Data Sparse on Value of Flu Vaccines for Elderly

BY JENNIE SMITH

A sweeping review of influenza vaccine studies has concluded that data on vaccination are too flawed, dated, or limited to show any effectiveness in preventing influenza or pneumonia in people over 65—a group consistently targeted by public health agencies.

In a smaller, separate review, researchers also found insufficient evidence to support the theory—also translated widely into public health practice—that vaccinating health care workers against influenza prevents older patients from contracting influenza or pneumonia in health facilities. Both reviews were published by the Cochrane Library.

The large review looked at dozens of studies over a 40-year period. "We have a massive data set—75 studies over 100 flu seasons," said epidemiologist Tom Jefferson, the Rome-based lead author of both papers. "Can we draw a conclusion? No, we can't. Yet all this money is being spent. It's a very costly form of hopefulness."

Moreover, Dr. Jefferson said in an interview, "the vast majority of these studies are of poor quality, associated with optimistic conclusions not supported in the actual data."

The optimism, Dr. Jefferson has argued in earlier papers, likely stems from the sponsors of the vaccine studies themselves. In one article (BMJ 2009;338: b354), he and his colleagues analyzed 274 published studies on influenza vaccines—some of which were also included in the new reviews—and found "evidence of widespread manipulation of conclusions," he said. Studies sponsored by vaccine manufacturers, they found, were more likely to present positive findings than were those sponsored by public health agencies.

Dr. Jefferson's team also found in that same analysis that industry-sponsored vaccine studies received more and better placement in prestigious medical journals, compared with publicly funded studies of similar size and methodology.

Although it is not news that influenza vaccines may be less effective in the elderly, that concern has contributed to an emphasis on vaccinating health care workers in the hope of preventing flu transmission to elderly patients.

Dr. Jefferson and his colleagues analyzed the results of four randomized, controlled trials showing that vaccination of health care workers "reduced influenza-like illness and resident all-cause mortality" and reduced primary care visits for influenza-like illness. "There was no effect on the outcomes of direct interest, namely laboratory-proven influenza, lower respiratory tract infections, admissions to hospital and deaths from pneumonia" (Cochrane Database Syst. Rev. 2010 [doi:10.1002/14651858.CD005187]).

In their larger review of studies concerning vaccinations and older patients, the researchers also identified an emphasis on reductions in illness and death that were not directly attributable to influenza. "Empirical work done by other researchers 5 years ago shows that influenza is at the most responsible for 5% of deaths annually," Dr. Jefferson said, "and here we have studies that claim 50% effectiveness against death from all causes."

However, only 1 of the 75 studies cited in the larger Cochrane review was a randomized, controlled trial, and only 1 tested vaccines that are comparable to those in use today. Large, multiseason, publicly funded, randomized, controlled trials are essential, the authors concluded, to determine the real value of flu vaccines for the elderly. And better trials, if not necessarily blinded ones, are needed to determine the benefit of vaccinating health care providers, Dr. Jefferson said, because vaccine uptake among them was low in some of the studies (Cochrane Database Syst. Rev. 2010 [doi:10.1002/14651858.CD004876]).

"The two reviews are different in content but not on their conclusions," Dr. Jefferson said. "They highlight serious problems with the current evidence base." ■

Disclosures: Dr. Jefferson reported owning shares in GlaxoSmithKline and receiving consultancy fees from Sanofi Synthelabo and Roche. The other authors of the two reviews reported no relevant conflicts of interest.