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2003-2004 Flu Season in North America

In 2003-2004 season an increased influenza activity has been detected earlier than in previous seasons. The predominant virus circulating in North America is similar to A/Fujian/411/2002. In the USA CDC has antigenically characterized 108 influenza A (H3N2) viruses and found that 19 (18%) were similar antigenically to the vaccine strain A/Panama/2007/99 (H3N2), and 89 (82%) were similar to the drift variant, A/Fujian/411/2002 (H3N2). In Canada 70% of the influenza viruses antigenetically characterized (n=87) corresponded to A/Fujian/411/02(H3N2)-like.

The A/Fujian strain predominated in Australia and New Zealand during the recent Southern Hemisphere influenza season;it is a drift variant related to the vaccine strain, A/Panama/2007/99.

The effectiveness of influenza vaccine depends primarily on the age and immunocompetence of the vaccine recipient and the degree of similarity between the viruses in the vaccine and those in circulation. According to the Recommendations of the Advisory Committee on Immunization Practices (ACIP), the effectiveness of the vaccine, as measured in number of prevented cases of illness, is as follows: for healthy adults younger than 65 years old, 70-90% effective; in children from 1 to 15 years 77-99% effective; in non-institutionalized persons over 65 years of age 58% effective and 30-40% in institutionalized persons. The vaccine can also be effective in preventing secondary complications and in reducing the risk for influenza-related hospitalization and death. Among adults 65 or older living outside nursing homes or similar chronic-care facilities, influenza vaccine is 30%-70% effective in preventing hospitalization for pneumonia and influenza. Among elderly persons residing in nursing homes, the vaccine can be 50%-60% effective in preventing hospitalization or pneumonia, and 80% effective in preventing death.

Vaccine effectiveness depends, in part, on the match between vaccine strains and circulating viruses and cannot be determined by laboratory testing. Although vaccine effectiveness against A/Fujian/411/2002-like viruses may be less than that against A/Panama/2007/99-like viruses, it is expected that the current vaccine will offer some

cross-protective immunity against the A/Fujian/411/2002-like viruses and reduce the severity of disease.

For the season 2004 in the southern hemisphere WHO has advised the inclusion of similar viruses to the strain / Fujian/411/2002 in the vaccine against influenza.

Sources

- *Influenza: Reports and Surveillance Methods in the United States*. Centers for Disease Control and Prevention of the United States (CDC), National Center for Infectious Diseases.
- Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunizations Practices (ACIP). *Morbidity and Mortality Weekly Report (MMWR)*, 2003. 25 (RR08); 1-36.
- *FluWatch, November 16 to November 22, 2003 (Week 47)*, Health Canada website: English | français
- World Health Organization (WHO) (2003) Recommended Composition of Influenza Virus Vaccines for Use in the 2003–2004 Influenza Season. *Weekly Epidemiological Record / Relevé épidémiologique hebdomadaire* (WER/REH) 78 (9): 58-64.