

Pneumonia vaccine reducing pediatric admissions

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In Tennessee, the introduction in 2010 of a new pneumococcal vaccine for infants and young children coincides with a 27 percent decline in pneumonia hospital admissions across the state among children under age 2.

That's the lead finding of a report from investigators at Vanderbilt University Medical Center and the Centers for Disease Control and Prevention (CDC), released Thursday in the CDC's *Morbidity and Mortality Weekly Report*.

The report was timed to coincide with the sixth annual observance of World Pneumonia Day on Nov. 12.

The recent decline in Tennessee comes on top of an earlier 43 percent decline across the United States coinciding with the introduction in 2000 of the first pneumococcal vaccine for [children](#) under 2.

Pneumococcus (streptococcus pneumoniae) is considered a leading cause of childhood [pneumonia](#). The earlier vaccine (7-valent pneumococcal conjugated vaccine) provides protection against the seven most common strains of the bacterium, while the newer vaccine protects against 13.

"We had such a dramatic decline from the first vaccine that we really didn't know how much more effect you would get by adding six more serotypes to the vaccine. So it was very gratifying to see that there was another major drop in pneumonia hospitalizations—a pretty dramatic

additional decline," said the report's corresponding author, Marie Griffin, M.D., MPH, professor of Health Policy and Medicine at Vanderbilt.

Since introduction of the earlier [vaccine](#), pneumonia admissions among Tennessee children younger than 2 are down 72 percent, to an annual rate in 2012 of 4.1 per 1,000 population under age 2. This is an all-time low rate for Tennessee and it implies a reduction of more than 1,300 pneumonia admissions per year in this age group since 2000.

The data come from the Tennessee Hospital Discharge Data System, which records billing data (including diagnosis and procedure codes) from hospitalizations and emergency department visits from all non-federal hospitals in Tennessee.

"There's really a push for health departments and people doing public health surveillance to use local data to find out what's happening in our city or in our state, and then to react to those data. Now that these data are available electronically, we should be able to have these answers in a really fast way," Griffin said.

When selecting antibiotic treatments for childhood pneumonia, providers apparently often consider that *pneumococcus* is involved, but given the success of [pneumococcal vaccine](#), this common assumption is now subject to greater doubt. "Appropriate management of childhood pneumonia in the era of pneumococcal vaccines needs to be continually assessed because the distribution of bacterial and other causes of pneumonia in [young children](#) will likely change," the authors write.

Provided by Vanderbilt University Medical Center

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