CD Summary

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OREGON PUBLIC HEALTH DIVISION • DEPARTMENT OF HUMAN SERVICES

PREVENTION OF PREMATURE INTERMENTS: INFLUENZA 2007-2008

Since it emerged in Hong Kong in 1997, the H5N1 bird flu epizootic has led to only a few hundred sporadic human illnesses. Our attention is directed at the less exotic strains of influenza, which kill an average of 36,000 Americans annually. This issue of the *CD Summary* details steps to minimize influenza morbidity and mortality, as promulgated by CDC's Advisory Committee on Immunization Practices (ACIP).[1]

NEW THIS YEAR

1. Reemphasis was placed upon the initial administration of two doses of vaccine 4 to 6 weeks apart for children ≥6 months but <9 years of age. If such children received only one dose previously, they should receive two doses this year.
2. Amantadine and rimantadine should not be used for treatment or prophylaxis due to the current levels of resistance exhibited by current A/H3N2 and A/H1N1 strains.
3. The vaccines will include a new component — A/Solomon Islands/3/2006 (H1N1)-like active viruses or immunologic virion components.
4. We expect >100 million doses of vaccine for use this season, so emphasis was placed upon vaccination of all children and adults wanting to stop abetting the evil microbes in decimating human populations.

AT HIGH RISK

The following persons should be vaccinated in October or early November with the inactivated trivalent influenza vaccine (TIV), regardless of the setting:

- all those ≥50 years of age;
- nursing home or chronic-care facility residents;
- those with chronic cardiovascular or pulmonary disease, including asthma or such neuromuscular afflictions as compromise the management of respiratory secretions or increase the risk of aspiration, including cognitive dysfunction, spinal cord injuries and seizure disorders;
- those with chronic metabolic diseases such as diabetes, renal disease, hemoglobinopathies or immune dysfunction (including immunosuppression caused by medications or infections, including HIV);
- children under 19 who are receiving long-term aspirin therapy (and would therefore be at risk for Reye syndrome);
- women who will be pregnant during the influenza season; and
- children 6–59 months old.

If vaccine should be available, it may, to avoid missing an opportunity, be given in September during visits for routine care or during hospitalization. As of this writing, the live, attenuated influenza vaccine (LAIV), FluMist™, is not recommended for administration to any of these individuals. (Stay tuned, however, as the U.S. Food and Drug Administration [FDA] is considering approval of LAIV for children as young as 24 months of age.)

VACCINATE VECTORS

Get yourself vaccinated before the onset of community transmission of influenza—along with all other persons who might expose the above groups to influenza virus. The following should be vaccinated:

- physicians, nurses and other personnel providing care in home, hospital or outpatient settings, including emergency response workers;
- employees and visitors of nursing, chronic-care, assisted-living or other such residences having contact with patients or residents; and
- household contacts and out-of-home caretakers of children 0–59 months of age, especially those of infants <6 months of age (for whom influenza vaccine has not been approved).

Although LAIV transmission from a recently vaccinated person has never been reported to cause clinically important illness, the vaccine virions may be shed for up to seven days following administration. It is therefore recommended that recipients of LAIV avoid contact with severely immunosuppressed patients (e.g., those with hematopoietic stem cell transplants) for seven days after vaccination.

ALSO IMPORTANT

Vaccinate others in the community whose work would be seriously affected by influenza and pose a risk to others; or who are otherwise at high risk; such as.

- those providing essential community services such as police, fire and rescue, public health, or child care;
- students, teachers and others in educational settings, especially those in dormitory residences;
- individuals not vaccinated in the recent fall or winter who plan to travel to the tropics, travel with organized groups at any time of year or travel to the Southern Hemisphere during April–September; and
- individuals culling or otherwise having contact with wild or domestic fowl infected with avian influenza viruses.

TIMING

Influenza vaccine may be administered right up to the expiration date. If influenza is present, neuraminidase inhibitors may be employed during the 10–14 days required for development of host immunity following administration of TIV. Don't give antiviral agents after administering LAIV, and don't give LAIV within 48 hours of antiviral drugs.

VACCINE ADMINISTRATION

1. Inactivated Vaccine

Adults and older children should be vaccinated in the deltoid muscle using a needle length of one inch or more to ensure sufficient penetration. Infants and young children should be vaccinated in the anterolateral aspect of the thigh.

Doses by age group are as follows:

- 6–35 months: 0.25 mL
- ≥3 years: 0.5 mL

Among previously unvaccinated children <9 years old, two doses must be administered at least one month apart for satisfactory antibody response.

Local reactions are generally mild. Fever, malaise, myalgia and other systemic symptoms can occur and persist for 1–2 days. Rarely, immediate hypersensitivity reactions occur, usually due to

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allergies to egg protein. Vaccine should not be administered to people who are allergic to eggs or egg protein, without appropriate medical evaluation and possibly desensitization. Existing data, though limited, suggest that the benefits of vaccination justify the yearly vaccination of patients at high risk for influenza even if they have experienced Guillain-Barré Syndrome within six weeks of previous influenza vaccination.

Fluzone® is currently licensed for those ≥6 months of age. Fluvirin™ is labeled in the US for use among those ≥4 years old) and FLUARIX™ for those ≥18 years old.

2. Live, Attenuated Vaccine

FluMist™, a trivalent live, attenuated influenza vaccine (LAIV) produced by MedImmune Inc., is approved for healthy persons aged 5–49 years. The vaccine contains cold-adapted virions and is administered intranasally. Children 5–8 years old need two doses ≥6 weeks apart in their first year of vaccination with FluMist™; those 9–49 years old need but one dose. The most common reactions are nasal congestion, rhinorrhea, pharyngitis, and cough. This vaccine is not recommended for any person at elevated risk of influenzal complications or who has had an allergic reaction to eggs to or a previous dose of FluMist™. Efficacy is comparable to that of the inactivated vaccines.

ANTIVIRALS

Antiviral drugs are no substitute for vaccination. In recent years, 90% of H3N2 viruses tested have been resistant to amantadine and rimantadine, so they are not currently recommended. The neuraminidase inhibitors zanamivir and oseltamivir are approved for treating uncomplicated influenza A and B and for prophylaxis — but for different age groups; check the package for specifics.

ADDITIONAL INFO

The complete recommendations of the ACIP can be found at http://oregon.gov/DHS/ph/acd/flu/influenza.shtml. Information about clinics administering vaccine can be obtained by dialing 1-800-SAFENET. Thanks to all who contributed to our surveillance. We look forward to working with you again this season!

REFERENCE

1. CDC. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2007; 56(RR-6):1–54. Available at http://www.cdc.gov/mmwr/PDF/rr/rr5506.pdf.

Farewell to Fred Hoesly

Frederick C. Hoesly, MS-MD, MPH, a Health Division epidemiologist for 20 years, retired again on August 31, 2007. Dr. Hoesly, known as "Fred" to many of his friends and colleagues, occupied a unique perch within our department. His encyclopedic knowledge of "the literature"—both modern and ancient—set a bountiful table for all, and the dishes were seasoned liberally with experience and common sense.

An Oregon native, Dr. Hoesly graduated from the University of Portland in 1957 and went on to a MS-MD program at the University of Oregon Medical School, later known as OHSU—graduating in 1962. His benchwork with the meningococcus helped foster a lifelong interest in respiratory pathogens. He began his first career in public health in 1963 as a medical epidemiologist with CDC—stationed first at the Pima County Health Department in Arizona for two years and subsequently at the Trenton (City) Health Department in New Jersey. In 1967 he moved to Atlanta, where he served as the Chief of CDC's epidemiology training center until he retired (the first time).

Dr. Hoesly returned to Oregon and enjoyed his retirement for several weeks. Having served at the city, county, and federal level, he wanted to get some experience working for a state, and so began his career with the Oregon Health Division. After a stint with the Immunization Program, he became a Medical Epidemiologist in what is now the Acute and Communicable Disease Program, later serving as the manager of that program for 5 years. Dr. Hoesly worked with many colleagues here and in local health departments around the state, building bridges to the larger medical community, notably to infection control practitioners through his participation in APIC.

Perhaps Fred's paramount passion was prevention of influenza. Almost single-handedly, he developed and fostered Oregon's influenza surveillance, and he authored an annual issue of the *CD Summary* on the topic -- this issue being, regrettably, his ultimate.

Throughout his career, Dr. Hoesly encouraged his colleagues not only to collect epidemiological data, but to look at them and think about them too. We will seek his advice even as he transitions to emeritus status.

The history of public health holds many lessons for those who will take the time to study them. Fred has, and Oregonians and many others are the better for it.