

**Intructions for completion:** Please refer to the attached guidance document for definitions of terms and instructions for completing each section. Score each criteria by placing a check mark in the appropriate box.

<b>First author:</b>	
<b>Year:</b>	
<b>Journal:</b>	
<b>Reviewer:</b>	

	Criteria	Yes	No
1.	Is the research question clearly focused, describing the population, intervention, comparison and outcome(s) of interest?		
2.	Are appropriate criteria used to select studies to include in the review?		
3.	Is the search strategy comprehensive and reproducible?		
4.	Does the search strategy cover an adequate number of years?		
5.	Is the level of evidence of studies included in the review described?		
6.	Are included studies rigorously assessed for risk of bias/methodological quality and reported on?		
7.	Are the quality assessments completed in duplicate with a method for conflict resolution described?		
8.	Are the methods used to compare and/or combine results across studies appropriate?		
9.	Are study quality and level of evidence taken into consideration when interpreting the results?		
10.	Is the certainty of the review’s conclusions supported by the methodological approach and review findings?		
<b>Total score:</b>			

## **Health Evidence™ Quality Assessment Tool Guidance Document**

A systematic review attempts to identify, appraise and synthesize all the empirical evidence that meets pre-specified eligibility criteria to answer a specific research question. The research question usually addresses the effectiveness of a public health intervention. Researchers conducting systematic reviews follow explicit, systematic methods, aimed at minimizing bias, to produce more reliable findings to inform decision making (Cochrane Library, n.d.).

The review authors should describe each step of a systematic review in detail such that the process is transparent and replicable by others. You can use the Health Evidence™ Quality Assessment Tool (Dobbins, 2010) to assess the extent to which authors have followed rigorous methodology to generate trustworthy findings.

### **1. Is the research question clearly focused, describing the population, intervention, comparison and outcome(s) of interest?**

The research question determines the scope of the review. The review authors should clearly state the research question by articulating the following components:

**Population, Intervention, Comparison and Outcomes. NOTE: Remember PICO.**

### **2. Are appropriate criteria used to select studies to include in the review?**

The review authors should clearly articulate the criteria used to include or exclude studies. This includes criteria related to the research question (target population, intervention and outcomes) and eligible research designs.

### **3. Is the search strategy comprehensive and reproducible?**

The search strategy should capture all literature relevant to the research question. A well-described, comprehensive search strategy includes multiple database searches and various supplemental search strategies. The types of databases searched should align with the research question; some examples include health databases,

psychological databases, social science databases and educational databases. The review authors should carry out at least two supplemental search strategies, which may include handsearching relevant journals, reviewing reference lists, consulting experts in the field, searching unpublished/grey literature and citation tracking.

To be reproducible, the review authors should provide a list of the search terms used for each database and include a record of the search results retrieved from each source.

#### **4. Does the search strategy cover an adequate number of years?**

An adequate length for a search strategy will vary depending on the topic and the amount of literature that exists on that topic. Generally, the search should include at least the last 10 years of research. Shorter time spans may be appropriate depending on the research question; in this case, the review authors should provide a rationale.

#### **5. Is the level of evidence of studies included in the review described?**

The hierarchy for quantitative research evidence (Figure 1) transitions from least to most rigorous based on research design. The level of evidence can help explain variations in results between studies and inform limitations on the strength of the evidence. The review authors should clearly report the level of evidence for each included study.

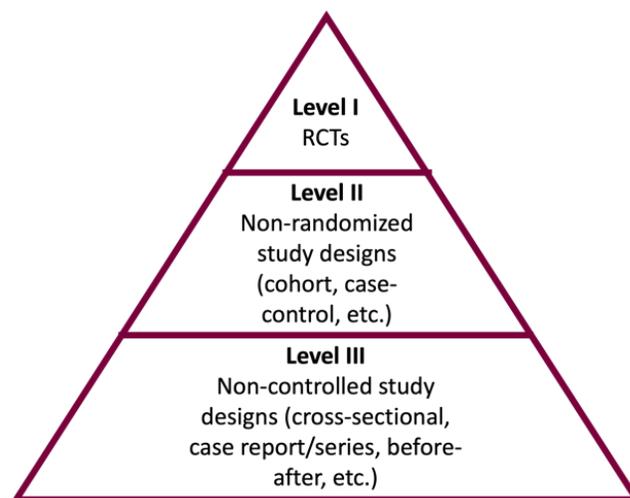


Figure 1: The hierarchy of evidence

## **6. Are included studies rigorously assessed for risks of bias/methodological quality and reported on?**

To understand the risk of bias in the included studies, the review authors should assess the methodological quality of each study using a valid assessment tool/scale appropriate for its study design. Commonly used and acceptable tools include the Cochrane Risk of Bias tools ([RoB2](#) for randomized controlled trials (RCTs); [ROBINS-I](#) for non-randomized studies) and the [Joanna Briggs Institute's \(JBI\) Critical Appraisal Tools](#).

An appropriate quality assessment tool thoroughly addresses the sources of bias present in a study. An appropriate tool, including modified versions of standard tools, should address most of the following areas: research design, study sample, participation rate, sources of bias (confounders, respondent bias, publication bias, etc.), data collection, follow-up/attrition rate and data analysis.

## **7. Are the quality assessments completed in duplicate with a method for conflict resolution described?**

To minimize bias, at least two review authors should independently assess the methodological quality of each included study. The authors should also describe the method used for conflict resolution.

## **8. Are the methods used to compare and/or combine results across studies appropriate?**

The review authors must assess included studies for similarity prior to comparing and/or combining the results. They should also describe how they combined data across studies.

In a systematic review where the results are described narratively, the review authors should depict the study characteristics (including the population, intervention, comparators, outcomes and results of each study) in enough detail to assess similarity

across all included studies. If the study characteristics are deemed similar enough, it is appropriate to combine and compare the results.

If a meta-analysis is conducted, the review authors should conduct a test for heterogeneity and use the appropriate statistical model. If heterogeneity between included studies is high, the authors should provide a rationale for still combining the results. Furthermore, they should conduct subgroup analyses to seek explanations for variation across studies.

### **9. Are study quality and level of evidence taken into consideration when interpreting the results?**

When determining the overall effect an intervention has on an outcome, the review authors should consistently consider the risk of bias and the level of evidence. This could include a narrative summary of the risk of bias associated with a body of evidence, or the use of GRADE (Grading of Recommendations Assessment, Development and Evaluation) to assess the certainty of evidence.

### **10. Is the certainty of the review's conclusions supported by the review findings and methodological approach?**

The review's conclusions should be consistent with the results and methodology of the review. The review authors should consider the rigour of review methods, the size/significance of the intervention effect and the certainty of the evidence to determine if the review's conclusions align with what was reported.

### **Overall Coding for the Review**

You will determine an overall assessment of the methodological quality of the review based on the results from each question. The total score is *out of 10*. Add all the check marks in the Yes column to determine the final score. Then, use the following decision rules to determine the overall assessment for the review:

- Rate reviews with a score of 8 or higher in the Yes column as *strong*
- Rate reviews with a score between 5 and 7 in the Yes column as *moderate*
- Rate reviews with a score of 4 or less in the Yes column as *weak*

**It is optimal in practice that at least two raters independently complete the quality assessment. Where discrepancies in ratings exist, raters should come to consensus or involve a third rater to make a judgement when necessary.**

**This tool was adapted from:**

Guyatt, G., Rennie, D., Meade, M.O., & Cook, D.J. (Eds.). (2002). *Users' Guides to the Medical Literature: A Manual for Evidence-Based Clinical Practice*. Chicago, Ill: AMA Press.

Guyatt, G., & Rennie, D. (Eds.). (2002). *Users Guides to the Medical Literature: Essentials of Evidence-Based Clinical Practice*. Chicago, Ill: AMA Press.

**References:**

1. About Cochrane Reviews: Cochrane Library. About Cochrane Reviews | Cochrane Library. (n.d.). Retrieved August 25, 2022, from <https://www.cochranelibrary.com/about/about-cochrane-reviews>.
2. Dobbins, M., DeCorby, K., Robeson, P., Husson, H., Tirilis, D., & Greco, L. (2010). [A knowledge management tool for public health: Health-evidence.ca](#). *BMC Public Health*, 10, 496.