Identification of studies for inclusion in Cochrane Reviews: a guide for Cochrane Airways authors

The search methods are an important part of a systematic review. If you are a review author working with Cochrane Airways, you will be offered support for the conduct and reporting of your literature search by the group Information Specialist.

The Information Specialist will assist with developing the search strategy for your review protocol and can offer advice on which databases and other sources to search. When the protocol has been approved for publication, the Information Specialist will conduct the searches, provide a de-duplicated set of search results, and can also advise you on reference management, title and abstract screening, and reporting of the search methods.

Cochrane Airways maintains a Trials Register to support the production of our systematic reviews. The Register contains reports of RCTs and quasi-RCTs identified through systematic searches of bibliographic databases and handsearching conference abstracts. Full details of the methods used to maintain the Register can be found on our [website](#).

1. Search methods

Search terms
The Information Specialist will discuss appropriate search terms with you based on the inclusion criteria of your review and construct a draft search strategy, usually for MEDLINE or CENTRAL. A search strategy for a standard intervention review will usually consist of text words and index terms based on the population and the intervention to be considered in the review. A search filter designed to identify reports of RCTs will be used where appropriate.

Peer review of the search strategy
If appropriate, the Information Specialist will arrange for the search strategy to be peer-reviewed by another Cochrane Information Specialist. We use the [PRESS checklist](#) to peer review a search strategy.

Core databases
The Information Specialist will search the following databases for all intervention reviews:

- The Cochrane Airways Trials Register via the Cochrane Register of Studies (CRS)
- CENTRAL via the Cochrane Register of Studies (CRS)
- MEDLINE (Ovid SP)
- Embase (Ovid SP)
- US National Institutes of Health Ongoing Trials Register ClinicalTrials.gov (www.clinicaltrials.gov)
- World Health Organization International Clinical Trials Registry Platform (apps.who.int/trialsearch)

For other review types (e.g. qualitative, prognostic, diagnostic test accuracy) the list of core databases may differ.

Additional databases

Depending on the topic of the review, it may be necessary to search specialty databases in addition to the core databases, for example:

- PsycINFO (Ovid SP)
- CINAHL (EBSCO) - Cumulative Index to Nursing and Allied Health Literature
- Global Health (Ovid SP)
- PEDro – Physiotherapy Evidence Database
- AMED (EBSCO) - Allied and Complementary Medicine

Providing we have access to the required database(s) and it's relevant to the topic, the Information Specialist will search these along with the core databases.

Supplementary searches

Reference checking of included studies

You should check the reference lists of each included study for any additional relevant studies. This can be done manually by reading through the reference list, or by conducting a citation search in Web of Science or Google Scholar. Reference checking is a mandatory requirement of the MECIR standards so please ask the Information Specialist if you would like some help with doing this.

Checking other systematic reviews

You should check the included studies of other systematic reviews in your topic for additional studies. The [Epistemonikos](#) database is a good source to use for finding systematic reviews.

Conference abstracts

Conference abstract records can be found in the Cochrane Airways Trials Register; CENTRAL; and Embase. Records retrieved through the searches of these databases will be included in your electronic search results.

2. Search conduct

The Information Specialist will run the database searches when the protocol has been accepted by Cochrane Airways for publication. The searches will be run in each database, and the results will be downloaded, collated, and de-duplicated before being sent to you.

Provision of search results

The search results will usually be emailed to you as a text file in RIS format. This format is compatible with most reference management software packages e.g. Endnote, Zotero, or Reference Manager. Further information about managing references is available on our [website](#).

The Information Specialist will provide you with a search record including details of the databases searched, dates, search strategies, and the number of results before and after de-duplication.

Updating

To comply with the MECIR standards, the date of search must be within twelve months, and ideally six months, of the publication date, so it may be necessary to update the search, possibly more than once, before the final review is published. The Information Specialist will update the search annually, or on request. A final pre-publication search is often needed while the review is going through peer review.

3. Study selection

Title & abstract screening

Screen4Me

Cochrane has developed a service called Screen4Me which is available to Cochrane Airways authors (through the Information Specialist) to help with title and abstract screening. The service incorporates three components:

1. Known Assessments are records that have been through Cochrane's citizens science platform, Cochrane Crowd, and received a final classification of either describing a randomized trial (RCT) or not.

2. The RCT Classifier is a machine learning routine that assigns records a likelihood score based on whether the machine thinks the record is describing an RCT or not.

3. Cochrane Crowd is Cochrane's crowdsourcing platform where contributors from around the world help to identify randomised trials and other types of healthcare-related research.

If your review is an intervention review of RCTs, the Information Specialist will run your search results through the 'Known Assessments' and RCT classifier components of this service, and the remaining results will be sent to you to screen manually. Details of the Screen4Me assessments will be included in your search record.

If you have a particularly large set of search results, and your review is an intervention review of RCTs, then you could consider sending the results to Cochrane Crowd. If your search results are eligible the Information Specialist will discuss this with you.

Screening tools

You can screen all the titles and abstracts in your reference management software, however, there are some great tools available to help make this process easier for you:

- Covidence is a screening and data extraction tool and is free to use for Cochrane authors
- Rayyan is an alternative free tool for screening of search results.

Both of these tools support blinded screening.

Full-text retrieval

You should try to obtain as many of the required full-text articles as possible through local sources. Kopernio is a free browser plug-in to help you find PDFs that you have access to through open access and your institutions' subscriptions. If there are papers you can't obtain through your own institution, the Information Specialist may be able to help. Please get in touch if this is the case.

Translations

Cochrane has an online platform to help connect people interested in getting involved with Cochrane reviews called Task Exchange. If you need to get a trial report translated, this is a great place to start with finding a volunteer to help you. Please make sure that you acknowledge any translators (with their permission) in your review.

4. Search reporting

Protocol

It is important that the search methods are reported clearly. The MECIR reporting standards cover the items that need to be reported. Some standard text will be put into your protocol outlining our usual search methods, and this text is compliant with the MECIR reporting standards.

A protocol must include one example search strategy. This will usually be the strategy for MEDLINE or CENTRAL. When you have agreed on the search strategy with the Information Specialist and your co-authors, the search strategy should be included as an appendix in the protocol.

Review

The search strategy for each database should be reported in full in the appendices of the review. The Information Specialist will include all the required information in your search record.

You will need to complete a PRISMA study flow diagram as part of your write up. RevMan provides a tool to create the diagram. The Information Specialist will include a table in your search record to help track the details need to populate your diagram. You can also download a template table from our website.

Contact

If you have any questions about the search methods of your review, please get in touch.

Liz Stovold, Information Specialist, Cochrane Airways - estovold@sgul.ac.uk

Resources

Cochrane Crowd - http://crowd.cochrane.org/
Covidence - https://www.covidence.org/
Epistemonikos - https://www.epistemonikos.org/
Kopernio - https://kopernio.com/
MECIR standards - https://community.cochrane.org/mecir-manual
PRESS checklist - https://www.cadth.ca/resources/finding-evidence/press
Rayyan - https://rayyan.qcri.org/
Task Exchange - https://taskexchange.cochrane.org/

Cochrane Handbook on searching & study selection

Lefebvre C, Glanville J, Briscoe S, Littlewood A, Marshall C, Metzendorf M-I, Noel-Storr A, Rader T, Shokraneh F, Thomas J, Wieland LS. Chapter 4: Searching for and selecting studies. In: Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, Welch VA (editors). *Cochrane Handbook for Systematic Reviews of Interventions* version 6.0 (updated July 2019). Cochrane, 2019. Available from www.training.cochrane.org/handbook.