

# Flu vaccine may not protect seniors well

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A Group Health study in the August 2 issue of *The Lancet* adds fuel to the growing controversy over how well the flu vaccine protects the elderly.

The study of more than 3,500 Group Health patients age 65 and older found no link between flu vaccination and risk of pneumonia during three flu seasons. "This suggests that the flu vaccine doesn't protect seniors as much as has been thought," said Michael L. Jackson, PhD, MPH, a postdoctoral fellow at the Group Health Center for Health Studies.

"Ours is by far the largest case-control study of flu vaccine in the elderly," Jackson added. This kind of study compares "cases" with "controls." The cases were patients with "community-acquired" pneumonia treated in a hospital or elsewhere. The controls were people matched to cases by sex and age, but with no pneumonia. Both groups were found to have similar rates of flu vaccination. All had intact immune systems and none lived in a nursing home.

Jackson and his colleagues carefully reviewed medical records to reveal details of seniors' health and ability to do daily activities. "We tried to overcome the limits of previous studies done by others," he explained. "Those studies may have overestimated the benefits of the flu vaccine in the elderly for various reasons." For instance, those studies looked only at pneumonia cases treated in a hospital. They also included seniors who had immune problems, which limit potential benefit from vaccination. And they didn't review medical records to get information on chronic diseases, such as heart or lung disease, which raise the risk of

pneumonia.

Most importantly, those previous studies also failed to account for differences between healthier seniors and those who were "frail," Jackson said. Frail seniors are older and have chronic diseases and difficulty walking. "They are less likely than younger, healthier seniors to go out and get vaccinated—and more apt to develop pneumonia," he said.

Pneumonia is a common and potentially life-threatening complication of the flu, Jackson said. But pneumonia can happen without the flu. "That's why our study used a control time period, after flu vaccine became available but before each flu season actually started," he said. During those pre-flu-season periods, people who had been vaccinated were much less likely to get pneumonia. Why? "Because those who got the vaccine happened to be healthier—not because the flu vaccine was protecting them from pneumonia caused by the flu, since it wasn't present yet," he explained.

"Despite our findings, and even though immune responses are known to decline with age, I still want my grandmother to keep getting the flu vaccine," said Jackson. "The flu vaccine is safe. So it seems worth getting, even if it might lower the risk of pneumonia and death only slightly."

His co-author Lisa A. Jackson, MD, MPH (no relation), a senior investigator at the Group Health Center for Health Studies, agreed. "People age 65 and older should still get yearly flu vaccines as usual," she advised. But she said that researchers should work to understand better how well the current flu vaccines work in seniors—and to explore other options for controlling flu in the "old old." Examples include bigger doses or stronger types of vaccines, and conducting randomized controlled trials comparing them.

Source: Group Health Cooperative Center for Health Studies

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