

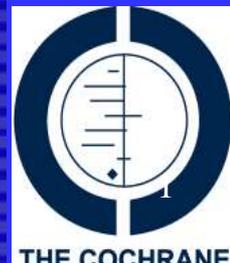


Getting the evidence straight – the role of systematic reviews

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Outline

- Why evidence-informed policies are needed
- How systematic reviews can advance evidence-informed decision-making
- Some illustrative examples of the use of SRs
- Conclusions and recommendations

Policymaking is a complex process

- May be influenced by many factors:
 - ◆ Beliefs and theories
 - ◆ Vested interests
 - ◆ Values and ideologies
 - ◆ Habits
 - ◆ Knowledge, attitudes and skills
 - ◆ Structural, cultural and financial constraints
- Attitudes towards research evidence may be inconsistent

Trying to Do
More Good
than Harm
in Policy
and Practice:
The Role of
Rigorous,
Transparent,
Up-to-Date
Evaluations

By
IAIN CHALMERS

as possible of existing relevant, reliable research, and then, if appropriate, additional research. Systematic, up-to-date reviews of research—such as those that the Cochrane and Campbell Collaborations endeavor to prepare and maintain—are designed to minimize the likelihood that the effects of interventions will be confused with the effects of biases and chance. Policy makers and practitioners can choose whether, and if so how, they wish their policies and practices to be informed by research. They should be clear, however, that the lives of other people will often be affected by the validity of their judgments.

Keywords: evaluation; research synthesis; research methodology; ethics

Why Do We Need Rigorous,
Transparent, Up-to-Date
Evaluations of Policy
and Practice?

It is the business of policy makers and practitioners to intervene in other people's lives. Although they usually act with the best of intentions, however, their policies and practices sometimes have unintended, unwanted effects, and they occasionally do more harm than good.

The Annals of the American Academy , 589, September 2003, pp 22-40

“It is the business of policy makers and practitioners to intervene in other people’s lives. Although they usually act with the best of intentions, their policies and practices sometimes have unintended, unwanted effects, and they occasionally do more harm than good.”

“This reality should be their main motivation for ensuring that their prescriptions and proscriptions for others are informed by reliable research evidence.”

Chalmers I. The Annals of the American Academy , 589, September 2003, pp 22-40

Good intentions are not enough –examples

- Anti-arrhythmic drugs after heart attack
- “Scared straight” programme for juvenile delinquents
- Discontinuation of the use of ‘phonics’ as part of reading instruction

Evidence-based health care

“the conscientious, explicit and judicious use of the current best evidence in making (health care) decisions.”

Sackett DL, et al. 1997

“Wherever health care is provided and used, it is essential to know which interventions work, which do not work, and which are likely to be harmful. This is especially important in situations where health problems are severe and the scarcity of resources makes it vital that they are not wasted”

Some challenges to EBHC

1. Volume of research is overwhelming
2. Access to research is haphazard and often biased
3. Design and quality of research vary widely
4. Most studies are too small

Systematic review: a valuable tool

“A review in which bias has been reduced by the systematic identification, appraisal, synthesis, and, if relevant statistical aggregation of all relevant studies on a specific topic according to a predetermined and explicit method.”

Moher et al Lancet 1999

A good systematic review

- Addresses a clearly defined question
- Uses transparent, reproducible methods to find relevant studies, to determine the risk of bias and to extract information
- Summarizes the totality of evidence available
- Is updated regularly as new evidence arises

The Cochrane Collaboration



- International, non-profit organization that aims to help people make well-informed decisions about healthcare by preparing, maintaining and promoting the accessibility of *systematic reviews* of the effects of healthcare interventions (published monthly in the Cochrane Library)
- Established in Oxford in 1993 at a meeting attended by 90 people
- Now over 22,000 contributors in 91 countries

The SA Cochrane Centre celebrates its 10th anniversary, 2007



How systematic reviews can be used to support evidence-informed decisionmaking

Male circumcision for prevention of heterosexual acquisition of HIV in men (Review)

Siegfried N, Muller M, Deeks JJ, Volmink J



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Knowing & Helping

- ASSAf: Academy of Science of South Africa
- Influential report released August 2007 in full and condensed versions.
- Input from several Cochrane reviews

How the Cochrane Collaboration Is Responding to the Asian Tsunami

Prathap Tharyan*, Mike Clarke, Sally Green

PLoS Medicine, 2006

- Tsunami 26 December 2004:
“the greatest natural disaster in living memory”
- *Evidence Aid* launched to ensure that most reliable and relevant information available to *enable* survivors to receive the best care
- Example: Cochrane review showed single session debriefing was unlikely to be helpful and possibly harmful (increase in PTSD)



Evidence Update

Mental Health Series

January 2006

Does brief psychological debriefing help manage psychological distress after trauma and prevent post traumatic stress disorder?

There is no evidence that single session individual psychological debriefing prevents post traumatic stress disorder after traumatic events.

To Reform U.S. Health Care, Start with Systematic Reviews

Kay Dickersin

With passage of The Patient Protection and Affordable Care Act (Public Law 111-148), the United States has taken an important step toward health care for all. But can “good” health care for all be achieved? The United States has lagged behind Canada, Europe, Australia, and now China (1) in making a national commitment to creating and utilizing research evidence on “what works” as an integral part of clinical practice and health policy (2). This approach, termed “evidence-based health care,” has been defined as “the integration of best research evidence with clinical expertise and patient values” (3). Evidence-based health care is not without its critics. Some have rejected it as “cookbook medicine” (4, 5), apparently ignoring that evidence is not the only ingredient in the approach and that the alternative ignores the scientific underpinnings of medicine.

Evidence We Need, Evidence We Have

For good health care, the research evidence we need most is from studies of interventions

thesizing research as to those performing primary research (6–8).

“Systematic reviews” are a scientific approach being used across the sciences (11–15) to synthesize existing evidence. When it appears that studies are similar enough in the questions they are addressing and that they are of sufficient quality, results of the studies may be combined quantitatively in a “meta-analysis” (12, 14). Meta-analysis is an optional quantitative synthesis within a systematic review. There are agreed-upon criteria for designing high-quality primary studies (e.g., control group, adequate sample sizes, and transparent reporting). Ought we not to insist on the same for review articles?

Synthesizing research evidence is challenging and requires training (2). In addition, even proponents of systematic reviews are concerned that poor-quality primary studies result in unreliable synthesized results and that combining results of studies that are too dissimilar (e.g., in population, interventions, and outcomes assessed) can lead to erroneous conclusions (14). At the direction of the

Before initiating new research, a formal synthesis of currently available knowledge should determine whether it is necessary.

When there are coordinated U.S. efforts for performing systematic reviews, funding agencies have focused mainly on federal programs and have used internal agency staff or contractual investigators (18). These programs [e.g., (19, 20)], although critically important, lack capacity and were never intended to cover the full range and depth of health-related questions.

Addressing the Research Evidence Gap

One alternative approach, which might both increase capacity and reduce duplication of effort, would be for the United States to increase its investment in international activities aimed at synthesizing the available evidence. The Cochrane Collaboration (21) engages people from more than 100 countries to conduct and maintain systematic reviews of the best current evidence to address important questions relating to clinical care and health policy. Since its beginnings in 1993, Cochrane has also played an important role in developing standards for conducting and reporting systematic reviews (21–24). The

*Are systematic reviews useful for
policymaking beyond the health
sector?*

Does a smoke-free policy reduce restaurant income?

- Passive smoking is harmful to health and therefore smoking banned in restaurants, bars, hotels , etc.
- These policies are resisted as it is claimed that they are harmful to business
- Systematic review of studies on the economic effects of smoke-free policies was conducted
- 97 studies (published and unpublished) with conflicting results
 - ◆ some say income reduced
 - ◆ some say income not reduced

Assessment of quality

- None of the 21 studies that met all the pre-specified quality criteria reported a reduction in income. In fact, four of the studies reported an increase in income.
- All the studies concluding that smoking restrictions harmed the hospitality industry were of low quality and were funded by the tobacco industry or its allies

Conclusion:

Smoke-free policies do not harm business



The Campbell Collaboration

Systematic reviews of the effects of interventions in education, criminal justice and social welfare

Examples:

- ◆ Reducing school truancy
- ◆ Street lighting to reduce crime
- ◆ School feeding to promote development

Systematic Reviews in International Development- Call for Proposals

February 22nd 2010

in Development	37	What is the evidence of the impact in the medium-longer term of the abolition of school fees in low income developing countries?
	38	What is the evidence of the impact of vouchers (or other similar subsidies for private education) on access to education for poor people?
	39	What is the evidence on what works to monitor and improve teacher attendance (in classrooms) in developing countries?
	40	What is the evidence that social health insurance schemes in developing country settings can improve health outcomes and reduce the impoverishing effect of healthcare payments for the poorest people?

Rapport fra Kunnskapssenteret nr 4 - 2010

SUPPORT Tools for evidence-informed health Policymaking (STP)

SUPPORT verktøy for kunnskapsbasert politikkutforming på helseområdet (23.03.2010)

>Hovedfunn | [3-siders sammendrag](#) | [Hele publikasjonen](#) ( 6.81MB)

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Oxman AD, Lavis JN, Lewin S, Fretheim A (editors)

SUPPORT Tools for evidence-informed health Policymaking (STP). Rapport fra Kunnskapssenteret nr 4 - 2010. ISBN 978-82-8121-334-0 ISSN ISSN 1890-1298

This book is based on a series of articles published in Health Research Policy and Systems. It is written for people responsible for making decisions about health policies and programmes and for those who support these decision makers. The book is intended to help such people ensure that their decisions are well-informed by the best available research evidence.

The SUPPORT tools and the ways in which they can be used are described in more detail in the Introduction.

A glossary can be found at the end of the book. Links to Spanish, Portuguese, French and Chinese translations can be found on the SUPPORT website (www.support-collaboration.org).

IN ENGLISH

SUPPORT Tools for evidence-informed health Policymaking (STP)
[1 -page key messages](#)
[3-page executive summary](#)

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Conclusions and recommendations

- Systematic reviews are more reliable than traditional reviews (or single studies) for summing up knowledge
- Systematic reviews are useful tools for deciding what works, what doesn't work, and what needs further research
- Systematic reviews that address high priority questions should be supported
- Build policy maker capacity to interpret and use evidence

Thank you for your attention
and welcome to Cape Town

