Mass mailings have little effect on utilization of influenza vaccine among Medicare beneficiaries

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Authors' objectives
To review published and unpublished studies of mass mailings designed to increase the utilisation of influenza vaccination among Medicare beneficiaries.

Searching
The authors searched computerised indices for published studies and the Medicare Peer Review Organization's Health Care Quality Improvement Project database for unpublished studies since 1993, the year coverage for influenza vaccination began.

Study selection

Study designs of evaluations included in the review
The inclusion criteria specified studies using a controlled trial design.

Specific interventions included in the review
The inclusion criteria specified interventions using mass mailings direct to Medicare beneficiaries to increase the uptake of influenza vaccination. The authors stated that mass mailings are not the same as reminders sent by the patient's clinic or personal physician. The specific interventions included personalised letters, form letters, postcards, letter and brochure, or no mailing.

Participants included in the review
The inclusion criteria specified Medicare beneficiaries. The Medicare participants were aged 65 years or older.

Outcomes assessed in the review
The reviewers did not specify any inclusion criteria for the outcomes. The reported outcome was the change in the rate of the Medicare beneficiaries' response to the mass mailings.

How were decisions on the relevance of primary studies made?
Two physician reviewers selected studies for the review and resolved any disagreements by consensus.

Assessment of study quality
The authors did not state that they assessed validity.

Data extraction
Two physician reviewers independently extracted the data for the review and resolved any disagreements by consensus. Data were extracted on the study design, the number and characteristics of the patients, the settings, location, the target of the intervention, the time from intervention until outcome measurement, and the results.

Methods of synthesis
How were the studies combined?
The studies were discussed in a narrative review.

How were differences between studies investigated?
The authors did not investigate any differences between the studies.

Results of the review
Six controlled trials (5 of them randomised) were included in the review. The studies ranged in size from 2,924 to 150,000 participants.
One study reported a modest but statistically significant improvement in influenza vaccination rates among patients who received a letter relative to those who did not. This study was cited as justification for mail interventions performed in five further studies, all unpublished, none of which reported clinically meaningful results.

**Authors’ conclusions**

Mass mailings have, at best, had clinically trivial effects on increasing influenza vaccination among Medicare beneficiaries. Publication bias has contributed to the continued use of a relatively ineffective intervention.

**CRD commentary**

This review was of limited scope, focusing on one set of patients within only one country (Medicare beneficiaries in the USA). It was also a small part of a larger study (The Healthy Aging Initiative; see Other Publications of Related Interest) that reported more detail on the participants, outcomes and the methodology of the review. The authors stated the research question and the inclusion and exclusion criteria were clear. The literature search was fairly limited in its use of very specific US government databases. However, the authors did search for unpublished data and included such studies in the review. It is possible that additional relevant studies may have been missed. There were also no specific tests for publication bias.

The quality of the included studies was not formally assessed, but the authors reported how the articles were selected and who performed the selection and extracted the data. The data extraction was reported in tabular format and briefly discussed in the text of the review. It is unclear whether, and how, the data presented in the table match the number of studies stated to have been included. A more in-depth report has been used to extract additional data for this abstract. The studies were not statistically combined, which was appropriate given the lack of quality data available to the reviewers. The conclusions appear to follow from the results.

**Implications of the review for practice and research**

Practice: The authors stated that these studies should no longer be used to justify the use of mass mailings to Medicare beneficiaries.

Research: The authors did not state any implications for further research.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.