Influenza Surveillance Report

www.infectiousdisease.dhh.louisiana.gov **Week 31 From 8/2/2009 To 8/8/2009**

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 department (ED), laboratories and physicians' offices. Sentinel sites provide weekly data on Influenza Like Illness (ILI) and/or laboratory confirmed cases.

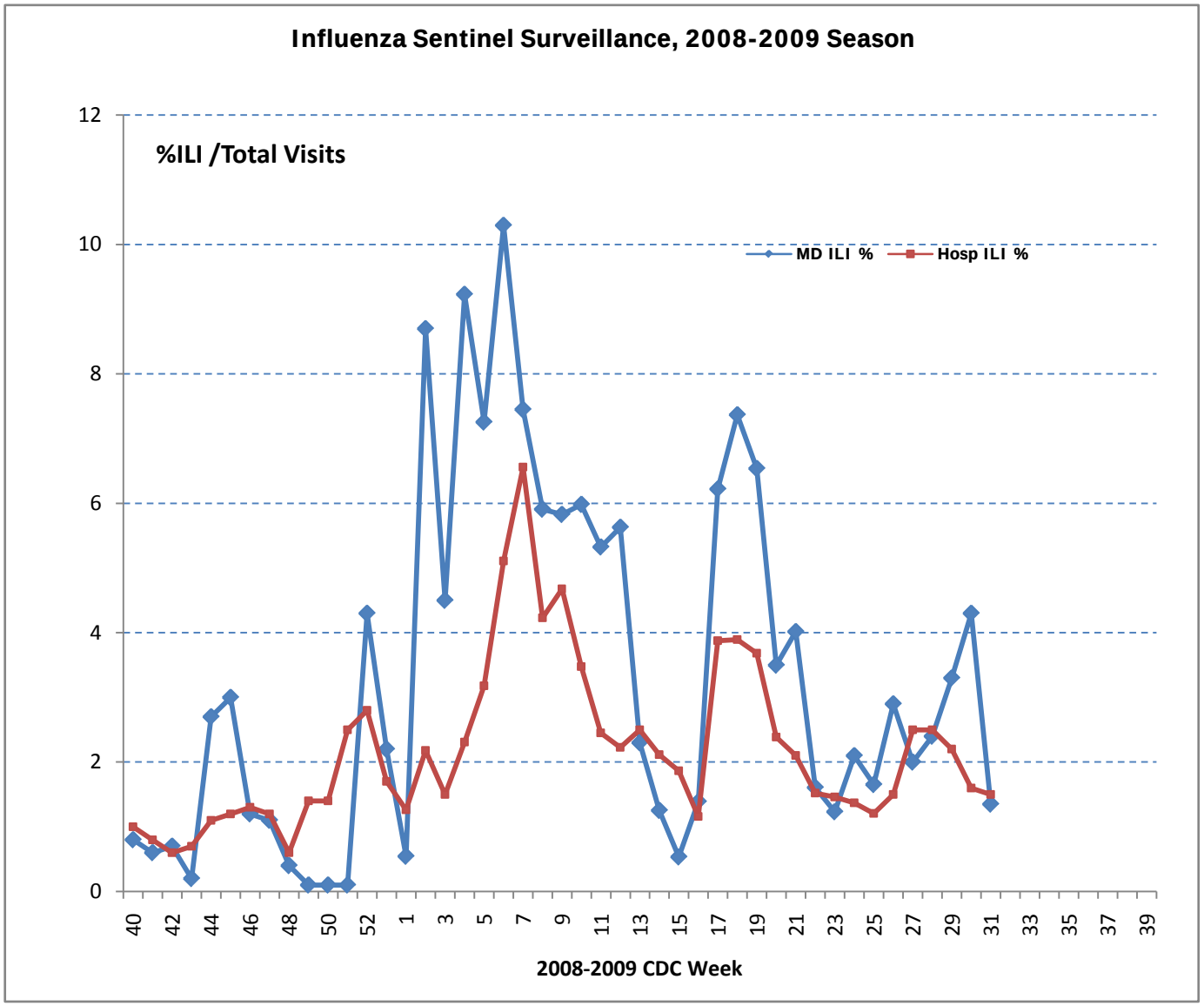
Taken together, ILI surveillance and laboratory surveillance provide a clear picture of the influenza activity occurring in Louisiana each week. If you have any questions about our surveillance system or would like more information, please contact Julie Hand at 504-219-4563 or julie.hand@la.gov.

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 5 of this report.

There are 449 lab confirmed cases of novel H1N1 in Louisiana as of August 14, 2009. Based on an extrapolation from CDC data, the real case count in Louisiana is closer to 20,000. The increase in H1N1 cases reported in Week 0930 and 0931 is due to an increase in positive reports from private laboratories not likely from a real increase in activity. The state public health laboratory continues to test only hospitalized cases and specimens from sentinel outpatient physician's offices.

Influenza Sentinel Surveillance

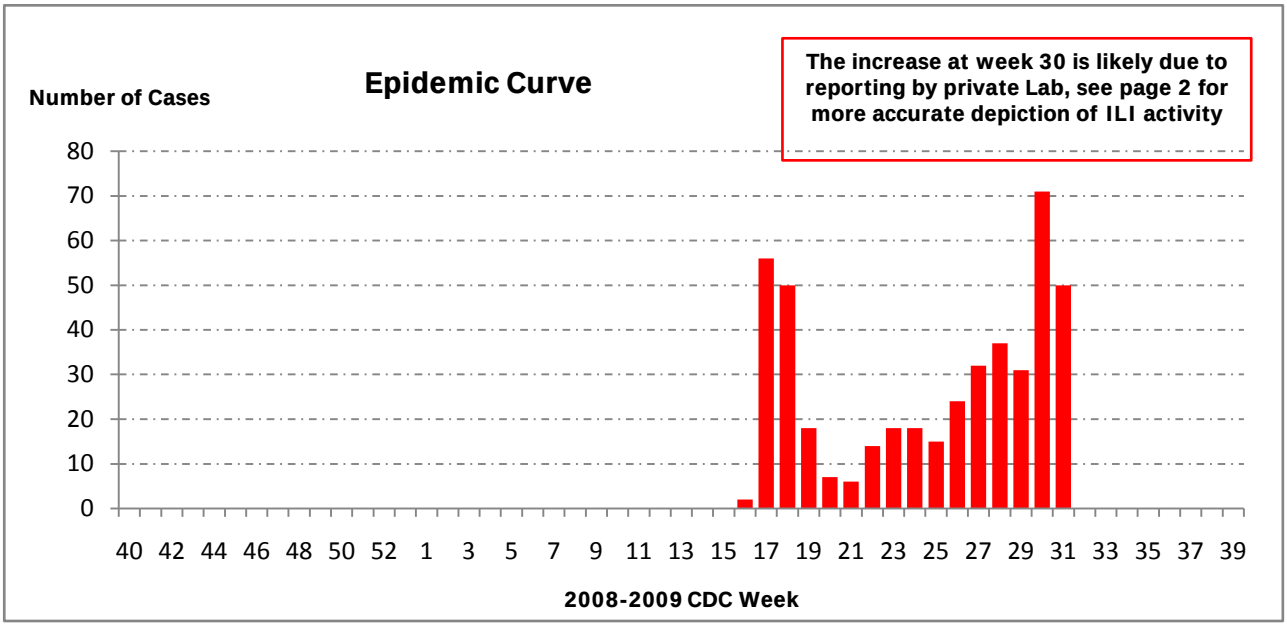


This graph shows the percentage of visits for ILI over the total number of visits for sentinel physicians' offices and emergency departments. This is the best approach to estimate the magnitude of influenza transmission. ILI counts do include some viral infections other than influenza, but experience over the past 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.

Novel Influenza H1N1

This graph displays the sampling basis for the description of the H1N1 cases. It does not accurately depict the epidemic since only a small fraction of cases are tested for H1N1. The most accurate description of the epidemic is a combination of the ILI surveillance (ILI page) and the proportion of novel H1N1 over all influenza strains tested (Lab page).

The total number of cases of H1N1 reported is 449



Age and Gender distribution

	Gender distribution		Age distribution				
	% M	% F	0_4	5_24	25_64	65+	
Population	48%	52%	7%	30%	51%	12%	100%
Previous seasonal			31%	36%	27%	6%	100%
Novel H1N1	46%	54%	11%	65%	23%	0%	100%

The distribution by gender is similar to the population distribution by gender.
The distribution by age group shows the highest proportion of cases in the 5-24 age group.

Clinical data

Fever	10.0%
Influenza Like	84.8%
Gastro-Intestinal	23.8%
Pneumonia /ARDS	2.4%

*Cases may be counted in more than 1 category

Clinical data from novel H1N1 influenza cases
Fever = Patients with fever only and no other symptoms
ILI = Fever + Cough /Sorethroat /Upper respiratory infection
Gastro-intestinal = Nausea, or vomiting, or diarrhea
Pneumonia or ARDS = Acute Respiratory Distress Syndrome

Hospitalization	Rate/100,000 /year	
Prior season low	0.4	Yr 2004
average	1.5	Over 8 yrs
high	2.7	Yr 2007
08-09 H1N1	1.9	

Death	Rate/1,000 Hospitalizations	
Prior season low	6.9	Yr 2006
average	11.5	1999-2007
high	33.3	Yr 2000
08-09 H1N1	0.0	

One death occurred during week 0932 and will be included in next week's report

Spatial Distribution of Influenza

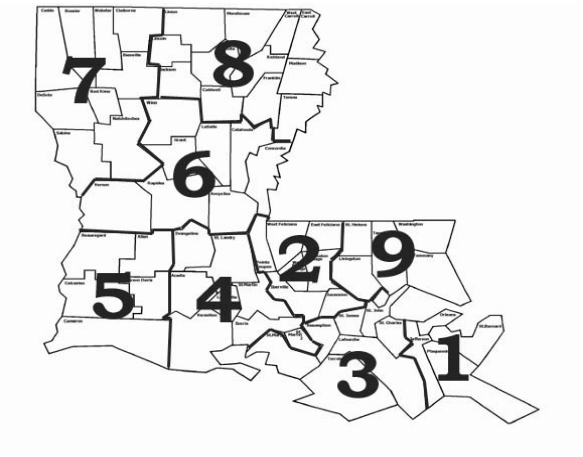
Region	Parish	H1N1*	% ILI**	
Region 1	Jefferson	34	0.2	
	Orleans	13	1.9	
	Plaquemines	13		
	St Bernard	2		
	All Region 1	**62**	**1.2**	
Region 2	Ascension	3		
	East Baton Rouge	74	0.0	
	East Feliciana	1		
	Iberville	4		
	Pointe Coupee	1		
	West Baton Rouge	1		
	West Feliciana	0		
	All Region 2	**84**	**0.0**	
Region 3	Assumption	0		
	Lafourche	5	0.0	
	St Charles	12		
	St James	1		
	St. John	1		
	St. Mary	0	0.0	
	Terrebonne	6	0.0	
	All Region 3	**25**	**0.0**	
Region 4	Acadia	0		
	Evangeline	3		
	Iberia	6		
	Lafayette	69	1.9	
	St Landry	4		
	St Martin	7		
	Vermilion	8		
	All Region 4	**97**	**1.9**	
Region 5	Allen	0		
	Beauregard	2		
	Calcasieu	17	0.0	
	Cameron	0		
	Jefferson Davis	0		
	All Region 5	**19**	**0.0**	
Region 6	Avoyelles	0		
	Catahoula	1		
	Concordia	0		
	Grant	0		
	LaSalle	4	4.2	
	Rapides	6	6.7	
	Vernon	6		
	Winn	0		
	All Region 6	**17**	**5.7**	
Region 7	Bienville	3		
	Bossier	12		
	Caddo	63	4.6	
	Claiborne	1		
	DeSoto	8		
	Natchitoches	2		
	Red River	0		
	Sabine	1		
	Webster	1		
	All Region 7	**91**	**4.6**	

Region	Parish	H1N1	% ILI	
Region 8	Caldwell	0		
	East Carroll	1		
	Franklin	0		
	Jackson	0		
	Lincoln	1		
	Madison	0		
	Morehouse	0	0.0	
	Ouachita	11	3.1	
	Richland	3		
	Tensas	0		
	Union	1	0.0	
	West Carroll	0		
	All Region 8	**17**	**1.9**	
Region 9	Livingston	3		
	St. Helena	0		
	St Tammany	22	0.8	
	Tangipahoa	8		
	Washington	0	0.0	
	All Region 9	**33**	**0.5**	
To be determined		4		
Grand Total		**449**		

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

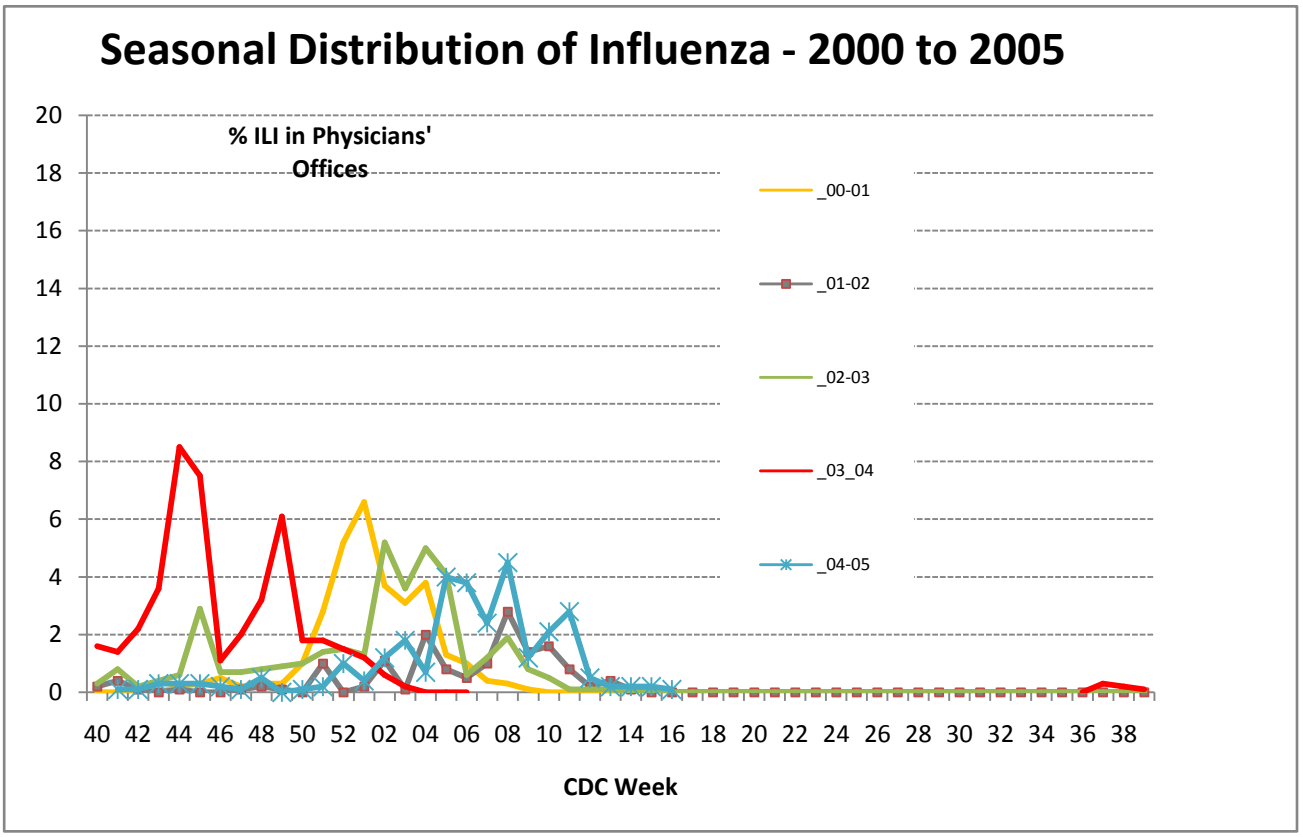
* Cumulative number from week 16 to present

** Weekly % ILI based on sentinel surveillance data

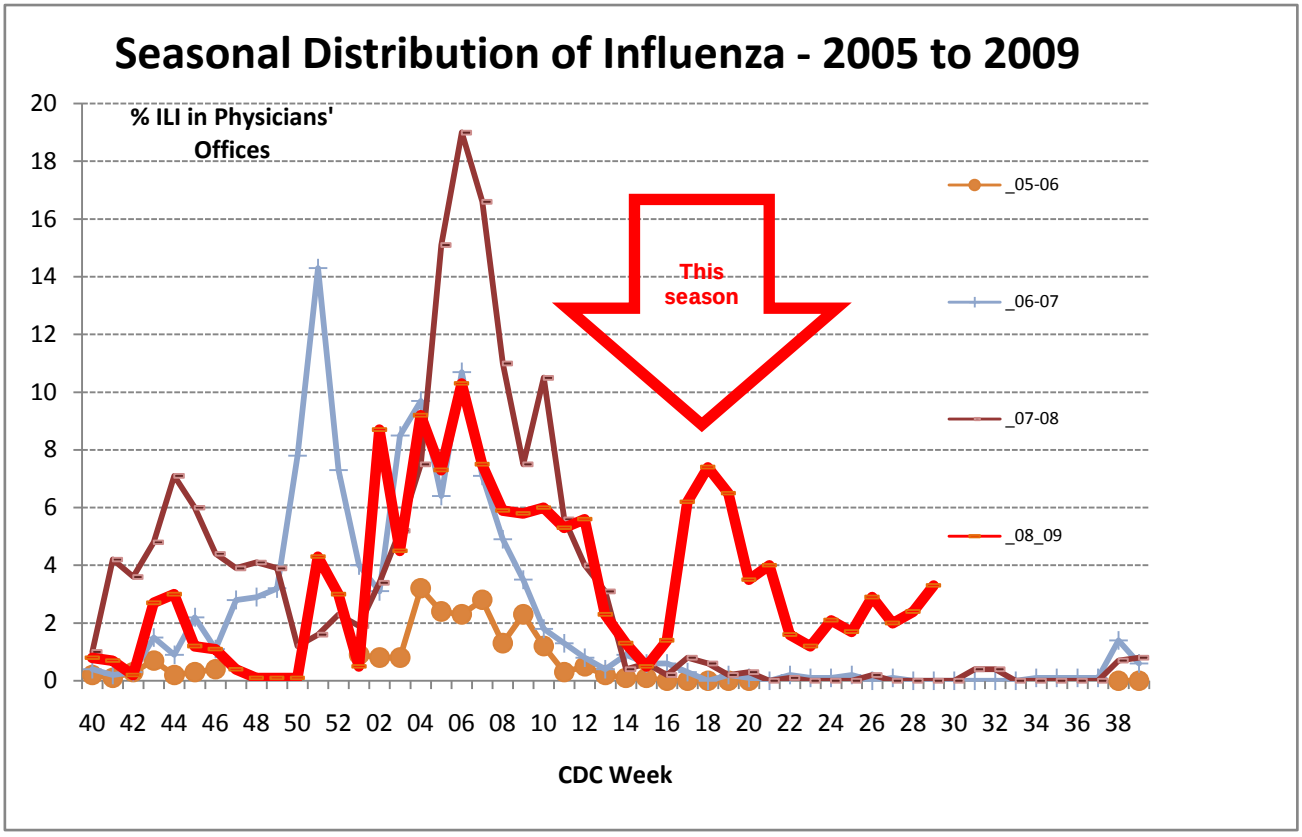


This chart displays the intensity of influenza activity throughout the state. There are difference between regions. Although not representative of the exact occurrence of H1N1 throughout the state, it appears that H1N1 is spread in all areas of the state and both in urban and rural areas.

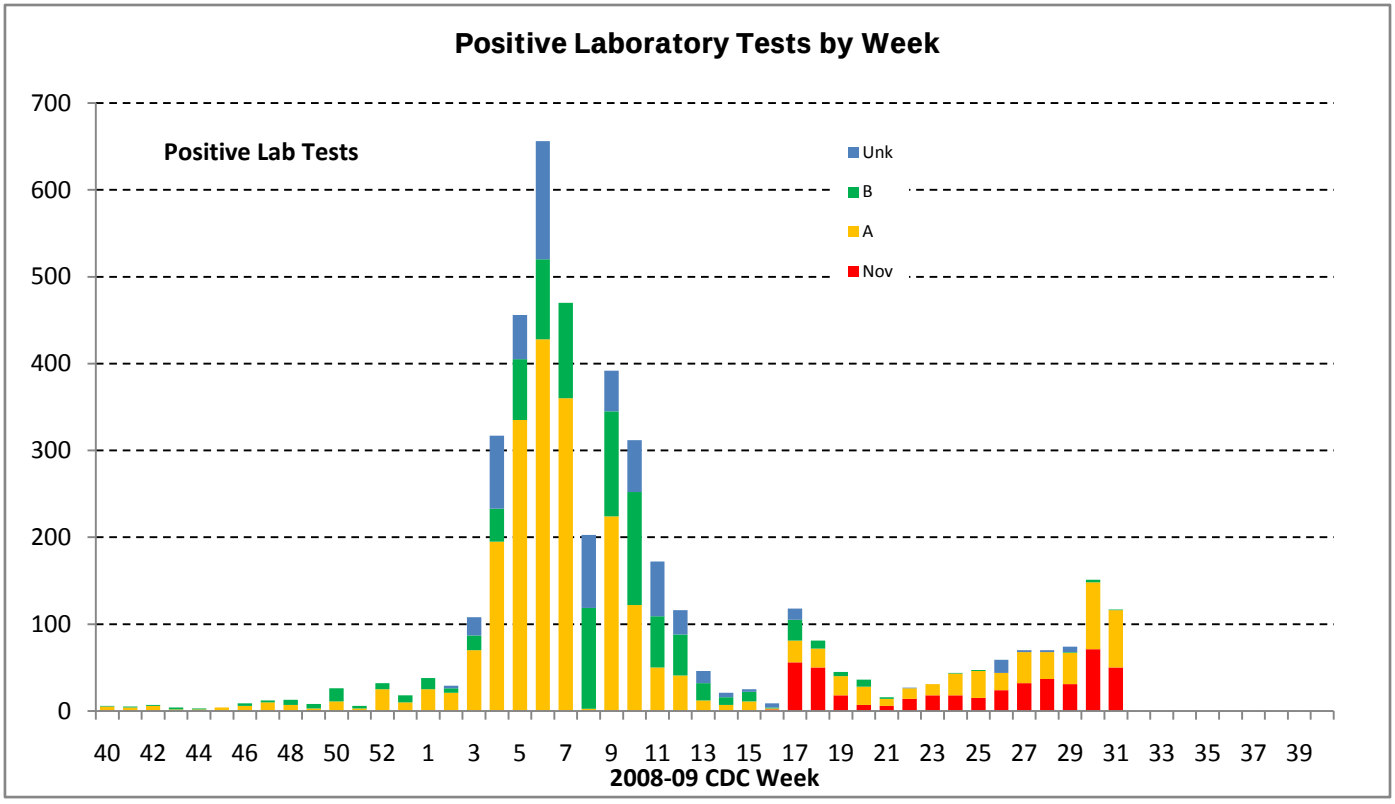
Historical Data on Influenza in Louisiana



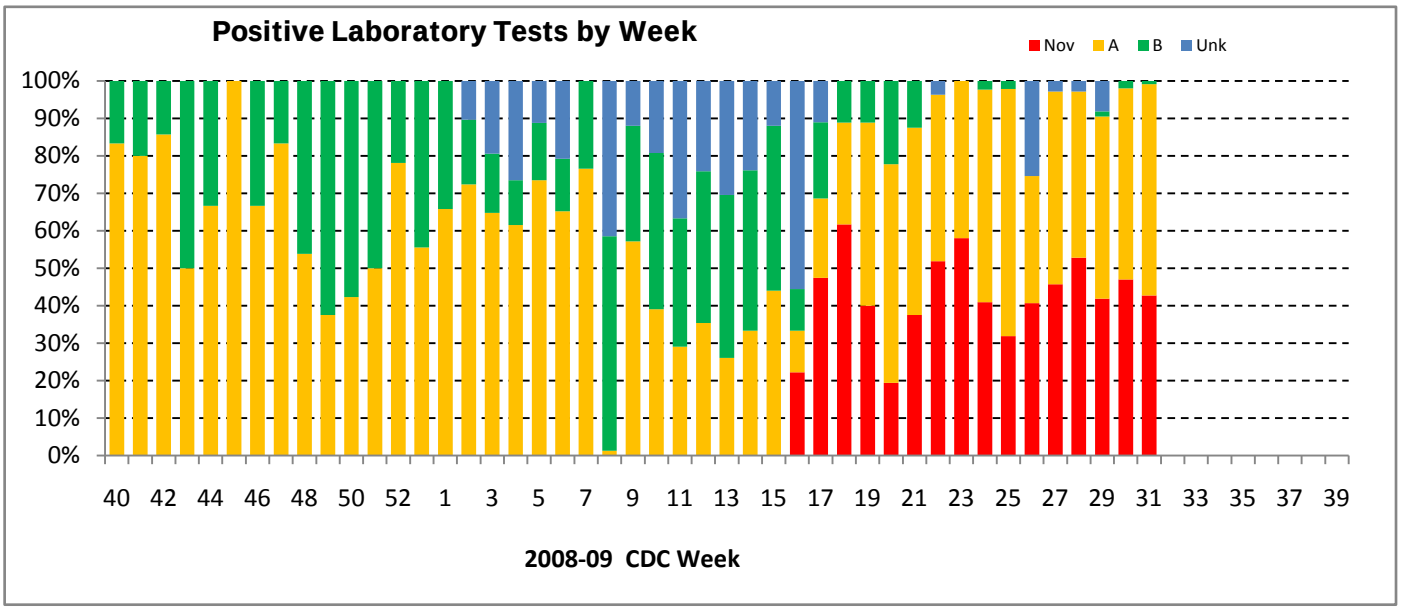
The purpose of this page is to show the data on ILI surveillance among sentinel physicians' over the past 10 years to enable comparisons with previous years and better estimate the amplitude of this season's influenza transmission.



Laboratory Surveillance



These graphs show the distribution by virus type. Early in the season types were seldom determined, then followed a mixture of influenza A and B. Starting at week 17, novel H1N1 started to appear and has progressed regularly. Influenza A and Novel H1N1 may overlap



Louisiana novel H1N1 specimens from week 17 were tested at CDC and found to be resistant to Adamantanes and Sensitive to Oseltamivir and Zanamivir.

National Data Summary

During Week 0931, seasonal influenza A (H1), A (H3), and B viruses co-circulated at low levels with novel influenza A (H1N1) viruses. 98% of all subtyped influenza A viruses being reported to CDC this week were novel influenza A (H1N1) viruses.

Influenza Activity: Decreased but there are still higher levels of influenza-like illness than is normal for this time of year.

Proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold.

Three influenza-associated pediatric deaths were reported and all were associated with novel influenza A (H1N1) virus infection.

A total of 7,511 hospitalizations and 477 deaths associated with novel influenza A (H1N1) viruses have been reported to CDC.

Proportion of outpatient visits for influenza-like illness (ILI) was below national and region-specific baseline levels.

Lab Data:

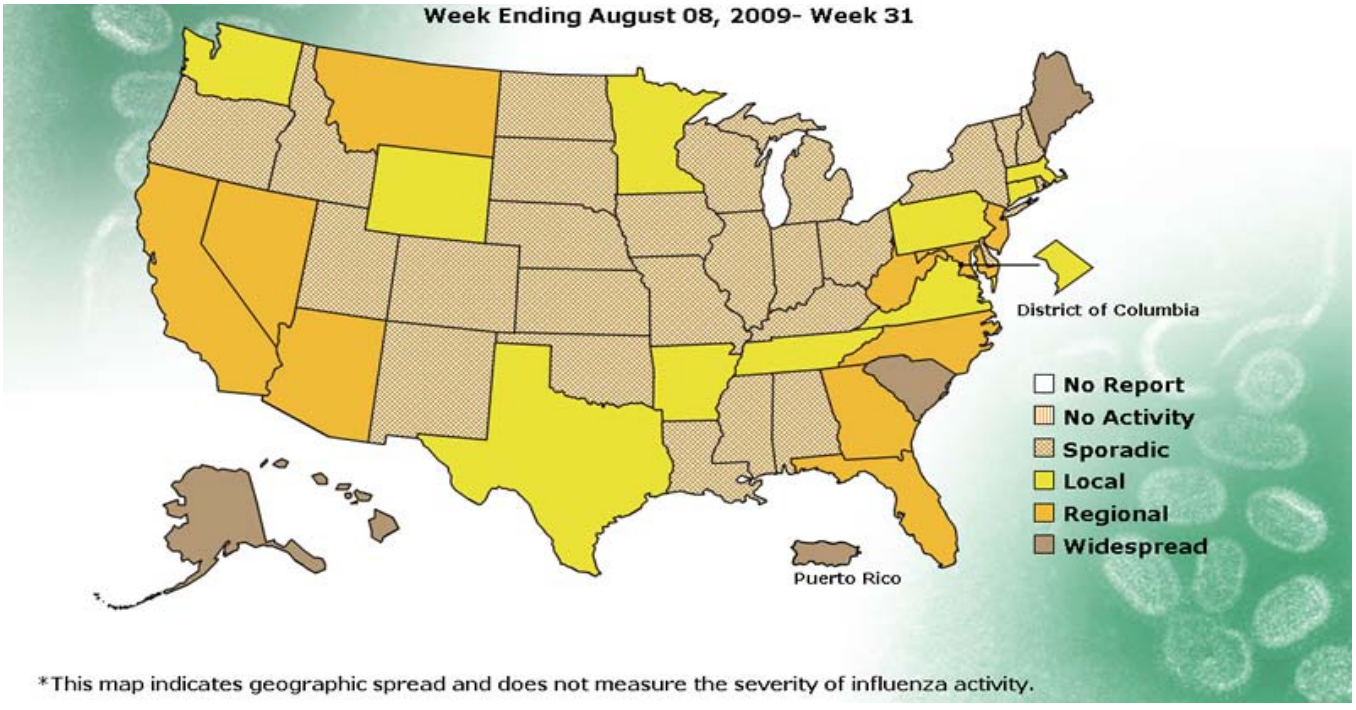
4,246	Specimens tested
809 (19.1%)	Influenza positive
806 (99.6%)	Influenza A
3 (0.4%)	Influenza B

Influenza A:

516 (64.0%)	Pandemic H1N1
10 (1.2%)	Seasonal H1
2 (0.2%)	Seasonal H3
264 (32.8%)	Unsubtyped
14 (1.7%)	Untypable

Antiviral Resistance Data:

	Novel Influenza A (H1N1)	Influenza A (H1N1)	Influenza A (H3N2)
# tested	318	1,142	241
Oseltamivir & Zanamivir	2 (0.6%)	1,137 (99.6%)	0
# tested	371	1,148	235
Adamantanes	371 (100%)	6 (0.5%)	235 (100%)



TRANSMISSION

Source:
Humans mostly
Respiratory tract secretions
Transmission:
--Large droplets
--Airborne: limited to few feet
--Direct contact: with nasal or throat secretion.
--Fomites: Article freshly soiled with nasal or throat secretion.
Attack rate
HH= 25%, moderate

Incubation
2-5 (1-7) days

Close contact
30 mn within 6 feet of a symptomatic

Respiratory Tract Infection 1 wk
fever, cough, sore throat, body aches, headache, chills and fatigue.

Communicability
1 day beforeSymptoms to End of Fever (+1 day

Exclusions
--Until fever subsides (100oF) + 1 day except HCP
--Longest of onset to end of S x + 1day or 7 days for HCP
-- HCP = Health Care Practitioner
--Exposed : Watch for Sx , then exclude as above
--If contact with high risk (Exp + 1 to +7)

Complication
- Viral or bacterial pneumonia
-Aggravation of chronic pulmonary, cardiac, renal, hepatic, hematologic or metabolic disorders

High risk of severe illness and complications:
• aged 6 months–4 years; or 65 and older
• residents of chronic-care facilities;
• long-term aspirin therapy
• chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological or metabolic disorders (including diabetes);
• immunosuppressed (immunosuppression caused by meds or by HIV)
• any condition (cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders that compromise respiratory function or handling of respiratory secretions or that increase aspiration risk

DIAGNOSIS

Clinical criteria: influenza-like illness =
-fever ≥ 37.8°C [100°F] & (cough or sore throat) or
-acute respiratory illness = recent onset of at least 2 of : rhinorrhea or nasal congestion, sore throat , cough, fever
-Hospitalization for acute lower respiratory tract infection and no other cause for this infection

Rapid Test is useful to identify influenza (90% of nonel H1N1 are positive on rapid test)
PCR Confirmation not useful for clinical, therapeutic or preventive decisions ONLY FOR EPI PURPOSES
Test results come too late to be of use for case or contact management

TREATMENT & PROPHYLAXIS

Oseltamivir Roche Pharmaceuticals (Tamflu®—tablet
Zanamivir GlaxoSmithKline (Relenza®—inhaled powder).

Prophylaxis - 10 days Only contacts that are at high risk of severe illness and complications.
Treatment - 5 days:
• Severe disease
• High risk of severe illness and complications.

Antivirals indicated mostly for high risk, severe disease and hospitalized individuals

PREVENTION OF TRANSMISSION - INFECTION CONTROL

Prevent emission
Respiratory hygiene
Cough etiquette
--Cover cough, sneeze
--Use tissues, dispose safely
--Wear mask
--Spatial separation 3 ft
Early triage to institute
Respiratory hygiene

Modified Droplet* & Contact Precautions

Modified Droplet = Personal respirator (N95) /instead of surgical mask

High risk of airborne transmission: Aerosol producing procedures:
--bronchoscopy
--intubation
--nebulization
--suction

USE AIRBORNE PRECAUTIONS
Personal Resp N95
Neg pressure room
≥ 12 air exchange

Restrict hospitalization: Hospitalization is NOT for quarantine or diagnostics. Hospitals provide care for acutely ill

DO
- Use hand sanitizers between each patient contact or wash hands if visibly soiled
- Wear gloves when touching patient and patient areas
- Wear mask when closer than 3 ft from patient
- Know what is “clean”, what is “contaminated “and keep them apart

DO NOT
- Touch eyes, nose or mouth with contaminated hands (gloved or ungloved).
- Make adjustments to the PPE during patient care or removal; Careful placement of PPE before patient contact
- Touch contaminated environmental surfaces not directly related to patient care (door knobs, light switches)
- Touch pen, glasses and other personal items during patient care