

Vaccines prevent millions of infections, save billions in costs: CDC

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But messages about immunization benefits often don't achieve intended goal, researchers discover.

(HealthDay)—Childhood vaccines have the potential to prevent 42,000 early deaths and 20 million cases of disease among Americans born in a given year, according to a new analysis.

The investigation of children born in 2009 found that vaccinations save billions of dollars in both direct and indirect health care costs. But in a second study, researchers also discovered that efforts to educate [parents](#) about the effectiveness of vaccines are falling short.

Both studies are published online March 3 and in the April print issue of *Pediatrics*.

In one study, U.S. Centers for Disease Control and Prevention

researchers looked at nine vaccines on the routine childhood immunization schedule. Implementing the schedule for babies born in 2009 resulted in a cost savings of nearly \$69 billion, said Shannon Stokely, associate director for science in the immunization service division of the CDC.

"The [childhood immunization](#) program is a highly cost-effective program that's saving lives," said Stokely.

For every dollar spent on the routine immunization program, \$10 was saved, the study found.

"The last time this type of analysis was done was in 2001. At that time, for every dollar spent, \$16 was saved," said Stokely. She said higher vaccine prices and a larger infant population reduced the cost savings in the latest analysis.

Since the last analysis, three new vaccines were added: hepatitis A, rotavirus, and a vaccine to protect against certain types of pneumonia, meningitis and ear infections—the [pneumococcal vaccine](#).

A vaccine expert who was not involved with the study, Dr. Kenneth Bromberg, director of the Vaccine Research Center at the Brooklyn Hospital Center in New York City, said it's clear that vaccines save lives.

"This study looks at the economic costs of the disease, and vaccines pay just based on that. But we also have to remember the quality-of-life benefits, and the value of a life saved that can't be measured," Bromberg said.

The second study, conducted online, found that current public health messaging doesn't change existing parental attitudes about vaccines. The existing approach may even increase some misconceptions or make

parents less likely to consider immunizations.

For this study, researchers surveyed more than 1,700 parents across the United States. Parents were randomly assigned to see one of four vaccine-related messages, or assigned to a group that was given a message having nothing to do with vaccines.

One vaccine-related message explained that there was a lack of evidence that the measles, mumps, rubella (MMR) vaccine causes autism. Another message provided information about the dangers of the diseases prevented by the MMR vaccine. A third message had a mother talking about her infant's battle with measles that included hospitalization. The fourth message featured pictures of children with vaccine-preventable illnesses.

The study found that none of these messages increased parents' intentions to vaccinate their children. Explaining the lack of evidence for a connection between the MMR vaccine and autism did reduce misconceptions among all parents, but decreased the intent to vaccinate in parents who had the least favorable attitudes toward vaccines.

Parents shown images of children with disease were more likely to believe there was a link between autism and vaccines, while those who read the mother's story about her child's measles increased their belief that vaccines cause serious side effects.

"Current public health communications about vaccines may not be effective," wrote the study's authors. They said more study of pro-vaccination messaging is needed to determine an effective way to communicate with parents about vaccine benefits and safety.

"Horror stories never work," said Bromberg. "What's important is to have an ongoing relationship with your child's pediatrician. When trust is

there, communication can be more open and effective. With more time to present a message, there may be more positive outcomes.

"And you probably need different approaches for different individuals," added Bromberg.

But the message of [vaccine](#) benefits is reaching most parents. "The number of kids that have received no vaccines is less than 1 percent. And for most vaccines, the rate of vaccination is very high. Vaccination is the norm in the U.S.," noted Stokely.

More information: Learn more about how vaccines are developed from the [U.S. Centers for Disease Control and Prevention](#).

[Abstract - Zhou](#)

[Full Text \(subscription or payment may be required\)](#)

[Abstract - Nyhan](#)

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