

News

Do flu vaccines work for the elderly?

Review suggests study is needed on influenza jabs and how they are used.

Matt Kaplan



Vaccines should still be used in the elderly: but could they be made better? Punchstock

How effective are flu vaccines at preventing death in the elderly? A review suggests that there isn't actually much proof that these jabs prevent influenza-related deaths in older people, stirring up controversy over this issue once more. The debate could influence both how the elderly are treated against flu, and how vaccines are distributed to try to prevent epidemics.

Managing influenza epidemics is a huge logistical challenge: there are always going to be more people than there are vaccines, and the vaccines need to be used where they will do the most good. The World Health Organisation endorses targeting vaccination efforts to those with a high risk of a severe outcome from a bout of flu, such as the sick and the elderly.

Many studies of influenza vaccines have analysed elderly populations and concluded that the vaccines reduced mortality during the winter in those aged 65 and older by about 50%¹.

But Lone Simonsen, at the National Institute of Allergy and Infectious Diseases, thinks that number cannot be right. Instead, she and her colleagues argue in *The Lancet* this week², this apparent benefit is probably due to a mathematical glitch — the real benefit, they argue, is probably smaller. However, they don't know by how much.

"We aren't saying that the elderly should not be vaccinated, we are simply saying we don't have enough evidence at this time to know what benefit is being derived," says co-author Lisa Jackson, from the GroupHealth Center for Health Studies in Seattle, Washington.

The authors suggest that while vaccines continue to be delivered, more work be done to find out how effective they are. And, they add, it might be worth exploring other options for the elderly — such as changing the type of vaccine they receive or upping the dose.

Biased studies

This debate has been long running. In 2005, Simonsen and his colleagues reported in the Archives of Internal Medicine that, although distribution of vaccines to the elderly in America had gone from 15% in 1980 to 65% in 2001, influenza related deaths had not decreased as expected³.

The study also noted that influenza only caused about 5% of winter deaths amongst the elderly — making the 50% reduction in deaths that had previously been reported seem mysterious.

In 2006 an analysis in the International Journal of Epidemiology, led by Jackson, revealed a bias in the original studies⁴. Jackson noticed that vaccinated seniors had an overall lower risk of death, not just during the winter flu season, but also before and after that. The explanation, she suggested, is that healthier people were more likely to receive the jab, perhaps because they were more likely to make it into the clinic.

Epidemiologist Heath Kelly at the University of Melbourne in Australia says he is "persuaded" that there is some sort of bias in the previous studies. "We need to have a serious look at the effectiveness of the influenza vaccine against laboratory confirmed influenza in the elderly," he says. Meanwhile, epidemiologist and physician Kristin Nichol at the Minneapolis Veterans Affairs Medical Center in Minnesota agrees that "the evidence base is imperfect".

Sensitive subject

No one is suggesting that this means the vaccines should be scrapped. "It is still compelling to support elder vaccination not just to reduce mortality but to prevent hospitalization and the associated cost," adds Nichol.

"The reality is that the vaccine is one of the best available tools that we have, so if it is even marginally helpful to the elderly it should be used," agrees epidemiologist Mark Miller, a co-author of the review at the Fogarty International Center in Bethesda, Maryland.

The question of whether the old and frail ought to be targeted specially with vaccines is a touchy one. "It is heretical to even suggest that the vaccine may not be effective in the elderly," says Tom Jefferson at Cochrane Vaccines Field in Rome, Italy. This is despite the huge amount of uncertainty and even some bad research in the field, he adds. "The resistance [to such statements] is outright baffling," he says.

Simonsen is of the opinion that the review will lead researchers to explore other options against flu, including creating more potent vaccines for seniors or focusing more on vaccinating school children. "Protecting the elderly indirectly by reducing overall influenza levels in kids, the primary transmitters of the disease, could have real merit," she says.

References

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