No magic bullets: a systematic review of 102 trials of interventions to help health care professionals deliver services more effectively or efficiently

Oxman A

Authors' objectives
To determine the effectiveness of different types of interventions in improving provider performance and health outcomes.

Searching
MEDLINE, EMBASE, SciSearch, CINAHL, Healthline and ERIC computerised databases, and the Research and Development Resource Base in Continuing Medical Education, were all searched. Reference lists of retrieved articles were reviewed.

Study selection
Study designs of evaluations included in the review
Random or quasi-random allocation of patients, providers or groups into two or more alternative interventions.

Specific interventions included in the review
Educational materials, conferences, outreach visits, local opinion leaders, patient mediated interventions, audit and feedback, reminders, marketing, multifaceted interventions and local consensus processes.

Participants included in the review
Health care providers (excluding students) were included.

Outcomes assessed in the review
Objectively-measured provider performance or health outcome. Self-report and measures of non-clinical performance were excluded.

How were decisions on the relevance of primary studies made?
Two reviewers independently applied the criteria for inclusion, and any disagreements were resolved by consensus.

Assessment of study quality
Two reviewers independently assessed the quality of primary studies according to the following criteria: concealment of allocation, completeness of follow-up, double-blinding, reliable outcome, baseline measurement and contamination. Two reviewers independently assessed the quality of the primary studies.

Data extraction
Two reviewers independently extracted the data from the primary studies. The first author was contacted twice when data were missing in primary studies.

Methods of synthesis
How were the studies combined?
The studies were combined narratively.

How were differences between studies investigated?
The primary studies were grouped according to the interventions and targeted behaviours.
Results of the review
The 102 trials were comprised of the following intervention types:

- educational materials, 12;
- conferences, 17;
- outreach visits, 4;
- local opinion leaders, 6;
- patient-mediated interventions, 10;
- audit and feedback, 33;
- reminders, 53;
- marketing, 2;
- multifaceted interventions, 15; and
- local consensus processes, 8.

All of the interventions showed some effect part of the time. However, even relatively complex and intensive interventions, such as outreach visits and the use of opinion leaders, had a limited effect.

Authors' conclusions
There are no magic bullets for improving the quality of health care, but there is a wide range of interventions available that, if used appropriately, can lead to substantial improvements in the application of research and, ultimately, the effectiveness and efficiency of health care.

CRD commentary
The review methods used are rigorous.

Bibliographic details
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Other publications of related interest

Indexing Status
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Record Status
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.