COUNTY OF LOS ANGELES Public Health

INFLUENZA WATCH
LOS ANGELES COUNTY

Los Angeles County (LAC) The total number of positive flu tests and the % of flu tests that tested positive remained low in week 1 (Figure 1). Data analysis to date shows no severe pediatric cases and no deaths due to influenza in week 1 (Table 1). The % of emergency department visits due to ILI (Figures 2 and 3) has fallen below levels established in previous years. Two new ILI (influenza-like illness) outbreaks (one in a hospital and one in a school) were reported during week 1 (Table 1). The increase in the % of positive flu tests that are flu B is due to both a decrease in flu A as well as the appearance of small numbers of flu B. While flu activity remains low in LAC, RSV is increasing sharply signally the beginning of respiratory season (Figure 1). We anticipate an increase in flu activity to follow this rise in RSV.

Table 1: Surveillance System Overview

SURVEILLANCE SYSTEM*	Week 1	2009-2010 YTD
Percent Positive Influenza Tests±	4.3	15.8
Percent Positive RSV Tests‡	13.5	2.0
Percent Flu A / Flu B±	93.8/ 6.2	99.6 / 0.4
Severe Pediatric Influenza Cases†	0 (0)	95 (9)
Respiratory Outbreaks	2	355
Influenza Deaths	0	75

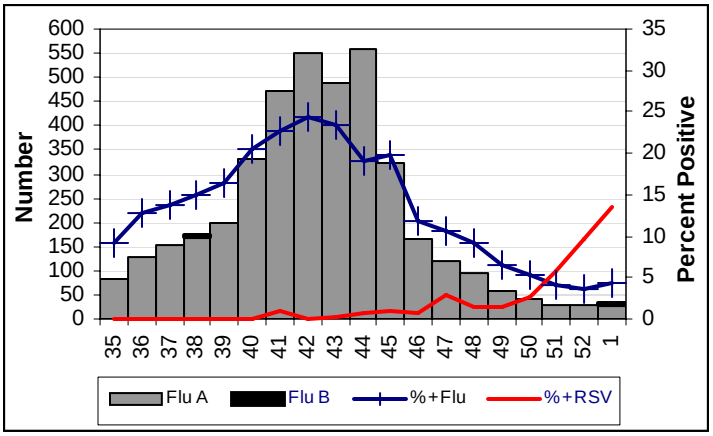
*See http://lapublichealth.org/acd/flu.htm for a description of surveillance methods. 2009-2010 surveillance started on 8/30/09 (week 35) and ends May 22, 2010 (week 20)

± Sentinel sites (9 participating facilities in week 1)

‡ Sentinel sites (4 participating facilities in week 1)

†The number of deaths is indicated by the parenthesis.

Figure 1: Total Positive Flu and % Positive Flu by Week



*Influenza data represent testing completed in 9 facilities except in weeks 39 in which data represent testing in 8 facilities.

California During week 1 (January 3-January 9), influenza activity in California was downgraded to local.

http://www.cdph.ca.gov/PROGRAMS/VRDL/Pages/CaliforniaInfluenzaSurveillanceProject.aspx

United States Influenza activity decreased in the US during week 1 (Jan 3-9). In week 1, no states reported widespread activity, 9 states reported regional activity, 15 states reported local activity, 24 states reported sporadic activity, and 2 states reported no activity. All subtyped influenza A viruses reported to CDC in week 52 were pH1N1 viruses. www.cdc.gov/flu/weekly

In the News An article published in *The New England Journal of Medicine* on December 23rd describes a retrospective study of pediatric (<18 years) pH1N1 hospitalizations in Argentina that occurred between May and July of 2009. Rates of pH1N1 admission and death were compared with those among age-matched children who had been infected with seasonal influenza in 2007 and 2008. During May-July, 2009 a total of 251 children were hospitalized with pH1N1 at 6 hospitals. The rate of pH1N1 hospitalization was twice that of seasonal flu in 2008. Of patients with pH1N1, 19% were admitted to the ICU compared to 0% for seasonal flu. The overall rate of death from pH1N1 was ten times the rate of death for seasonal influenza and was highest among infants under 1 year of age at 7.6 per 100,000. This study highlights the severity of pediatric pH1N1. (See page 2 for a comparison of this data to LAC data).

http://content.nejm.org/cgi/content/full/362/1/45?query=TOC

Figure 2: Percent of ED Visits for ILI by Week, All Ages

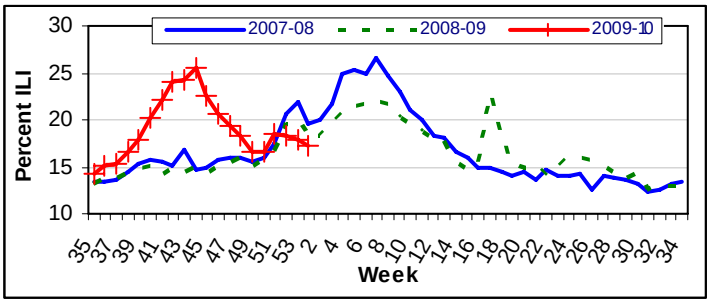
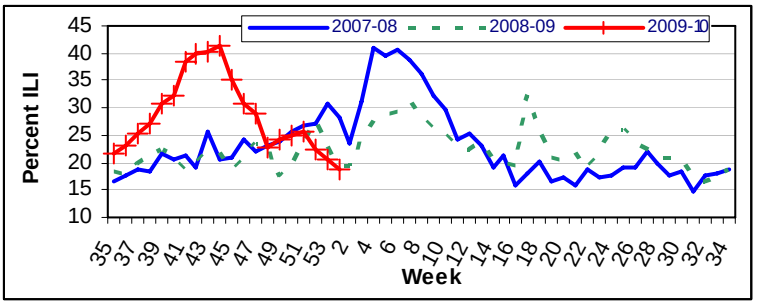


Figure 3: Percent of ED Visits for ILI by Week, 5-14 Years



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Analysis of Influenza Cases in Los Angeles County (LAC)

Table 2: Hospitalized Pediatric* pH1N1 Cases, 05/09-07/09

	Argentina (n=251)	LAC (n=92)
Admission to ICU -- no. (%)	47/251 (19)	13/92 (14)
Death -- no. (%)	13/251 (5)	6/90 (7)
pH1N1 pediatric hospitalization rate†	20.9	3.5
pH1N1 pediatric death rate†	1.1	0.2
pH1N1 infant death rate (<1 yr)	7.6	1.4
Median Age	10	4
Male sex -- (%)	52	61
Bacterial pneumonia -- no. (%)	25/251 (10)	4/92 (4)
Past Medical History -- no. (%)	81/241 (34)	56/91 (62)
Asthma	14/245 (6)	na
Chronic lung disease	25/242 (10)	na
Asthma plus chronic lung disease	na	35/91 (38)
Cardiac	15/244 (6)	7/91 (8)
Metabolic Disorder	4/246 (2)	9/91 (10)
Neurologic	21/245 (9)	22/91 (24)

*Pediatric is defined as <18 years.
†Due to differences in age categories for population estimates, pediatric hospitalization and death rates were calculated for cases aged 0-17 years in Argentina and 0-19 years in LAC. Rates are per 100.000.

Between May 1 and July 31, 92 hospitalized pediatric pH1N1 cases were reported in LAC. Compared to the 251 hospitalized pediatric pH1N1 cases that occurred in Argentina during the same time period, LAC cases were less likely to be admitted to the ICU and to develop bacterial pneumonia. In addition, LAC cases were more likely to be male and younger in age. The overall pH1N1 pediatric hospitalization and death rates were significantly lower in LAC (Table 2).

While it is interesting to note the differences between LAC and Argentina, there are several reasons why these data are not directly comparable. Differences in surveillance methods, screening protocol, healthcare access and quality, as well as possible differences in case definitions and inclusion criteria for variables of interest could explain the disparity of the data. In addition, the time period of May-July is the height of respiratory season in Argentina. Thus, the significantly higher hospitalization and death rates in Argentina could be due to a higher prevalence of pH1N1 as well as a higher rate of secondary infections caused by other viruses and bacteria in circulation at that time. While LAC has yet to see an increase in influenza this respiratory season, data from Argentina may serve to indicate that the severity of pH1N1 could increase during winter months.

Since the beginning of the pandemic in April, 2009 there have been 353 ICU/deaths due to confirmed pH1N1. Of these cases 122 have been deaths. The number of ICU admissions and deaths (Figure 4) and the number of hospitalizations (Figure 5) due to pH1N1 remain low during this time of year.

Figure 4: Number of Pandemic H1N1 Cases by Week of Onset as of January 13, 2009, Individual Case Reporting

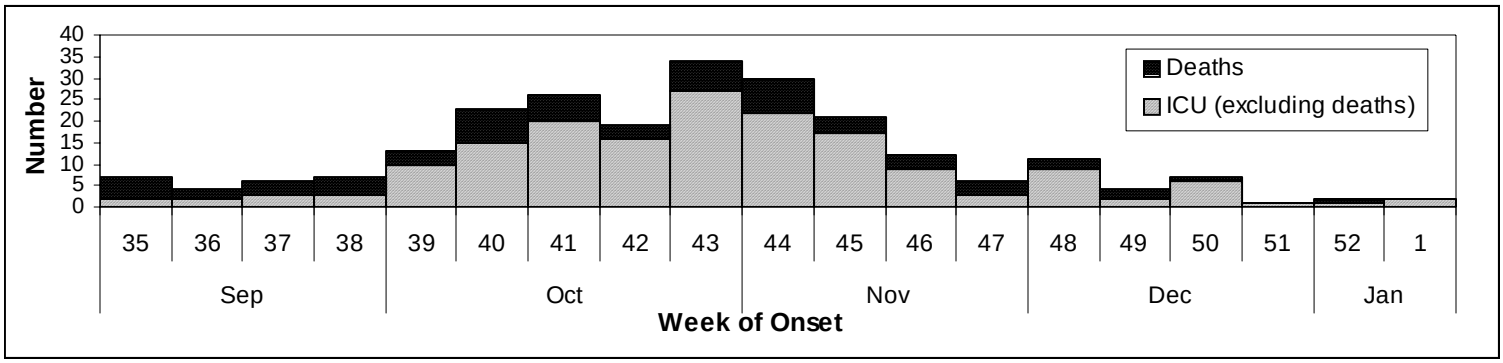

Figure 5: Number and Rate of Hospitalized Influenza (*Any* Influenza) Cases, Aggregate Reporting