performed)	6 (7.7%)	12 (3.8%)
Influenza B	**3 (3.7%)**	**40 (11.2%)**
Yamagata lineage	2 (66.7%)	24 (60.0%)
Victoria lineage	0 (0%)	1 (2.5%)
Lineage not performed	1 (33.3%)	15 (37.5%)

HHS Surveillance Region Data:

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
201740	9	74	0	1	4	0	0	0	2	24	2177	68	3.12	47	21
201741	9	84	1	1	12	0	1	0	1	24	2086	49	2.35	35	14
201742	8	67	0	0	11	0	0	0	1	14	1054	30	2.85	26	4
Total	0	225	1	2	27	0	1	0	4	.	5317	147	2.76	108	39

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, October 27, 2017

CDC Week	# Sites Reporting	ILI 0-4 years	ILI 5-24 years	ILI 25-49 years	ILI 50-64 years	ILI 65 years and older	Total ILI	Total Patient Visits	% Unweighted ILI	% Weighted ILI
201740	275	705	705	385	176	127	2098	108942	1.9	1.9
201741	276	777	695	472	160	141	2245	109405	2.1	2.1
201742	240	768	668	432	170	162	2200	97050	2.3	2.1
Totals							*6543*	*315397*		

Antigenic Characterization:

During May 21 – October 21, 2017, CDC antigenically characterized 256 influenza viruses [43 influenza A(H1N1)pdm09, 126 influenza A(H3N2), and 87 influenza B viruses] collected by U.S. laboratories. Antigenic similarity is evaluated by comparing cell-propagated circulating viruses with cell-propagated reference viruses representing the recommended vaccine components of the Northern Hemisphere 2017-18 vaccine.

Influenza A Virus [169]

A(H1N1)pdm09 [43]: All 43 influenza A(H1N1)pdm09 viruses were antigenically characterized using ferret post-infection antisera as A/Michigan/45/2015 (H1N1)pdm09-like.

A(H3N2) [126]: 122 of 126 (96.8%) influenza A(H3N2) viruses were antigenically characterized as A/Hong Kong/4801/2014-like by HI testing or neutralization testing. Among the viruses that reacted poorly with ferret antisera raised against A/Hong Kong/4801/2014-like viruses, all belong to genetic group 3C.3a.

Influenza B Virus [87]

Victoria Lineage [28]: 18 of 28 (64.3%) B/Victoria-lineage viruses were antigenically characterized using ferret post-infection antisera as B/Brisbane/60/2008-like. Among the viruses that reacted poorly with ferret antisera raised against B/Brisbane/60/2008-like viruses, all were double deletion viruses.

Yamagata Lineage [59]: All 59 (100%) B/Yamagata-lineage viruses were antigenically characterized using ferret post-infection antisera as B/Phuket/3073/2013-like.

Antiviral Resistance: During May 21-October 14, 2017, 421 specimens (57 influenza A(H1N1)pdm09, 243 influenza A(H3N2), and 121 influenza B viruses) collected in the United States were tested for susceptibility to the neuraminidase inhibitors (oseltamivir, zanamivir, and peramivir). All tested viruses were sensitive to all three recommended antiviral medications.

The majority of recently circulating influenza viruses are susceptible to the neuraminidase inhibitor antiviral medications, oseltamivir, zanamivir, and peramivir; however, rare sporadic instances of oseltamivir-resistant and peramivir-resistant influenza A(H1N1)pdm09 viruses and oseltamivir-resistant influenza A(H3N2) viruses have been detected worldwide. Antiviral treatment as early as possible is recommended for patients with confirmed or suspected influenza who have severe, complicated, or progressive illness; who require hospitalization; or who are at high risk for serious influenza-related complications. Additional information on recommendations for treatment and chemoprophylaxis of influenza virus infection with antiviral agents is available at http://www.cdc.gov/flu/antivirals/index.htm.