**INFLUENZA SURVEILLANCE PROGRAM**

**2003-2004 INFLUENZA SURVEILLANCE SEASON**

**WASHOE DISTRICT HEALTH DEPARTMENT**

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**Date:** June 15, 2004

**To:** Mark Riddle, Epi Center Director

**From:** Denise Stokich, Community Health Epidemiologist

**Subject:** Summary of 2003-2004 Influenza Surveillance Program

**The Program:**

The 2003-2004 influenza surveillance program was conducted between September 28, 2003 and May 22, 2004. Six local health care providers sent weekly fax reports of the numbers of persons seen with a fever of $>100^\circ$ F AND cough and/or sore throat in the absence of a KNOWN cause other than influenza.

**The Participants:**

The health care providers participating in the program were:

- Family Medicine Associates, Ltd.
- Jay S. Schroeder MD, Ltd.
- Northern Nevada Medical Center Emergency Department
- Saint Mary’s Regional Medical Center Emergency Department
- Washoe Medical Center Emergency Department
- UNR Student Health Services

**Level of Influenza Activity:**

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

The percentage of overall patient visits for ILI in Washoe County peaked at 7.6% during the weeks ending November 22, 2003 (week 47) and December 6, 2003 (week 49). Nationally, this percentage peaked at 9.4% during the week ending December 27, 2003 (week 52).

The proportion of deaths due to pneumonia and influenza (P & I ratio) peaked at 19.8% during the week ending December 13, 2003 (week 50) in Washoe County. The P & I ratio as reported by the vital statistics offices of 122 U.S. cities peaked at 10.3% during the week ending January 17, 2004 (week 2).


Testing:

Family Medicine Associates, Jay S. Schroeder M.D., Ltd., and UNR Student Health Services 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. Twenty-six of forty-nine specimens (53%) submitted for viral testing to the Nevada State Public Health Laboratory (NSPHL) from sentinel providers yielded influenza isolates. All twenty-six positive cultures were identified as influenza type A (H3N2). Three influenza type A (two H3N2, one not subtyped) isolates were also reported from non-sentinel healthcare providers. Final antigenic characterization of Washoe County isolates is pending at the time of this report. The earliest confirmed isolate was from a specimen collected by a Washoe County medical facility on October 27, 2003. It was positive for influenza type A (H3N2). There were also a total of 40 positive influenza reports by test methods other than viral isolation (DFA and rapid flu antigen tests).

Nationally, 99.1 percent of isolates reported nationally were influenza type A and 0.9% were influenza type B. Results of testing performed by the World Health Organization (WHO) and the National Respiratory and Enteric Virus Surveillance System (NREVSS) laboratories between September 28, 2003 and May 22, 2004 are displayed in the following chart:
CDC antigenically characterized 991 influenza virus isolates received from U.S. laboratories between October 1, 2003 and May 22, 2004:
- 918 influenza A (H3N2) viruses,
- 3 influenza A (H1) viruses,
- and 70 influenza type B viruses.

The hemagglutinin proteins of the influenza A (H1) viruses were similar antigenically to the hemagglutinin of the vaccine strain A/New Caledonia/20/99. Of the 918 influenza A (H3N2) isolates that have been characterized, 106 (11.5%) were similar antigenically to the vaccine strain A/Panama/2007/99 (H3N2), and 812 (88.5%) were similar to the drift variant, A/Fujian/411/2002 (H3N2). Sixty-five of the influenza B viruses belonged to the B/Yamagata lineage and were similar antigenically to B/Sichuan/379/99. Five influenza B viruses belonged to the B/Victoria lineage and were similar antigenically to the vaccine strain B/Hong Kong/330/2001.
Conclusions: Influenza activity in the United States during the 2003-2004 season increased steadily during November - December, peaked in December, and then declined nationwide. Washoe County activity peaked at the end of November, beginning of December.

The trivalent influenza vaccine recommended for the 2003-2004 season includes A/New Caledonia/20/99-like (H1N1), A/Fujian/411/2002-like (H3N2), and B/Shanghai/361/2002-like viruses. Both the influenza A (H3N2) and influenza B components have been changed from the 2003-04 season vaccine components. This recommendation was based on antigenic analyses of recently isolated influenza viruses, epidemiologic data, and post-vaccination serologic studies in humans.

Each year, as new influenza viruses emerge, influenza vaccine manufacturers must produce a new vaccine containing one or more viruses that differ from the previous year’s formulation. Because of the challenges these emergent viruses pose to the vaccine manufacturers and the FDA—and the many other uncertainties inherent in influenza vaccine production—the possibility of future influenza vaccine delays or shortages remains. Efforts to improve targeted delivery of vaccine to groups at high risk and to encourage the administration of vaccine throughout the influenza season are recommended.

The District Health Department would like to thank our Vital Statistics program staff, the participating health care providers, and the Nevada State Public Health Laboratory 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.