

Vaccination Delays Put Many Children at Risk

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Researchers Say Many Infants Don't Get Vaccinations on Time

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March 8, 2005 - More than one in three children aren't fully protected from potentially deadly childhood diseases like measles and whooping cough because they didn't get the complete series of recommended vaccines or they didn't get them on time, according to a new study.

CDC researchers found more than one in three infants were behind on their vaccinations for more than six months during their first two years of life, and one in four children experienced delays in getting at least four of the recommended vaccines.

Failure to follow the recommended immunization schedule increases a child's risk of infection and could lead to outbreaks of disease.

"The first two years are when children are most at risk for many serious, vaccine-preventable diseases," says researcher Elizabeth Luman, PhD of the CDC's National Immunization Program. "Getting their vaccinations on time protects them during this vulnerable time."

"We knew most kids don't get all their vaccinations precisely on time, but we didn't know the extent of those delays," Luman tells WebMD. "We were really surprised that more than one in three kids are behind in their vaccinations for more than six months during the first two years."

Why Immunization Schedules Matter

The current recommended childhood immunization schedule specifies ages at which each of the approximately 20 vaccinations should be given during the first 18 months of a baby's life.

Vaccination coverage rates have reached record high levels in the U.S. with about 80% of children receiving all the required vaccinations by age 19 to 35 months. But researchers say that measure does not account for a large number of children who experience substantial delays before becoming fully vaccinated during the first two years of life.

"We want them to be protected throughout the first two years, not just at the end of it," says Luman.

Undervaccination, defined as delays in vaccination and/or failure to get the recommended doses in a vaccination series, has also been linked to several recent infectious diseases outbreaks among young children.

For example, at least 44% of infants who developed whooping cough during the 1990s were undervaccinated for their age, and 15 of the 25 whooping cough-related infant deaths were in infants who hadn't received any doses of the whooping cough (pertussis) vaccine.

Although partial vaccination provides partial protection from some infectious diseases, experts say infants who are not fully vaccinated may still become ill as well as spread the disease to others at risk.

Childhood Vaccination Delays Common

In the study, researchers analyzed data collected by the 2003 National Immunization Survey, an annual telephone survey used to estimate vaccination coverage rates for U.S. children aged 19 to 35 months. The results appear in the March 9 issue of *The Journal of the American Medical Association*.

Overall, the study showed that children were undervaccinated an average of 172 days for all vaccines combined during their first two years of life. About 34% were behind on their

vaccinations for less than one month and 29% for one to two months, but 37% were behind for more than six months.

"These data show that during certain periods of time children are susceptible to infections that could be pretty serious and at a time when they could have been protected if they had adhered to the vaccine schedule," says Robert S. Baltimore, MD, professor of pediatrics at Yale University School of Medicine and a member of the American Academy of Pediatrics Committee on Infectious Diseases.

About a quarter of the children experienced delays in getting four or more of the six recommended vaccines. About one-fourth of the children were considered severely delayed because they were behind for more than six months and for four or more vaccines.

Researchers say few of these delays were short. Instead, 39% of vaccination delays ranged from three to 12 months.

How to Curb Vaccination Delays

The results suggest that several factors increase children's risk of experiencing severe delays in getting their vaccinations, including:

- Having a mother who is unmarried or does not have a college degree
- Living in a household with two or more children
- Being non-Hispanic black
- Having two or more vaccination providers, such as a doctor and a clinic
- Using public vaccination clinics

Baltimore says those risk factors are of particular concern because they may occur in clusters.

"Children of mothers who have these risks may not only be at risk because they have delayed vaccination but because they're in contact with other children who have delayed vaccination, so there is a potential for infections to spread within their community," say Baltimore.

Researchers say the results show that efforts are needed to address the needs of these mothers in order to reduce immunization delays, including:

- Offering extended office hours to mothers who have trouble taking time off work
- Explaining the benefits and safety of vaccinations in a manner appropriate to the mother's education level
- Ensuring the availability of sibling child care in the workplace
- Putting systems in place to identify children who are falling behind in their immunization schedule, such as issuing reminders to the parent when vaccinations are due or late

But most of all, Luman says the most important thing that can be done to reduce vaccination delays is to emphasize the importance of timely vaccinations.

"Timely vaccination is one of the most important things for a parent to do to protect the health of their children," Luman says.

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