

Benefit Expected in Adults

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Physicians, said in an interview that the compromise was a good one. "We're very supportive of what happened. We do think it's going to take a year, just because of the timing. By the time the official recommendation comes out it will be summer. ... I think that giving a year's notice for full implementation for all kids thru 18 years will be very helpful in maintaining the credibility of ACIP with practitioners."

The CDC is expected to follow the advice of the ACIP, which then must be "harmonized" with that of the AAFP and other professional societies. The AAFP's Commission on Science will discuss the issue in May. "I don't want to speak for the committee, but I feel pretty confident we will be supportive of this," said Dr. Campos-Outcalt, associate head of the Department of Family & Community Medicine at the University of Arizona, Phoenix.

Dr. Anthony Fiore of the Influenza Division of the CDC's National Center for Immunization and Respiratory Diseases led the discussion at the meeting by summarizing the data and rationale supporting the decision.

Although there are few deaths or hospitalizations for influenza among school-age children, compared with younger children, the elderly, or those with chronic conditions, children aged 5-18 years make five to seven outpatient visits per 100 children annually for influenza, and they often receive antibiotics. About 10-30 influenza illnesses occur per 100 children, resulting in high rates of school absenteeism.

The expanded recommendation is expected to reduce transmission among adult contacts, and improve current low rates of immunization among the 50% of school-aged children who already have an indication for the vaccine because of a chronic condition or contact status. Data on cost-effectiveness of influenza vaccine in that age group suggest that it is more expensive than many currently recommended vaccines but that "models do not fully account for potential indirect effects," Dr. Fiore said.

Dr. Kathleen Neuzil, who chaired the ACIP Influenza Vaccine Working Group that drafted the recommendations said that the decision to go forward at this time was based on the fact that there are no remain-

ing critical data gaps, and no clear indication that more data will be available in the near term on feasibility or indirect protection from influenza immunization to unimmunized contacts. Moreover, "There is no clear indication that steps will be taken to prepare in the absence of a recommendation."

The working group's document that was initially presented to the committee called for the recommendation to take effect beginning in the 2009-2010 season, primarily because many providers would have already ordered their vaccine supply for 2008-2009. Other reasons for waiting included the large number of new vaccine recommendations in the last 2-3 years, the need for education, and to allow time to harmonize with other professional organizations, said Dr. Neuzil of the University of Washington, Seattle.

Several panel members endorsed that cautious approach, but others urged the committee to move forward more quickly. Patricia Stinchfield, a nurse practitioner and director of pediatric infectious disease and immunology at the Children's Hospitals and Clinics of Minnesota, St. Paul, said that most of the providers she works with are already offering influenza vaccine to all children. "They don't feel fearful of a new implementation program.

We have already ordered our vaccine, but we also know that at the end of every season we throw vaccine away."

Ms. Stinchfield, a member of the working group, was the ACIP member who came up with the compromise language "as soon as feasible and no later than" that the committee ultimately adopted. "I will have to deal with the headaches at my institution, so I know what I'm bringing upon myself ... But we already have a policy that's allowable, so I don't think the sky will fall in and I think we can do it with a concerted effort."

Panel members agreed that office-based health care providers cannot be expected to shoulder the entire burden. Broader approaches such as school- or community-based immunization programs will need to be developed in order to achieve the goal of immunizing all children every year during influenza season.

Next steps on ACIP's agenda will be a consideration of expanded recommendations that include household contacts and caregivers of school-age children, followed by the addition of adults aged 19-49—in other words, universal influenza vaccination. Committee chairman Dr. Dale L. Morse requested that the working group bring back a proposed recommendation for the latter within a year. ■

Data Show 'Full' Flu Immunization Prevents Hospitalizations in Infants

BY MIRIAM E. TUCKER
Senior Writer

ATLANTA — Full immunization against influenza is about 75% effective in preventing hospitalizations in 6- to 23-month-old children, Dr. David Shay said at the winter meeting of the Advisory Committee on Immunization Practices of the Centers for Disease Control and Prevention.

The ACIP's recommendation for annual influenza immunization for all children aged 6-23 months beginning in the 2004-2005 influenza season was based on the burden of disease in that age group and the fact that hospitalization rates among this age group were similar to those among the elderly, for whom annual flu vaccination was already recommended. However, no previous study has assessed the effectiveness of the trivalent inactivated vaccine (TIV) in preventing laboratory-confirmed hospitalizations in this age group, said Dr. Shay of the CDC's National Center for Immunization and Respiratory Diseases, Influenza Division.

Now, a multistate case-control study conducted during the 2005-2006 and 2006-2007 flu seasons has confirmed that TIV indeed prevents influenza-related hospitalizations in 6- to 23-month-olds, but only if they receive "full" immunization. "Partial immunization was less effective, and not significantly protective, based on two seasons of data. It is critical to ensure that children aged 6-23 months are fully immunized if we seek to prevent influenza-associated hospitalizations among children," Dr. Shay commented.

The data were analyzed using the 2007 definition of "full" immunization, which is more stringent than it had been during the study period: The child must have received two doses during the current season if they had never previously received TIV or if they had received only one dose in the previous season. A child who received just one dose in the current season would

be considered "fully" immunized if he or she received two doses in a single prior season or had one dose in two or more prior seasons.

The study population comprised 93 of a total 191 eligible 6- to 23-month-old children who were hospitalized with laboratory-confirmed influenza (85% type A, 12% B, and 3% unknown), identified at eight U.S. state health department surveillance sites, and 334 age-matched controls. Cases and controls also were well matched by gender (56% of cases and 52% of controls were male) and by race (72% and 80% were white, respectively).

During the 2005-2006 season, only 9% of cases were fully immunized, compared with 20% of controls. Sixty-seven percent of cases were not immunized, compared with 55% of controls, while about a quarter of both groups was partially immunized. In 2006-2007, only 13% of cases had been immunized, compared with 32% of controls, while 65% of cases were not immunized vs. 38% of controls. Again, the rates of partial immunization were similar, 23% among cases and 30% among controls. (Cumulative percentages might exceed 100% because of rounding.)

Overall effectiveness of TIV in preventing hospitalization was 74% for full immunization, compared with just 39% for partial immunization. Adjustment for high-risk conditions, very low birth weight, and insurance status did not significantly change the result for full immunization (76%), but it dropped the effectiveness of partial immunization to just 27%, Dr. Shay reported.

After Dr. Shay's presentation, ACIP member Dr. Carol J. Baker urged meeting participants to inform their constituencies of the importance of giving two doses in the 6- to 23-month age group, even if it means vaccinating late into the season. "We have created a culture of stopping vaccination in late November, early December. ... That mentality must change," said Dr. Baker, professor of pediatrics, molecular virology, and microbiology at Baylor College of Medicine, Houston. ■

Flu Vaccine for Next Season Bets on Different Strains

BY HEIDI SPLETE
Senior Writer

GAITHERSBURG, MD. — All three virus strains in the influenza vaccine for the 2008-2009 season will differ from this year's vaccine, based on a majority vote by an advisory committee to the Food and Drug Administration.

The Vaccines and Related Biological Products Advisory Committee members voted to accept the choices recommended by the World Health Organization for next year's trivalent vaccine: an A/Brisbane/59/2007 (H1N1)-like virus, an A/Brisbane/10/2007 (H3N2)-like virus, and a B/Florida/4/2006-like virus.

These choices represent a notable departure from the flu vaccine formulas of recent years, which have included repeat appearances by the Solomon Islands strain of influenza A.

The change was prompted in part by the rise of the A/Brisbane/10/2007-like strain, which accounted for 82% of the influenza A (H3N2) isolates characterized by the Centers for Disease Control and Prevention between October 2007 and January 2008. According to the most recent data available from the CDC, the H3N2 strain of influenza A has become the dominant strain for this year's flu season.

Although influenza A is causing most of the illness, the well-publicized mismatch between the in-

fluenza B virus chosen for this year's flu vaccine and the currently circulating B virus is drawing extra attention. But the lengthy process of developing the flu vaccine and the challenges to produce it in volume and on schedule remain the same each year.

Two types of influenza B circulate every year, and one committee member compared the choice of B virus for each year's vaccine with flipping a coin.

An influenza B virus from the Victoria group was chosen for the 2007-2008 vaccine, but the strain chosen for 2008-2009 is of the Yamagata lineage. The most recent data from the CDC for the 2007-2008 flu season (as of Feb. 9, 2008) showed that 93% of the circulating influenza B viruses in the United States were of the Yamagata lineage, while 7% of the viruses were of the Victoria lineage. "But we have both groups [of influenza B virus] circulating worldwide," noted Nancy Cox, Ph.D., director of the influenza division at the CDC.

The committee members also discussed the possibility of tailoring future flu vaccines to different populations. Unlike previously vaccinated adults who have been exposed to both types of influenza B over time, children would likely benefit from a vaccine that contains strains from both B virus lineages, noted Dr. Robert Couch, a professor of molecular virology and microbiology at Baylor College of Medicine, Houston. ■