

Study shows high-dose flu vaccine more effective in elderly

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Credit: National Cancer Institute

High-dose influenza vaccine is 24 percent more effective than the standard-dose vaccine in protecting persons ages 65 and over against influenza illness and its complications, according to a Vanderbilt-led study published today in the *New England Journal of Medicine (NEJM)*.

The multi-center study enrolled 31,989 participants from 126 research

centers in the U.S. and Canada during the 2011-2012 and 2012-2013 influenza seasons in the Northern Hemisphere in order to compare the high-dose trivalent vaccine versus the standard-dose trivalent vaccine in adults over 65 years of age.

"The study was done to see if using a high-dose vaccine protected older adults better than the usual vaccine. Until this trial came out we didn't know if it was going to be clinically better or not and now we know it is better," said lead author Keipp Talbot, M.D., assistant professor of Medicine, who served as coordinating investigator for the more than 100 study sites.

"Older adults are the most vulnerable to influenza; they become the sickest and have the most hospitalizations. This vaccine works better than the standard dose and hence I would tell my patients to get the high-dose vaccine every year. In the meantime, we will continue to work to find newer and better vaccines for older adults."

Researchers concluded that the high-dose vaccine is safe, induces significantly higher antibody responses, and provides superior protection against laboratory-confirmed influenza illness compared to standard dose among persons over 65 years of age.

Study data also indicated that the high-dose vaccine may provide clinical benefit for the prevention of hospitalizations, pneumonia, cardio-respiratory conditions, non-routine medical visits, and medication use.

Between 1990 and 1999, seasonal influenza caused an average of 36,000 deaths and 226,000 hospitalizations per year in the U.S. Adults over 65 years old are particularly vulnerable to influenza complications, accounting for most seasonal influenza-related hospitalizations and deaths.

"Prevention of influenza should lower hospitalizations, deaths, heart attacks, and pneumonia," Talbot said. "This vaccine does have some more arm soreness than the usual vaccine because it is a higher dose. With this increased soreness comes greater protection."

Known as the Fluzone High-Dose vaccine, and made by Sanofi Pasteur, the inactivated influenza vaccine contains four times the amount of antigen that is contained in the standard-dose Fluzone vaccine.

"Fluzone High-Dose vaccine is the only [influenza vaccine](#) in the U.S. that is designed specifically to address the age-related decline of the immune system in older adults," said David P. Greenberg, M.D., vice president, Scientific & Medical Affairs, and chief medical officer, Sanofi Pasteur U.S.

Study authors said about one-in-four breakthrough cases of influenza could be prevented if the high-dose vaccine were used instead of the standard-dose [vaccine](#).

"I see older adults hospitalized every year with influenza and many of them come into the hospital with pneumonias and heart failure because they had influenza," Talbot said "But I have to say our seniors in Nashville are very good at getting vaccinated. Locally they are very good and they do much better than their counterparts who are less than 65 years old. About 76 percent of this community of [older adults](#) are vaccinated for [influenza](#) each year."

Provided by Vanderbilt University Medical Center

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