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# Systematic review literature search workshop

## Welcome and introduction

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# Introductions

What is your area of interest/faculty/department?

What are you currently working on?

What are you hoping to take away from today's session?



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# Presenter introductions

Please feel free to contact us after the workshop.

Business cards available to take away.



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# Schedule

8.45am – 9.00am	Registration
9:00am – 9:30am	Introductions and overview (with refreshment) incl Considerations when applying for grants and documenting requirements eg PRISMA
9:30am – 10:30am	Planning the search: creating a framework, identifying searchable terms – hands on
10:30am – 10:45am	Refreshment break
10:45am – 12:30pm	Database search tips and techniques – Hands on
12:30pm – 1:30pm	Lunch on your own
1.30pm – 2.30pm	Selecting sources, including grey literature
2:30pm – 2:45pm	Refreshment break
2:45pm – 3:45pm	Managing and documenting the process
3:45pm – 4:00pm	Hands on practice, questions and workshop summary – Feedback survey



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# What is a systematic review?

- A review in which specified and appropriate methods that are intended to limit bias and random error have been used to identify, appraise, and summarize studies addressing a defined question. It can, but need not, involve meta-analysis.
- Includes a comprehensive search of all potentially relevant articles and the use of explicit, **reproducible** criteria in the selection of articles for review.

Sources: Cook DJ, Mulrow CD, Haynes RB. "[Systematic reviews: synthesis of best evidence for clinical decisions](#)". *Ann Intern Med*. 1997 Mar 1;126(5):376-80.;[BMJ Clinical Evidence](#).



# What is a meta-analysis?

- A statistical technique that summarizes the results of several studies in a single weighted estimate, in which more weight is given to results of studies with more events and sometimes to studies of higher quality.

Source: [University of York, UK](#)



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# Qualitative or mixed-method systematic reviews

- Qualitative research is concerned with the subjective world and offers insight into social, emotional, and experiential phenomena.
- Current trend toward development of a more systematic approach to the utilization of the complex evidence base, including research and non-research sources, both quantitative and qualitative findings.
- Many different approaches are in use or under development, e.g. Bayesian meta-analysis, critical interpretive synthesis, realist synthesis, qualitative cross-case analysis, meta-narrative mapping, scoping reviews.

Sources: Mays N, Pope C, Popay J. "[Systematically reviewing qualitative and quantitative evidence to inform management and policy-making in the health field.](#)" *J Health Serv Res Policy*. 2005 Jul;10 Suppl 1:6-20.; [University of York, UK](#).





# The systematic review process

## Stage 1: Planning the Review

Step 1 – Forming a review panel

Step 2 – Mapping the field of study

Step 3 – Producing a review protocol

## Stage 2: Identifying and evaluating studies

Step 4 – Conducting a systematic search

Step 5 – Evaluating studies

## Stage 3: Extracting and synthesising data

Step 6 – Conducting data extraction

Step 7 – Conducting data synthesis

## Stage 4: Reporting

Step 8 – Reporting the findings

## Stage 5: Utilising the findings

Step 9 – Informing research

Step 10 – Informing practice



Source: David Tranfield et al., (2004) "[Co-producing management knowledge](#)", *Management Decision*, Vol. 42 Iss: 3/4, pp.375 – 386.



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# Steps to a Cochrane Systematic Review

- ❑ <http://www.cochrane-handbook.org/>
  - Chapter 5 elements in the defined question PICO
  - APPENDIX A.5 Main text section:
    - Types of studies
    - Search methods for identification of studies
    - Searching other resources



# Steps to a Cochrane Systematic Review -continued

- CHAPTER 6: SEARCHING FOR STUDIES
- 6.3.1 - the search process *needs to be documented* in enough detail throughout to ensure that it can be reported correctly in the review, to the extent that all the searches of all the databases are *reproducible*.
- it is recommended that review authors *seek guidance from a healthcare librarian or information specialist*, where possible with experience of supporting systematic reviews.



# CENTRE FOR REVIEWS AND DISSEMINATION (CRD)

□ <http://www.york.ac.uk/inst/crd/SysRev/!SSL!/WebHelp/SysRev3.htm>

Useful for:

- Appendix 2: SEARCH STRATEGY EXAMPLES
- Appendix 3: DOCUMENTING THE SEARCH



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# Campbell Collaboration

<http://www.campbellcollaboration.org/>

Resource centre:

- Proposal
- Protocol
- Review
- Publishing



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# PRISMA

## **Preferred Reporting of Systematic Reviews and Meta-Analyses**

### • Flow diagram

- Demonstrates reporting from licensed database searching
- Reporting from alternate searches
- Record of numbers after deduplication, inclusion and exclusion

### • Checklist



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# TIPS TO STAY ON TRACK

TASKS	STRATEGIES AND TOOLS
Has it been done before?	Search tips for finding systematic reviews
What can be "borrowed"	Reverse engineering
Identify main concepts	Word table
Build basic search strategy	Medline in Ovidsp – able to edit search strategy
Alternate sources and methods	Record in Word see <a href="#">Grey matters</a>
PRISMA Flow chart	Track hits in Refworks
Describe search process	Record as per <a href="#">reporting criteria in Cochrane Manual 6.6.2.2</a>
Describe search strategy	Use your Medline OvidSP example

# Budget

- ❑ Can be considerable time and resources
- ❑ One estimate 600 hours for a narrow focus with 2-5 reviewers
- ❑ Interdisciplinary team



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# Budget continued

- Resources that might be required:
- searching;
- help for clerical library work, interlibrary loans and photocopying;
- a second author
- statistical support for synthesizing (equipment (e.g. computing hardware and software))
- supplies and services
- travel funds.



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