

# Introduction to the Systematic Review Video Series

*Systematic Review Training*

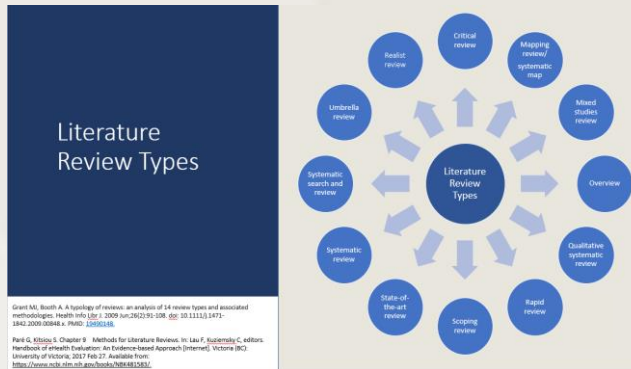
*Center for Knowledge Management*

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**Objectives:**     ✓ *Provide an overview to the video series*



## PROSPERO

### International prospective register of systematic reviews

- accurately describe the studies included in the review
- support the creation of article tables and figures
- provide the information needed for the risk of bias assessment
- enable syntheses and meta-analyses

Higgins JPT, Green S, Chapter 9. Collecting Data. In: Higgins JPT, Thomas L, Chandler J, Cumpston M, Li T, Page MJ, Welch VA (eds). *Cochrane Handbook for Systematic Reviews of Interventions* version 6.3 [updated January 2022]. Cochrane, 2022. Available from: <https://www.cochrane.org/handbook>

## There are multiple options for your citation "hub".

Reference manager software

Flexible database management systems

Systematic review software programs

De-duplication is an important step in managing citations for the systematic review.

Zotero - <https://www.zotero.org/>  
 EndNote - <https://endnote.com/>  
 REDCap - <https://www.project-redcap.org/>  
 Covidence - <https://www.covidence.org/>

## Comparison of Systematic Review Tools

Feature	SDSR*	ASReview	Rayyan	Covidence
Cost	🟢	🟡	🟢	🟡
Supports multiple users	🟢	🟢	🟢	🟢
Aids with protocol development	🟢	🟢	🟢	🟢
Integrates with search databases	🟢	🟢	🟢	🟢
Easy to import/export	🟢	🟢	🟢	🟢
Aid with duplicate citation removal	🟢	🟢	🟢	🟢
Title & abstract screening	🟢	🟢	🟢	🟢
Full-text review	🟢	🟢	🟢	🟢
Critical appraisal	🟢	🟢	🟢	🟢
Assist with reporting	🟢	🟢	🟢	🟢

## A well-designed data extraction form...

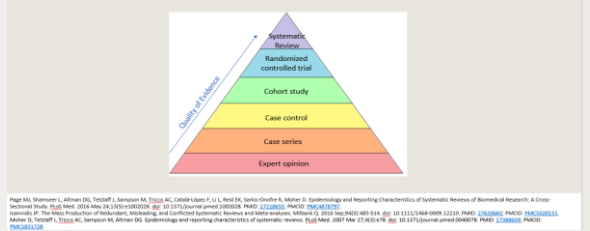
...is easy to use.

...avoids blank responses; uses "not applicable," "not reported," etc.

...minimizes the need to go back to the source document.

...is pilot tested

## Purpose Behind Labeling Evidence Reviews



### Systematic Review Key Elements

- A systematic review comprises the **entire process of collecting, reviewing** (e.g., screening by two people, assigning strength of evidence [SOE], risk of bias assessment) and **presenting all available evidence** on a topic.
- Conducted to bring together the best, strongest published literature to aid in decision-making by providing **independent, unbiased, objective assessment of evidence**.
- Topics are well defined by **Key Questions** devised in collaboration with experts in the field, and entire process is governed by a predefined **Protocol**.
- Requires **team of topic experts & local workforce**.
- Workload spans **1-2 years** depending on topic.
- Protocol is prospectively **registered** in an international database of SRS.

**Systematic :**

- entire process is based on a method or plan (*protocol - just like a protocol undertaken in a lab, outlining step by step processes*)
- Characterized by order, methodical

Webster's Advanced Dictionary 2022  
[www.merriam-webster.com/dictionary/systematic](https://www.merriam-webster.com/dictionary/systematic)  
 (last checked 2022)

Higgins JPT, Thomas L, Chandler J, Cumpston M, Li T, Page MJ, Welch VA (eds). *Cochrane Handbook for Systematic Reviews of Interventions* version 6.3 [updated August 2022]. Cochrane, 2022. Available from: <https://www.cochrane.org/handbook>

## Why are systematic review protocols registered?

- Provides researchers an opportunity to "stake a claim" in the research and methodology
- Reduce resource and financial waste in research by preventing duplicate studies
- Decrease research bias
- Transparency in methods and outcomes selection



Priper D, Bombay T. Where to prospectively register a systematic review. *Syst Rev*. 2022 Jan 8;11(1):8. doi: 10.1186/s13643-021-01877-1. PMID: 34596432; PMCID: PMC8742923

Strauss S, Moher D. Registering systematic reviews. *CMAJ*. 2010 Jan 12;182(1):13-4. doi: 10.1503/cmaj.081849. Epub 2009 Jul 20. PMID: 19620270; PMCID: PMC2862597

Das Santos MBF, Agostini BA, Bassani R, Pereira GM, Sankis-Ochro R. Protocol registration improves reporting quality of systematic reviews in dentistry. *BMC Med Res Methodol*. 2020 Mar 11;20(1):57. doi: 10.1186/s12874-020-00929-7. PMID: 32160871; PMCID: PMC7065343

Sabbis V. Early Career Professionals Network: Registering Protocols of Systematic Reviews [Internet]. London [UK]: Cochrane Community; 2023 [cited 2023 Oct 2]. Available from: <https://community.cochrane.org/news/early-career-professionals-network-registering-protocols-systematic-reviews>

## What is Bias?

"A systematic error, or deviation from the truth, in results"  
 [Cochrane Handbook, 2022]

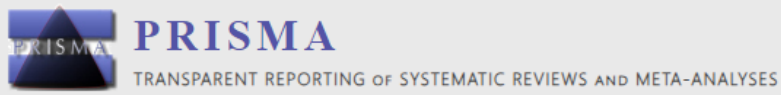
<https://www.cochrane.org/handbook>

## Strength of the Evidence: GRADE

- Grading of Recommendations Assessment, Development and Evaluation - working group established in 2000.
- Seeks to provide a systematic and transparent approach to evidence summaries
- Two key areas of focus
  - Rating the quality of evidence
  - Rating the strength of the recommendation



Guyatt GH, Oxman AD, Vist GE, Kunz R, Falck-Ytter Y, Alonso-Coello P, Schunemann HJ. GRADE Working Group. GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. *BMC*. 2008 Apr 26;36(4):354-63. doi: 10.1186/bmj-39489.47047.AJ. PubMed PMID: 18430735



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