



**WASHOE DISTRICT HEALTH DEPARTMENT**  
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**Date:** April 3, 2001

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**To:** Barbara Hunt, District Health Officer  
Wende Latham, Acting Division Director, CCHS  
Steve Kutz, PHN III  
Participating Health Care Providers  
Rick Sowadsky, Nevada State Health Division  
Dr. Brown, Medical Director, Nevada State Public Health Laboratory

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**From:** Denise Stokich, Community Health Epidemiologist, Communicable Disease Program

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**Subject:** Summary of 2000-01 Influenza Surveillance Program

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**The Program:** The 2000-01 influenza surveillance program was conducted between October 1, 2000 and March 31, 2001. Five local health care providers sent weekly fax reports of the numbers of persons seen with a fever of  $\geq 100^{\circ}$  F AND cough and/or sore throat in the absence of a KNOWN cause.

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**The Participants:** The health care providers participating in the program were:

- Alpine Medical Center
- Northern Nevada Medical Center
- Washoe Medical Center
- Washoe Urgent Care / Dr. Pasternak (Washoe Family Care)\*
- UNR Student Health Services

\* *Due to unforeseen circumstances, this provider participated during Weeks 43 – 01 only.*

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**Testing:** Alpine Medical Center, UNR Student Health Services, and Washoe Urgent Care / Dr. Pasternak (Washoe Family Care) were given culture media to culture patients who fit the criteria for influenza-like illness (ILI). The hospital providers did not participate in the testing component of the surveillance. Forty specimens were submitted for viral testing to the Nevada State Public Health Laboratory. Thirty-one cultures were negative; six were positive for influenza type A (H1N1), and three were positive for influenza type B, two of which were further serotyped as B/Beijing/184/93-like. One influenza type A (H1N1) and four influenza type B (B/Beijing/184/93-like) isolates were also reported from non-sentinel

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healthcare providers. The earliest confirmed isolate was from a specimen collected by UNR Student Health Services on November 11, 2000. It was positive for influenza type B. All positive influenza cultures reported in Washoe County during the 2000-01 surveillance season are included in the following table:

Positive Washoe County Influenza Cultures					
Number	Client Age	Date Submitted	CDC Week	Result	Provider
1	21	11/01/00	44	B	UNR-SHC
2	20	12/13/00	50	A (H1N1)	UNR-SHC
3	23	12/15/00	50	A (H1N1)	UNR-SHC
4	42	12/23/00	51	A (H1N1)	SMRMC
5	33	01/03/01	01	A (H1N1)	UNR-SHC
6	24	01/04/01	01	A (H1N1)	UNR-SHC
7	17	01/08/01	02	A (H1N1)	WFC
8	22	01/09/01	02	B (B/Beijing/184/93-like)	UNR-SHC
9	05	01/12/01	02	B (B/Beijing/184/93-like)	WMC
10	24	01/22/01	04	A (H1N1)	WFC
11	Unk	01/31/01	05	B (B/Beijing/184/93-like)	Reno Pediatrics
12	06	02/02/01	05	B (B/Beijing/184/93-like)	WDHD
13	32	02/05/01	06	B (B/Beijing/184/93-like)	Nellis AFB (Washoe County Resident)
14	09	03/25/01	12	B (B/Beijing/184/93-like)	WMC

*Blue = culture media ant testing provided by WDHD Influenza Surveillance Program*

*Red = culture media and testing provided by Provider*

Nationally the predominant influenza strain circulating this season was influenza A (H1N1) (58% of isolates reported were influenza type A and 42% were influenza type B). In Washoe County, 50% of isolates reported were influenza type A and 50% were influenza type B.

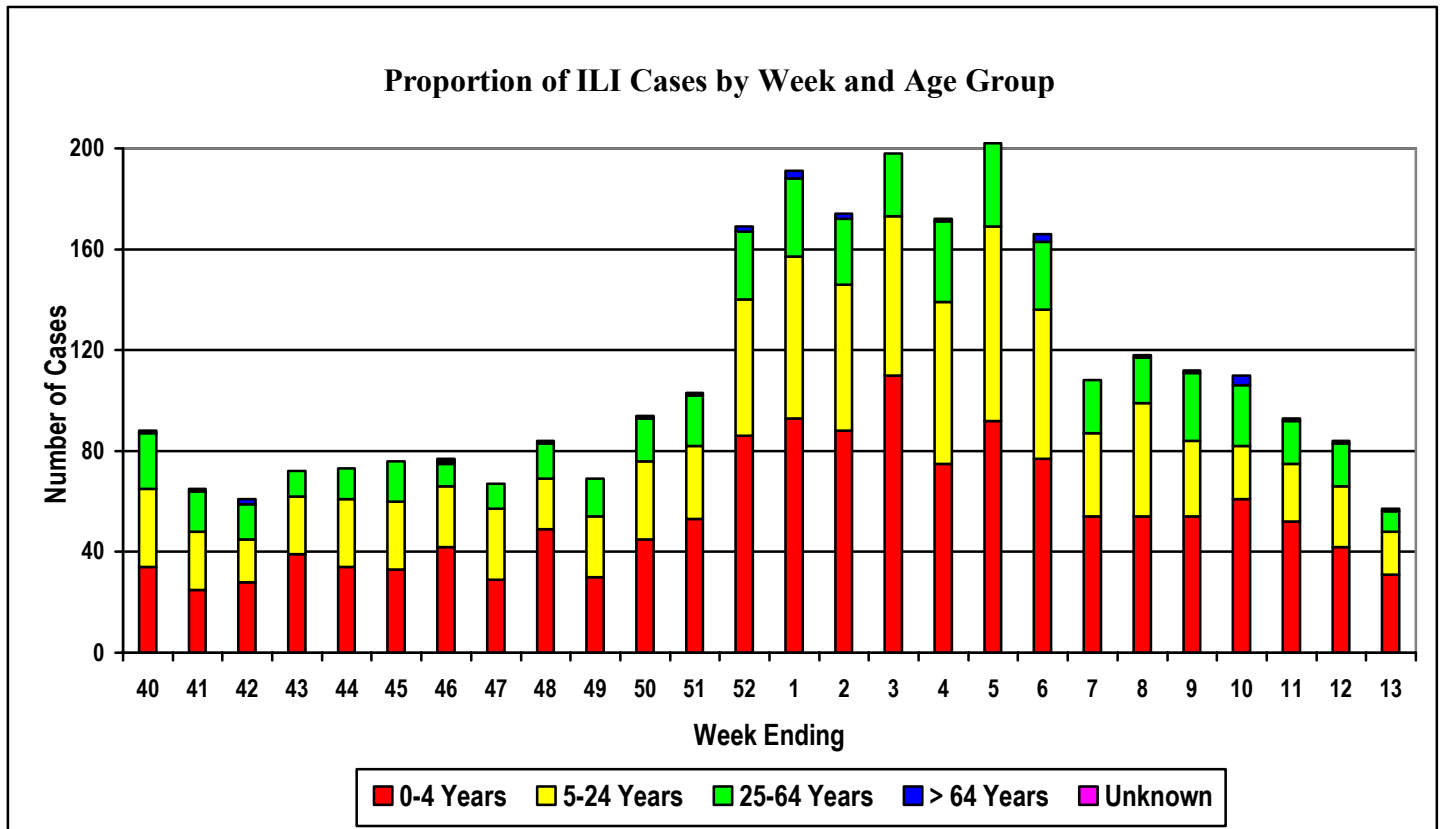
The Centers for Disease Control and Prevention (CDC) report that during October 1, 2000 – March 10, 2001, the World Health Organization (WHO) and the National Respiratory and Enteric Virus Surveillance System (NREVSS) laboratories tested a total of 64,840 specimens for influenza viruses, and 8386 (13%) yielded influenza virus isolates. Of the 8386 isolates, 4885 (58%) were influenza type A and 3501 (42%) were influenza type B. Of the 4885 influenza type A viruses, 1826 (37%) were subtyped; 1746 (96%) were A (H1N1) and 80

(4%) were A (H3N2). The percentage of specimens positive for influenza, an indicator of influenza activity, peaked at 24% during the week ending January 27, 2001 (week 04).

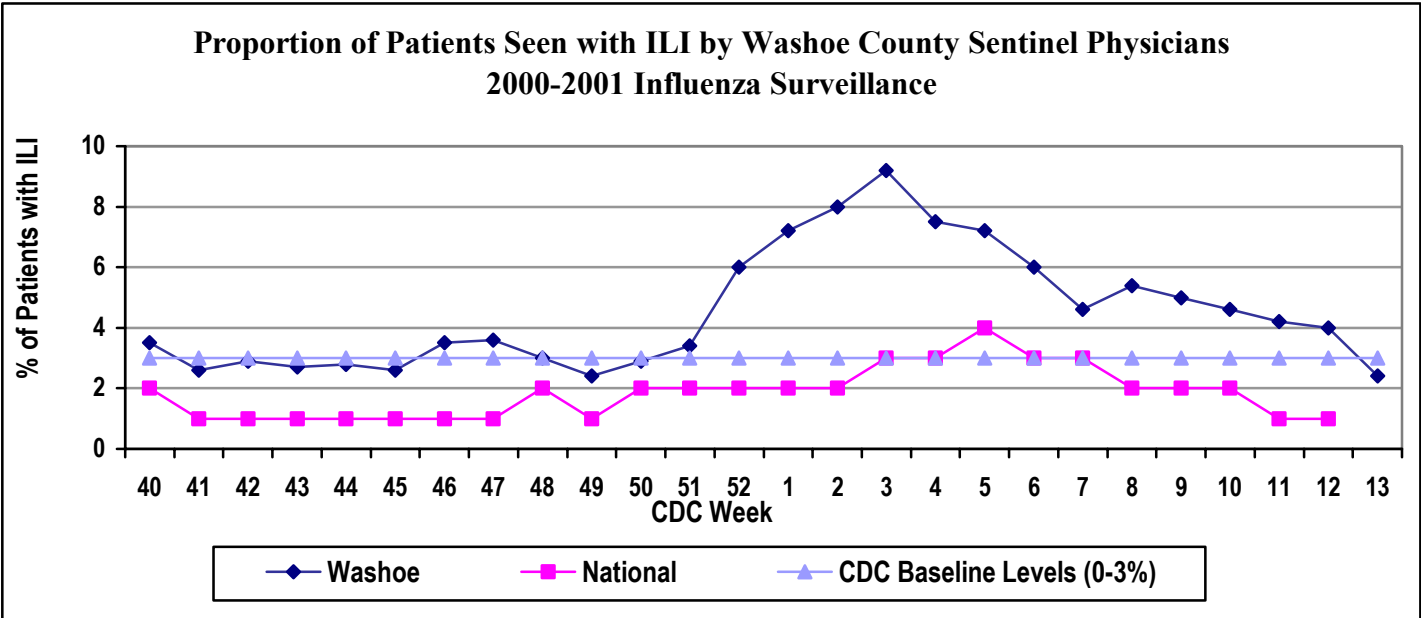
CDC antigenically characterized 436 influenza virus isolates received from U.S. laboratories between October 1, 2000 and March 10, 2001. Of the 259 influenza type A (H1N1) isolates characterized, 246 (95%) were similar to A/New Caledonia/20/99, the H1N1 component of the 2000-2001 influenza vaccine. Thirteen (5%) were similar to A/Bayern/07/95. Although A/Bayern-like viruses are antigenically distinct from the A/New Caledonia-like viruses, the A/New Caledonia/20/99 vaccine strain produces high titers of antibody that cross-react with A/Bayern/07/95-like viruses. Of the 16 influenza type A (H3N2) viruses characterized, all were antigenically similar to the vaccine strain A/Panama/2007/99. Of the 161 influenza type B viruses characterized, 29 (18%) were similar to the vaccine strain, B/Beijing/184/93; and 132 (82%) were more closely related antigenically to the B/Sichuan/379/99 reference strain. The B/Sichuan virus exhibited cross-reactivity with the vaccine strain.

**Level of Influenza Activity:**

This graph illustrates the proportion of ILI cases by age group and week. Influenza activity in the  $\geq 65$ -year age group was consistently low through out the season. This age group was the main target for influenza immunization. This data suggests that the vaccination program was successful at lowering influenza illness in the targeted age group.

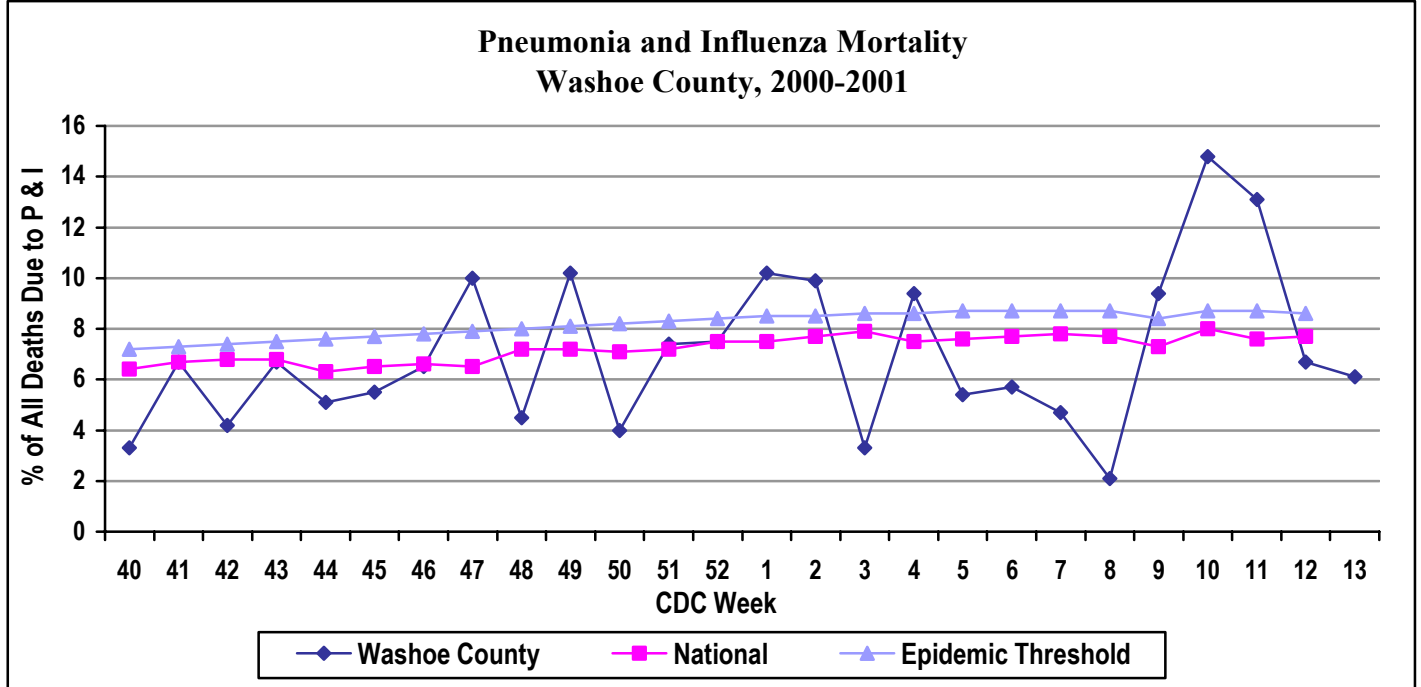


The percentage of overall patient visits for influenza-like illness in Washoe County peaked at 9.2% during the week ending January 20, 2001 (week 3). Nationally, this percentage peaked at 4% during the week ending February 3, 2001 (week 5). Baseline levels of activity were 0-3%.



The proportion of deaths due to pneumonia and influenza (P & I ratio) peaked at 14.8% during the week ending March 10, 2001 (week 10) in Washoe County. During the previous three years, the P & I mortality levels peaked between 11.1% and 19.6%. The graph below demonstrates that Washoe County exceeded the epidemic threshold during 8 of the 26 weeks of influenza surveillance.

The P & I ratio as reported by the vital statistics offices of 122 U.S. cities peaked at 8.0% during the same week as Washoe County (week 10). During the previous three years, national P & I mortality levels peaked between 8.7% and 11.2%.



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**Conclusions:** In 2000, difficulties with growing and processing the influenza type A (H3N2) vaccine strain and other manufacturing problems resulted in substantial delays in the distribution of the 2000-01 influenza vaccine. Fortunately, influenza activity during the 2000-01 season was described as moderate by the CDC, and lower than the previous three seasons. Washoe County also experienced a moderate level of influenza activity. The possibility of future influenza vaccine delivery delays or vaccine shortages remains. Efforts to improve targeted delivery of vaccine to groups at high risk and to further encourage the administration of vaccine throughout the influenza season are recommended.

All of the testing data indicate the 2000-01 trivalent influenza vaccine adequately covered the circulating strains this season. The 2001-02 trivalent influenza vaccine is scheduled to contain A/Moscow/10/99 (H3N2)-like, A/New Caledonia/20/99 (H1N1)-like, and B/Sichuan/379/99-like antigens.

The District Health Department would again like to thank the participating health care providers, the Nevada State Public Health Laboratory, and Washoe County Vital Statistics for their support and cooperation. Together, we have been able to provide physicians and the general public with important information about influenza activity in our community.

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