

# Rx for Change: Changing professional behavior

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# Rx for Change: Rationale

- Gap between evidence and practice  
(Grimshaw 2005)
- Body of evidence
  - Volume, quality and dispersal
- Overview synthesis
  - Findings from systematic reviews

# Rx for Change: Content



- Professional interventions influencing all behaviors (e.g. continuing medical education)
- Financial, organisational or regulatory interventions influencing prescribing (e.g. expanded role of pharmacist)
- Consumer-targeted interventions influencing drug use (e.g. behavior change support)

# Rx for Change Highlights

- overall summary of interventions
- quality assessments
- summaries of individual reviews
- links to included and excluded reviews

patients with diabetes

Rx for Change  
Database

▶ Browse

▶ Tutorial

[About the Rx for Change Database](#)

▶ [Methods for Development](#)

▶ [View recorded web cast event held on December 10, 2007](#)

▼ Professional

*Interventions that target professionals directly, aiming to improve practice.*

Audit and feedback ?

Distribution of educational materials ?

Ed Distribution of published or printed recommendations for clinical care, including clinical practice guidelines, audio-visual materials and electronic publications. The materials may have been delivered personally or through mass mailings.

Local consensus process ?

Local opinion leaders ?

Mass media ?

Multifaceted ? *New Evidence*

Patient-mediated ? *New Evidence*

Reminders - computer decision support systems (drug dosing) ?

Reminders - computer physician order entry ?

Reminders - general ? *New Evidence*

Tailored interventions ?

Professional - other ?

▶ Consumer

▼ Organisational

## Professional Intervention: Distribution of Educational Materials

**Definition:** Distribution of published or printed recommendations for clinical care, including clinical practice guidelines, audio-visual materials and electronic publications. The materials may have been delivered personally or through mass mailings.

**Effectiveness:** Six high quality reviews (Gurusamy, Farmer, Faulkner, Forsetlund, Lewin, Thomas) and three key reviews (Davey, Grimshaw, Shaw) were identified. Two high quality reviews (Gurusamy, Farmer) found the intervention to be generally effective for improving appropriate care outcomes. One high quality review (Farmer) also found materials to be generally effective for prescribing related outcomes - choice. Four high quality reviews (Faulkner, Forsetlund, Lewin, Thomas) and three key reviews (Davey, Grimshaw, Shaw) had an insufficient number of studies to draw any conclusions about the intervention.

**Summary of Overall Findings from Reviews:** 2/2 high quality/key reviews with a sufficient number of studies to draw conclusions found this intervention to be generally effective.

**Summary of Findings Related to Prescribing:** 1/1 high quality/key reviews with a sufficient number of studies to draw conclusions found this intervention to be generally effective for improving prescribing outcomes.

### Reviews Addressing This Intervention

Quality Assessment Tool:  
AMSTAR Score (of 11 points)

Gurusamy KS, Aggarwal R, Palanivelu L, Davidson BR. Virtual reality training for surgical trainees in laparoscopic surgery. Cochrane Database of Systematic Reviews 2009 (1):CD006575.

**9 (High)**

Farmer AP, Légaré F, Turcot L, Grimshaw J, Harvey E, McGowan JL, Wolf F. Printed educational materials: effects on professional practice and health care outcomes. Cochrane Database of Systematic Reviews 2008 16 (3):CD004398.

**8 (High)**

Marinopoulos SS, Dorman T, Ratanawongsa N, Wilson LM, Ashar BH, Magaziner JL, Miller RG, Thomas PA, Prokopowicz GP, Qayyum R, Bass EB. Effectiveness of continuing medical education. Evidence Report – Technology Assessment (Full Rep) 2007 (149):1-69.

**7 (Medium)**

# Effectiveness of continuing medical education

Marinopoulos SS, Dorman T, Ratanawongsa N, Wilson LM, Ashar BH, Magaziner JL, Miller RG, Thomas PA, Prokopowicz GP, Qayyum R, Bass EB. Effectiveness of continuing medical education. Evidence Report – Technology Assessment (Full Rep) 2007 (149):1-69. [\[PubMed\]](#)

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**Q: What is the evidence regarding the effectiveness of continuing medical education and differing instructional designs in terms of knowledge, attitudes, skills, practice behaviour, and clinical outcomes?**

## BACKGROUND

The review considered all continuing medical education interventions, including educational materials and academic detailing, to assess which instructional designs were effective for disseminating and retaining medical knowledge.

## INCLUSION

Individual studies from systematic review

SEARCH FOR EVIDENCE: Up to Feb 2006

INCLUDED STUDIES: 136

## RESULTS - OVERALL

Of included studies, 50 were RCTs. Comparisons of multifaceted interventions vs. distribution of educational materials (n=2) and educational outreach visit vs. control (n=2) yielded generally effective results for appropriate care. Mixed effects for appropriate care were found for comparisons of multifaceted interventions vs. control (n=39), multifaceted vs. multifaceted (n=7), multifaceted vs. distribution of educational materials (n=5), distribution of educational materials vs. control (n=6), and educational meetings vs. control (n=13). Educational meetings, as compared with distribution of educational materials, demonstrated generally ineffective results (n=2). There was insufficient evidence to assess to effect of comparisons of audit and feedback vs. control (n=1), audit and feedback vs. audit and feedback (n=1), and multifaceted interventions vs. audit and feedback (n=1). Sixty-four studies were excluded from analysis as they were outside the scope of the overview.

## Table of Results

| Comparison                                       | Outcome          | N  | Analysis  | Results   |
|--|------------------|----|---|---|
| Distribution of educational materials vs control | Appropriate use  | 6  | Vote counting based on direction of effect                              | <p>Vote counting 3/6 studies (mixed designs) favoured intervention: mixed effects. 2 studies reported mixed results.</p> <p>1/3 RCTs favoured intervention: generally ineffective. 2 RCTs reported mixed results.</p> <p>Prescribing related outcomes:<br/>Appropriate use:<br/>Vote counting 3/4 studies (mixed designs) favoured intervention: generally effective.</p> <p>1/1 RCT favoured intervention: insufficient evidence.</p> <p>Appropriate use - Choice:<br/>Vote counting 0/1 RCT favoured intervention: insufficient evidence. 1 RCT reported mixed results.</p> |
| Educational meetings vs control                  | Appropriate care | 13 | Vote counting based on direction of effect and statistical significance | <p>Vote counting 8/13 studies (mixed designs) favoured intervention: mixed effects. 2 studies reported mixed results.</p> <p>4/8 RCTs favoured intervention: mixed effects. 2 RCTs reported mixed results.</p> <p>Prescribing related outcomes:<br/>Appropriate use:<br/>Vote counting 1/2 studies (mixed designs) favoured intervention: mixed effects.</p> <p>0/1 RCT favoured intervention: insufficient evidence.</p>   |



# Multifaceted interventions

- Include 2 or more distinct components
- Are more likely to address multiple barriers in the system and often more costly than single intervention



- Findings indicate the effect of using multiple components to be variable

Most populated intervention categories:

Multifaceted (72)

Educational meetings (59)

Distribution of educational materials (40)

General reminders (38)

Audit and feedback (32)

Least populated intervention categories:

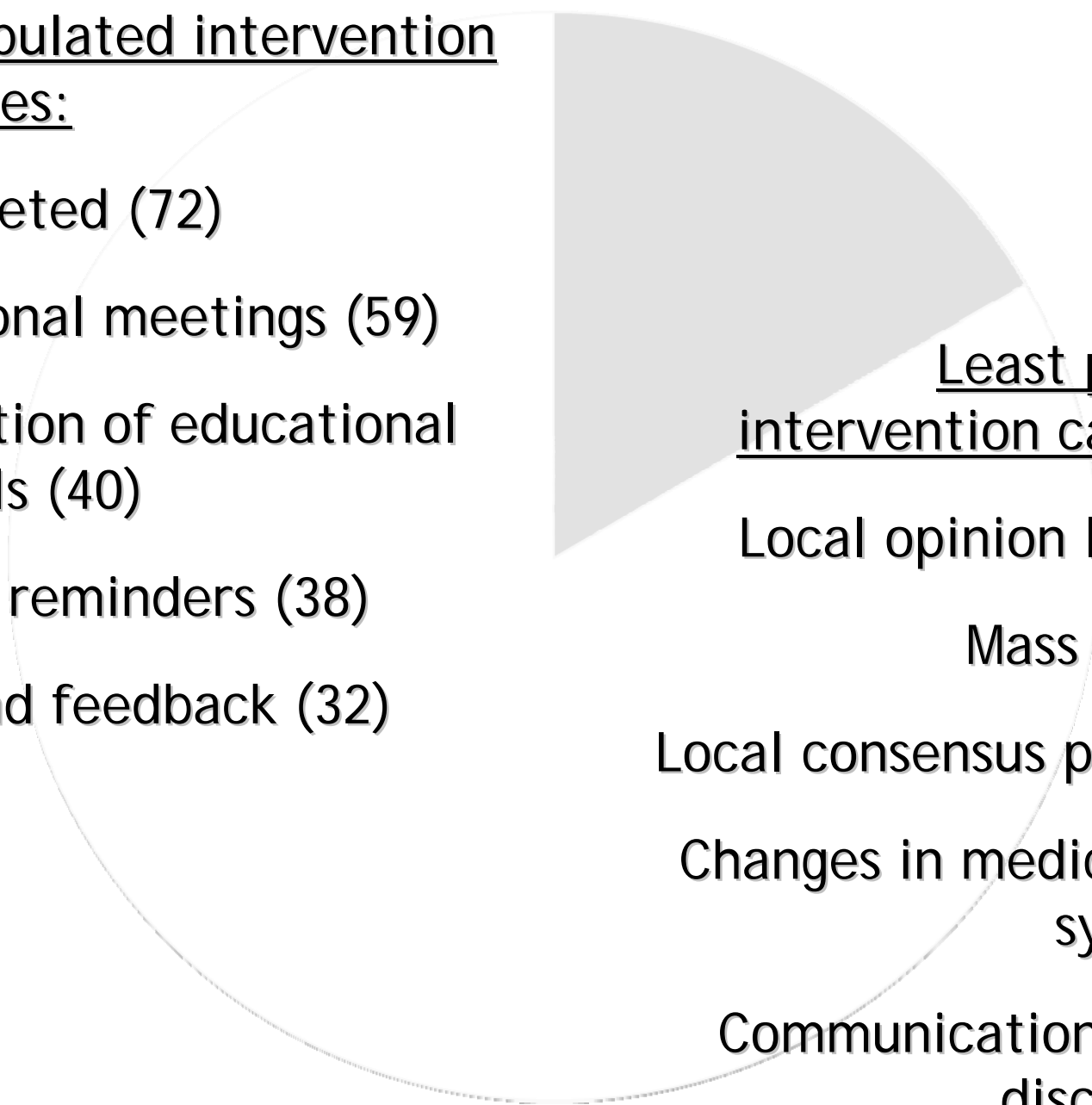
Local opinion leaders(4)

Mass media (4)

Local consensus process (3)

Changes in medical record systems (2)

Communication and case discussion (1)



# Who can use Rx for Change?

Who? Why?

Policy

*“The Rx for change database allowed us to quickly assess the effectiveness of audit and feedback as part of a multifaceted intervention”*

- *“We were able to justify a pilot to test the effectiveness of providing these profiles and we were able to adapt methodologies used in other studies to evaluate the pilot”*

Managers...

- “What type of continuing medical education program should I implement in my hospital department?”

Rese

*“I turned to the Rx for change site to obtain the most current reviews on educational meetings, distance education, academic detailing, and opinion leaders. It saved me a lot of time.”*

*“I cite the Rx for change site in grant applications so reviewers will know I have the most up-to-date data”*

Clinicians...

- “What strategies could I suggest to my patients to help them manage their medicines more effectively?”

# Summary

- Value added
- Wide range of effective interventions
- No single intervention is uniformly effective
- Choice of interventions should include consideration of evidence of effectiveness
- Gaps in evidence need to be addressed

# Sources of support for Rx for Change:



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Thank you!

[www.rxforchange.ca](http://www.rxforchange.ca)

