

Patients with flu-associated pneumonia less likely to have received flu vaccine

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Among children and adults hospitalized with community-acquired pneumonia, those with influenza-associated pneumonia, compared with those with pneumonia not associated with influenza, had lower odds of having received an influenza vaccination, according to a study published online by *JAMA*.

In the United States, seasonal influenza epidemics are responsible for an estimated average of 226,000 hospitalizations and between 3,000 and 49,000 deaths each year. Pneumonia, the leading infectious cause of hospitalization and death in the United States, is a relatively common and serious complication of influenza. Whether [influenza vaccines](#) can decrease the risk of influenza-associated hospitalizations for community acquired [pneumonia](#) remains unclear, according to background information in the article.

In an observational multicenter study of hospitalizations for community-acquired pneumonia conducted from January 2010 through June 2012 at 4 U.S. sites, Carlos G. Grijalva, M.D., M.P.H., of the Vanderbilt University School of Medicine, Nashville, Tenn., and colleagues used data from patients 6 months or older with laboratory-confirmed influenza infection and verified vaccination status during the influenza seasons. Odds ratios were calculated, comparing the odds of vaccination between influenza-positive (case) and influenza-negative (control) patients with pneumonia, controlling for various factors.

Overall, 2,767 patients hospitalized for pneumonia were eligible for the

study; 162 (5.9 percent) had laboratory-confirmed influenza. Twenty-eight of 162 cases (17 percent) with influenza-associated pneumonia and 766 of 2,605 controls (29 percent) with influenza-negative pneumonia had been vaccinated. The estimated [vaccine effectiveness](#) was 57 percent, meaning that the odds of influenza vaccination among cases hospitalized with influenza-associated pneumonia was 57 percent lower than among noninfluenza pneumonia controls.

The authors note that the estimated odds ratio of vaccination between cases and controls, and derived vaccine effectiveness from this study, could be used to inform subsequent estimations of the national number of hospitalizations for pneumonia averted by [influenza](#) vaccination.

More information: *JAMA*, [DOI: 10.1001/jama.2015.12160](https://doi.org/10.1001/jama.2015.12160)

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