

## Belief not science is behind flu jab promotion, new report says

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An independent meta-analysis of vaccines against influenza has found that claims of benefit have been significantly exaggerated. The report, released last month by the University of Minnesota's Center for Infectious Disease Research and Policy, was based on a comprehensive review of data published from 1967 to 2012.<sup>1</sup>

Evidence for "consistent high-level protection is elusive," the researchers concluded. Although vaccination was found to provide modest protection from infection in young healthy adults who rarely have complications of flu, the authors found that "evidence for protection in adults 65 years of age and older [who represent over 90% of deaths from flu] . . . is lacking."

The authors also analyzed recommendations issued by the federal Advisory Committee on Immunization Practices, which provides expert advice to the US Centers for Disease Control and Prevention and which are "often considered the standard of practice . . . around the globe." The report cited 30 instances in which its advisory statements "did not apply current standards of scientific rigor . . . and did not cite relevant work."

The report's lead author, Michael Osterholm, a former CDC consultant and an internationally recognized expert on flu, told the *BMJ* that a Dutch study cited by the CDC as evidence of vaccine efficacy was seriously flawed and constituted a "sales job." Nevertheless, Osterholm said, the current jab does offer some protection and should be used until a more effective vaccine can be developed.

Joseph Bresee, chief of the epidemiology and prevention branch in CDC's Influenza Division, told the *BMJ*, "I do not agree that CDC has inflated the benefits of influenza vaccine." He added that he agreed with Osterholm that until better vaccines were available the current ones should be recommended.

That recommendation, however, has come under fire from the authors of a Cochrane analysis that also found little to no benefit from flu vaccination.<sup>2</sup> Tom Jefferson, lead author of several Cochrane reviews, told the *BMJ*, "Based on more than a decade of Cochrane reviews in adults, children, [the] elderly, and healthcare workers, there is no credible evidence that the inactivated vaccines have any effect other than saving on average half a working day in healthy adults and avoiding symptoms in those who least need it: healthy adults and adolescents. Depending on the season, you need to immunize 33 to 99 adults to avoid one set of symptoms."

Osterholm criticized the methods of the Cochrane analysis, saying that the reviewers' inclusion of studies that used serology

titers rather than reverse transcription polymerase chain reaction or cultures to diagnose flu meant that its results were highly inaccurate. However, he acknowledged that the direction of bias caused by use of serology titers would be to make a vaccine seem far more effective than it was, a surprising bias for a meta-analysis that found no benefit for flu vaccines. The Cochrane reviewers also stated in their meta-analysis that the studies reviewed were "at high risk of bias."

A growing number of healthcare facilities and states now require healthcare workers to be vaccinated against flu or face being fired or forced to wear masks and identification tags stating that they may be infectious.

A recent editorial in the journal of the Canadian Medical Association, *CMAJ*, recommending mandatory flu jabs for healthcare staff triggered strong criticism, including a letter to the editor from Peter Doshi, a postdoctoral fellow at Johns Hopkins University, and several Cochrane reviewers, who said that the recommendation was based on a misrepresentation of Cochrane data.<sup>3</sup>

Doshi opposes compulsory vaccination. He told the *BMJ* that health officials "risk losing credibility by continuing to promote the fiction that mandatory influenza vaccination policies are based on solid evidence. They are not, and it is time for healthcare institutions to do their own rigorous assessment of the evidence rather than continuing this dangerous game of follow the leader."

Osterholm agreed that scientific evidence, not professional opinions, should guide policy. He told the *BMJ*, "I don't think the data warrant mandated vaccine. If it was up to me, there are a hundred other things I'd mandate first, like mandating that sick healthcare workers don't come to work. That is far more likely to be effective."

**bmj.com News:** Bias alone could account for benefit attributed to flu vaccine, study finds (2008;337:a1550, doi:10.1136/bmj.a1550); Observations: A jab in the dark (2012;345:e5313, doi:10.1136/bmj.e5313)

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