

INFLUENZA WATCH

Flu Surveillance and Related Disease Updates for Los Angeles County

Season Summary
 June 11, 2012
 Surveillance Week 20
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Season Characterized by Mild Local Flu Activity

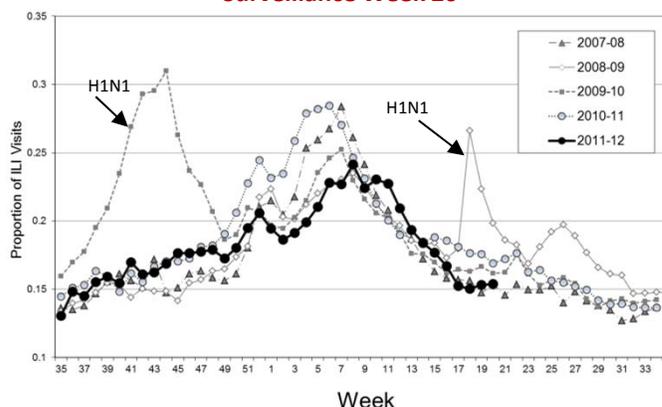
Overall, Los Angeles County (LAC) experienced low levels of influenza and influenza-like-illness (ILI) activity in the 2011-2012 season. Compared to previous years, there were fewer influenza deaths and fewer community respiratory outbreaks (Table 1, pages 2 and 3 of this summary), and ILI as measured by visits to LAC hospital emergency rooms was reduced (Figure 1). The temporal pattern in ILI activity paralleled those of previous years, and the characteristic two-peak cycle that has been typical for LAC during the majority of the past six seasons was observed. However, peaks in ILI visits occurred at lower prevalence, and the second peak occurred slightly later in the season than in previous years. This season's mild local influenza is consistent with what was observed nationally, with the CDC reporting that 2011-2012 was one of the mildest on record (<http://www.cdc.gov/flu/weekly/>). Experts in respiratory disease speculate that prior years' successful vaccination campaigns could have been responsible, in part, for the mild season, underscoring the importance of continued influenza vaccination efforts.

Table 1. LA County Surveillance Summary, 2011-2012

LA County Surveillance Summary	Influenza Peak Week 12 3/18/12-3/24/12	2011-2012 Season Summary 8/28/11-5/19/12
Positive Flu Tests / Total Tests (Percent Positive Flu Tests)	142 / 921 (15.4%)	1,149 / 19,745 (5.8%)
Percent Flu A / B	90 / 10	90 / 10
Positive RSV Tests / Total Tests (Percent Positive RSV Tests)	72 / 546 (13.2%)	1,293 / 14,187 (9.1%)
Community Respiratory Outbreaks	0	27
Flu Deaths, Confirmed (Pediatric Deaths, Confirmed)	1* -----	21 (2)

* Due to the lag time in reporting and confirmation of cause, weekly flu death data is delayed.

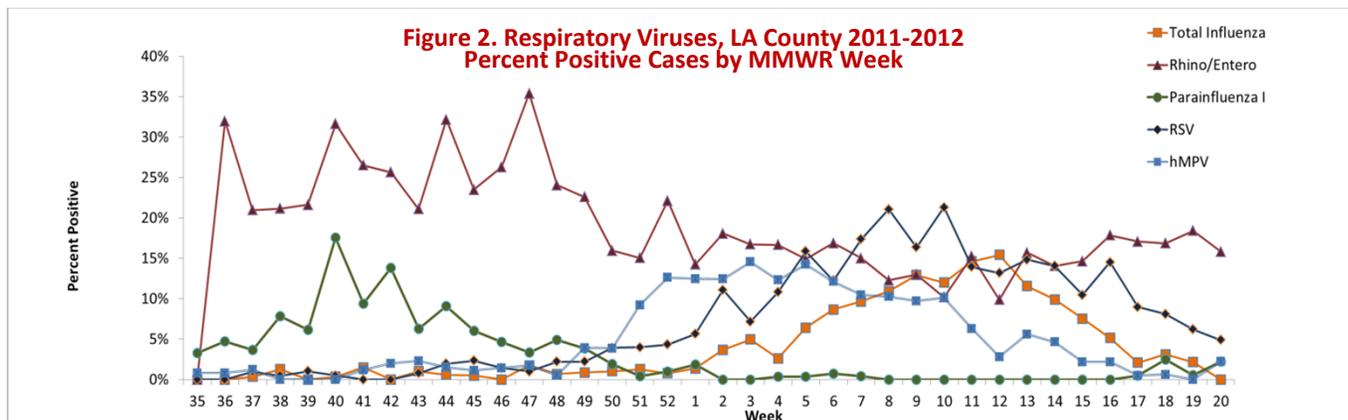
Figure 1. Influenza-like Illness ED Visits, LA County 2007-2012 Surveillance Week 20



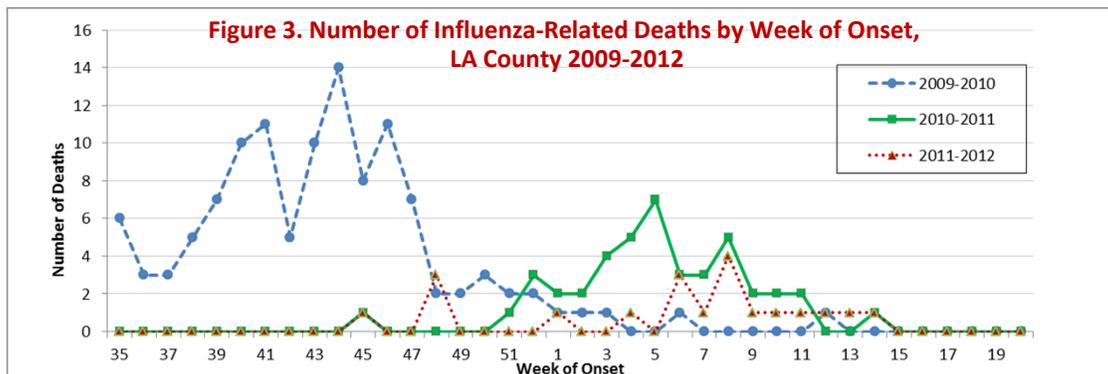
Multiple Circulating Respiratory Viruses

Surveillance of laboratory-confirmed influenza from our ten sentinel laboratories spread out over LAC—from Northridge to Long Beach to Pomona to West Los Angeles — showed gradual but steady increases in influenza starting in early in 2012 (Figure 2). Local influenza activity surpassed 10% prevalence in surveillance week 9 (February 26-March 3) and peaked in week 12 (March 18-24) at 15.4%. A number of other respiratory viruses circulating in LAC during the 2011-2012 season contributed to local respiratory illness. Rhino/enterovirus was the predominant respiratory virus in early weeks of the season, after which its prevalence declined when influenza activity began to increase in week 1. Parainfluenza, initially the second most common virus in the fall, decreased to almost no activity during the winter. Human metapneumovirus (hMPV) peaked in early winter and started to decline as influenza and respiratory syncytial virus (RSV) were increasing.

Figure 2. Respiratory Viruses, LA County 2011-2012 Percent Positive Cases by MMWR Week



Characteristics of Confirmed Influenza Deaths



Fewer Deaths, Older Adults

In 2011-2012, 27 possible influenza deaths among LAC residents were investigated and 21 were confirmed. This number is lower than in previous years, in part due to the mild 2011-2012 influenza season. 60% (16 of 27) of reported influenza deaths were identified from the Coroner’s office or from death certificates, and not from hospitals. Most influenza deaths during the 2011-2012 season had symptom onset during surveillance weeks 6 – 9 (Figure 3). Unlike the past two years, adults 65 years and older comprised the majority of deaths; four occurred among individuals 90 years of age or older (Table 2). Two pediatric influenza deaths in children aged 0-17 years were identified in LAC, comprising 33% of the 6 reported to the California Department of Public Health (CDPH) and 10% the 21 reported to the Centers for Disease Control and Prevention (CDC). Influenza type A was underlying 17 of the deaths; one-quarter were pandemic H1N1 subtypes, 70% could not be subtyped. Cardiovascular conditions were prevalent among the influenza deaths, including hypertension, coronary artery disease (CAD), diabetes and cardiovascular disease (CVD). A history of tobacco use, drug or alcohol abuse were also prevalent, as was obesity. One case of antiviral resistant influenza was identified in LAC, the sole case identified in California.

Table 2. Characteristics of Influenza Fatalities, n=21, LA County 2011-2012

Demographic Characteristic		Number (%)
Age (years)	Median	69
	Range	3-104
	<18	2 (10%)
	18-64	8 (38%)
	65 +	11 (52%)
	Gender	
	Female	13 (62%)
	Male	8 (38%)
Race	Hispanic	13 (62%)
	White Non-Hispanic	3 (14%)
	Asian	1 (5%)
	African-American	4 (19%)
	Service Planning Area	
	1 / 2	3 (14%)
	3 / 4	7 (33%)
	5 / 6	4 (19%)
	7 / 8	8 (38%)

Viruses Associated with Confirmed Influenza Fatalities	
Type A	17 (81%)
pH1N1	4 (24%)
A (no subtype)	12 (70%)
H3N2	1 (6%)
Type B	4 (19%)
Underlying Medical Conditions, Adult Deaths, n=19	
Hypertension	13 (68%)
Coronary artery disease (CAD)	9 (47%)
History of tobacco use	8 (42%)
Obesity	7 (37%)
Diabetes	7 (37%)
Cancer	5 (26%)
History of alcohol or drug abuse	4 (21%)
Cardiovascular disease (CVD)	4 (21%)
Asthma	3 (16%)
Neurological disorder, acquired	2 (11%)

Characteristics of Community Respiratory Outbreaks

Influenza Outbreaks Reported Primarily in Schools

In the mild 2011-2012 influenza season, 27 community (non-healthcare-associated) respiratory outbreaks were reported, compared with 60 during 2010-2011. The majority of outbreaks were confirmed (17 of 27; 63%), with the remaining 10 still under investigation at the time of this report. Confirmed outbreaks were documented across Service Planning Areas (SPAs) with the exception of SPA 5/6 (Figure 4). In 2011-2012, community respiratory outbreaks were reported an average of five days after they began; all confirmed outbreaks had documented onset dates. The majority of community respiratory outbreaks occurred in schools. Six of the seven confirmed community respiratory outbreaks that had specimens obtained had a pathogen identified (Table 3).

Figure 4. Geographic Distribution of Community Respiratory Disease Outbreaks Across SPAs, LA County 2011-2012

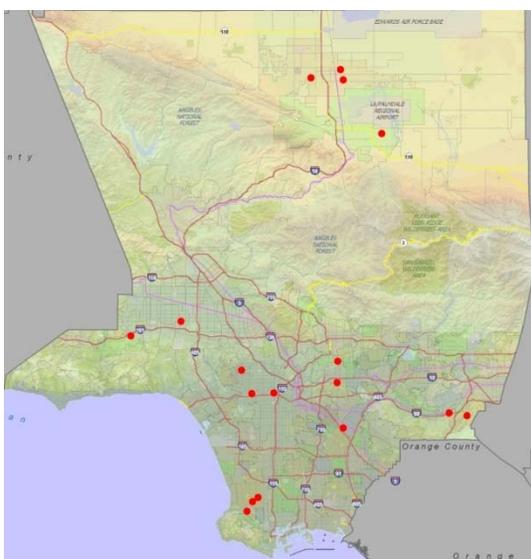


Table 3. Characteristics of Confirmed Community Respiratory Disease Outbreaks, LA County 2011-2012

Characteristic	Number (%)
Location	
Childcare	2 (12%)
School or Pre-school	14 (82%)
Assisted Living	1 (6%)
Etiology	
Influenza A	3 (18%)
Other (streptococcal, parainfluenza, rhinovirus)	3 (18%)
Unknown	11 (65%)

Looking forward to the 2012-13 season

WHO has recommended that the composition of the 2012-13 influenza virus vaccine for the northern hemisphere contain:

- A/California/7/2009-like virus (i.e., 2009 pandemic H1N1)
- A/Victoria/361/2011 (H3N2)-like virus
- B/Wisconsin/1/2010-like virus

This formulation represents a change in 2 out of 3 of the components of this season's vaccine, reflecting the fact that influenza changes from year to year. The recommendation was based on global influenza virus surveillance data related to epidemiologic and antigenic characteristics, serologic responses to the 2011-12 seasonal vaccine and availability of candidate strains and reagents.

For an MMWR report discussing next year's vaccine and summarizing this year's influenza experience nationally see:

<http://www.cdc.gov/mmwr/pdf/wk/mm6122.pdf>

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