

Systematic Review Tools

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A systematic review aims to capture and appraise the full scope of literature on a specific research question. Systematic reviews follow a multistep, fully transparent process. Various resources exist to reduce bias, aim for transparency, and make the process easier to navigate.

Guidelines and Checklists

The [PRISMA 2020](#) and [PRISMA-P](#) checklists are the most well-known guidelines for systematic reviews and their associated protocols. These checklists can be used as a guide to completing a high-quality review. You can learn more about PRISMA 2020 and PRISMA-P in the [Protocol Development GalterGuide](#).

Registration

It is important for a systematic review to have an established protocol to ensure transparency within the systematic review process. The protocol should be registered and available to others prior to the screening process. [PROSPERO](#) is one of the best-known sites to register a systematic review. It is also useful to search PROSPERO to check whether a review protocol has previously been registered on your topic of interest to avoid duplicating the effort of another team. There are other options for registration available, including publishing a protocol with [Systematic Reviews Journal](#).

Information Sources

One of the main objectives of a systematic review is to capture the complete picture of a specific research question. To do so, it is best to search across several databases. The search syntax and controlled vocabulary (database indexing language used to identify literature by topic) vary by database. Database rules are always available in the “help” or “training” sections of the platform. Check out our [Systematic and Scoping Review GalterGuides](#) to learn about partnering with a Galter Librarian on your next Systematic Review.

Data Management

Searching multiple databases results in a large set of references. Duplicate references are common because of the overlap of journals indexed across various databases. Citation management software can be used to organize, deduplicate, and manage references. [EndNote](#) is the supported citation management software at Galter Library and we offer monthly classes to support your research and work.

Selection Process

Systematic reviews require at least two screeners who are blinded to each other’s inclusion and exclusion decisions. [Covidence](#) and [Rayyan](#) are two reputable screening tools available to systematic review teams. Covidence is a subscription based software that can be purchased by review teams. Rayyan has a free platform (at the time of this article) that allows for blinded screening and easy comparison for conflict resolution. Check out the [Rayyan GalterGuide](#) for more tips.

Risk of Bias

When evaluating studies, it is important to discuss the risk of bias within each study as it can be present at any stage of the research process. Bias happens, and the risk of bias assessment is not necessarily a discussion of study quality. It is meant to communicate instances of bias that may have been introduced in each study's research process. No standard for risk of bias assessment exists, so it is up to each review team to select a risk of bias checklist that best suits the study design being evaluated or the publishing journal's recommendations or preferences. The [Tools for Reviewers](#) GalterGuide includes links to various Risk of Bias checklists.

Data Collection

Data collection processes are unique to each systematic review since there is not a set standard of practice for data collection. The [Cochrane Collaboration](#) has created guidance and templates that can be adapted to the needs of an individual review. Systematic review teams should determine how to effectively communicate supporting data with transparency and consistency and acknowledge when data is unclear or missing.

Confidence in Cumulative Estimate

It is important to articulate the strength of evidence collected when synthesizing the included literature in a systematic review. The Confidence in Cumulative Estimate can be determined using tools such as [GRADE](#), which stands for Grading of Recommendations Assessment, Development and Evaluation. Discussing the quality of evidence in a systematic review helps to determine certainty of evidence based on factors like inconsistency, publication bias, or imprecision in the study.

Galter Library provides a wide range of services to support you through your [systematic review](#) process. For questions or support please contact your [Liaison Librarian](#).

References

[Cochrane Library](#)

Miller, C. & Wafford, QE. Conducting a Systematic Review: Part 2 Tools & Resources. Class. Galter Health Sciences Library & Learning Center.

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