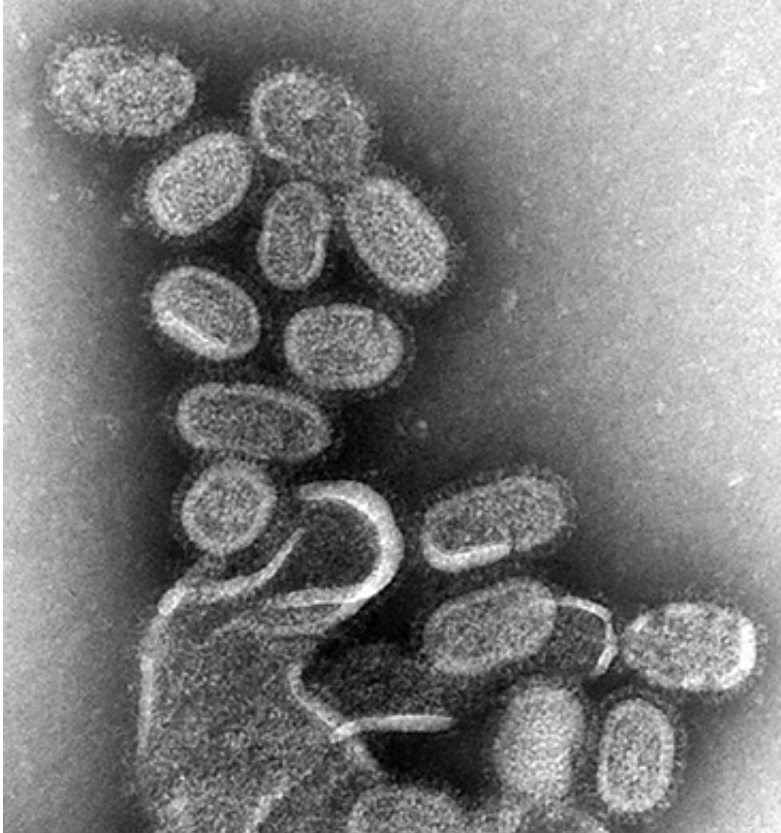


# Study backs flu vaccinations for elderly

August 24 2015, by David Orenstein

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Electron microscopy of influenza virus. Credit: CDC

A new study of the records of millions of nursing home residents affirms the value of influenza vaccination among the elderly. The Brown University analysis found that between 2000 and 2009, the better matched the vaccine was for the influenza strain going around, the fewer nursing home residents died or were hospitalized.

Although [flu vaccination](#) is a standard of care and a measure of quality in nursing homes, some [public health](#) experts question the evidence of whether they do any good, said Vincent Mor, corresponding author of the study and the Florence Pirce Grant Professor in the Brown University School of Public Health. Clinical trials that would withhold vaccination for a control group are not ethical, and observational studies that track differences among those who are vaccinated and those who are not have been suspected of bias (i.e., people left unvaccinated may be too frail compared to the vaccinated general population).

In the new research, published in the *Journal of the American Geriatrics Society*, Brown public health and infectious disease experts took a different approach to assess whether vaccination helps.

Year-to-year the ability of the vaccine to fight the flu can vary widely. Sometimes vaccine makers produce a great match that is highly protective. In other years the prevailing [flu strain](#) does not match the vaccine well.

The researchers took advantage of this natural variation over the decade 2000-09 to see whether nursing [home residents](#) were better off when the match was good compared to when the match was bad. If vaccines don't help the elderly, as some critics suggest, then nursing home residents shouldn't fare any better when the vaccine is a good match than when it's a bad match.

"What we've used is the randomness of the match," Mor said. "Ours is the first study to, we think, come up with an unbiased approach."

The results show that vaccinations help keep some nursing home residents alive and out of the hospital.

The match rate varied particularly widely in the flu strain A/H3N2,

which is typically the strain that leads to most flu hospitalizations and deaths. Over the 10-year study period, the match rate ranged from 11.2 percent in 2003-2004 and 22 percent the next year, to 100 percent in the first two study years and in the last one. Match rates for strain A/H1N1 were usually very high and for strain B were usually low.

By comparing weekly deaths and flu-related hospitalizations in each year's [flu season](#), the researchers were able to calculate that for every percentage point increase in the A/H3N2 match rate, weekly deaths declined by about 0.0016 and hospitalizations declined by about 0.002 per 1,000 nursing home residents.

Those numbers may seem small, but put another way, among about 1 million elderly persons living in nursing homes each year, a 50-percentage point increase in the match rate for a [flu](#) season would save the lives of 2,560 people and prevent 3,200 hospitalizations.

"That's saving lives," Mor said. "That's really a profound effect."

Mor said the results are likely applicable to all elderly people, the vast majority of whom do not live in nursing homes. Vaccination rates among the elderly in the community, however, tend to be much lower than in [nursing homes](#).

Co-author Dr. Stefan Gravenstein, adjunct professor of medicine and health services, policy and practice, agreed.

"This study evidences protection for an elderly population for whom vaccine efficacy has been questioned," he said. "Annual vaccination is the only way to maximize the benefit of [vaccine](#), no matter what the age."

**More information:** "Estimating the Effect of Influenza Vaccination

on Nursing Home Residents' Morbidity and Mortality." *Journal of the American Geriatrics Society*. doi: 10.1111/jgs.13617

Provided by Brown University

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