Diana Blackwood looks at the potential usefulness of reviews that summarise earlier research syntheses on broad topics of interest as a way to help decision makers deal with ever-increasing ‘multitudes of evidence’.

THE PROBLEM
Systematic reviews in health care evolved out of the need to make the best evidence more accessible to decision-makers.

However, in 2010, Bastian, Glasziou and Chalmers wrote an article entitled Seventy-five trials and eleven systematic reviews a day: How will we ever keep up? This figure has no doubt increased substantially since 2010 and as noted in the Joanna Briggs Reviewers Manual, 2014 “now risks compounding the problem already faced by health care decision makers in sorting through multitudes of evidence to inform their questions.”

A SOLUTION
Both the Cochrane Library and the Joanna Briggs Institute (JBI) have recognised this problem and are addressing the issue by publishing reviews of existing systematic reviews which summarise the evidence on a particular topic of interest. Edoardo Aromataris from JBI regards this as the “logical next step to provide decision makers in health care with the evidence they require”.

The overall examination of such a review allows findings to be compared and contrasted and can determine whether there are similar or contradictory findings and if so, why. It also allows a broad range of issues related to a topic of interest to be examined.

TERMINOLOGY
Reviews of reviews are referred to by many different names in the literature. The Cochrane Library refers to them as “Overviews of reviews” and the Joanna Briggs Institute uses the term “Umbrella Reviews”. Regardless of terminology the primary intent of this kind of review is to include systematic reviews or meta-analyses as the main study type and thus examine only the highest level of evidence.

FOCUS FOR THIS TYPE OF REVIEW
The scope of umbrella or overview reviews includes analyses of evidence from more than one systematic review or meta-analysis and in doing so examines the following:

1. different interventions for the same problem or condition
2. the same intervention and condition but reporting on different outcomes
3. the same intervention for different conditions, problems or populations.

Both Cochrane and JBI clearly state that the final result provides a summary rather than providing further syntheses of the evidence.

METHODOLOGY
There are differences in scope between Cochrane and JBI reviews of reviews. Cochrane’s primary intention is to examine their own Intervention Reviews (Systematic Reviews) but acknowledge that it is sometimes appropriate to include non-Cochrane systematic reviews. JBI takes a broader approach and examines systematic reviews and research syntheses from many sources and include qualitative systematic reviews and meta-analyses.

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Elements of the methodology for undertaking a review of reviews are in many aspects similar to that of a systematic review and include the development of a PICO or PICo pneumonic, a descriptive title which includes elements of the PICO and a background statement which outlines the reason why it is important to do this review. Objectives and inclusion criteria should be clearly stated and important characteristics of the types of participants need to be detailed. Stated interventions or phenomena of interest may either be focused or broad as they could be examining one intervention or several (for example for the topic “Non-pharmacological management for aggressive behavior in dementia” various interventions could be examined such as music therapy or physical restraint).

However in any review of reviews, the primary research level data in the systematic reviews being examined is not under scrutiny. Furthermore, the aim is not to repeat the searches, assess study eligibility, and assess risk or bias from the included reviews but rather to provide an overall picture of findings.

Both JBI and Cochrane also state that overviews do not aim to identify any additional studies. However more recent information from Lefebvre\(^5\) suggests that this is sometimes the case. New primary studies and a re-analysis of all of the original primary studies included in all relevant systematic reviews may sometimes be undertaken.

Methodological quality must be assessed by two independent reviewers for all included systematic reviews and meta-analyses. Various checklists and tools exist to assist with this process. These include AMSTAR, GRADE and ROBIS. In 2013, a primarily Australian methodology working group developed a critical appraisal checklist for Umbrella Reviews which is outlined in their 2015 paper. Extraction of data from each included review needs to be undertaken (also by two independent reviewers to minimize bias) and generally a data extraction tool is used for this purpose. An example is JBI’s URARI analytic module.

The search strategy should aim to identify all included systematic reviews, meta-analyses and other research syntheses that authors wish to include. The search will consequently be simpler than that developed for a systematic review. The use of database filters where they exist can be a useful way to limit the search e.g. PubMed’s systematic[sb].

The range of databases should include biomedical databases such as Medline, PubMed, Embase and CINAHL as well as specific repositories of systematic reviews such as the JBI Database of Systematic Reviews and Implementation Reports, the Cochrane Library, Pedro, OT Seeker, PROSPERO and federated search engines such as TRIP, DARE and Epistemonikos. Grey literature should also be searched as increasingly research syntheses are being commissioned by policy makers in government and are hosted on government or organizational websites.\(^2\)

Generally the date range rarely needs to extend prior to 1990 as most systematic reviews have been published since that time.

Search strategies and retrieval methods need to be comprehensively reported.

**PRESENTATION OF FINDINGS**

The findings from data extraction as well the summary of evidence is generally presented in a tabular format to allow for easy interpretation and quick analysis by the reader. See Aromataris\(^3\) pp 136-7 for examples.

**Is the methodology for this type of review sufficiently robust?**

Criticisms of this kind of review started to appear around 2012.\(^6\)\(^8\) The main comments refer to lack of methodological rigour and consistency in overviews, as well as a lack of empirical evidence to support the methods employed and lack of clear reporting guidelines.

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One study recommended that the use of a checklist for overviews of systematic reviews should be developed and used. Such a checklist has been mentioned earlier and was developed and reported on by Aromataris in 2015. A later study conducted in 2015 was still suggesting that methods for conducting, interpreting and reporting overviews of reviews are in their infancy and that “to date, there has been no systematic review or evidence map examining the range of methods for overviews nor of the evidence for using these methods.”

Be that as it may, the potential usefulness of this kind of review in summarizing earlier research syntheses on broad topics of interest is evident and will become increasingly important to get right in order to assist in evidence-informed decision making.

Some examples of reviews of reviews


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REFERENCES


