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Vaccine records of internationally adopted children may not reflect protection against disease

EUREKALERT

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CHICAGO Children adopted from countries such as Russia, China and Guatemala may not be protected against polio, measles or other diseases despite records indicating they have been immunized, according to a report in the May issue of *Archives of Pediatrics & Adolescent Medicine*, a theme issue on vaccines.

U.S. families have adopted almost 250,000 foreign-born children in the last 15 years, according to background information in the article. Many of these children were living in orphanages or other institutional settings with few resources and are likely to have incomplete immunization records or none at all. When valid written records do exist, the American Academy of Pediatrics Committee on Infectious Disease advises that they could be considered as evidence of previous vaccination. However, there are reasons to suspect that these records may not accurately reflect immunity, including "documentation inaccuracies, lack of vaccine potency and impaired immune response, possibly due to stress or malnutrition."

Emaculate Verla-Tebit, Ph.D., and colleagues at Case Western Reserve University School of Medicine, Cleveland, obtained data from 465 children who visited the International Adoption Clinic at Rainbow Babies and Children's Hospital between 2001 and 2006 and who presented for care within 180 days of arrival to the United States. Most of the adopted children came from Russia (41.7 percent), China (20.9 percent) or Guatemala (15.7 percent). Immunization records were available for 397 (85.4 percent) of adoptees (average age 19.4 months). Blood samples were obtained and tested for evidence of immunity against diphtheria, tetanus, measles, hepatitis B and polio.

Evidence of immunity was found in:

- 87.2 percent of the 203 children with three or more tetanus vaccinations
- 94.6 percent of the 205 children with three or more diphtheria vaccinations
- a differing number of the 216 children with three or more polio vaccines based on disease type 58.3 percent against polio type 1, 82.4 percent against polio type 2, and 51.9 percent against polio type 3
- 94.1 percent of the 170 children with two or more hepatitis B vaccinations
- 80.8 percent of the 99 children with measles vaccinations

Children from China were less likely to have immunity than those from Russia. A total of 5.5 percent of the adoptees had acute malnutrition and 15.4 percent had chronic malnutrition; however, nutrition status was not associated with protective immunity.

"Our results suggest that the predictive value of immunization records in international adoptees may be limited and associated with birth country," the authors write. "Reasons that have been proposed include falsification of vaccine certificates, inaccurate entries and lack of vaccine potency."

Revaccination may be a cost-effective option for parents whose children do not show immunity, the authors note. Parents of children in the current study chose to revaccinate between 5 percent and 21 percent of the time, depending on the vaccine type. "Immunization records should not be accepted as evidence of protective immunity. Parents should be well informed and supported to choose between revaccination or vaccination, based on serologic [blood] testing," they conclude.

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PLEASE NOTE: A podcast interview and radio actualities from Anna Maria Mandalakas, M.D., M.S., will be available pre-embargo to the media at www.jamamedia.org.

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