

Pneumococcal vaccine reduces antibiotic-resistant infections in children by 62 percent

October 10 2014

The pneumococcal vaccine recommended for young children not only prevents illness and death, but also has dramatically reduced severe antibiotic-resistant infections, suggests nationwide research being presented at IDWeek 2014™. Pneumococcal infection – which can cause everything from ear infections to pneumonia and meningitis – is the most common vaccine-preventable bacterial cause of death.

The 13-valent [pneumococcal conjugate vaccine](#) (PCV13), first available in 2010 (replacing 7-valent pneumococcal conjugate vaccine, PCV7), reduced the incidence of antibiotic-resistant invasive [pneumococcal disease](#) by 62 percent from 2009 to 2013 among [children](#) under five years old. The study is the first report of the effectiveness of PCV13 to combat antibiotic-resistant infections, a vaccination recommended for children under five years old. Three-quarters of states require it for entry into daycare, and 85 percent of U.S. children have received the recommended four doses.

"We're at risk of living in a post-antibiotic world, where these miracle medications no longer work, but this vaccine is part of the solution to protecting ourselves from the growing threat of antibiotic resistance," said lead researcher Sara Tomczyk, PHN, MSc, epidemic intelligence service (EIS) officer for the Respiratory Diseases Branch, Centers for Disease Control and Prevention (CDC), Atlanta. "Not only does this vaccine prevent pneumococcal infection, which means fewer antibiotics are prescribed, but it also prevents antibiotic-resistant infections."

The U.S. government's Healthy People 2020 initiative set a goal of reduction of antimicrobial-resistant [invasive pneumococcal disease](#) from 9.3 to 6 cases per 100,000 children. In the course of analyzing the data for this study, the team realized the goal had been met nine years early due to the effectiveness of the [pneumococcal vaccine](#). Currently, the rate is 3.5 cases per 100,000 children.

PCV13 is given to children in four doses, at two, four, six and 12 through 15 months of age. The study collected data representing approximately 10 percent of the United States, which is considered illustrative of the country as a whole, said Tomczyk. PCV13 is effective against 13 strains of pneumococcal bacteria, while PCV7 was effective against seven. One dose of PCV13 also is now recommended for all adults 65 and older, followed by a dose of the pneumococcal polysaccharide [vaccine](#) (PPSV23) six to 12 months later. Additionally, one dose of PCV13 is recommended for adults 19 and older with certain cancers, HIV and kidney failure, followed by doses of PPSV23.

Provided by Infectious Diseases Society of America

Citation: Pneumococcal vaccine reduces antibiotic-resistant infections in children by 62 percent (2014, October 10) retrieved 11 July 2023 from <https://medicalxpress.com/news/2014-10-pneumococcal-vaccine-antibiotic-resistant-infections-children.html>

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