

<b>Introduction &amp; Key Points</b> .....	2
Key points & Introduction .....	2
Development & consultation .....	2
Implementation of the Standards .....	3
Acknowledgements .....	3
Latest substantive changes .....	4
How to cite the MECIR standards .....	4
Versions .....	4

## Introduction & Key Points

- **The MECIR standards represent a true collaborative effort across our community.**
- **They are an essential part of Cochrane's quality assurance strategy.**
- **The MECIR standards represent a living programme of work, and will be adapted over time as methods, and expectations change.**

Ensuring that Cochrane Reviews represent the highest possible quality is critical if they are to inform decision making in clinical practice and health policy (Strategy to 2020 goals 1 and 2). Methodological Expectations of Cochrane Intervention Reviews (MECIR) are standards that should guide the conduct and report of Cochrane Intervention Reviews. They are drawn from the [Cochrane Handbook for Systematic Reviews of Interventions](#) (the 'Handbook'). The development of the standards has been a collaborative effort over several years, involving review authors, editors and methodologists from all corners of our community. We have implemented both conduct and reporting standards for new intervention reviews and they have formed the basis for the quality assurance work that has taken place over the past 2-3 years. In this document we present a complete set of standards for intervention reviews.

## Key points & Introduction

**Julian PT Higgins, Toby Lasserson, Jackie Chandler, David Tovey and Rachel Churchill**

### Key points:

- **The conduct standards should be consulted during preparation of the protocol for a Cochrane Intervention Reviews.**
- **They describe the methods that should be implemented throughout the review process.**
- **Few specific methods are mandatory, one notable exception being the Cochrane tool for assessing risk of bias when randomized trials are included in the review.**

The MECIR standards for conduct of a Cochrane Intervention Review provide expectations for the general methodological approach to be followed from designing the review up to interpreting the findings at the end. They should be consulted particularly when preparing the protocol for the review. The protocol describes the review question, the criteria for considering studies for the review, and the methods that will be followed to identify, appraise, summarize and synthesize the studies. Cochrane led the way in making protocols available to readers of the Cochrane Library. They ensure transparency in how reviews are prepared and allow the planned methods to be critiqued. Specification of the review question (through setting the review's objectives) and the criteria for including studies are critical to the success of the review and the first two sections of the standards address these tasks. The following section addresses selection of the outcomes of interest, an important aspect to pre-specify carefully to avoid the need for post hoc decisions that could be influenced by the data.

The second half of the standards addresses the detailed methodology that will be followed during the review, covering the search for studies, selection of studies into the review, data collection, risk of bias assessment, synthesis (including any meta-analysis approaches), and overall assessment of the evidence. With few exceptions (such as use of the Cochrane risk of bias tool for randomized trials), the precise methods to be used are not prescribed. For example, authors are free to use any meta-analysis method, although there is a potential convenience to both authors and readers if those implemented in Review Manager software are used.

**Julian Higgins**  
**Professor of Evidence Synthesis**  
**University of Bristol**

## Development & consultation

We established working groups to develop minimum standards based on early proposals and groundwork by many groups and individuals within Cochrane. We agreed the need to identify methodological expectations for Cochrane protocols, reviews and updates of reviews on the effects of interventions that could be implemented across Cochrane. Six Working Groups covered six core methodological aspects of Cochrane Intervention Reviews:

1. Developing a question and deciding the scope of the review,
2. Searching for studies,
3. Selecting studies and collecting data,
4. Assessing risk of bias in studies,
5. Analysing data and undertaking meta-analyses,
6. Interpretation and presenting results.

For each of these areas, we set out to identify the following in respect of intervention reviews:

- A. essential minimum standards (*must do*);
- B. desirable standards (*should do*);
- C. common errors (*should not do*);
- D. fatal flaws (*must not do*) and identification of any important methodological uncertainties.

The existing standards cover A and B, whilst work on C and D is ongoing. At least one methodologist and one Co-ordinating Editor (clinical specialist) jointly led each working group. We sought to ensure that groups reflected divergent views and had access to appropriate expertise. We co-opted other people from across Cochrane as necessary to ensure co-ordination and consistency of approach (training and knowledge translation). From an initial draft set of standards, we consulted widely throughout Cochrane, after which the MECIR co-ordinating author team collated responses to produce this final set of standards. Although primarily drawn from the current (2011) version of the [Cochrane Handbook for Systematic Reviews of Interventions](#) (the *Handbook*), the standards proposed have also required amendment to the *Handbook*. Thus, the *Handbook* will incorporate these standards.

## Implementation of the Standards

Cochrane Review authors and the Cochrane Review Groups (editorial bases) are expected to meet these minimum quality standards in their reviews. These standards guarantee consistency of methodological practice across Cochrane Intervention Reviews and are an important element of the quality assurance of individual reviews. All standards are qualified with the status of 'mandatory' or 'highly desirable'. Mandated standards are essential and compliance is expected or an appropriate justification provided. Reviews that do not meet these standards should not be published. Earlier versions of these MECIR standards for conduct and reporting are currently in use and used to audit new abstracts and reviews. In our prepublication screening programme of new reviews, we used a subset of the standards. Subsequent to this initial implementation, the standards have undergone review and revision. We have now developed standards for updates and protocols.

We introduce each set of standards with key points and where necessary additional explanatory notes.

The MECIR standards represent a considerable amount of work from many people within the Cochrane community. However, it seems appropriate to single out Julian Higgins, Rachel Churchill, Toby Lasserson and Jackie Chandler for their commitment and resolve in pushing the process through to this resolution. That said, of course this does not represent the final word. Methods change and these standards will continue to be refined over time. We therefore welcome feedback from all of you who are responsible for delivering the standards, and hope that they are useful to you in producing and maintaining high quality, relevant reviews that can guide decision makers throughout the world, in pursuit of better health outcomes.

**David Tovey**

**Editor in Chief**

**The Cochrane Library**

## Acknowledgements

### Acknowledgements

We thank the following working group leads and contributors for their early development of the standards: Doug Altman, **Mohammed Ansari (Methods lead)**, Sally Bell-Syer, Patrick Bossuyt, Deborah Caldwell, Christopher Cates, **Rachel Churchill (Co-ordinating Editors (Co-Eds) lead, Co-ordinating team)**, **Mike Clarke (Co-Eds co-lead)**, **Jan Clarkson (Co-Eds co-lead)**, Philippa Davies, **Marina Davoli (Co-Eds lead)**, Ruth Foxlee, Chantelle Garritty, **Davina Gherzi (Co-Eds co-lead)**, **Julie Glanville (Methods co-lead)**, Peter Herbison, Julian Higgins (Co-ordinating team), **Sophie Hill (Co-Eds lead)**, Toby Lasserson (Co-ordinating team), Edith Leclercq, **Carol Lefebvre (Methods co-lead)**, Jessie McGowan, Rachel Marshall, Ruth Mitchell, Donal O'Mathuna, Anna Noel-Storr, **Georgia Salanti (Methods lead)**, Doug Salzwedel, Margaret Sampson, Jelena Savovic,

**Holger Schünemann (Methods lead)**, Ian Shemilt, Nandi Siegfried **Jonathan Sterne (Methods lead)**, **Britta Tendal (Methods lead)**, David Tovey (Co-ordinating team), Peter Tugwell, Lucy Turner, Claire Vale, Julia Walters, **Helen Worthington (Co-Eds lead)**, and Janelle Yorke. We also thank all those Cochrane members of Review Groups, Methods Groups, Fields, Centres and Training who responded in some detail to MECIR Standard consultations, allowing us to improve these standards to ensure relevance and comprehension.

## Latest substantive changes

### Version 1.07

- [C56](#): "assess RoB due to lack of blinding....." replaced with **NEW standard** "Ensuring results of outcomes included in SoF are assessed for RoB....."
- [C57](#): "RoB due to incomplete outcome data...." replaced with "Summarizing RoB assessments...."
- [C58](#): "Summarizing RoB assessments...." replaced with "Addressing RoB in the synthesis...."
- [C59](#): "Addressing RoB in the synthesis...." replaced with "Incorporating assessments of RoB...."
- [C60](#): "Incorporating assessments of RoB...." replaced with **NEW standard** "Addressing CoI in included trials....."

### Version 1.06

- [C73](#): Standard changed to: Consider the potential impact of non-reporting biases on the results of the review or the meta-analysis it contains. Rationale & elaboration changed to: There is overwhelming evidence of non-reporting biases of various types. These can be addressed at various points of the review. A thorough search, and attempts to obtain unpublished results, might minimize the risk. Analyses of the results of included studies, for example using funnel plots, can sometimes help determine the possible extent of the problem, as can attempts to identify study protocols, which should be a routine feature of Cochrane Reviews.
- [C24](#): Standard changed from "Planning the search" to "Searching general bibliographic databases and CENTRAL"
- [C41](#): Standard changed to: "Document the selection process in sufficient detail to be able to complete a flow diagram and a table of 'Characteristics of excluded studies'. Change elaboration to read: "A PRISMA type flow diagram and a table of 'Characteristics of excluded studies' will need to be completed in the final review....."
- [R56](#): Standard changed to: Provide information on the flow of studies....., ideally using a PRISMA type flow diagram.....individual studies".
- [UR4](#): Elaboration changed to: "Provide information on the flow of studies into the updated review, ideally using a PRISMA type flow diagram."
- [R98](#): Status changed to mandatory – Mandating SoF tables.
- [R102](#): Changed elaboration to: "When formulating implications for practice base conclusions only on findings from the synthesis (quantitative or narrative) of studies included in the review. The conclusions of the review should convey the essence of the synthesis of included studies, without selective reporting of particular findings on the basis of the result, and without drawing on data that were not systematically compiled and evaluated as part of the review."

### Version 1.05

- [C48](#): Upgraded from 'highly desirable' to 'mandatory'.

### Version 1.04

- [R55](#): New Standard inserted. There is subsequent renumbering of all Standards in section up to R108.(23/01/2018)
- [C28](#): Changed from 'mandatory' to 'highly desirable'.(23/01/18)
- Links to Cochrane Interactive Learning modules have been added where needed.

## How to cite the MECIR standards

Higgins JPT, Lasserson T, Chandler J, Tovey D, Churchill R. Methodological Expectations of Cochrane Intervention Reviews. Cochrane: London, Version 1.06, 2018.

## Versions

v1.07 Nov 2018 C56 - C60 Major changes. See "[Latest substantive changes](#)" page

v1.06 Oct 2018 numerous changes. See "[Latest substantive changes](#)" page.

v1.05 Jan 2018 - How to cite the MECIR standards - 2016 updated to **2018**. See change date below. Version number remains the same.

v1.05 Jan 2018 - C25 Searching specialist bibliographic databases typo corrected 'PsychINFO' changed to 'PsycINFO'. Version number remains the same.

v1.05 Jan 2018 - C48 Examining Errata upgraded from 'highly desirable' to 'mandatory'

v1.04 Oct 2017 - Standard R55 - substantive change (02/10/2018) & Cochrane Interactive Learning resources added

v1.03 July 2017 - online training resources added

v1.02 June 2017 - online training resources added

v1.01 May 2017 - online training resources added

v1.0 Oct 2016 - first published online