

## Surveillance Systems Used to Monitor Seasonal Influenza

Los Angeles County Department of Public Health  
Acute Communicable Disease Control Program



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### INFLUENZA SEASON DEFINITION

The traditional influenza surveillance season begins in October and ends mid-May of the following year covering a 32 week period. While our surveillance systems are concentrated during these peak weeks, the Los Angeles County Department of Public Health (LACDPH) Acute Communicable Disease Control Program (ACDC) also conducts several year-round surveillance activities. Data are collected and analyzed on a weekly basis then summarized and published on a weekly or biweekly schedule during peak flu season (December-February). The surveillance weeks are numbered according to the calendar year, with week 1 corresponding to the first week in January.

### DESCRIPTION OF INFLUENZA SURVEILLANCE SYSTEMS

Individual cases of influenza are not reported to or monitored by ACDC. The Centers for Disease Control and Prevention estimate that each year 5-20% of the population will get the flu. Los Angeles County has a population of over 10 million which translates to approximately 500,000-2 million cases of influenza each season. Since tallying individual cases in the county is not feasible, ACDC implements a broad range of surveillance methods that determine the impact that influenza and other respiratory diseases have in our communities. Cases involving new/novel strains of influenza are the exception to this rule and are reportable by phone (213-240-7941 M-F 8-5pm, 213-974-1234 after hours and weekends) to ACDC immediately.

#### I. SENTINEL CASE SURVEILLANCE

##### **1. Influenza and Other Respiratory Viruses**

Sentinel laboratories serving healthcare providers and institutions across Los Angeles County report influenza testing activity on a weekly basis; a subset of these laboratories also report data for a variety of other respiratory viruses such as; respiratory syncytial virus (RSV), rhino/enterovirus, parainfluenza, human metapneumovirus, and coronavirus. Laboratories report the number of positive tests and total number of tests completed. Tests include rapid, polymerase chain reaction (PCR), culture, and direct fluorescence antibody (DFA). Occasionally, selected samples from positive cases are sent to the Los Angeles County Public Health Laboratory (PHL) for further subtyping and analysis.

##### **2. Influenza Fatalities and Severe Cases**

Effective October 15, 2010, laboratory confirmed influenza fatalities of all ages and due to any seasonal strain are required to be reported to the ACDC within 7 calendar days. Cases are reported to ACDC from physicians, infection prevention specialists at hospitals, the coroner's office, and via death certificate. If possible, the viral specimens are forwarded to the PHL for further analysis. Severe cases of influenza requiring admission to an intensive care unit are reportable to ACDC on a voluntary basis.

##### **3. Outbreak Surveillance**

Outbreaks of any kind are reportable to ACDC. All outbreaks of influenza-like-illness (ILI) are investigated by LACDPH Community Health Services Public Health Nurses within one business day of the report. ACDC is putting increasing emphasis on obtaining primary specimens [nasopharyngeal (NP) swabs] to determine the etiology of the outbreak. Swabs are analyzed for presence of influenza A and B and a variety of other respiratory viruses at the PHL.

## II. SYNDROMIC SURVEILLANCE

### **1. Emergency Department Visits for Influenza-Like-Illness**

ACDC's Syndromic Surveillance Project monitors initial self-reported symptoms from patients presenting to participating emergency departments throughout Los Angeles County. These symptoms are categorized into different clinical syndromes according to specific code words. The syndrome of ILI includes symptoms such as: fever, congestion, sneezing, sore throat, runny nose, and cough. The proportion of ILI emergency department (ED) visits for all ages and by age group is analyzed weekly and is conducted year-round. The ILI visits to EDs are also analyzed by zip code of residence and statistical algorithms are used to identify areas of the county that have significantly increased levels of ILI.

### **2. National Retail Data Monitor (NRDM)**

The ACDC Syndromic Surveillance Project receives selected types of over-the-counter medication and thermometer sales daily through the National Retail Data Monitor surveillance system. The number of thermometer sales is analyzed on a weekly basis as part of our influenza surveillance system.

## III. OTHER SURVEILLANCE SYSTEMS

### **1. Pneumonia and Influenza (P & I) Deaths**

Each week, the Office of Health Assessment and Epidemiology at LACDPH reports the total number of death certificates received and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group. The percentage of all deaths due to P & I is calculated and compared to previous season's data. Additional information on P&I death analysis can be found here: [Estimating Seasonal Influenza-Associated Deaths in the United States: CDC Study Confirms Variability of Flu | Seasonal Influenza \(Flu\) | CDC](#)

### **2. Influenza Incidence Surveillance Project (IISP)**

The Influenza Incidence Surveillance Project (IISP) started in 2010 and is a collaboration between the Centers for Disease Control, the Council of State and Territorial Epidemiologists, and multiple Health Departments across the country. The current objective of IISP is to determine the incidence of medically attended influenza-like illness (ILI) by age, in outpatient practice settings in LAC. A second objective is to determine incidence of influenza and selected respiratory viruses in patients with ILI.

## **MORE INFORMATION**

Selected results from these influenza surveillance systems are regularly published during the influenza season via our free electronic newsletter *Influenza Watch*. Archived issues as well as additional LACDPH influenza surveillance documents are available at: [www.publichealth.lacounty.gov/acd/FluSurveillance.htm](http://www.publichealth.lacounty.gov/acd/FluSurveillance.htm)

For more information about influenza in Los Angeles County, please visit: [www.publichealth.lacounty.gov/acd/Flu.htm](http://www.publichealth.lacounty.gov/acd/Flu.htm)