

Accuracy, reliability, impact, and efficiency of different methods for selecting studies, abstracting data, and appraising quality in a systematic review: A Systematic Review Protocol

Rationale

Systematic reviews are considered the standard for synthesizing evidence for use in health policy development and healthcare decision-making. Their goal is to collect all of the evidence available to answer a specific research question in a scientific and methodologically rigorous way. Guidance on systematic review methodology and conduct of the overall process is readily available. However, the research assessing current practices in study selection, data abstraction, and risk of bias appraisal is not yet well understood.

Implications

By consolidating the available evidence, as well as assessing the factors that affect the accuracy and reliability of these steps, we will be able to determine where cost and time savings can occur in the systematic review process. Systematic reviews are important for evidence-based practice thus it is imperative that their conduct and methods are also informed by research evidence.

PROSPERO Registration:

[CRD42016047877](https://www.crd42016047877)

Date registered: 2016-09-28

For more information, please contact
Dr. Andrea Tricco: triccoa@smh.ca

Background

- Systematic reviews provide a synthesis of the evidence available to answer a research question using transparent, unbiased methods.
- They are considered the highest standard for producing healthcare evidence due to their methodological rigor.
- Research on optimizing the systematic review process has been conducted but there is a need to consolidate the evidence underpinning standards on specific steps within a review

Objective

- To determine the accuracy, reliability, impact, and efficiency of different methods for study selection, data abstraction, and risk of bias appraisal in a systematic review.

Methodology

- Our eligibility criteria are outlined using the PICOS framework:

Population: Systematic reviews and meta-analyses

Intervention: Evaluation of methods related to the screening, data abstraction, or quality appraisal steps of a systematic review

Comparator: Comparison with an alternative methods or no comparator

Outcomes: Accuracy and reliability of methods applied to study selection, data abstraction, and risk of bias; the impact on results, conclusions, or efficiency in terms of time or resources consumed or saved; and impact on reproducibility, reliability, or errors

Study designs: All primary research (e.g., case reports/series, cross-sectional studies, cohort studies, randomized controlled trials, qualitative studies)

- The following databases will be searched: MEDLINE, EMBASE, and The Cochrane Library.
- Title/abstract screening, full-text screening, and data abstraction will be conducted by 2 reviewers independently. Discrepancies will be resolved consistently by a third reviewer.
- Literature will be charted according to the types of participants, interventions, comparators, and outcomes identified.
- A thematic analysis will be conducted to examine factors that affect accuracy, reliability, impact or efficiency of methods reported in the included studies. Abstracted data will be coded by one reviewer and verified by a second.

Knowledge Translation Strategy

- Findings will be disseminated through three publications. Results will also be reported as a chapter in the Guide for Rapid Reviews for the World Health Organization (WHO).

Funded by Tier 2 Canada Research
Chair and Early Researcher Award