Chickenpox continues to decline in US thanks to vaccination

August 13 2015

Since the chickenpox vaccine became available in the U.S. in 1995, there has been a large reduction in chickenpox cases. Hospitalizations and outpatient visits for chickenpox have continued their decline after a second dose of the vaccine was recommended to improve protection against the disease, according to a new study published in the *Journal of the Pediatric Infectious Diseases Society*. The findings also suggest that increasing vaccination coverage against the once common childhood illness helps protect those who are not immunized themselves.

Chickenpox, also known as varicella, is a highly contagious and sometimes serious disease caused by the varicella-zoster virus. In people who are not vaccinated, it typically causes a blister-like rash, itching, fatigue, and fever. Before the vaccine was available in the U.S. in 1995, about 4 million people would get chickenpox nationwide each year, according to the Centers for Disease Control and Prevention (CDC). Nearly 11,000 people were hospitalized annually, and 100 to 150 people died. A second dose of the vaccine was recommended in 2006.

In this latest study, CDC researchers Jessica Leung, MPH, and Rafael Harpaz, MD, MPH, drawing on national health care claims data from 1994 to 2012, found that there were 93 percent fewer hospitalizations for chickenpox in 2012 compared to the period before the vaccine was introduced. During the two-dose varicella vaccination period (2006-2012), hospitalizations declined 38 percent. Outpatient visits for the illness also dropped significantly. There were 84 percent fewer outpatient visits in 2012 versus the pre-vaccination period. During the

two-dose varicella vaccination period (2006-2012), outpatient visits declined 60 percent.

"We found that, in our study, rates for varicella in the U.S. continued to decline as the varicella vaccine program has become fully implemented," said Leung, the study's co-author. "We saw significant declines in rates of varicella after the one-dose vaccine was recommended in 1995 in the U.S., and we're continuing to see additional declines in varicella after two doses were recommended in 2006."

The largest declines were among children and adolescents 1 to 19 years old, a population targeted for vaccination against chickenpox. But the researchers also saw substantial declines in outpatient visits and hospitalizations among infants younger than 12 months, for whom the vaccine is not recommended, and in adults, who are often not immunized, suggesting the possibility of herd immunity. "The surrounding population that can be vaccinated are not getting sick, and therefore the data suggest that these infants are also being protected," Leung said. "We're seeing that for adults as well."

The study also found a considerable rise—from 6 percent in 2003 to 17 percent in 2012—in the proportion of outpatient visits for chickenpox in which patients were tested for the disease. The authors noted that lab testing will become increasingly important for distinguishing chickenpox from other similar rash conditions as cases of chickenpox continue to decline and health care providers become less familiar with its clinical presentation, and the increasing proportion of chickenpox cases among people are who are vaccinated, which are typically mild and difficult to diagnose based on symptoms alone.

Provided by Pediatric Infectious Diseases Society