

Infant pertussis hospitalizations lower than expected after teen vaccinations

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Widespread vaccination of adolescents for pertussis was associated with lower rates of infant hospitalizations for the respiratory infection than would have been expected had teens not been inoculated according to new research in *Pediatrics*.

Reporting their results online Oct. 21, researchers said the study underscores the importance of increasing vaccination rates among teens and adults to stem an ongoing [pertussis](#) epidemic among infants. The research was conducted by physicians at Cincinnati Children's Hospital Medical Center and the University of Michigan.

The ongoing epidemic has been linked to waning immunity and the failure to vaccinate, according to Katherine A. Auger, MD, MSc, the study's lead author and a pediatrician in Division of Hospital Medicine at Cincinnati Children's.

"We know infants get pertussis from family members, including older siblings," Auger said. "While it is encouraging to find a modest reduction in infant hospitalizations after the vaccination of adolescents began, there were still more than 1,000 infants hospitalized for pertussis in 2011. Expecting parents should discuss with their doctors the need for vaccination of all caregivers before the birth of a baby."

The current study was initiated following recommendations by the Centers for Disease Control in 2006 to vaccinate all adolescents against pertussis. Researchers used data from the Nationwide Inpatient Sample,

a database maintained by the U.S. Agency for Healthcare Research and Quality.

Investigators examined pertussis [hospitalization rates](#) for infants after the new adolescent [vaccine](#) recommendations were made and compared them to predicted hospitalization rates had adolescent vaccinations not been implemented. Hospitalization data from 2000 to 2005 – prior to the teen [vaccination recommendations](#) – were used to predict hospitalization rates had adolescent vaccinations not been implemented.

In three of the four years examined after the teen vaccination recommendations (2008-2011), investigators found lower hospitalization rates for infants than would have been expected with no adolescent vaccinations.

In 2011 for example, the expected hospitalization rate for pertussis if adolescent vaccinations had not been implemented was 12 hospitalizations per 10,000 infants. The observed rate following the teen vaccinations was significantly lower at 3.27 hospitalizations per 10,000 infants.

Pregnant women should receive pertussis vaccination during pregnancy, according to a recommendation made by the Centers for Disease Control in 2012. Auger said future research will be needed to assess how and if this policy change further affects pertussis hospitalization rates in [infants](#).

Provided by Cincinnati Children's Hospital Medical Center

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