

# Study finds flu vaccine helps reduce hospitalizations due to influenza pneumonia

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More than half of hospitalizations due to influenza pneumonia could be prevented by influenza vaccination, according to a study led by investigators at Vanderbilt University Medical Center, published this week in the *Journal of the American Medical Association*.

"We estimated that about 57 percent of [influenza](#)-related [pneumonia](#) hospitalization could be prevented through influenza vaccination," said Carlos Grijalva, M.D., MPH, associate professor of Health Policy.

"The finding indicates that influenza vaccines not only prevent the symptoms of influenza, including fever, respiratory symptoms, and body aches, but also more serious complications of influenza, such as pneumonia that requires hospitalization.

"Appreciating these benefits is especially important now," Grijalva adds, "when we have influenza vaccines available and while we're preparing for the upcoming influenza season. This is an excellent time to get vaccinated."

The Centers for Disease Control and Prevention (CDC) recommends annual influenza vaccinations for everyone age 6 months or older.

For the study, investigators used data collected in the Etiology of Pneumonia in the Community study, or EPIC, which was sponsored by the CDC to establish the incidence and causes of pneumonia hospitalizations in the United States.

The current study uses data from 2,767 patients age 6 months and older hospitalized with community-acquired pneumonia during three consecutive influenza seasons—in 2010, 2011 and 2012—in Chicago, Memphis, Nashville and Salt Lake City. Approximately 6 percent of these inpatients had laboratory confirmed influenza, and the remaining 94 percent tested free of influenza.

The vaccination histories for these two groups were very different: 29 percent of the influenza-free pneumonia group had a current influenza vaccination, while only 17 percent of the influenza pneumonia group had a current vaccination. (Patient reports of vaccination were confirmed by review of medical records, vaccine registries and other sources.)

The investigators noted that influenza vaccination's effectiveness for preventing pneumonia hospitalization seemed lower for older adults and for patients with immunosuppressive conditions, such as malignancies or HIV infection. They note that higher-dose [influenza vaccines](#) have been recommended for older adults and have been shown to be more effective than standard dose vaccines; whether these higher-dose vaccines will provide better protection in patients with immunosuppressive conditions is currently under study.

With a focus squarely on hospitalization for community-acquired pneumonia (as opposed to hospital-acquired), the study excluded patients with recent hospitalization, nursing home residents who required help with activities of daily living, and patients with severe immunosuppression. Children younger than 6 months were excluded because they are not eligible for influenza vaccination.

Provided by Vanderbilt University Medical Center

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