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High-dose flu vaccine appears better for frail older adults in long-term care

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About 90 percent of the deaths associated with influenza in the U.S. annually are among adults aged 65 and older, according to estimates from the Centers for Disease Control and Prevention (CDC). Those 85 and older who live in long-term care facilities are particularly at risk: They are more likely to be exposed to influenza, their immune systems are not as responsive to vaccines, and other medications or medical conditions may impair their immunity.

In the first study of its kind in this population, David A. Nace, MD, MPH, of the University of Pittsburgh, along with colleagues, compared the immune response generated by the high-dose vaccine with that of the standard dose. (Designed for adults 65 and older, the high-dose vaccine was approved in the U.S. in 2009.) Conducted during the 2011-2012 and 2012-2013 flu seasons, the randomized controlled trial included 187 frail older adults from 15 long-term care facilities in western Pennsylvania. The participants' average age was 86.7 years old.

The high-dose vaccine produced a stronger immune response to all but one of the influenza vaccine strains, according to antibody titers from blood samples collected just prior to vaccination and 30 and 180 days after. Although the trial did not evaluate clinical disease, a study published in August comparing the two vaccines in older adults living in the community showed a correlation between stronger immune response and lower rates of influenza illness and hospitalizations.

"For frail older adults, the high-dose vaccine appears to be a better

option to protect against flu than the standard dose," Dr. Nace said. "Even in the frail, long-term care population, the high-dose flu vaccine looks like it produces a greater antibody response than the standard dose vaccine."

Even so, the stronger immune response prompted by the high-dose vaccine was still modest, Dr. Nace said, highlighting the need for continued work to develop better influenza vaccines for this at risk population. The findings, he noted, also underscore the need for "a bundled approach" to flu prevention in this setting that also includes boosting vaccination rates among health care workers and other steps.

In a related editorial, Megan C. Lindley, MPH, and Carolyn B. Bridges, MD, of CDC, outlined several related strategies, including ensuring that facilities are prepared to detect influenza outbreaks and intervene rapidly to limit their spread. Vaccination of both residents and care givers will continue to be key elements as well.

"Although far from perfect," they wrote, "annual influenza vaccination of both residents and health care personnel remains one of the most important measures available to reduce the risk of influenza and its complications in long-term care settings."

Fast Facts

- Older adults living in long-term care facilities are at high risk for severe influenza illness and complications, including death.
- This study found that the high-dose influenza vaccine produced a stronger immune response than the standard vaccine in frail older adults living in long-term care facilities, and may be the better option in this setting.
- Multiple strategies are needed to prevent flu in long-term care facilities, including vaccinating not only residents but improving

vaccination rates among health care workers as well.

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