

Rotavirus vaccination leads to large decreases in health care costs, doctor visits

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(Medical Xpress) -- Vaccinating infants against rotavirus has resulted in dramatic decreases in health care use and treatment costs for diarrhea-related illness in U.S. infants and young children, according to a new study by the Centers for Disease Control and Prevention. The study is published in the current issue of the *New England Journal of Medicine*.

"This is good news for parents and our health system overall," said Dr. Umesh Parashar, medical epidemiologist and team leader for the Viral Gastroenteritis Team in CDC's Division of [Viral Diseases](#). "Rotavirus vaccine is one of the most effective ways to prevent severe diarrhea-related illness in young children and keep them healthy."

Rotavirus is a major cause of severe diarrhea in infants and [young children](#) in the United States. Before vaccines were introduced in 2006, rotavirus was responsible for about 400,000 visits to doctor's offices, 200,000 [emergency room visits](#), 55,000 to 70,000 hospitalizations, and 20 to 60 deaths each year in children under 5 years old.

RotaTeq and Rotarix, the two U.S. licensed rotavirus vaccines, were 85 to 98 percent effective at preventing severe rotavirus disease in clinical trials in middle and high income countries, including the United States.

This new study used data from a large U.S. insurance database for 2001 to 2009 to assess rotavirus [vaccine coverage](#) and its impact on [health care](#) use and treatment costs for diarrhea-related illness in children under 5 years old. The study examined direct benefits to vaccinated children

and indirect protective benefits to unvaccinated children. National declines in health care use and treatment costs were estimated by applying the declines seen in this study to children under 5 years old in the U.S. population.

By the end of 2008, 73 percent of children under 1 year of age, 64 percent of 1-year-olds, and 8 percent of 2- to-4-year-olds had received at least one dose of rotavirus vaccine. Rotavirus-related hospitalizations decreased substantially compared with pre-vaccine levels in children under 5 years old--75 percent decline for 2007-2008 and 60 percent decline for 2008-2009.

Vaccinated children had 44 to 58 percent fewer diarrhea-related hospitalizations and 37 to 48 percent fewer emergency room visits for diarrhea than unvaccinated children during the 2008 and 2009 rotavirus seasons (January to June). Even in unvaccinated children, there were substantial declines in health care use during the 2008 rotavirus season compared with pre-vaccine levels--showing indirect protective benefits.

The study estimated that about 65,000 hospitalizations of children under 5 years old from 2007 to 2009 were averted nationally with a health care cost savings of about \$278 million.

"This study provides more evidence that vaccinating against rotavirus substantially reduces suffering and health care costs for this common childhood illness," said Dr. Mark Pallansch, director of CDC's Division of Viral Diseases. "As more [children](#) get vaccinated against rotavirus, we expect to see even greater reductions in disease among all age groups."

Provided by Centers for Disease Control and Prevention

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