



What Review is Right for You?

Explanation and Elaboration

This tool is designed to provide guidance and supporting material to reviewers on methods for the conduct and reporting of knowledge synthesis. As a pilot project, the current version of the tool only identifies methods for knowledge synthesis of quantitative studies. A future iteration will be developed for qualitative evidence synthesis. For more information on qualitative studies, please refer to the following links: <https://www.ncbi.nlm.nih.gov/pubmed/26891948> and <https://www.integrate-hta.eu/wp-content/uploads/2016/02/Guidance-on-choosing-qualitative-evidence-synthesis-methods-for-use-in-HTA-of-complex-interventions.pdf>.

Please contact Dr. Andrea Tricco at KnowledgeSynthesis@smh.ca for more information on this tool.

Question 1: What is your goal or objective?

Answer Response A

- The effectiveness of interventions refers to the effects of an intervention under real life conditions (e.g. the effects of a vaccine in older adults), as compared to efficacy, which refers to the effect of an intervention in research studies, such as randomized controlled trials (e.g. the effects of a vaccine among participants in a randomized controlled trial).
- The safety of interventions refers to the assessment of harms associated with an intervention. For example, determining the risk of adverse events when taking a blood pressure medication.

Answer Response B

- Cost-effectiveness studies assess the trade-offs of effectiveness and costs of interventions (i.e. examining the amount of money spent to gain a certain amount of effectiveness or benefits). Systematic reviews of cost-effectiveness studies are often used to support decision-making. For example, a Public Health agency may want to compare the effectiveness and costs of different vaccine strategies, such as a universal program to reduce the burden of the common flu. As an alternative strategy, the program may target the elderly and high-risk groups who are immunologically compromised to decide which program offers the best value for money.
 - *Example 1: A systematic review and meta-analysis of the direct epidemiological and economic effects of seasonal influenza vaccination on healthcare workers*
- Cost studies examine monetary cost or other burdens of diseases or health conditions, such as the costs of care for HIV individuals or the burden of the disease on life expectancy, health-related quality of life, and the social and psychological implications of the disease.



- [Example 1](#): *Public prescription drug plan coverage for antiretrovirals and the potential cost to people living with HIV in Canada: a descriptive study*
- [Example 2](#): *Associations between multimorbidity and additional burden for working-age adults with specific forms of musculoskeletal conditions: a cross-sectional study*

Answer Response C

- Epidemiological studies often measure the prevalence and incidence of a disease or health condition on the population level, as well as variation in epidemiological findings.
 - [Example 1](#): *Epidemiology of heart failure and trends in diagnostic work-up: a retrospective, population-based cohort study in Sweden*
 - [Example 2](#): *Epidemiology of gastrostomy insertion for children and adolescents with intellectual disability*
- Other types of epidemiological studies, for example cohort studies, evaluate the association of body weight with total mortality and with cardiovascular events in coronary artery disease.
 - [Example 1](#): *Association of bodyweight with total mortality and with cardiovascular events in coronary artery disease: a systematic review of cohort studies*

Answer Response D

- Prognostic studies examine the likely course or development of a disease or health condition.
 - [Example 1](#): *Prognosis and outcomes of patients with community-acquired pneumonia: a meta-analysis*
 - [Example 2](#): *Risk factors for necrotizing enterocolitis in neonates: a systematic review of prognostic studies*

Answer Response E

- A diagnostic test or procedure is an examination to identify an individual's specific areas of weakness and strength in order to determine a condition, disease or illness. It is used to gather clinical information on an individual in order to make a diagnosis (e.g. x-rays, CT scan etc.).
 - [Example 1](#): *Does this patient have an exudative pleural effusion? The Rational Clinical Examination systematic review*
 - [Example 2](#): *Accuracy of interferon- γ -induced protein 10 for diagnosing latent tuberculosis infection: a systematic review and meta-analysis*



Answer Response F

- The responses A-E above describe relatively precise goals and objectives. This response pertains to the need to clarify working definitions and/or the conceptual boundaries of a research topic, and to identify available research as well as research gaps (e.g. research questions or problems which have not been answered appropriately or at all in a given topic).
 - [Example 1](#): *Prevention and management of unprofessional behaviour among adults in the workplace: a scoping review*
 - [Example 2](#): *Utility of social media and crowd-intelligence data for pharmacovigilance: a scoping review*

Question 2: If your review is about interventions or diagnostic tests, how many?

- This question is referring to the number of interventions or diagnostic tests that will be involved in your review questions, and is only relevant if your answer to question 1 is A or E. It is not about the number of comparisons, subgroups or outcomes you will be including.

Question 3: What type of evidence will you be using?

Answer Response A

- A systematic review attempts to collate all empirical evidence that fits pre-specified eligibility criteria in order to answer a specific research question. Specifically, the unit of synthesis in a review is a primary study (see below).

Answer Response B

- Primary studies refer to research studies in which data were often collected from individuals, such as patients or healthy subjects. Specifically, the unit of analysis in a primary study is a subject. For example, a study that analyzed the blood glucose levels of older adults with type II diabetes who took different types of insulin.

Question 4: What type of analysis will you conduct?

Answer Response A

- Descriptive analysis refers to tabulating and summarizing characteristics of included studies, and narratively summarizing the results and findings of the included studies. No statistical analysis is conducted.



- [Example 1](#): *Behavioral and cognitive impacts of mindfulness-based interventions on adults with attention-deficit hyperactivity disorder: a systematic review*

Answer Response B

- Quantitative synthesis:
 - A meta-analysis synthesizes quantitative results comparing pairs of interventions of the included studies.
 - A network meta-analysis synthesizes quantitative results comparing 3 or more interventions of the included studies, allowing for indirect comparisons of interventions that have not been directly compared in these studies (see below).

Known comparisons: A vs. B and B vs. C

Unknown comparison: A vs. C

Method: $A \text{ vs. } C = (A \text{ vs. } B) - (B \text{ vs. } C)$

- [Example 1](#): *Drug eluting and bare metal stents in people with and without diabetes: collaborative network meta-analysis*

Question 5: Do you have time and/or cost constraints to complete your review?

Answer Response A

- Time constraints^{1, 2}: On average, systematic reviews take six months to a year to complete. If you have a shorter time frame (<6 months), select “yes”.
- Cost restraints^{2, 3}: On average, conducting a systematic review requires \$50,000-\$100,000. If you have limited or no funding, select “yes”.
- These constraints may be considered from the perspective of the knowledge users (i.e. the people requesting the review or information).



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References

1. Allen IE, Olkin I. Estimating time to conduct a meta-analysis from number of citations retrieved. *JAMA*. 1999;282(7):634-5.
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3. Petticrew M, Roberts H. *Systematic reviews in the social sciences: a practical guide*. 2006. Malden USA: Blackwell Publishing CrossRef Google Scholar.