Influenza vaccination for healthcare workers who work with the elderly (Review)

Thomas RE, Jefferson T, Demicheli V, Rivetti D

This is a reprint of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in The Cochrane Library 2009, Issue 4

http://www.thecochranelibrary.com
Influenza vaccination for healthcare workers who work with the elderly

Roger E Thomas1, Tom Jefferson2, Vittorio Demicheli3, Daniela Rivetti4

1Department of Medicine, University of Calgary, Calgary, Canada. 2Vaccines Field, The Cochrane Collaboration, Roma, Italy. 3Health Councillorship - Servizio Regionale di Riferimento per l’Epidemiologia, SSEpi-SeREMI - Cochrane Vaccines Field, Regione Piemonte - Azienda Sanitaria Locale ASL AL, Torino, Italy. 4Public Health Department, Servizio di Igiene e Sanita’ Pubblica, ASL 19 Asti, Asti, Italy

Contact address: Roger E Thomas, Department of Medicine, University of Calgary, UCMC, #1707-1632 14th Avenue, Calgary, Alberta, T2M 1N7, Canada. rthomas@ucalgary.ca. (Editorial group: Cochrane Acute Respiratory Infections Group.)

Cochrane Database of Systematic Reviews, Issue 4, 2009 (Status in this issue: Edited, commented)
Copyright © 2009 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.
DOI: 10.1002/14651858.CD005187.pub2
Last assessed as up-to-date: 7 May 2006. (Help document - Dates and Statuses explained)

This record should be cited as: Thomas RE, Jefferson T, Demicheli V, Rivetti D. Influenza vaccination for healthcare workers who work with the elderly. Cochrane Database of Systematic Reviews 2006, Issue 3. Art. No.: CD005187. DOI: 10.1002/14651858.CD005187.pub2.

ABSTRACT

Background
Healthcare workers (HCWs) (health professionals, nurses, doctors, cleaners and porters), have substantial rates of clinical and sub-clinical influenza during influenza seasons and may transmit influenza to those in their care, especially the elderly.

Objectives
To identify studies assessing the effects of vaccinating HCWs on the incidence of influenza, influenza-like-illness (ILI) and its complications on elderly residents in long-term facilities.

Search strategy
We searched the Cochrane Central Register of Controlled Trials (CENTRAL), the Cochrane Database of Systematic Reviews and the NHS Database of Abstracts of Reviews of Effects (DARE) (The Cochrane Library 2006, issue 1); MEDLINE (January 1966 to Week 1, February 2006); EMBASE (1974 to March 2006); Biological Abstracts (1969 to December 2004); and Science Citation Index-Expanded (1974 to March 2006).

Selection criteria
Comparative randomised and non-randomised studies reporting the effects of influenza vaccines on the incidence of viral infections in institutions for the elderly, in any vaccination schedule for HCWs caring for elderly residents in long-term facilities aged 60 years or older.

Data collection and analysis
Two review authors independently extracted data and assessed the methodological quality using criteria from the Cochrane Reviewers’ Handbook and the Newcastle-Ottawa scale (for non-randomised studies).

Main results

Influenza vaccination for healthcare workers who work with the elderly (Review)
Copyright © 2009 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.
We included two cluster randomised controlled trials (C-RCT) and one cohort study. Staff vaccination appears to have significant effect against ILI (absolute vaccine efficacy (VE) 86%, 95% confidence interval (CI) 40% to 97%) only when patients are also vaccinated; if patients are not vaccinated, staff immunisation shows no effect (based on one C-RCT). Based on a small number of observations from two C-RCTs, the vaccines have no efficacy against influenza (odds ratio (OR) 0.86, 95% CI 0.44 to 1.68) or lower respiratory tract infections (OR 0.70, 95% CI 0.41 to 1.20) but were effective against deaths from pneumonia (VE 39%, 95% CI 2% to 62%) and deaths from all causes (VE 40%, 95% CI 27% to 50%). All findings must be interpreted with caution given the presence of selection bias.

Authors’ conclusions

There is no credible evidence that vaccination of healthy people under the age of 60, who are HCWs caring for the elderly, affects influenza complications in those cared for. However, as vaccinating the elderly in institutions reduces the complications of influenza and vaccinating healthy persons under 60 reduces cases of influenza, those with the responsibility of caring for the elderly in institutions may want to increase vaccine coverage and assess its effects in well-designed studies.

Plain Language Summary

Influenza vaccination for health care workers who work with the elderly

There is evidence that vaccinating the elderly has a modest impact on the complications from influenza. There is also high quality evidence that vaccinating healthy adults under 60 (which includes healthcare workers) reduces cases of influenza. Both the elderly in institutions and the healthcare workers who care for them could be vaccinated for their own protection, but an incremental benefit of vaccinating healthcare workers for the benefit of the elderly cannot be proven without better studies.