
**Undertaking Systematic
Reviews of Research on Effectiveness**

**CRD's Guidance for those Carrying Out
or Commissioning Reviews**

CRD Report Number 4 (2nd Edition)

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PREFACE

Policies and decisions about the organisation and delivery of health care and new research should be informed by comprehensive reviews evaluating the available research evidence. Robust systematic literature reviews are a valuable source of information because by locating, appraising and synthesising evidence from primary studies, they provide empirical answers to focussed questions about health care and related issues. In addition, by identifying both what we know and don't know, they help in planning new research. Systematic reviews differ from traditional reviews and commentaries produced by 'content experts' in that they adhere to a scientific methodology which seeks to minimise bias and errors. Hence, rather than reflecting the views of 'experts', they generate balanced inferences based on the collation of the best available evidence.

The NHS Centre for Reviews and Dissemination (CRD) first produced guidance for undertaking systematic reviews in 1996 in its Report Number 4. The original document provided a framework for carrying out systematic reviews of effectiveness and was used extensively to ensure a high standard in conducting reviews both by CRD and by other research groups. Although the principles behind reviewing research evidence systematically remain the same, various aspects of review methodology have developed substantially since that time. Therefore, the second edition of Report Number 4 updates the original guidance on effectiveness reviews. Recently, the growing use of systematic reviews in health policy and decision-making has placed new demands on reviewers who are increasingly being required to meet multiple objectives in reviews. The second edition responds to these developments by providing new guidance on the evaluation of tests, qualitative research and health economics in the context of effectiveness reviews. The purpose of this document is to provide practical guidance about various aspects of reviews in the light of current understanding of review methodology.

Abbreviations

Overview

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 - 1.0.2 Identifying existing and ongoing reviews
 - 1.0.3 Appraising available reviews
 - 1.0.4 Commissioning systematic reviews
 - 1.0.5 Key points
 - 1.0.6 References

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 - 1.1.6 Project timetable
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 - 1.1.8 Dissemination
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Appendix 3 Example data extraction forms

- A3.1 Data extraction form for an effectiveness review
- A3.2 Data extraction form for a test accuracy study
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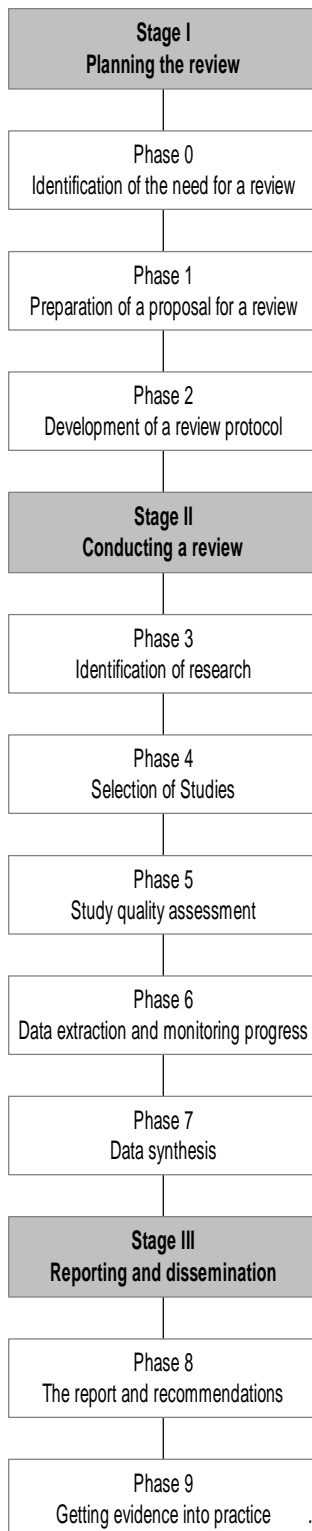
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ABBREVIATIONS

ARR	Absolute Risk Reduction
CBA	Cost-benefit Analysis
CCA	Cost-consequences Analysis
CCTR	Cochrane Controlled Trials Register
CDSR	Cochrane Database of Systematic Reviews
CEA	Cost-effectiveness Analysis
CI	Confidence Interval
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CMA	Cost-minimisation Analysis
CRD	NHS Centre for Reviews and Dissemination
CUA	Cost-utility Analysis
DARE	Database of Abstracts of Reviews of Effectiveness
EPOC	Cochrane Effective Practice and Organisation of Care Group
EQ-5D	Euroqol
GP	General Practitioner
HCA	Human Capital Approach
HTA	Health Technology Assessment database
HYE	Health Years Equivalent
INAHTA	International Network of Agencies for Health Technology Assessment
LR	Likelihood Ratio
NHS	National Health Service
NHS EED	NHS Economic Evaluation Database
NICE	National Institute for Clinical Excellence
NNH	Number Needed to Harm
NNT	Number Needed to Treat
NRR	National Research Register
NSABP	National Surgical Adjuvant Breast and Bowel Project
NTIS	National Technical Information Service
OR	Odds ratio
QALYs	Quality Adjusted Life Years
R&D	Research and Development
RCT	Randomised Controlled Trial
RR	Relative Risk
SD	Standard Deviation
SE	Standard Error
SIGLE	System for Information on Grey Literature
SIGN	Scottish Intercollegiate Guideline Network
SROC	Summary Receiver Operating Characteristics Curve
TRIP	Turning Research Into Practice database
WTP	Willingness to Pay

OVERVIEW



In this document, the framework for carrying out systematic reviews is described in three stages: planning, reviewing and disseminating. The need for a review should be established before commissioning or commencing review work. The methodology of the review should be documented and working arrangements should be put in place to ensure that the methods can be followed. Finally, there should be a strategy for putting together a report of the review and disseminating its findings to relevant audiences, and if possible, updating the review.

The stages of a review and the phases within them are described consecutively. However, this chronology may vary during the review. It will not always be possible to complete one phase before another has to be started, and sometimes it will be more efficient to work on several phases simultaneously.

It is essential that good communication is maintained between those commissioning or supervising the review and those carrying it out. To aid the process, this framework includes agendas for some joint meetings. These meetings help set a timetable and ensure that the review work receives the required direction and support. The number of meetings and their schedule may have to be tailored to suit the requirements of a given review.

The content of this report draws on information from several sources. All the steps necessary to undertake a systematic review have been listed, but it is not possible to provide definitive advice on all of the methods. This is because the science of systematically reviewing the literature is relatively young, and many methodological issues are still being explored. Therefore this guidance is to assist those conducting reviews to reach a minimum standard based on the understanding of the subject at the time of writing. Reviewers wishing to obtain up-to-date information in this area should look at the Cochrane Methodology Database and systematic reviews of empirical methodological research in the Cochrane Library. New advice is incorporated in updates of the Cochrane Reviewers' Handbook (URL: <http://www.update-software.com/ccweb/cochrane/hbook.htm>) and the 'Resources available at the CRD' web site (URL: <http://www.york.ac.uk/inst/crd/srinfo.htm>).

