

Influenza Surveillance Report

www.infectiousdisease.dhh.louisiana.gov

Week 50: 12/11/16 - 12/17/16

Influenza activity is increasing in Louisiana but remains below the regional baseline. The most commonly reported other respiratory viruses are Rhino/Enterovirus, Adenovirus, and 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.

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.

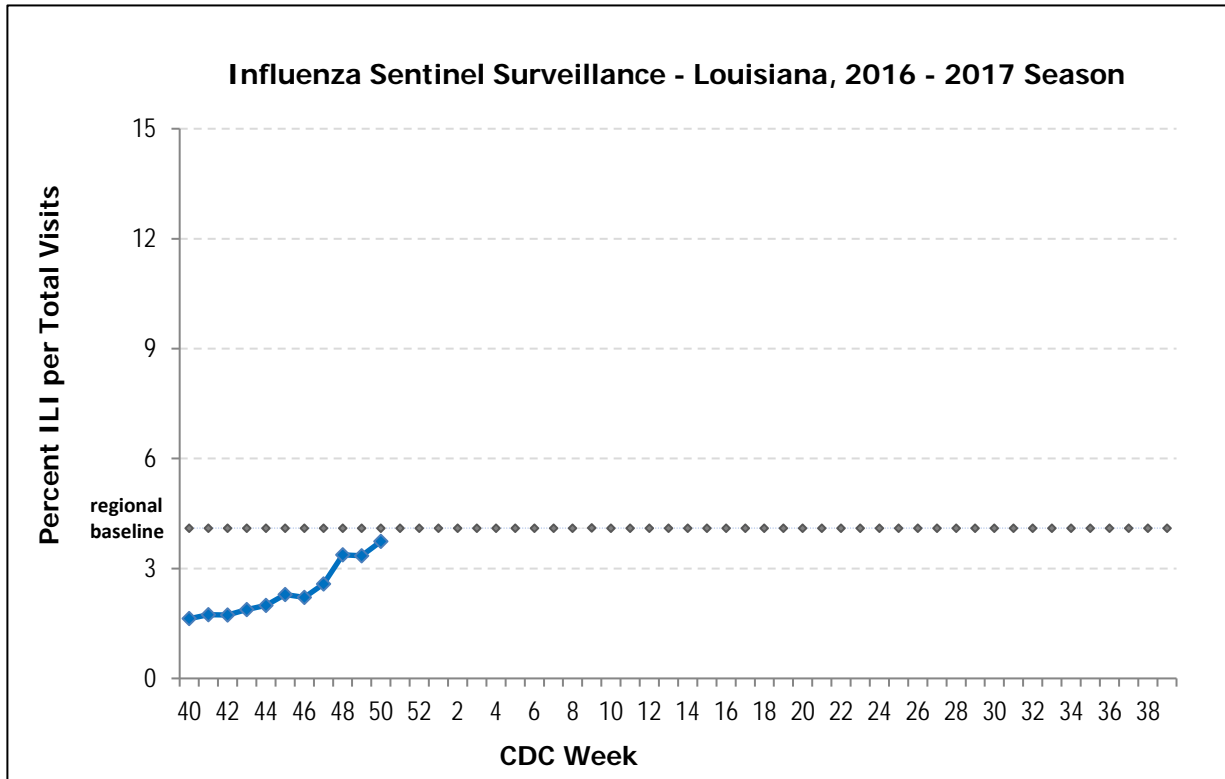


Laboratory testing: Not all sentinel sites have access to laboratory testing. However, many hospitals and physicians' offices do perform some influenza testing. Sites that test for influenza report the number of positive tests each week and the total number of tests performed each week. This information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

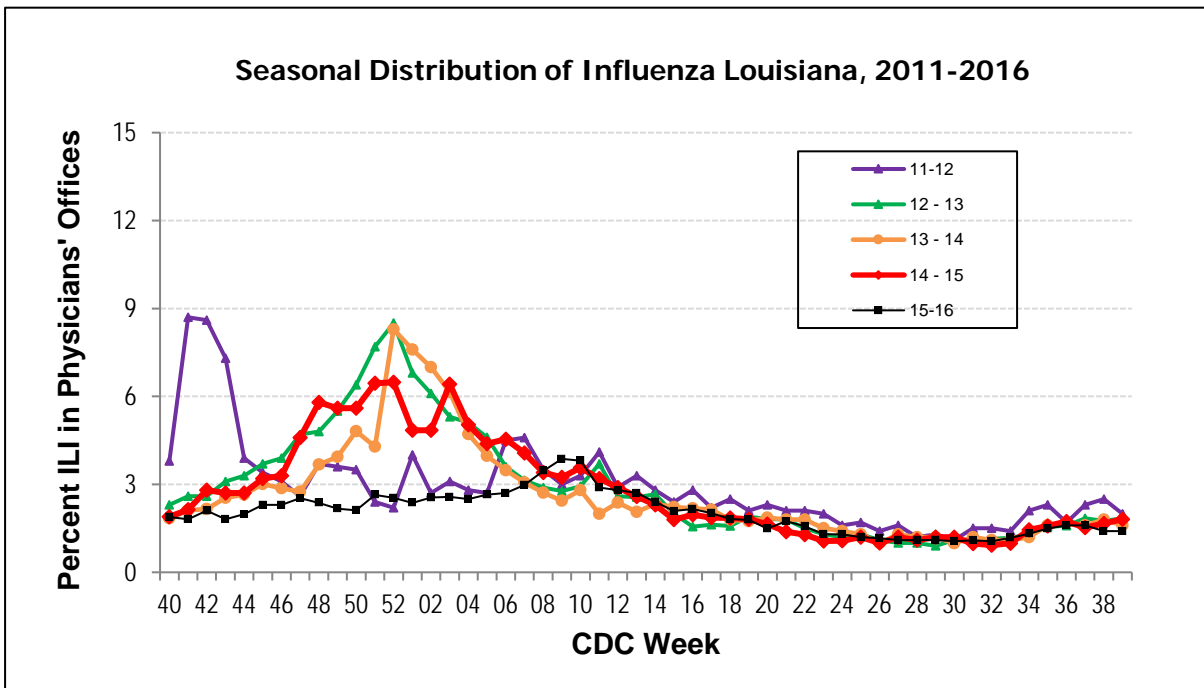
Page 2 : ILI Activity
Page 3: Virologic Surveillance
Page 4: Geographic Distribution
Page 5-6: Regional & National Data

2016-2017 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.

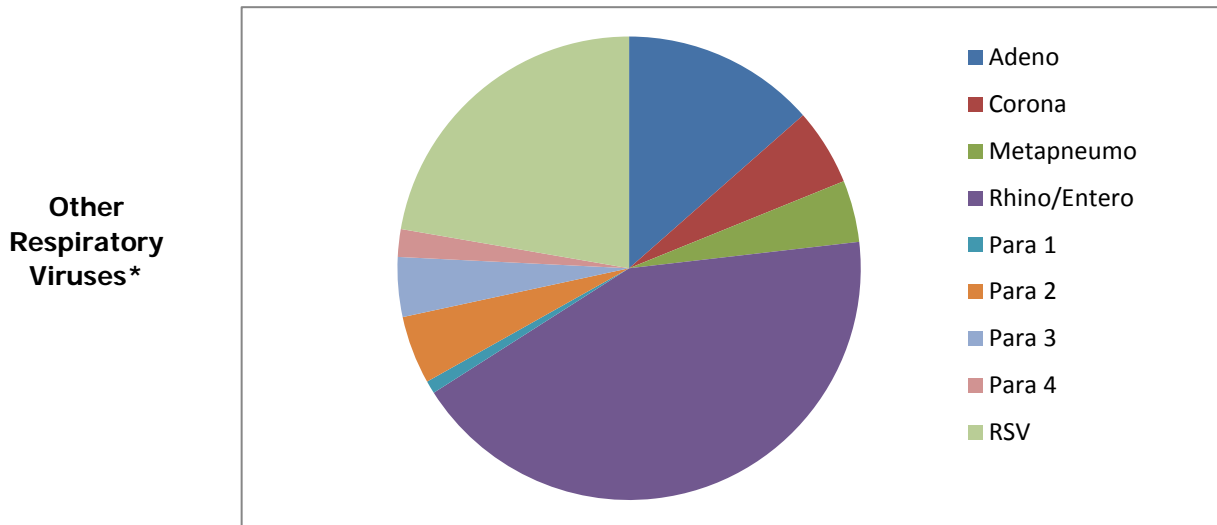
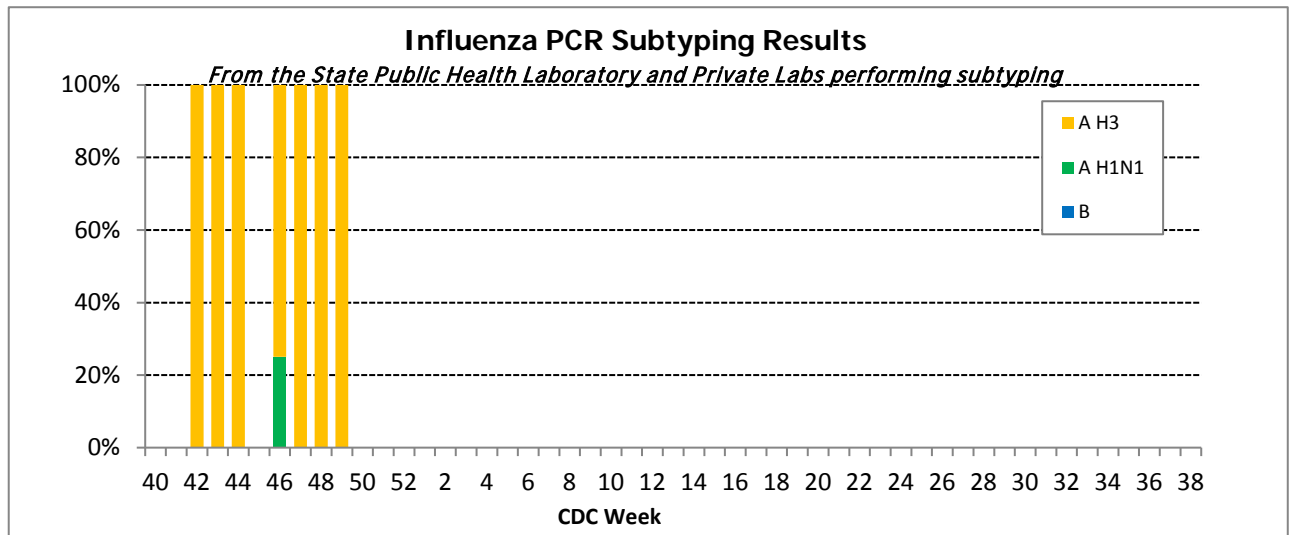
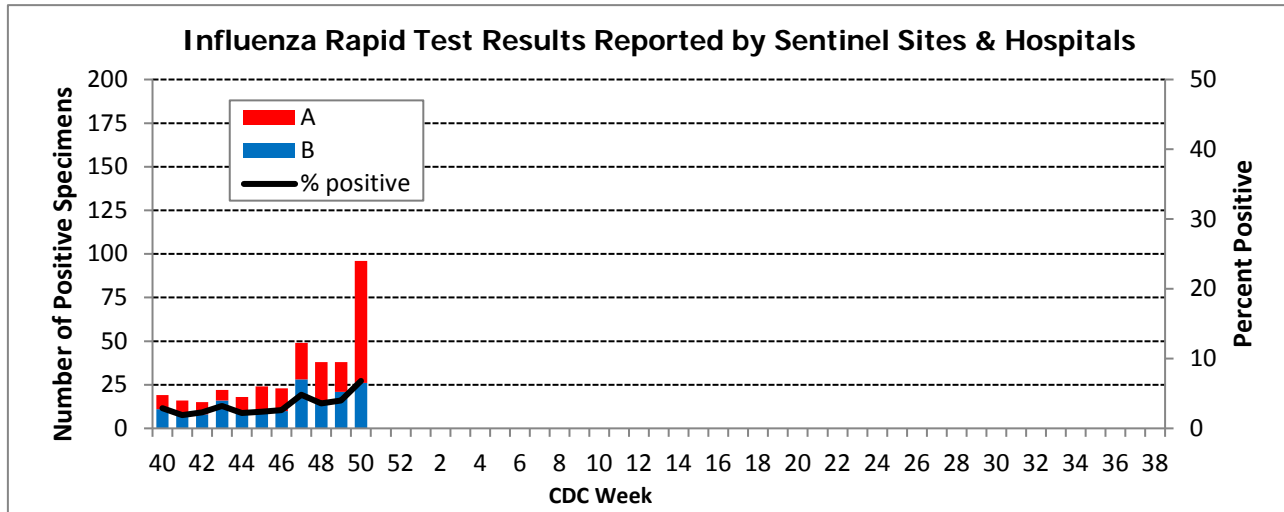


This graph shows the data on ILI surveillance among sentinel physicians' over the past 5 seasons to enable comparisons with previous years and better estimate the amplitude of this season's influenza transmission.



2016-2017 Season

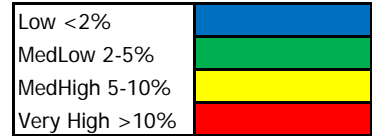
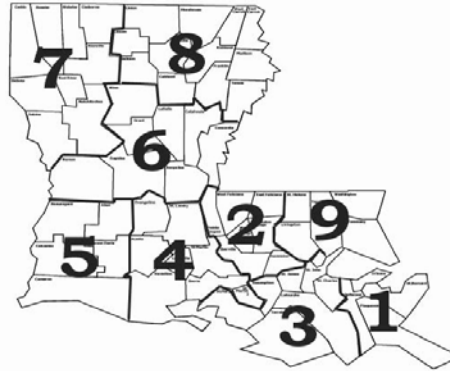
Virologic Surveillance



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

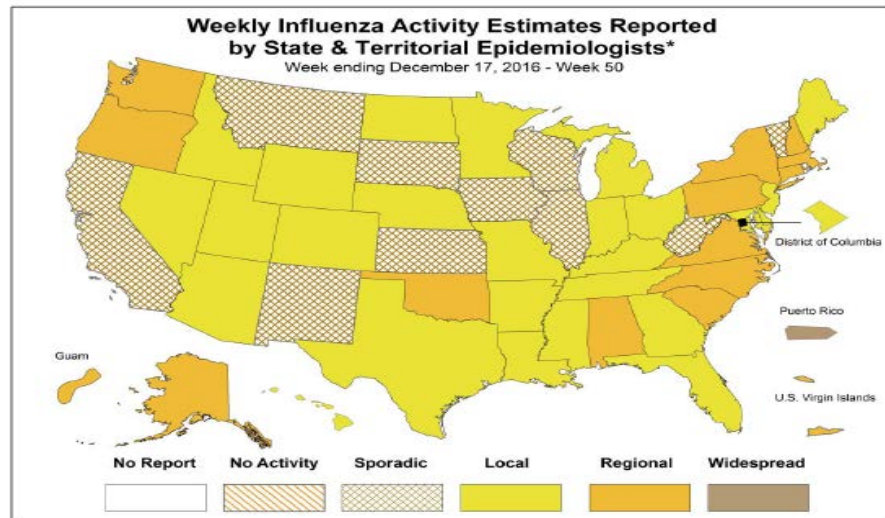
2016-2017 Season

Geographical Distribution of ILI



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

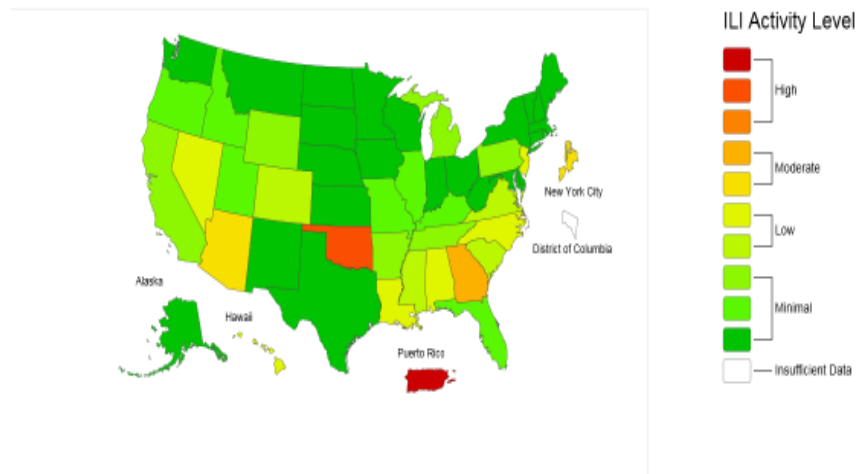
Geographic Spread of Influenza as Assessed by State and Territorial Epidemiologists



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

Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet 2016-17 Influenza Season Week 50 ending Dec 17, 2016

ILINet Activity Indicator Map



2016-2017 Season

National Surveillance

During week 50, influenza activity increased in the United States.

The proportion of deaths attributed to pneumonia and influenza (P&I) was below the system-specific threshold in the National Center for Health Statistics (NCHS) Mortality Surveillance System.

Two influenza-associated pediatric deaths were reported that occurred during the 2015-2016 season.

Proportion of outpatient visits for influenza-like illness (ILI) was 2.3%, which is above the national baseline of 2.2%.

Clinical Laboratory Data

	Week 50	Data Cumulative since October 2, 2016 (week 40)
No. of specimens tested	16,010	177,867
No. of positive specimens (%)	1,130 (7.1%)	5,157 (2.9%)
<i>Positive specimens by type</i>		
Influenza A	986 (87.3%)	3,786 (73.4%)
Influenza B	144 (12.7%)	1,371 (26.6%)

Public Health Laboratory Data

	Week 50	Data Cumulative since October 2, 2016 (week 40)
No. of specimens tested	1,094	12,496
No. of positive specimens*	337	2,103
<i>Positive specimens by type/subtype</i>		
Influenza A	319 (94.7%)	1,930 (91.8%)
A(H1N1)pdm09	5 (1.6%)	95 (4.9%)
H3	291 (91.2%)	1,729 (89.6%)
Subtyping not performed	23 (7.2%)	106 (5.5%)
Influenza B	18 (5.3%)	173 (8.2%)
Yamagata lineage	6 (33.3%)	39 (22.5%)
Victoria lineage	4 (22.2%)	58 (33.5%)
Lineage not performed	8 (44.4%)	76 (43.9%)

HHS Surveillance Region Data:

*U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) 2016-2017 Influenza Season
HHS Region 6 (AR, LA, NM, OK, and TX) (Baseline: 4.1%) Data as of Friday, December 23, 2016*

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
201646	250	698	705	326	148	125	2002	96733	2.1	2.2
201647	284	716	587	374	173	136	1986	84561	2.3	2.5
201648	285	839	798	537	295	156	2625	98193	2.7	2.4
201649	287	815	962	585	289	159	2810	94900	3.0	2.9
201650	263	942	1092	613	323	161	3131	90518	3.5	3.4

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

CDC Week	Public Health Labs	Public Health Specimens Tested	AUNK	AH1N1 pdm09	AH3 N2	AH3N 2v	B	BVic	BYam	Clinical Labs	Clinical Specimens Tested	Clinical Flu Positive	% Positive	A	B
201646	8	108	0	3	4	0	0	0	0	29	2744	67	2.44	40	27
201647	9	63	0	0	6	0	0	0	0	28	2367	45	1.90	31	14
201648	7	99	0	2	5	0	1	0	0	27	2670	50	1.87	28	22
201649	8	87	0	1	10	0	0	0	0	26	2291	72	3.14	46	26
201650	5	56	0	0	8	0	2	0	0	21	2250	99	4.40	85	14

2016-2017 Season

Antiviral Resistance:

Neuraminidase Inhibitor Resistance Testing Results on Samples Collected Since October 1, 2016

	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)pmd09	35	0 (0.0)	35	0 (0.0)	35	0 (0.0)
Influenza A (H3N2)	154	0 (0.0)	154	0 (0.0)	123	0 (0.0)
Influenza B	47	0 (0.0)	47	0 (0.0)	47	0 (0.0)

Antigenic Characterization: CDC has antigenically characterized 89 influenza viruses [26 influenza A (H1N1)pdm09, 42 influenza A (H3N2), and 21 influenza B viruses] collected by U.S. laboratories since October 1, 2016.

Influenza A Virus [68]

A (H1N1)pdm09 [26]: All 26 (100%) influenza A (H1N1)pdm09 viruses were antigenically characterized using ferret post-infection antisera as A/California/7/2009-like, the influenza A (H1N1) component of the 2016-2017 Northern Hemisphere vaccine.

A (H3N2) [42]: 39 of 42 (92.9%) influenza A (H3N2) viruses were antigenically characterized as A/Hong Kong/4801/2014-like, a virus that belongs in genetic group 3C.2a and is the influenza A (H3N2) component of the 2016-2017 Northern Hemisphere vaccine, by HI testing or neutralization testing. Among the viruses which reacted poorly with ferret antisera raised against A/Hong Kong/4801/2014-like viruses, all 3 (100%) are more closely related to A/Switzerland/9715293/2013, a virus belonging to genetic group 3C.3a.

Influenza B Virus [21]

Victoria Lineage [7]: 6 of 7 (85.7%) B/Victoria-lineage viruses were antigenically characterized using ferret post-infection antisera as B/Brisbane/60/2008-like, which is included as an influenza B component of the 2016-2017 Northern Hemisphere trivalent and quadrivalent influenza vaccines.

Yamagata Lineage [14]: All 14 (100%) B/Yamagata-lineage viruses were antigenically characterized using ferret post-infection antisera as B/Phuket/3073/2013-like, which is included as an influenza B component of the 2016-2017 Northern Hemisphere quadrivalent influenza vaccines.