

The California Influenza Surveillance Project

2001-2002 Summary

The California Influenza Surveillance Project resumed enhanced statewide influenza surveillance in week 40 (9/30-10/06/01). Please see the previous page for general descriptions of each of the surveillance methods. The data described below is the 2001-2002 Season Summary and includes data through week 13.

Influenza update - 2001-2002 Season Summary

Overall, influenza activity was mild this year with a small peak at the end of 2001 and beginning of 2002, and an unusually late second peak in mid-February. Compared to last year, the magnitude of flu activity was similar. However, we had considerably fewer flu B detections reported to us this season. In addition, we had 7 confirmed influenza outbreaks; 5 (flu A) were in nursing homes and 2 (flu B) were in schools. The school outbreaks were of particular interest because of the multiple schools that were involved and the high absenteeism seen.

Kaiser Inpatient Data (Figures 1 and 2)

The percent of Northern California (NCAL) admissions for "flu" (defined as pneumonia, influenza, and flu) had a small peak in week 1 (12/30/01-1/5/02) at 8.4% and then a more prominent peak in week 8 (2/17/02-2/23/02) at 9.8%. Southern California (SCAL) flu admissions peaked in week 52 (12/23/01-12/29/01) at 8.7% and then again in week 7 (2/10/02-2/16/02) at 9.6%. Since the peaks in February, both NCAL and SCAL flu admissions have overall been slowly declining, but were still above baseline at 6.6% and 7.9% in week 13 (3/24/02-3/30/02). The magnitude of the February peaks was greater and later than in the 2000-2001 season for both NCAL and SCAL.

Figure 1

**Inpatient "Flu" Admissions 1997-2002
Northern California Kaiser**

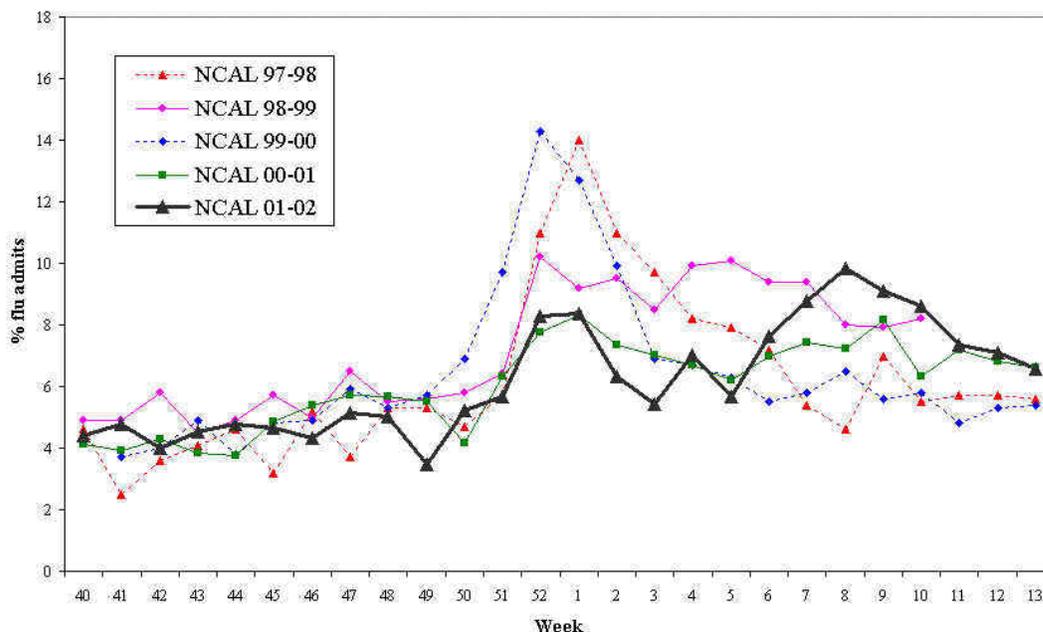
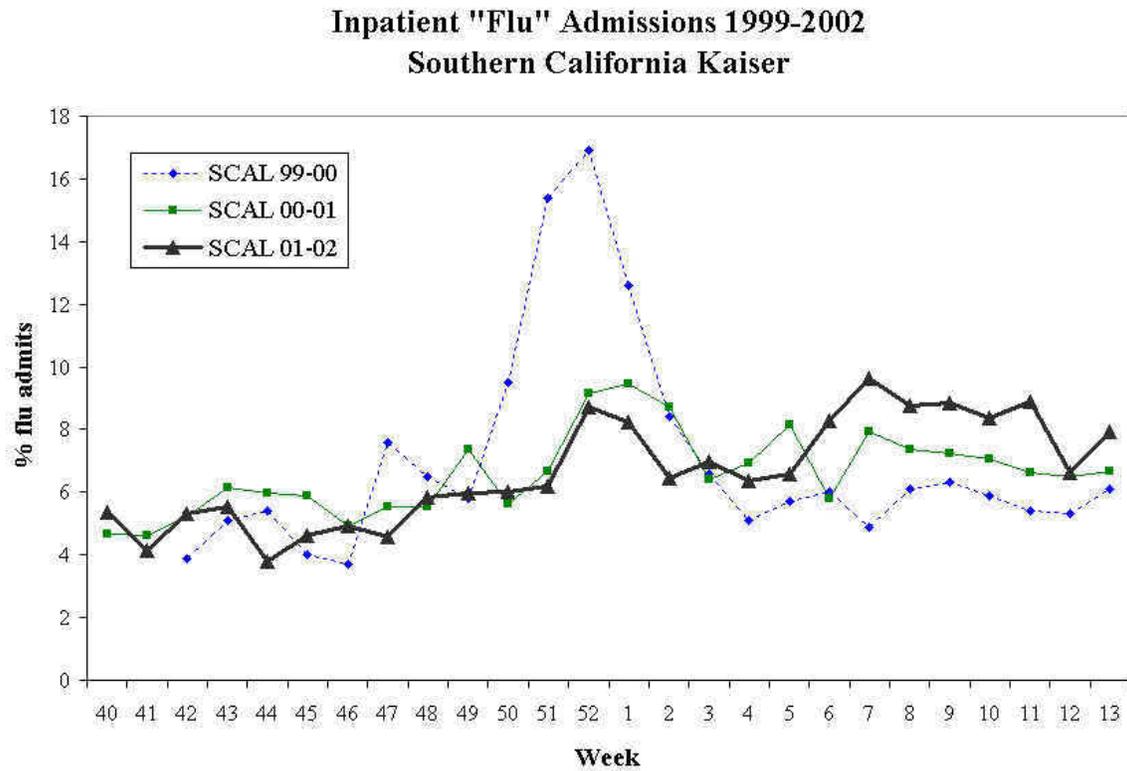


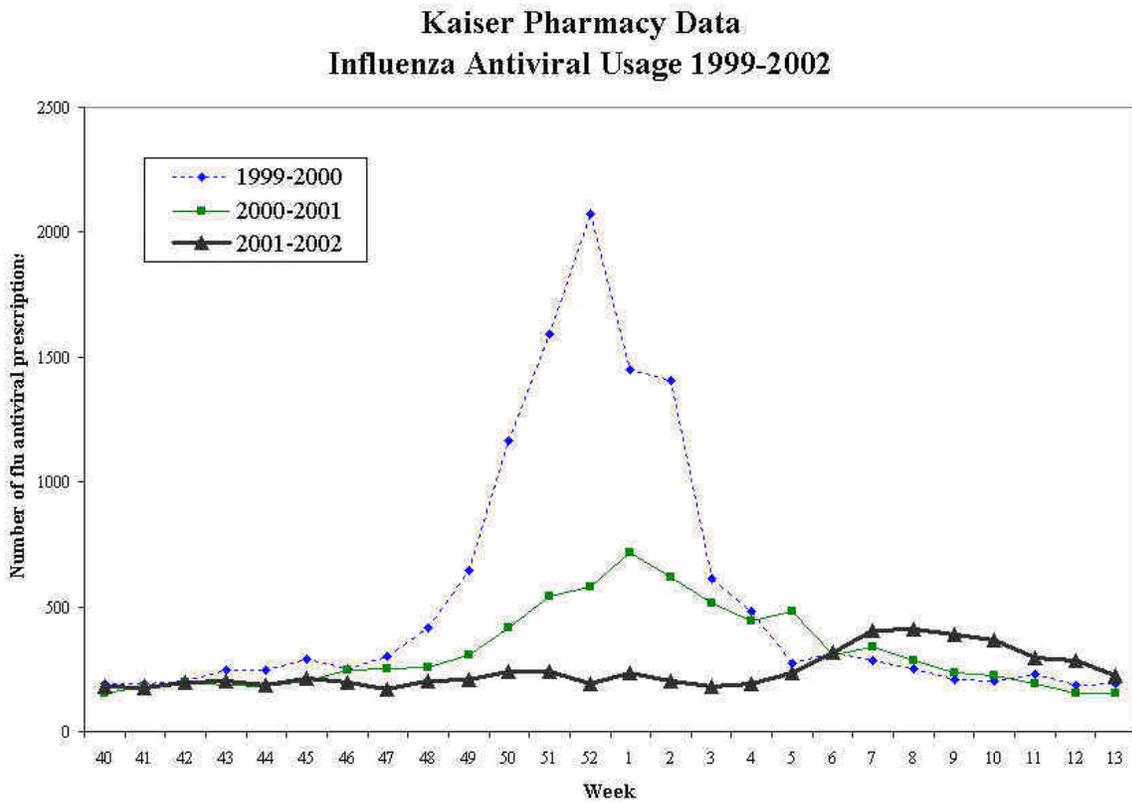
Figure 2



Pharmacy Pharmacy Data (Kaiser-specific) (Figure 3)

The number of influenza antiviral prescriptions in NCAL remained at baseline values until week 6 (2/3/02-2/9/02) and then peaked at 236 in week 8. In SCAL, prescriptions increased to 170 in week 50 (12/9/01-12/15/01) and then peaked again at 194 in week 7. Both NCAL and SCAL flu antiviral prescriptions remained above baseline at 102 and 121, respectively, in week 13. The magnitude of the peak (236) in NCAL this year was similar to that of last year (219) and the cumulative number of prescriptions through week 13 was 8% less than last year. The magnitude of the peak (194) in SCAL was 62% less than that of last year (517) and the cumulative was 34% less than last year.

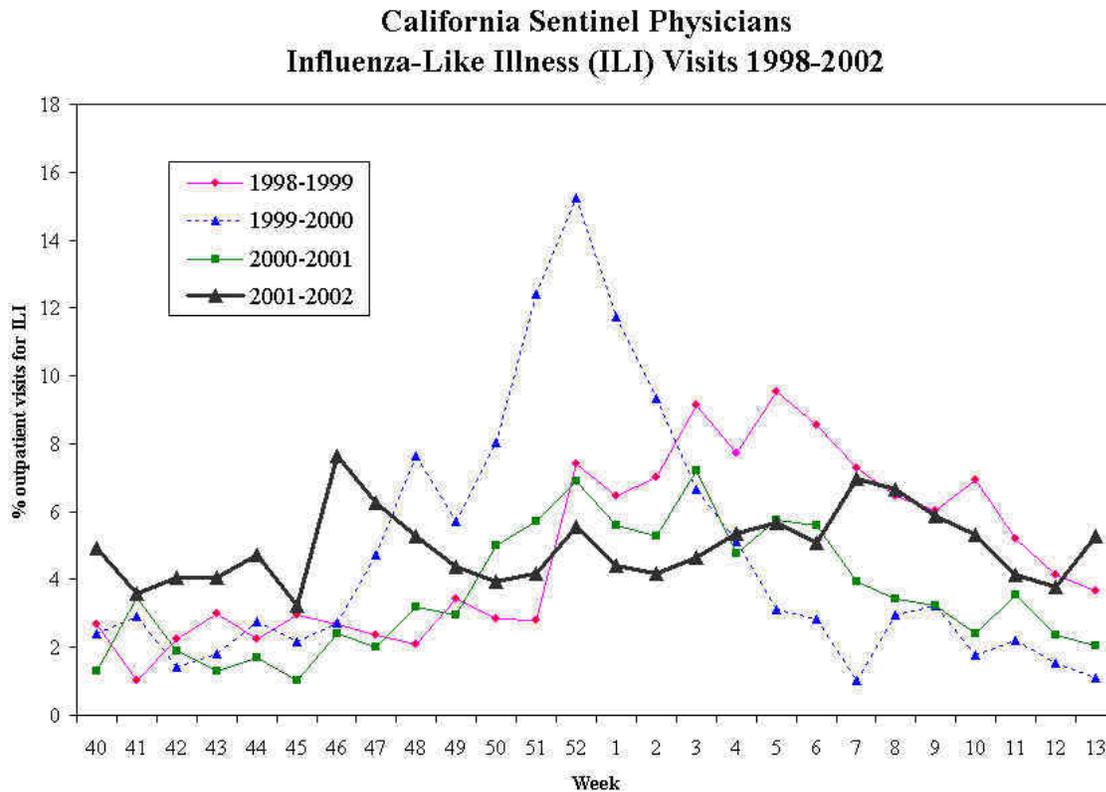
Figure 3



Sentinel Physicians (Figure 4)

Sentinel physician outpatient visits for influenza-like illnesses (ILI) peaked at 7.7% in week 46 (11/11/01-11/17/01) and then again in week 7 at 7.0%. The early high peak during week 46 may have been due to over-reporting by the numerous new sentinel physicians recruited this year who were unfamiliar with the reporting definition. ILI visits were still elevated at 5.4% in week 13.

Figure 4



Respiratory Virus Isolation/Detection Data (Figure 5 and Figure 6)

The number of total influenza detections (A & B) reached its highest value (143) during week 8, at which time the detections were mainly flu A. Total flu detections decreased to 92 during week 11 (3/10/02-3/16/02), and then increased slightly to 119 during week 12, mainly due to the increased flu B detections. Total flu detections remain elevated at 104 at the end of this report. The number of influenza A detections peaked at 81 during week 8, while influenza B detections peaked at 47 during week 13.

The cumulative total of influenza detections (1089) reported through week 13 is 97% of the total reported (1124) during the same period last season. Furthermore, among the total influenza detections reported through week 13, 921 (84.5%) were type A and 168 (15.5%) were type B, compared with 54.5 % type A and 45.5 % type B during the 2000-01 season.

The number of RSV detections peaked at 436 in week 6 (2/3/02-2/9/02) and remained elevated at 90 in week 13. The cumulative total of RSV detections (3553) reported through week 13 is 81.5% of that reported over the same period last season (4359).

Figure 5

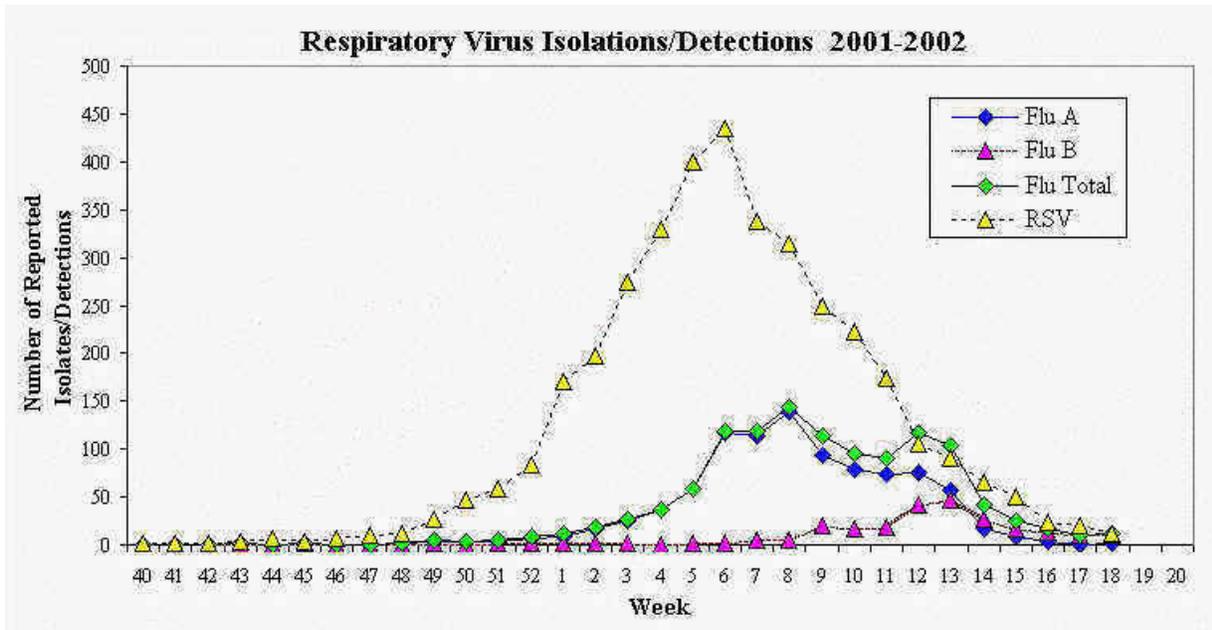
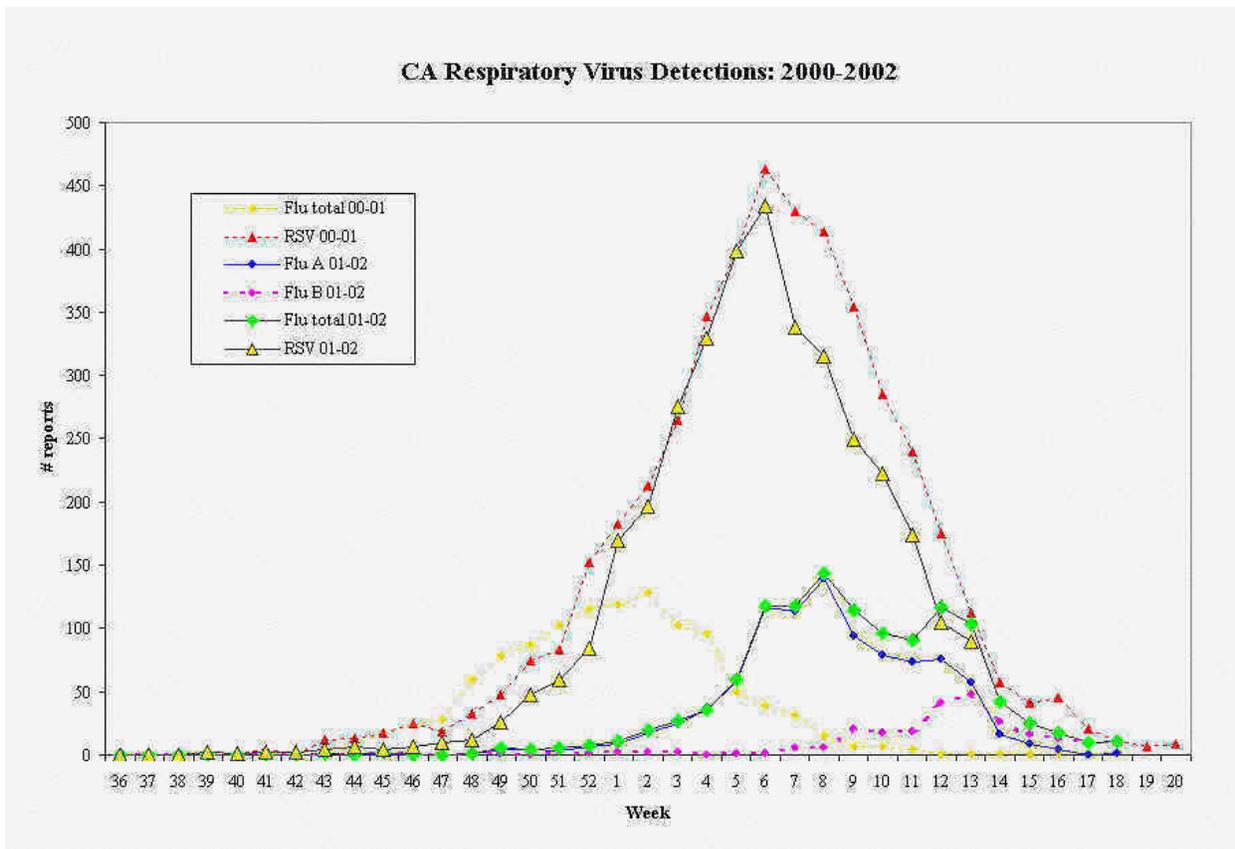


Figure 6



Antigenic Characterization of Influenza Isolates (Table 1)

A total of 91 influenza isolates underwent antigenic and genetic characterization by HIA and PCR-RFLP at VRDL. Among the 81 type A isolates, 96% (78) were subtype H3N2 and 4% (3) were subtype H1N1. These isolates were further strain typed as A/Panama/2007/99-like and A/New Caledonia/20/99-like respectively, correlating with components of the 2001-2002 season's influenza vaccine. Among the 10 influenza B isolates, 8 were characterized as B/Sichuan/379/99-like, also correlating with components of this year's vaccine, and 2 were B/Hong Kong/330/2001-like. The B/Hong Kong/330/2001-like isolates were from week 6 and week 10 (3/3/02-3/9/02) and were the first of the B/Victoria/2/87-like lineage characterized at VRDL this season. The B/Hong Kong isolates were from Santa Clara and San Francisco Counties, respectively.

Note:

Despite the fact that the majority of B isolates worldwide were characterized as B/Sichuan/379/99-like viruses (the strain included in the current season influenza vaccine), other isolates have been identified as B/Victoria/2/87-like viruses, which include the B/Hong Kong strain mentioned above. Since 1991, B/Victoria/2/87-like viruses have been isolated infrequently and have been limited to southeast Asia. However, during the 2001-2002 influenza season, isolation of B/Victoria/2/87-like viruses was reported from different parts of the world including Europe and the U.S. Furthermore, it has been shown that the current season influenza vaccine induces antibodies that react poorly to viruses related to the B/Hong Kong/330/2001-like strain. Consequently, the World Health Organization (WHO) has recommended that the B/Hong Kong/330/2001-like strain be included in the 2002-2003 vaccine.

Table 1 (* =strains included in the 2001-2002 flu vaccine)

Influenza Virus	Number Typed	Subtype		Strain type
Influenza A Isolates for 2001-2002	81	Total		
	78	H3N2	78	A/Sydney/5/97 A/Panama/2007/99*
	3	H1N1	3	A/Bayern/7/95 A/New Caledonia/20/99*
Influenza B Isolates for 2001-2002	10	Total	8 2	B/Sichuan/379/99* B/Hong Kong/330/2001