COCHRANE INFECTIOUS DISEASES GROUP
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Guide to the search strategy

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1. Introduction: developing the search strategy

One of the first tasks in developing a Cochrane Review is preparing a search strategy, to be used to identify relevant studies for the review. This review work is done by the group's Information Specialist(s) in collaboration with the review authors. The Cochrane Infectious Diseases Group (CIDG) currently has two Information Specialists: Anel Schoonees (anelschoonees@sun.ac.za) and Vittoria Lutje (Vittoria.Lutje@lstmed.ac.uk). Anel is based in South Africa and works on HIV reviews, while Vittoria is based in the UK and deals with all other CIDG reviews. All search requests go through the CIDG Managing Editor, Deirdre Walshe (Deirdre.Walshe@lstmed.ac.uk).

When a review team starts to prepare the protocol for their Cochrane Review, the Managing Editor will ask the Information Specialist to draft the search strategy (see below). Once the search strategy has been finalized, the review authors can add it to the RevMan version of their protocol.

Alternatively, if they prefer, or if they have the support of a local librarian/information specialist, the authors can prepare the search strategy and send it to the Information Specialist for comments before finalizing the protocol.

Methodological Expectations of Cochrane Intervention Reviews (MECIR): Cochrane has agreed methodological standards for the conduct and reporting of Cochrane Reviews of interventions (MECIR; http://methods.cochrane.org/mecir), to which all Cochrane Protocols, Reviews, and Updates are expected to adhere. Each standard is given a status of either mandatory (defined as compliance required for publication) or highly desirable (defined as expected but may be justifiably not done); the Information Specialist will follow these standards while preparing the search methods (Standard C19 of 'Planning the review methods at protocol stage' deals with 'Planning the search').

1.1 Choosing search terms

The Information Specialist will read the draft protocol, and will use the inclusion criteria ('Criteria for including studies in this review') and background sections to identify the most appropriate search terms to use. These terms will be tested by running a test search in MEDLINE.

1.2 Choice of electronic databases and other sources of trial reports

Electronic databases: Cochrane Reviews of interventions will include searches of the following databases: the CIDG Specialized Register, the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, and LILACS. The CIDG also searches Embase for DTA reviews or reviews of interventions that include non-randomized studies, but does not run searches of Embase for reviews that only include randomized controlled trials (RCTs). The rationale for this decision is described in a separate document (EMBASE). The CIDG reviews also include searches for studies in progress through ClinicalTrials.gov and the World Health

Organization International Clinical Trials Registry Platform (WHO ICTRP). Other databases may need to be searched for particular reviews' topics; for instance, CINAHL for nursing and allied health disciplines, PsycINFO for the psychological literature, and others. Choice of these additional databases will be discussed on an individual review basis.

Conference proceedings: authors are encouraged to identify and search conference proceedings relevant to the review topic. These can be located via the Internet or in the reference lists of published studies. Authors are responsible for obtaining the relevant proceedings and for conducting these searches; they will not be run by the Information Specialist. Some reports of conference proceedings are now found in the Cochrane Central Register of Controlled Trials (CENTRAL).

Organizations: research organizations (such as the World Health Organization (WHO) and Médecins Sans Frontières) can be helpful in locating unpublished or ongoing studies. Review authors are encouraged to identify organizations relevant to their review's topic by searching the Internet or from the authorship and reference lists of published studies.

Pharmaceutical companies: authors are also encouraged to, where relevant, contact pharmaceutical companies that developed the drug or device of interest to ask them for help in locating unpublished and ongoing studies.

Reference lists: authors are responsible for browsing the references lists of the identified studies for additional studies.

1.3 'Search methods for identification of studies' section

The Information Specialist will draft the search methods section of the protocol (see below), in future tense. The detailed search terms for MEDLINE will be listed in an Appendix (see example on next page).

1.4 Search methods for systematic reviews of Diagnostic Test Accuracy

Systematic reviews of diagnostic test accuracy (DTA) are also included in the CIDG's scope. Although the principles of conducting a DTA review are similar to those of an intervention review, the methods are different and they include a more extensive search strategy, with additional electronic databases to be searched and a more comprehensive list of search terms. The search methods section will be tailored to each individual review (and do not follow the template below).

2. Running the searches for studies

2.1. Timing of searches

Once the protocol is accepted for publication, the Managing Editor will contact the Information Specialist to request the search for studies using the methods developed and recorded in the protocol. Results from this search will be sent to the review team to enable them to start work on the review. Also, depending on how long it takes to prepare the review, another search may be needed to ensure that the review is up-to-date (the last search date must be within 12 months of the review's intended publication date).

Some author teams prefer to run their own searches (both for new reviews and updates), in which case they should inform the Managing Editor and send a list of studies they have identified, to be included in the CIDG Specialized Register.

2.2. Assessing and recording search results

After running a search for studies, the Information Specialist will send the results to the Managing Editor, who will forward them to the review's contact author. The results can be sent as a bibliographic database (preferably EndNote, or Reference Manager) or as a list of references in RIS. Screening of search results for Cochrane Reviews is done using Covidence software (www.covidence.org), which allows the review author team to upload search results, screen abstracts and full-text articles. Covidence also keeps a record of the number of studies included or excluded from a review at each stage of the assessment process, and this information needs to be reported in the final version of a Cochrane Review in a PRISMA flow diagram (see example below: 4 Reporting search results: example of PRISMA flow diagram for reporting searches in new reviews). The template is available in RevMan, "Add figure").

If the review authors identify additional studies through communications with organizations, individual researchers, or pharmaceutical companies, they should inform the Information Specialist so that the studies can be added to the CIDG Specialized Register.

Cochrane Reviews also include report of studies in progress, identified through searches of ClinicalTrials.gov and the WHO ICTRP. Sometimes studies which are already published in a journal are still registered on these websites as ongoing. Authors should double-check the list of ongoing studies against published ones to avoid listing studies twice (this especially applies to review updates).

2.3. Article retrieval and translations

If the authors cannot obtain locally the full-text of the articles they need, they can require assistance to retrieve them from the CIDG editorial base by directly contacting Christianne Esparza (christianne.esparza@lstmed.ac.uk). If an article needs translation into English, the review authors can ask the CIDG editorial base for assistance.

2.4 Review updates

According to MECIR, a Cochrane Review should be updated based on need. Aspects to consider are: how current is the review question, the impact and usage of the current version, the availability of additional studies, and an assessment of the likely change of any newly identified studies or additional data on the current review version. Methodological changes may also be involved.

The CIDG classifies all published reviews according to the Cochrane Updating Classification Framework. The CIDG also has piloted and approved its own review update policy (Version: 15 June 2018), which states that the review authors must provide a clear rationale to the CIDG editorial base regarding why updating the review is a priority at this time, and they must submit a 'Refresh' table (Annex 1), which is based on Table 2 of the BMJ paper 'When and how to update systematic reviews: consensus and checklist' (http://www.bmj.com/content/354/bmj.i3507). The CIDG review update policy document is available, on request, from the CIDG Managing Editor.

Once agreed, a review update involves a new search for studies. The Information Specialist will run these search updates and inform the authors of any new studies identified. Sometimes the search strategy of a published review needs to be changed, to accommodate new research findings (for instance, new drug names or other interventions, or new diagnostic tests); authors will need to discuss these changes with the CIDG editorial base and with the Information Specialist before incorporating them.

Review authors are encouraged to report the search process for review updates in the same way as for new reviews, keeping a record of the number of new studies identified and included or excluded from the review, and this involves using a PRISMA flow diagram similar to the one used for new reviews - please see 5.1 below. Once a review is updated, the PRISMA diagram for the previous review version should be moved to an appendix. There will be a link to it so readers will be able to access it, but it won't be visible in the main body of the review

3. Template text for the 'Search methods for the identification of studies'

This is the template for a Cochrane protocol. For a Cochrane Review, sentences will be changed to the past tense and exact dates of search will be added.

Date limitations may be relevant for certain reviews (for instance, it is not useful to search all dates when the specific diagnostic test under review has only be developed in 2010), and will apply to a protocol's search section as relevant.

Search methods for identification of studies

We will attempt to identify all relevant studies regardless of language or publication status (published, unpublished, in press, ongoing).

Electronic searches

Databases

We will search the following databases using the search terms and strategy described in Appendix 1: Cochrane Infectious Diseases Group Specialized Register; Central Register of Controlled Trials (CENTRAL), published in the Cochrane Library; MEDLINE (PubMed); and LILACS. We will also search the WHO International Clinical Trials Registry Platform (ICTRP; www.who.int/ictrp/en/) and ClinicalTrials.gov (https://clinicaltrials.gov/ct2/home) for studies in progress, using "xx " and "xx" as search terms.

Searching other resources

Conference proceedings

We will search the following conference proceedings for relevant abstracts: [conference title, location (city and country), and date].

Organizations and pharmaceutical companies

We will contact organizations including [**] and pharmaceutical companies including [**] for unpublished and ongoing studies.

Reference lists

We will also check the reference lists of all studies identified by the above methods.

*** List the sources you intend to contact in the protocol; list all sources actually contacted in the review with the date of contact.*

4. Example search table for a protocol

This example is from the protocol: Grace AG, Mittal A, Jain S, Tripathy JP, Satyanarayana S, Tharyan P, Kirubakaran R. Shortened treatment regimens versus the standard regimen for drug-sensitive pulmonary tuberculosis (Protocol). Cochrane Database of Systematic Reviews 2018, Issue 1. Art. No.: CD012918. DOI: 10.1002/14651858.CD012918.

Appendix 1. Sample MEDLINE (PubMed) search terms

#7 Search #3 and #6[1]

#6 Search 4 or 5

#5 "antigen 85A" OR Ag85A OR "modified vaccinia ankara" OR MVA85A Field: Title/Abstract

#4 "antigen 85A, Mycobacterium tuberculosis" [Supplementary Concept] or "MVA 85A" [Supplementary Concept])

#3 Search 1 or 2

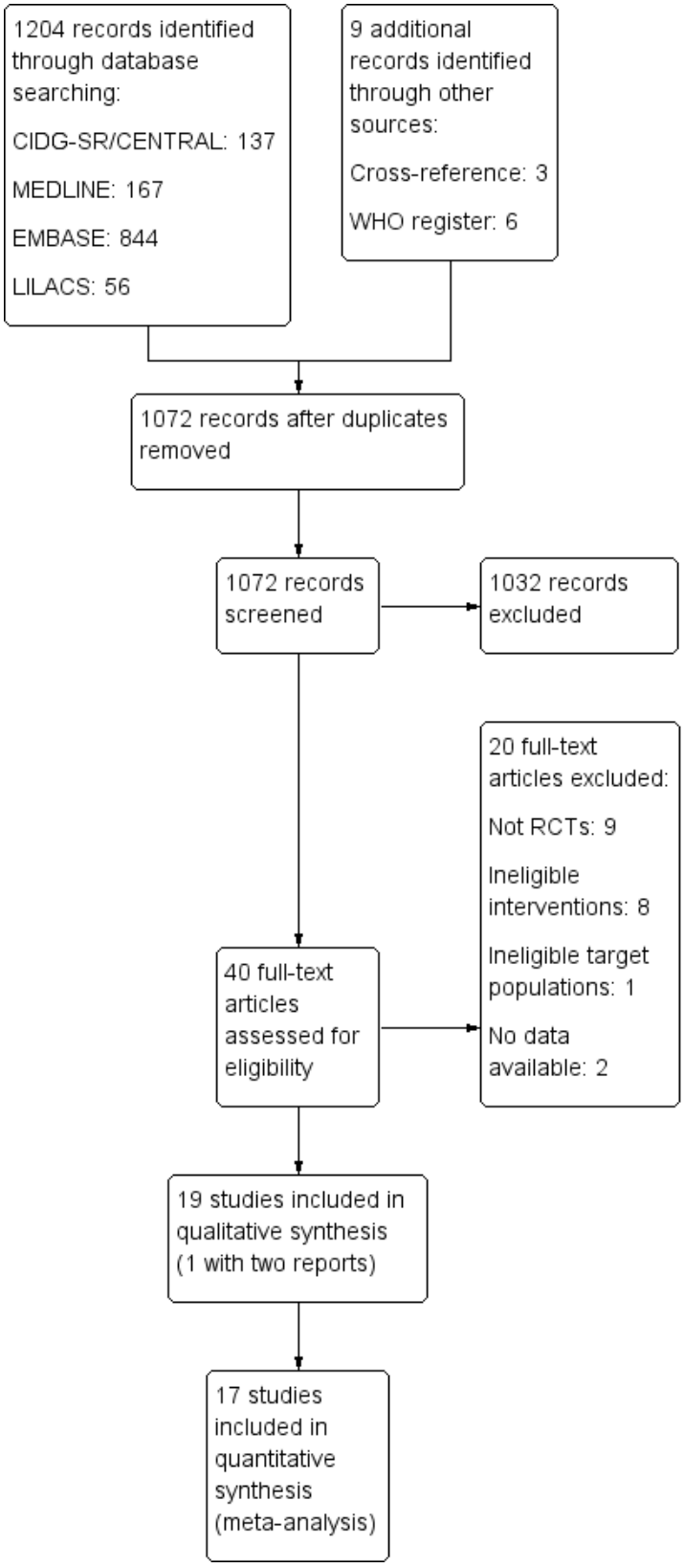
#2 (("BCG Vaccine"[Mesh]) OR “bcg vaccin*” or “bacille Calmette-Guérin” Field: Title/Abstract

#1 "Tuberculosis"[Mesh] or tuberculosis or TB Field: Title/Abstract

[1]We will use search terms in combination with the search strategy for retrieving trials developed by Cochrane (Lefebvre 2011).

This is the preliminary search strategy for MEDLINE (PubMed). We will adapt it for searching other electronic databases. All search strategies will be reported in full in the final version of the review.

5. Reporting search results: example of PRISMA flow diagram for reporting searches in new reviews



6. Reporting search results: example of PRISMA flow diagram for reporting searches in updated reviews