



INFLUENZA Report · 2011

County of Santa Cruz ~ Health Services Agency
Public Health Department



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www.SantaCruzHealth.org/FLU

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SANTA CRUZ COUNTY¹

- During this flu season, there have been 5 county residents (under age 65) who were hospitalized and admitted to the Intensive Care Unit with lab-confirmed influenza A (2009 H1N1) — there was one death (see table below):

Characteristics of Severe Influenza Cases (Under age 65), Santa Cruz County, 2011 (N=5).	N (%)
Asthma	1 (20)
Hypertension	3 (60)
Diabetes Mellitus	2 (80)
Obese (BMI of 30 or more)	5 (100)
Did not receive (or was not known to have received) 2010-11 Flu Vaccine	5 (100)
Average time from symptom onset to antiviral treatment (Note: the one fatal case was not treated; time from onset to date of death was used in this calculation).	10.2 days

- Figure 1 represents the weekly percentage of local Hospital Emergency Department visits for influenza-like illness (ILI) over the last five flu seasons .

CALIFORNIA²

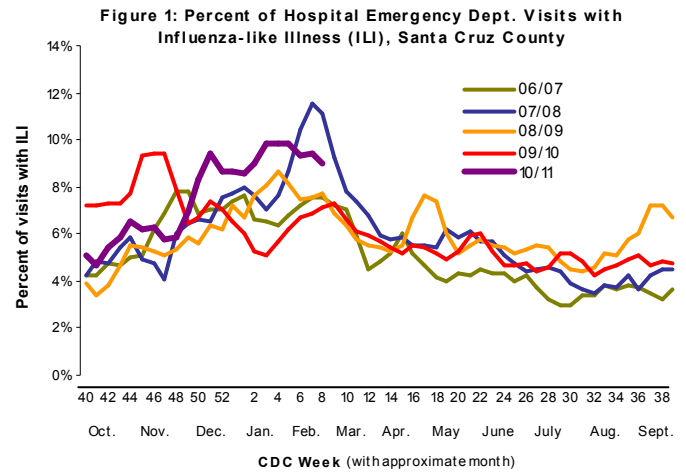
- Overall influenza activity in California for week 10 (Mar. 6-Mar 12, 2011) remains “widespread.”
- During week 10, CDPH received 41 reports of lab-confirmed “severe” (defined as ICU admission or death) cases of influenza among patients under 65 years old—including 5 fatalities.
- Since the start of the flu season on Oct. 1, 2010, CDPH has received reports of 179 severe cases of influenza under age 65—including 27 fatalities.
- With 87 sentinel providers reporting, week 10 influenza-like illness activity decreased by 0.4%.
- Of 325 specimens tested by the Respiratory Laboratory Network during week 10, 47% were positive for influenza; of these, 78% were influenza A and 23% were influenza B. Of the influenza A specimens, 3% are pending sub-type, 41% were H3 and 56% were 2009 H1N1.

UNITED STATES³

- Figure 2 shows that the proportion of deaths attributed to pneumonia and influenza (P&I) was above the epidemic threshold of 8% for the seventh consecutive week—with 8.6% during week 10.
- Figure 3 shows the distribution of underlying medical conditions for which data collection has been completed through the medical chart review stage. For detailed definitions of the conditions, see Data Source 3 on page 3 of this document.

Local Hospital ILI Visits:

3-Week Rolling Average Percentage of all ED Visits with ILI (defined here as a chief complaint of either fever or cough or pneumonia).



U.S. Surveillance:

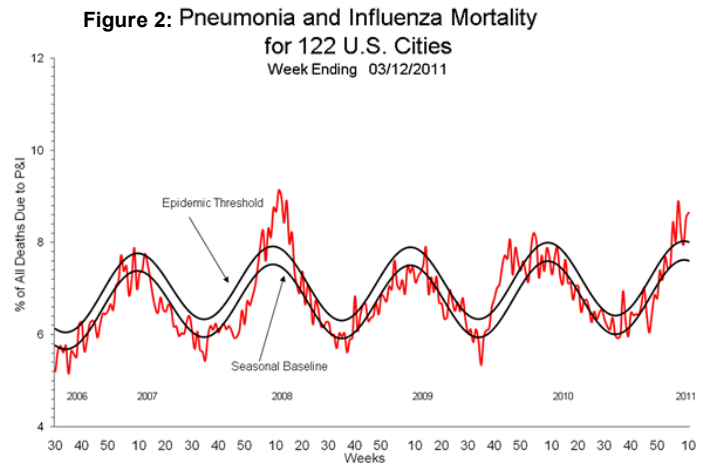
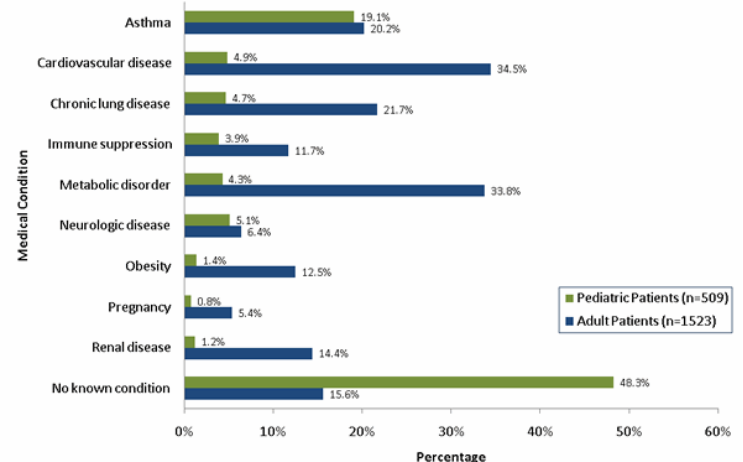
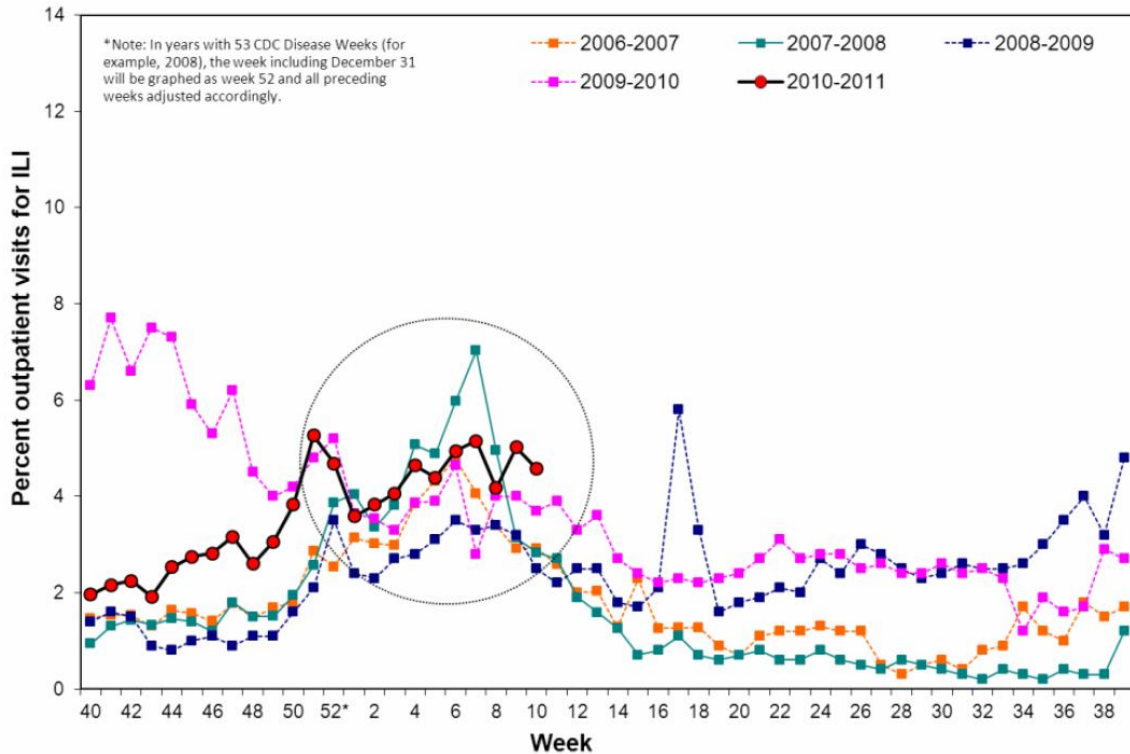


Figure 3: Selected underlying medical conditions in patients hospitalized with influenza, FluSurv-NET 2010-2011



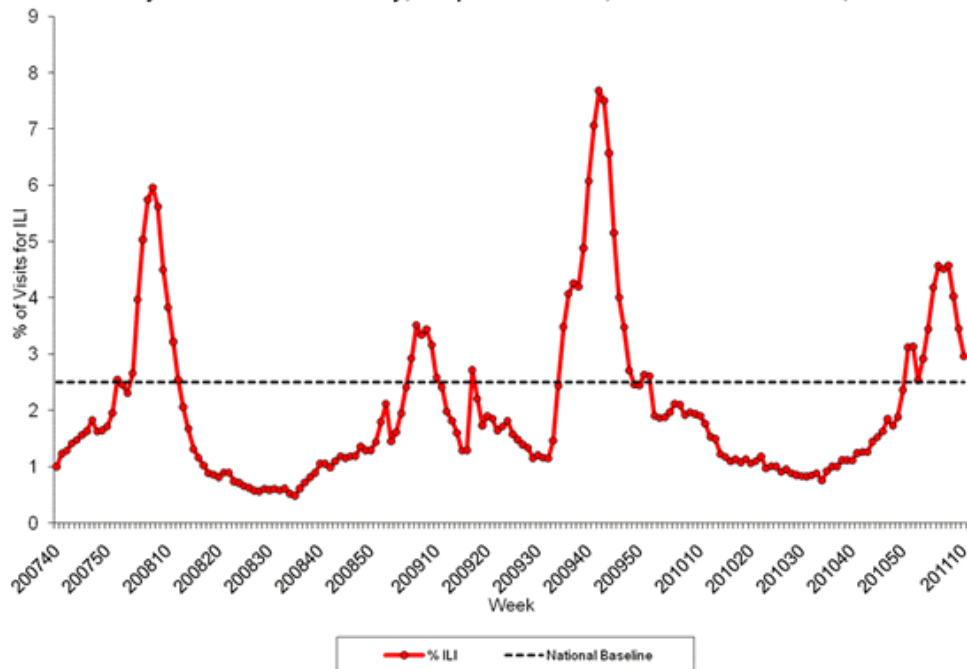
CALIFORNIA: Sentinel providers report the number of outpatient visits for influenza-like illness (ILI) and the total number of visits per week. These data are reported as a weekly percentage of total visits that are due to ILI. The percentage of ILI visits decreased during Week 10 (4.6%) compared to the previous week (5.0%). A total of 87 sentinel providers reported data in Week 10 compared to an average of 127 providers reporting in prior weeks. *Some ILI visits during recent weeks may not yet be reported.*

Figure 4: California Sentinel Providers – Influenza-Like Illness Visits, 2006-2011



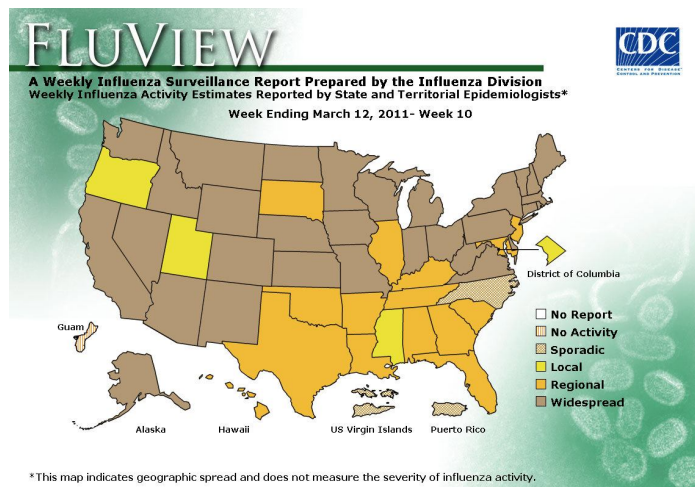
UNITED STATES: Nationwide during week 10, 3.0% of patient visits reported through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) were due to influenza-like illness (ILI). This percentage is above the national baseline of 2.5%.

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, September 30, 2007 – March 12, 2011



UNITED STATES (Cont'd from page 1)

- During Week 10, flu activity decreased nationwide.
- Eleven (11) pediatric deaths were reported this week—bringing the season total to 71. Of the 11 deaths, 4 were due to influenza B, 3 influenza A (2009 H1N1), 2 A(H3) and two flu A for which subtype was not determined.
- Of the 6,384 specimens tested by the WHO and CDC during week 10, 21% were positive for influenza; of these, 73% were influenza A and 27% were influenza B. Of the influenza A specimens: 31% were not sub-typed, 39% were H3 and 29% were 2009 H1N1.
- During week 10, “widespread” flu activity was reported in 31 states, 15 states experienced “regional” flu activity and 3 states and the District of Columbia experienced “local” flu activity.



No Activity: No laboratory-confirmed cases of influenza and no reported increase in the number of cases of ILI.
Sporadic: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of ILI.
Local: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in a single region of the state.
Regional: Outbreaks of influenza or increases in ILI and recent laboratory confirmed influenza in at least two but less than half the regions of the state with recent laboratory evidence of influenza in those regions.
Widespread: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

HELPFUL LINKS

Santa Cruz County

- Visit www.santacruzhealth.org for local updates

CDPH

- Infection Control Measures in Health Care Settings:
<http://www.cdph.ca.gov/programs/immunize/Documents/CDPHGuidanceFluPreventionHCS20101105.pdf> as of 11/05/10
- Influenza Reporting Guidelines:
<http://www.cdph.ca.gov/programs/immunize/Documents/InfluenzaReportingGuidance.pdf> as of 9/15/10
- Severe Influenza Case History Report Form:
<http://www.cdph.ca.gov/programs/immunize/Documents/SevereInfluenzaCaseHistoryForm.pdf> as of 10/29/10

CDC

- Antiviral Drugs / Treatment:
<http://www.cdc.gov/flu/professionals/antivirals/index.htm> as of 1/20/11
- Influenza and Pregnancy Letter:
http://www.cdc.gov/flu/pdf/influenza_and_pregnancy_letter.pdf as of 9/15/10
- Laboratory / Diagnostic Tests:
<http://www.cdc.gov/flu/professionals/diagnosis/> as of 12/14/10

ARTICLE SUMMARY: “A NOVEL RISK FACTOR FOR A NOVEL VIRUS: OBESITY AND 2009 PANDEMIC INFLUENZA A (H1N1)”⁴

Dr. Janice Louie, et al., of the California Department of Public Health, reviewed characteristics of 534 California residents hospitalized with 2009 H1N1 between 20 April and 11 August, 2009 to determine if obesity (defined using body mass index, BMI) was an independent risk factor for death among adults (age 20 and older).

This study, published in February 2011, found that 51% of hospitalized cases were reported to be obese (BMI of 30+) which is 2.2 and 1.5 times higher than the prevalence estimates for all adults in California (23%) and in the United States (33%), respectively. The prevalence of morbid obesity (BMI of 40+) was at least 2.5 times higher among hospitalized patients (19%) than among all U.S. adults, and the prevalence of extreme obesity (BMI of 45+) was at least 10-fold higher among severe cases than national estimates of the general population (11.3% versus 1.1%).

The study found that hospitalized patients with a BMI of 40 or greater were 2.8 (95% CI, 1.4 -5.9) times as likely to die as others hospitalized for influenza infection. Those with a BMI of 45 or greater were 4.2 (95% CI, 1.9 -9.4) times as likely as others to die.

It is noted in the article that even if elevated BMI is only a reflection of undiagnosed underlying risk factors, measurement of BMI can still serve as a convenient method for identifying adults as high risk for severe complications from influenza. The authors recommend that obese adults with 2009 H1N1 infection get treated promptly and be considered in prioritization of vaccine and antiviral medications in times of shortages.

In conclusion, “More data, including data on the pathophysiology of influenza in the obese, are needed.”

For More Information:

Article (Free Abstract):

<http://cid.oxfordjournals.org/content/early/2011/01/04/cid.ciq152.full.pdf+html>

CDC, People at High Risk of Developing Flu Complications:

http://www.cdc.gov/flu/about/disease/high_risk.htm

Prevention and Control of Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2010 http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5908a1.htm?s_cid=rr5908a1_w

Data Sources:

1. County of Santa Cruz, Public Health Department (unpublished data).
2. California Department of Public Health (unpublished data).
3. Centers for Disease Control and Prevention. “FluView: A Weekly Influenza Surveillance Report Prepared by the Influenza Division. 2010-2011 Influenza Season Week 10 ending March 12, 2011.”
<http://www.cdc.gov/flu/weekly/>
4. Louie J, Acosta M, Samuel M, et al. A Novel Risk Factor for a Novel Virus: Obesity and 2009 Pandemic Influenza A (H1N1). *Clin Infect Dis.* 2011 (Feb);52(3):301-12.
<http://www.ncbi.nlm.nih.gov/pubmed/21208911?dopt=Abstract>

**Comments or suggestions for articles?
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