

*The SARH (DFID)
Systematic Review (SR)
Programme for South
Asia*

About systematic reviews

What are systematic reviews?

“A systematic review is a high-level overview of primary research on a particular research question that tries to identify, select, synthesise and appraise all high-quality research evidence relevant to that question in order to answer it.”

A L Cochrane; Effectiveness and Efficiency: Random Reflections on Health Services. London: Nuffield Provincial Hospitals Trust, 1972.

Systematic review teams seek all the research addressing a question, critically appraise its quality and synthesise the results. Systematic reviews are different from traditional literature reviews or expert commentaries in that they are pieces of research—transparent, rigorous and, in theory, replicable. They involve developing and publishing the protocol and carefully documenting the progress of the review in order to allow easy scrutiny of the methods.

Why do we need systematic reviews?

Policymakers generally do not have the time to look for all the research to inform the decisions they face. Instead they rely on research teams to find relevant and reliable research, and integrate the findings to give a clearer and more comprehensive picture than any single study can produce.

Systematic reviews:

- are a vital tool for policymakers and practitioners as they bring together the best available research and reduce bias
- are useful for capturing the hidden trends, contradictions or concurrences present in the available studies
- are based on a clearly stated set of assumptions and selection criteria, thereby enabling users to judge the applicability of the reviews to their purpose
- help establish not only what is known from research; but also what is not known, pointing out areas where evidence is missing and further research is needed
- have an explicit and rigorous methodology, resulting in reviews that are accountable and open to criticism and debate.

What is the process of conducting a systematic review?

Systematic reviews can address a diverse range of research questions. Like primary research, there are different approaches to the systematic review of research. The selection of the appropriate approach depends on review questions, assumptions, methods and answers. However, there are some common steps in all systematic reviews that are its defining features and set it apart from other traditional reviews or secondary research.



The table below illustrates the key stages for conducting systematic reviews.

Stage I: Background for the review, review agenda

Description: The first stage in the review process describes the rationale, purpose and theory behind the research question. In this stage, the review teams need to discuss and finalise the review question and establish a clear conceptual framework for the review, including definitions of key concepts and the programme theory.

Sub-stages

Need for the review	The first step establishes the aim, rationale and purpose of the review. It also involves determining the contributors and users of the review. This section answers 'Who is asking the question and what will they do with the answers?'
Review question	Based on the need for the review and in consultation with review users, the review team needs to develop the review question. The question will structure the review with clearly defined criteria to decide which studies to include and which to exclude.
Conceptual framework	The theory or ideology underpinning the research question is explained and illustrated, often with a logic model or theory of change to be tested by the review.

Outputs from this stage:

- Introductory statement establishing the aim and rationale of the review
- Finalised systematic review questions (primary and secondary questions)
- Concept note (including definitions, programme theory (conceptual framework, hypothesis, logic models or theories of change)
- Selected approach to be used for conducting the SR (exhaustive or purposive searching; structured summaries, thematic or framework synthesis, or statistical meta-analysis, etc.)

Stage II: Selection of relevant studies

Description: Based on the review question and conceptual framework defined in the previous stage, this step involves defining the inclusion criteria, developing the search strategy and screening identified studies to check if they meet the inclusion criteria.

Sub-stages

Scope	The scope determines which studies will be included or excluded from the review. Inclusion criteria may focus on: (1) concepts that should be addressed by included studies; (2) geographical coverage of studies; (3) language; (4) time period analysed by the study; and (5) research design of the study.
Search	A search strategy is developed to match the inclusion criteria. The search strategy includes determining which databases and other sources to search, which search terms to use; date(s) for including studies; and consulting topic experts regarding relevant studies.
Screen	Studies identified by the search are then checked (screened) to exclude those that do not meet the inclusion criteria.

Outputs from this stage

- A set of relevant studies that will be used for conducting in-depth qualitative and / or quantitative analysis



Stage III: Mapping, appraisal and synthesis of relevant studies

Description: This is the stage where selected studies are described in consistent terms (coded), mapped on the basis of fields of interest, appraised for their quality and relevance and synthesised to integrate findings and answer the review question. Thus, this stage involves in-depth analysis and appraisal of selected studies.

Sub-stages

Code	Details of the selected studies are coded to extract relevant information from each study. This information is used to map research fields, assess quality and relevance of studies and describe findings from each study.
Map	Mapping refers to systematically describing the included studies based on fields of interest, and can be based on any characteristic of the study. Thus, mapping may describe names of authors, the country where a study was undertaken, the conceptual assumptions involved, the sample and research methods applied. These systematic maps of research fields can be used to clarify the nature of research that has been undertaken in a particular context; can help select a sub-group of studies for synthesis; and provide useful contextual information to inform the synthesis.
Appraise	Appraisal determines how much weight is placed on the evidence of each study included in the final synthesis. The three key components to the assessment are (1) the study's relevance to the review question, (2) the appropriateness of its methods in the context of the review, and (3) the quality of the execution of these methods.
Synthesis	It is the process of integrating the findings from the included studies to answer the review question. It involves examining the available data, looking for patterns and interpreting them.

Outputs from this stage:

- Systematic map of research fields for included studies: This can be used to draw inferences about the nature of the research in the selected theme.
- Results of synthesis which will, most likely, answer the review question or present the need for further research in the selected theme

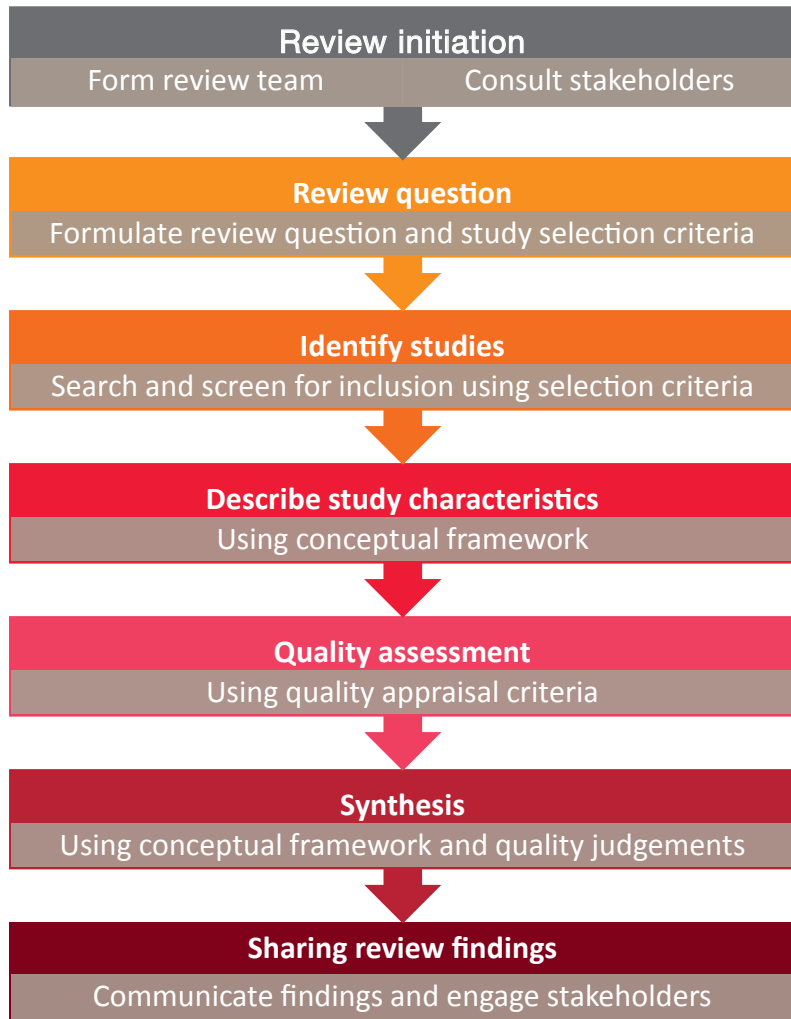
Stage IV: Reporting of a review

Description: This stage involves preparing the systematic review report or document which includes (1) background to the review, (2) its aims (and potential users); (3) review methods (the protocol), and (4) the results of the map and synthesis. The report may also include the implications of review findings for policymaking, development programming and future research. Further, the strengths and limitations of the review can also be stated with a clear indication on how these will affect the interpretation of the findings.

Outputs from this stage

- Report of systematic review in different formats: Summary report (one-page summary or three-page extended summary or one-to two-page summary); 25-page report; 100+-page technical report or appendix; access to all data coding

A snapshot of steps involved in conducting SRs



Useful reference

For more information on SR methodology, you may refer to Gough D, Oliver S, Thomas J (2013) Learning from Research: Systematic Reviews for Informing Policy Decisions: A Quick Guide.

<http://www.alliance4usefulevidence.org/publication/learning-from-research/>

You can also refer to the following link for accessing some existing SRs on varied topics:

<http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=2960>



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