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Evidence Based Nursing: Research Made Simple Series

Title: Reviewing the literature: choosing a review design

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Many health professionals, students, and academics including health researchers will have grappled with the challenges of undertaking a review of the literature and choosing a suitable design or framework to structure the review. For many undergraduate and Masters healthcare students their final year dissertation involves undertaking a review of the literature as a way of assessing their understanding and ability to critique and apply research findings to practice. For PhD and Masters by research students, a rigorous summary of research is usually expected to identify the state of knowledge and gaps in the evidence related to their topic focus and to provide justification for the empirical work they subsequently undertake. From discussions with students and colleagues there appears to be much confusion about review designs and in particular the use and perhaps misuse of the term 'systematic review'. For example, some quantitatively focused researchers subscribe to a 'Cochrane' approach as the only method to undertake a 'systematic review', with other researchers having a more pragmatic view, recognising the different purposes of a review and ways of applying systematic methods to undertake a review of the literature. Traditionally systematic reviews have included only quantitative, experimental studies, usually randomized control trials (RCT)¹. More recently, systematic reviews of qualitative studies have emerged², and integrative reviews which include both quantitative and qualitative studies³.

In this article we will build on a previous Research Made Simple article that outlined the key principles of undertaking a review of the literature in a structured and systemic way,⁴ by further exploring review designs and their key features to assist you in choosing an appropriate design. A reference to an example of each review outlined will be provided.

What is the purpose of undertaking a review of the evidence?

The purpose of a review of healthcare literature is primarily to summarise the knowledge around a specific question or topic, or to make recommendations that can support health professionals and organisations make decisions about a specific intervention or care issue⁵. In addition, reviews can highlight gaps in knowledge to guide future research. The most common approach to summarising, interpreting, and making recommendations from synthesising the evidence in healthcare is a traditional systematic review of the literature to answer a specific clinical question. These reviews follow explicit, pre-specified and reproducible methods in order to identify, evaluate and summarise the findings of all relevant individual studies.⁶ Systematic reviews are typically associated with evaluating interventions, and therefore where appropriate, combine the results of several empirical studies to give a more reliable estimate of an intervention's effectiveness than a single study.⁶ However, over the past decade the range of approaches to reviewing the literature has expanded to reflect broader types of evidence /research designs and questions reflecting the increased complexity of healthcare. While this should be welcome, this adds to the challenges in choosing the best review approach/ design that meets the purpose of the review.

What approaches can be adopted to review the evidence?

In 2009, a typology of reviews was published, identifying 14 types of reviews⁷ to which realist and integrative reviews can now be added. Figure 1 highlights some of the more common reviews of the literature undertaken in healthcare.

Figure 1: Key features of the common types of healthcare review

Type of review	Key features
Systematic review ⁶	<p>Evaluates and summarises the findings of all relevant individual studies, and if appropriate, combines the results of several studies to provide more reliable results.</p> <p>The ‘gold standard’ of reviews because the review is based on explicit, pre-specified and reproducible methods, used to systematically search all sources of evidence, and critically appraise, summarise and synthesise research findings to address a highly focussed clinical question.</p> <p>Funded reviews typically involve a team of reviewers, and are often registered with a review centre such as the Cochrane Collaboration (www.cochrane.org), the Joanna Briggs Institute (http://www.joannabriggs.edu.au/about/home.php) and the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) (http://eppi.ioe.ac.uk/cms/) and advisory support will be available.</p> <p><u>Example</u></p> <p>Buchwald H, Avidor Y, Braunwald E, Jensen MD, Pories W, Fahrback K, Schoelles K. Bariatric Surgery A Systematic Review and Meta-analysis. JAMA. 2004;292(14):1724–1737. doi:10.1001/jama.292.14.1724 https://jamanetwork.com/journals/jama/article-abstract/199587?redirect=true⁸</p>
Rapid evidence assessment ⁶	<p>Summarises and synthesises research findings within the constraints of time and resources. The review needs to be as comprehensive as possible within the given constraints and undertaken in a systematic manner.</p> <p>Differs from a systematic review in relation to the extensiveness of the search strategies and methods used to undertake the analysis. However, the search should be comprehensive as possible and methods to evaluate and synthesise the evidence clearly outlined and rigorously applied.</p> <p>May fail to identify potentially relevant studies.</p> <p><u>Example</u></p> <p>Horvath, M, Alys, L, Massey K, and Pina, A, Scally M, Adler, JR. Basically... porn is everywhere: a rapid evidence assessment on the effects that access and exposure to pornography has on children and young people. 2013. Project Report. Office of the Children's Commissioner for England, London, UK. http://eprints.mdx.ac.uk/10692/1/BasicallyporniseverywhereReport.pdf⁹</p>
Scoping review ⁶	<p>Identifies the size and nature of the evidence base for a particular topic area.</p> <p>The literature search should be as extensive as possible, including a range of relevant databases, hand searching and attempts to identify unpublished literature. Differs from a systematic review in that a synthesis of the literature is not usually</p>

	<p>undertaken.</p> <p>Useful to map the literature in a broad context prior to undertaking a more comprehensive review. Helps identify the nature of the evidence particularly in an emerging health area, or to assess the feasibility of undertaking a full systematic review.</p> <p>Not appropriate to answer a clinical question.</p> <p><u>Example:</u> Sheehan KJ, Sobolev B, Villán Villán YF, et al Patient and system factors of time to surgery after hip fracture: a scoping review BMJ Open 2017;7:e016939. http://bmjopen.bmj.com/content/7/8/e016939¹⁰</p>
Integrative ¹¹ review	<p>Uses a non-experimental design, systematic approach and detailed search strategy to identify relevant evidence that answers a targeted clinical question. Researchers objectively critique, summarise and make inferences about a subject area and include thematic analysis of selected qualitative and quantitative research studies on the subject</p> <p>Evidence can arise from a range of studies including RCTs, observational studies, qualitative research, clinical experts, and any other relevant evidence¹² in which the researchers objectively critique, summarise and make conclusions about a topic. They include systematic categorization and thematic analysis of selected qualitative and quantitative research studies. Integrative review methodology is sophisticated and requires insight and adherence to detail</p> <p><u>Example</u> McInnes S., Peters K., Bonney A. & Halcomb E. An integrative review of facilitators and barriers influencing collaboration and teamwork between general practitioners and nurses working in general practice. J Adv Nurs 2015: 71(9), 1973–1985. http://onlinelibrary.wiley.com/doi/10.1111/jan.12647/full¹³</p>
Realist review ¹⁴	<p>Focuses on understanding mechanisms by which an intervention works (or not). It involves identifying mechanisms that impact an intervention and exploring how they work and under what conditions. This review type includes defining the scope of the review with a clear aim; identifying relevant evidence; extracting and synthesizing the evidence and explaining.</p> <p>Stakeholder involvement in the process is high as the realist review is derived following negotiation between stakeholders and reviewers¹⁵.</p> <p><u>Example</u> Klement, R.J. Beneficial effects of ketogenic diets for cancer patients: a realist review with focus on evidence and confirmation. Med Oncol 2017: 34: 132. https://doi.org/10.1007/s12032-017-0991-5¹⁶</p>
Narrative review ^{17,18}	<p>Narrative overviews are also known as unsystematic narrative reviews and are a comprehensive narrative syntheses of evidence.</p> <p>Typically narrative reviews describe and appraise published articles although the methods for selection of articles may not be described. Consequently narrative reviews are not usually reproducible</p> <p>Narrative overviews may be as they synthesise information into a user friendly format and present a broad perspective on a subject, its development and management. They can also offer practitioners up to date clinical protocols</p>

	<p><u>Example</u> Mitchison, D., and Mond, J. Epidemiology of eating disorders, eating disordered behaviour, and body image disturbance in males: a narrative review. J. Eat. Disord 2015: 3:20 https://jeatdisord.biomedcentral.com/articles/10.1186/s40337-015-0058-y¹⁸</p>
Review of reviews/umbrella review ¹⁹	<p>A review of the literature, undertaken systematically, and sometimes referred to as an 'umbrella review'. Compiles evidence from multiple research syntheses in order to summarise existing evidence and like systematic reviews follow clear methods</p> <p>Useful when a review question is very broad and a number of systematic reviews have already been conducted in the topic area.</p> <p>However, the different inclusion criteria adopted by the reviews included can make interpretation problematic</p> <p><u>Example</u> Remes O, Brayne C, Linde R, Lafortune L. A systematic review of reviews on the prevalence of anxiety disorders in adult populations. Brain Behav 2016: 6(7) http://onlinelibrary.wiley.com/doi/10.1002/brb3.497/full²⁰</p>

Conclusion

In summary, we have identified and described a variety of review designs and offered reasons for choosing a specific approach. Reviews are vital research methodology and help make sense of a body of research. They offer a succinct analysis which avoids the need for accessing individual research reports included in the review, increasingly vital for health professionals in light of the increasing vast amount of literature available. The field of reviews of the literature continues to change and while new approaches are emerging, ensuring methods are robust remain paramount. This paper offers guidance to help direct choices when deciding on a review and provides an example of each approach.

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