



SEASONAL and PANDEMIC (H1N1) 2009 Influenza Report

Santa Cruz County Health Services Agency
Public Health Department



Public Health
Prevent. Promote. Protect.

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H1N1 2009 Influenza Season Summary:

Santa Cruz County

- As of March 10, 2010, 42 county residents have been hospitalized with lab-confirmed influenza. Eleven of these cases were admitted to ICU. There have been 3 deaths (Fig. 1).
- Figure 2 shows the percentage of patients presenting with influenza-like illness (ILI) at our local hospitals, and compares percentages from the 06/07 flu season through the current season.
- Figure 3 illustrates the percentage of outpatient ILI visits in local clinics from Sept. 5, 2009 through Feb. 27, 2010. The highest percentage of visits (13%) was recorded during CDC Week 47, which ended on Nov. 28, 2009. The elevation in recent weeks is believed to be from RSV and other illnesses, not influenza.

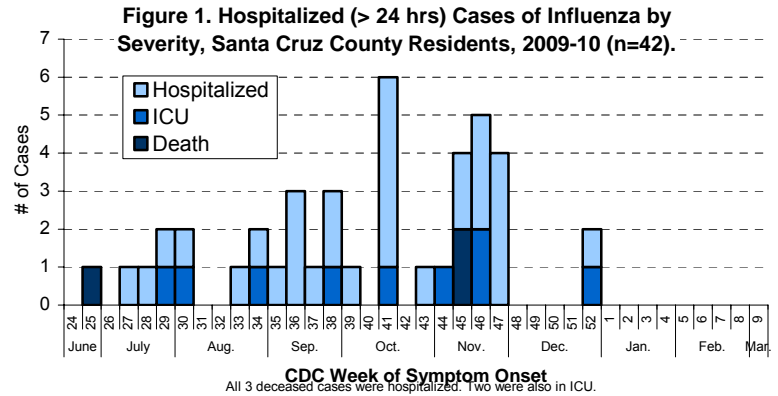
California

- Overall influenza activity in California remains "sporadic." Most indicators suggest that illness continues to decline, with levels of illness at or below the usual range for this time of year.
- CDPH received 7 reports of fatal pandemic 2009 H1N1 cases for the week ending March 6th. A total of 553 pandemic 2009 H1N1 deaths have been reported to CDPH to date.
- Two (2) new cases of severe pediatric influenza were reported this week, with both of these cases confirmed/probable 2009 H1N1. No pediatric deaths were reported.
- A total of 3070 pediatric patients have been hospitalized to date. Fifty-three (53) pediatric deaths have been reported to date.
- As of Feb. 27th, there have been 8837 hospitalizations and/or fatalities, with 1937 cases requiring intensive care.
- The statewide cumulative incidence rate of reported pandemic 2009 H1N1 hospitalizations and fatalities is 22.8 per 100,000 (the rate in Santa Cruz County is about 16 per 100,000).
- The hospitalized case-fatality ratio is highest among individuals aged 50-64 years and second highest among individuals aged 36-49 years (Fig 8).

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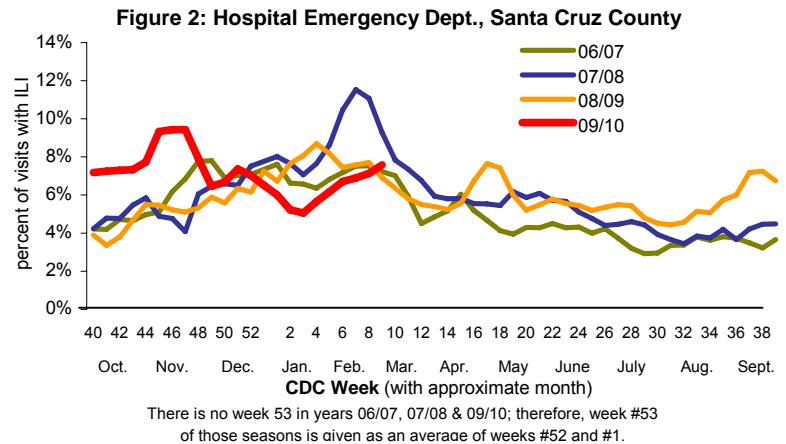
SANTA CRUZ COUNTY:

Lab-Confirmed Hospitalized Cases:



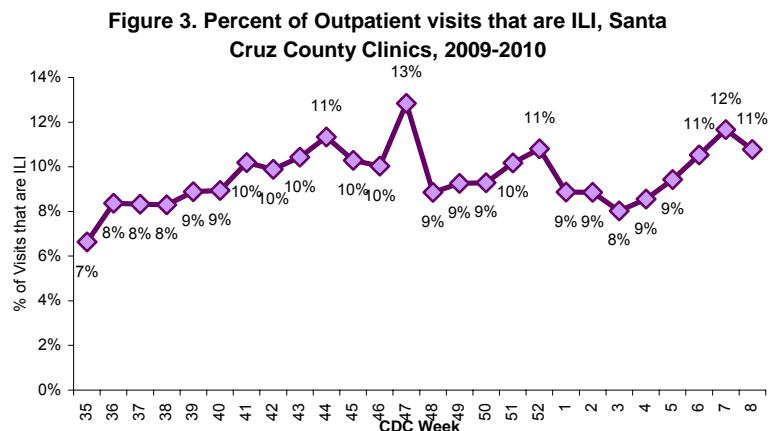
Emergency Department Flu-like Visits:

3-week rolling average percentage of all ED visits at a local hospital with a chief complaint of either fever or cough or pneumonia.



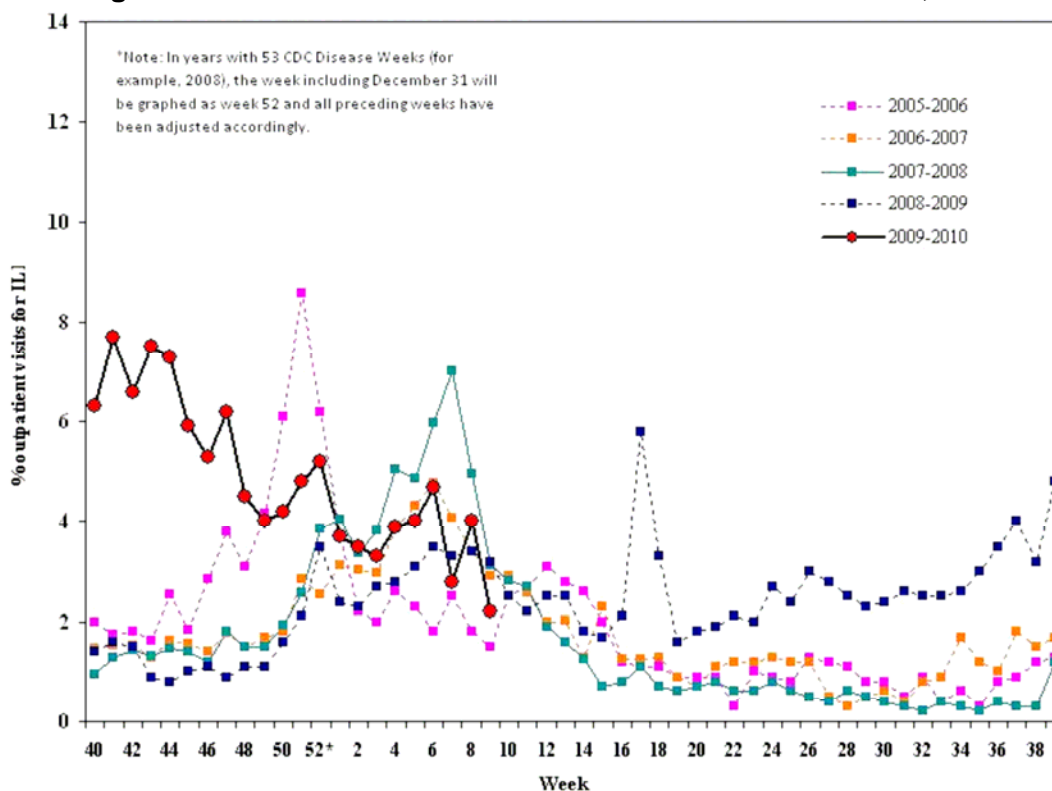
Clinic Flu-like Visits:

Percentage of outpatient visits with an influenza-like illness (fever, plus cough and/or sore throat).



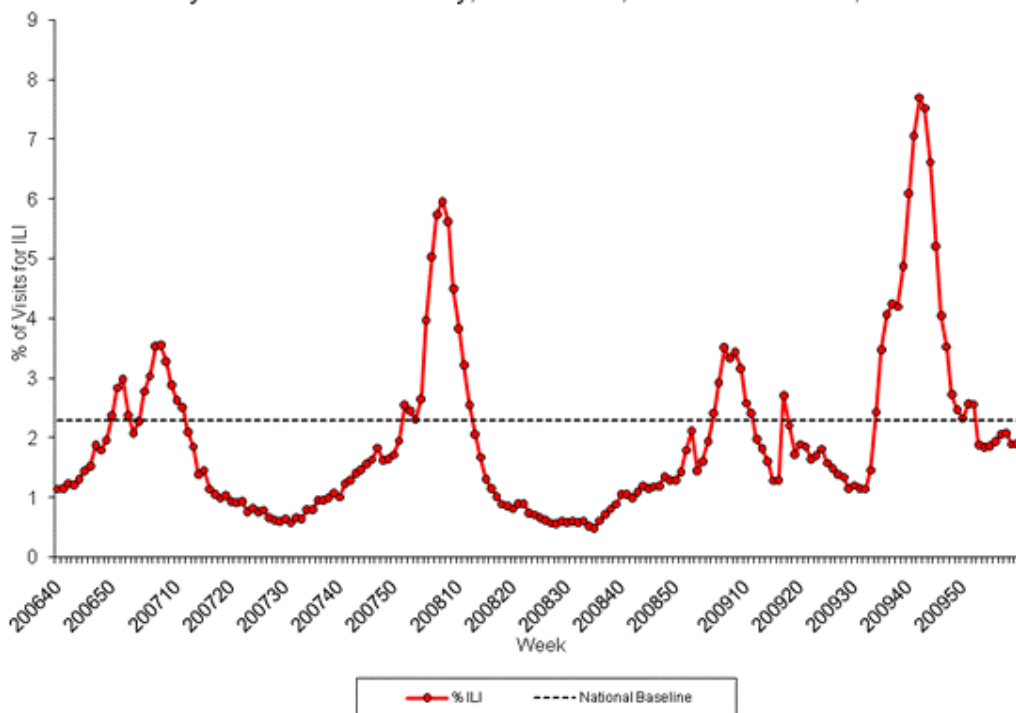
CALIFORNIA: Sentinel providers report the number of outpatient visits for influenza-like illness (ILI) and the total number of visits per week. These data are reported weekly as a percentage of total visits. Figure 4 shows a peak in Weeks 17-18 (April 26 – May 9, 2009) when 2009 H1N1 influenza was first identified. ILI decreased during week 9 (Feb 28 – Mar 6, 2010). As a result of a delay in reporting, the percentage may be higher. A total of 79 sentinel providers reported in Week 9.

Figure 4: California Sentinel Providers – Influenza-like Visits, 2004-2010



UNITED STATES: Nationwide during week 9, 1.9% of patient visits reported through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) were due to influenza-like illness (ILI). This percentage is below the national baseline of 2.3%.

Figure 5:
Percentage of Visits for Influenza-like Illness (ILI) Reported by the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Weekly National Summary, October 1, 2006 – March 6, 2010



Note: In Figure 5, the week notation is the year and then week, so "200950" is year 2009 and week 50.

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► **United States**

- During Week 8 (Feb. 21-27, 2010), influenza activity remained at approximately the same levels as the previous week.
- The proportion of deaths attributed to pneumonia and influenza (P & I) was **below** the epidemic threshold (Fig 6).
- One (1) influenza-associated pediatric death was reported during Week 8 and was associated with an influenza B virus infection that occurred in Feb. 2009.
- Since April 26, 2009, the CDC has received reports of 329 laboratory-confirmed pediatric deaths, which is thought to be an undercount of the actual number. For CDC estimates about the number of 2009 H1N1 cases, click [here](#).
- The proportion of outpatient visits for ILI was 1.7%, which is below the national baseline of 2.3%. Two of 10 CDC regions reported ILI above region-specific baseline activities.
- No states reported widespread influenza activity. Four (4) states reported regional influenza activity

► **Pediatric Death Rates**

Figure 7 compares the influenza-associated pediatric death rates by week from the 2006-07 flu season to the 2009-10 season. As the figure illustrates, the 2009-10 season presents a vastly different picture than previous flu seasons and points to the need for a concerted effort to make sure children are protected with vaccination.

► **Age-Specific Hospitalization and Mortality Rates**

In Figures 8 and 9, it is interesting to note the differing rates of hospitalizations and mortality among age groups. The preliminary numbers show that the hospitalization mean rate for all ages is 22.7 per 100,000 population, but when we look at the rate for children <1, it jumps to 115.3 per 100,000, a vast difference. See Figure 10 for the cumulative hospitalization rates for the different age groups.

Figure 6:

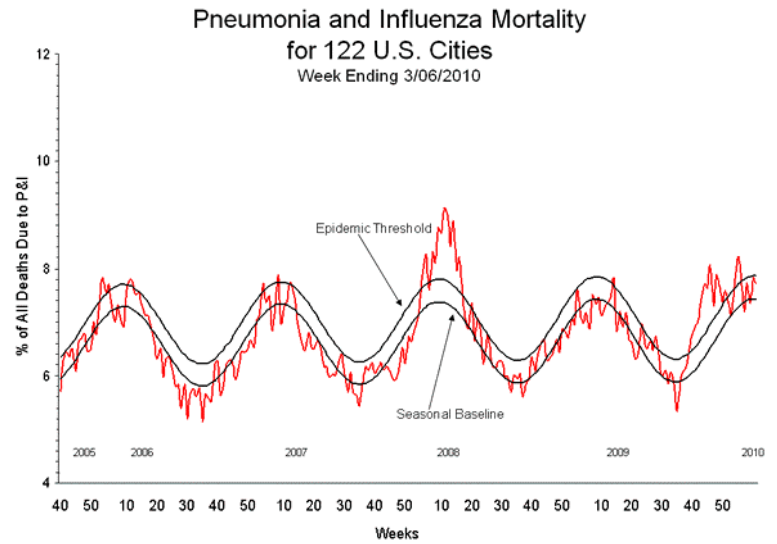


Figure 7.

Number of Influenza-Associated Pediatric Deaths by Week of Death: 2006-07 season to present

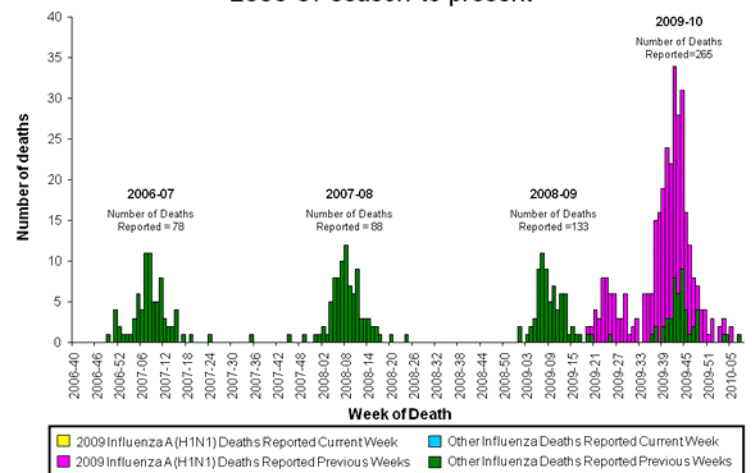
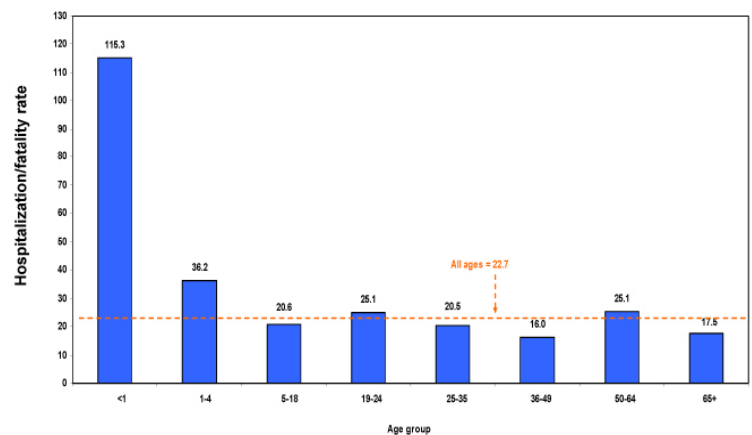


Figure 8.

Age specific hospitalization/fatality rate (per 100,000 population) of 2009 H1N1 influenza in California, reported April 23, 2009 – February 27, 2010



► **Age-Specific Hospitalization and Mortality Rates (cont'd)**

The mortality rates show a similar variation. The mortality rate is 1.4 per 100,000 for all ages, but increases to 2.7 per 100,000 for those aged 50-64 years. The next highest rate is 1.7 per 100,000 for those in the 36-49 year age bracket. Both these numbers stand in stark contrast to seasonal influenza mortality rates, where the 65 and above age group are those who are most affected. It is also interesting to note that in the 1918 influenza pandemic, the overall mortality rate was dramatically higher, estimated at 2.5% (<http://virus.stanford.edu/uda/>).

Note: Figure 10, Laboratory-confirmed influenza-associated hospitalizations are monitored using a population-based surveillance network that includes the 10 Emerging Infections Program (EIP) sites (CA, CO, CT, GA, MD, MN, NM, NY, OR and TN) and 6 new sites (IA, ID, MI, ND, OK and SD). Also, the 2008-09 EIP rate ended as of April 14, 2009 due to the onset of the 2009 H1N1 season.

► **Vaccine Recommendations**

As of 3/10/10, **108,180** doses of H1N1 vaccine have been delivered to our county. H1N1 continues to circulate and cause illness and death. The Advisory Committee on Immunization Practices (ACIP) now recommends flu vaccination for everyone over the age of 6 months. H1N1 is expected to be a factor in the next influenza season and H1N1 vaccine will be included in next year's seasonal flu shot. For more information, [click here](#).

► **Some Final Words**

The collection of charts in this issue shows that this flu season was very different from a typical flu season. After the Spring wave, influenza receded as usual during the Summer, but never to the low levels usually seen at that time of year. Influenza returned very early in the Fall, spiked to unusually high levels, and then dropped dramatically. The most striking difference was in the distribution of serious illness. Since May, there have been about four times as many pediatric flu deaths as in a normal year while the hospitalization and mortality rates among the elderly have been unusually low. It will take some time to analyze all the data and come up with a clear picture of the H1N1 pandemic but, H1N1 behaved very differently from seasonal flu and clearly had serious consequences.

This is the last issue of the Seasonal and Pandemic (H1N1) 2009 Flu Report.

Please contact Laurie Lang at 831-454-4733 with any comments, suggestions or questions.



Figure 9.

Age-specific mortality rate (per 100,000 population) of 2009 H1N1 influenza in California, reported April 23, 2009 – February 27, 2010

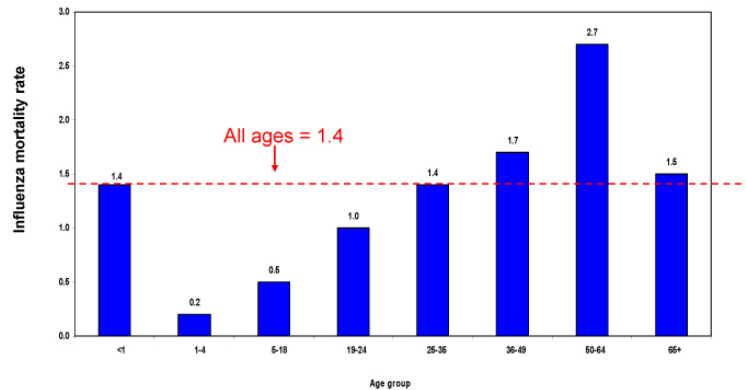


Figure 10: Lab Confirmed influenza-associated Cumulative hospitalizations Rates, 2009-10 and Three previous seasons, United States.

