

# Few Young Children Got Flu Vaccine in 2004-2005

BY JOHN R. BELL  
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The Centers for Disease Control and Prevention has reported that data from a nationwide telephone survey indicate that only 18% of children aged 6 months to 2 years were fully vaccinated for influenza in the 2004-2005 influenza season.

To be considered "fully vaccinated," a child must have received two injections in the September-December 2004 period if he or she had never been vaccinated, or only one injection in that period if the child had any history of influenza vaccination.

The portion of children nationwide who had received at least one dose of flu vaccine in the period was 33% (MMWR 2006;55:1081-5).

The state with the largest portion of fully vaccinated children in this age group was Nebraska, with 33%.

The state with the least was Idaho, with 6%. Children in large cities were even less likely to be fully vaccinated, however; only 3% of children under age 2 years in Detroit were fully vaccinated, compared with 15% of those in Michigan as a whole.

For children who had received at least one influenza vaccine dose during the study period, Massachusetts had

the greatest portion of its young children covered, with 59%.

Other states with at least 50% were Nebraska, Connecticut, and Rhode Island. The state with the smallest portion of children having received at least one dose was Nevada, with 12%, and in Clark County, which includes Las Vegas, only 9% of children in this age group had received one or more doses.

Notably, the September-December period of 2004 coincided with a national shortage of vaccine, which the CDC recently reported should not occur this season, because there will be two additional manufacturers supplying vaccine, bringing the total to four, whereas there were only two manufacturers in the 2004-2005 season.

However, the CDC's Advisory Committee on Immunization Practices that year deemed children aged 6-23 months as a priority population for vaccination, and thus the lack of supply in theory should not have affected this group as much as others.

Another possible factor in the low vaccination rates was



In September-December 2004 there was a national shortage of vaccine, which the CDC said should not occur this season.

that the period in question was the first for which routine annual influenza vaccination was recommended (rather than merely encouraged) for children in this age group.

Since then, the recommendation has been expanded to include children up to age 59 months. ■

## CDC Survey Reveals Gaps In Public's Flu Knowledge

BY JOHN R. BELL  
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WASHINGTON — Much of the public harbors misperceptions about influenza and vaccination against it, according to data from a nationwide survey presented at a press briefing sponsored by the National Foundation for Infectious Diseases.

The Public Perception of Influenza, Vaccination and Treatment Options Survey, randomly administered via telephone to more than 1,000 adults in all 50 states, found that only 48% of the respondents said they planned to be immunized this year.

Reasons given by respondents for not seeking immunization included the belief that influenza is not a serious enough disease to warrant vaccination (43%), that they were personally not at risk for infection (38%), that

they previously contracted the flu even after being vaccinated (23%), and that vaccination in a prior influenza season would offer protection against current infection (15%).

Of the entire study cohort, 46% of respondents believed influenza vaccine can cause influenza. In addition, 30% responded that getting the vaccine is not worthwhile because it protects against only three strains of influenza, and many said that vaccination in December or later was too late to be effective.

These findings underscore the need for physicians to recommend vaccina-

tion to their patients, said Dr. Susan J. Rehm, medical director of the National Foundation for Infectious Diseases. A direct recommendation from a health care provider "was one of the major drivers for individuals getting influenza vaccine," she said.

"The medical community must also reinforce the public health benefits of vaccination in the later season," Dr. Rehm said, "by educating patients throughout the winter months... about the benefits of the vaccine, even if disease has already begun to be seen in their area."

Moreover, only 68% of respondents knew about the CDC's recently expanded recommendation for influenza vaccination in all children aged 6 months to 5 years.

"Immunization vaccination rates among children are not what they should be—especially for those with chronic medical conditions, such as asthma," said Dr. Julia McMillan of the American Academy of Pediatrics. "Now is the time for parents to call their child's pediatrician and schedule an appointment to get influenza vaccine this fall," she said. "It's critical for at-risk children to be immunized."

"Children are the great distributor of this virus," Dr. William Schaffner of Vanderbilt University, Nashville, Tenn., said at the briefing.

Also of concern was that only 49% of all respondents knew that annual influenza vaccination is recommended for pregnant women. ■

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## Flu Vaccine–Naive Children Aged 5-8 Years Need Two Shots, Study Shows

Children aged 5-8 years who have not previously received a flu vaccine need two doses of trivalent inactivated influenza vaccine, based on antibody response data from 222 children in a prospective, open-label study.

Prior studies have established the need for two doses of flu vaccine for unvaccinated infants and young children, but research in older children has been limited, said Dr. Kathleen M. Neuzil of the University of Washington, Seattle, and her colleagues (J. Infect. Dis. 2006;194:1032-9). Dr. Neuzil has received grant support from Sanofi Pasteur and MedImmune.

Among children who were seronegative at baseline, an additional 50%, 51%, and 31% developed protective responses to A/H1N1, A/H3N2, and B vaccine antigens, respectively, after a second dose of trivalent inactivated influenza vaccine (TIV).

Baseline seropositive children showed a significant increase in antibody titers after one dose, but they showed no significant additional difference in antibody titers after a second dose (see box).

The results remained significant after controlling for baseline serostatus (the strongest predictor of a protective antibody response) as well as age and sex.

Overall, the antibody titers for the B vaccine component were significantly lower than for the A components in both seronegative and

seropositive children, but this finding was consistent with data from other vaccine studies, the researchers noted.

Because baseline serostatus is not easily determined and serologic testing before vaccination is not practical, the study confirms the need for two doses of TIV in previously unvaccinated 5- to 8-year-olds, Dr. Kathryn M. Edwards and Dr. Marie R. Griffin of Vanderbilt University in Nashville, Tenn., said in an editorial (J. Infect. Dis. 2006;194:1027-9).

The children received two 0.5-mL shots of TIV 2 weeks apart. Serum samples were taken at baseline, at 4 weeks after the first dose (before the second dose was given), and at 4 weeks after the second dose. The vaccine was well tolerated among all age groups and in both dosage groups, and no significant differences appeared between the dosage groups in the number of children with redness, swelling, fever, or itching after either one or two doses.

—Heidi Splete

### Protective Antigen Response After Receiving Two Doses of TIV

| Antigen/baseline serostatus | Percentage of subjects with protective antibody response |              |
|-----------------------------|----------------------------------------------------------|--------------|
|                             | After dose 1                                             | After dose 2 |
| <b>A/H1N1</b>               |                                                          |              |
| Seronegative                | 35                                                       | 85           |
| Seropositive                | 95                                                       | 100          |
| <b>A/H3N2</b>               |                                                          |              |
| Seronegative                | 11                                                       | 68           |
| Seropositive                | 100                                                      | 100          |
| <b>B/Jilin</b>              |                                                          |              |
| Seronegative                | 17                                                       | 48           |
| Seropositive                | 100                                                      | 100          |

Note: Based on a study of 222 children aged 5-8 years.  
Source: Journal of Infectious Diseases