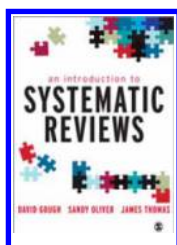


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An Introduction to Systematic Reviews
by David Gough, Sandy Oliver, and
James Thomas;
SAGE Publications Ltd, 2013.
ISBN: 978-1-849-20181-0.
26.99 GBP. 304 pages.

An informative guide to ensure your systematic review is transparent, repeatable, and accountable

The Cochrane Collaboration (www.cochrane.org) is recognised as a leading organisation promoting evidence-based health decision making through researching and producing independent systematic reviews based on primary research.¹ The authors of *An Introduction to Systematic Reviews* recognise the influence of the Cochrane Collaboration but have developed and extended their own methodology to address what they call participative research, 'where evidence-informed decision making meets stakeholder involvement'. In this book, stakeholders are defined as 'people having some self-interest in a piece of work because they might use the findings, or because decisions made by others in light of the findings may have an impact on them'.

The three authors and nine other contributors of *An Introduction to Systematic Reviews* are based in the Social Science Research Unit (SSRU) at the Institute of Education, London and as such the content of the book is principally aimed at those working in the field of social sciences. However, much of the information in the book is applicable to the systematic review of evidence in health and social care.

The 11 chapters represent the research methods that have been developed and applied by the SSRU over a period of many years when conducting their own systematic reviews. To improve understanding, a useful glossary is provided at the end of the book together with a substantial number of supporting references for the preceding chapters.

A well-structured overview of the common stages required of a systematic review is provided as an introduction and summarised in a flow diagram. The seven stages outlined in the flow diagram then form the basis

for the arrangement of the information presented in the remaining chapters of the book. These chapters address formulating the review question and methodology to be used in the systematic review, defining a search strategy, describing study characteristics, assessing study quality and relevance by applying appraisal criteria, undertaking a synthesis of findings from studies to answer the original review question, and finally communicating the findings to stakeholders. The importance of preparing the equivalent of a protocol stating the approach and methods to be used, and producing it before starting a systematic review, is discussed and stressed.

To obtain a meaningful systematic review, the research question, and how to answer it, has to be clear from the beginning. Hence, Chapter 4 of the book describes in detail how to build what is called a 'conceptual framework', which enables several key components to be considered at the beginning of the research. In reviews of medical treatments, this is often achieved via a PICOT framework (an acronym of Population, Intervention, Comparison, Outcomes, and Time) and enough time should be included in the process to ensure that the correct framework has been achieved. The authors point out that only by doing this will the criteria for inclusion and the relevant search strategy be properly developed.

One chapter is dedicated to the importance of information management systems when huge amounts of information are being generated, managed, and accounted for, and another to developing and implementing a correct search strategy. As expected the correct processes need to be in place to allow transparency, accountability, and repeatability, and the authors provide comprehensive information and guidance on how this might be achieved. Critical appraisal of the literature is also addressed and several examples of detailed critical appraisal tools are provided.

Multiple stages are involved when undertaking a synthesis of (or combining) the results. The preliminary stages involve selecting the studies to be included, extracting data, and describing key features of the studies in a well-defined and transparent way. Several approaches for achieving these early stages are discussed in detail.

Once the initial stages have been completed, the selected data from individual studies can then be

combined. According to the authors, combining the results of the individual studies is achieved by using two main 'modes': configuration and aggregation. The appropriate mode broadly depends on how much the studies differ from each other, i.e. whether they are heterogeneous or homogeneous, which in turn is heavily dependent on the type of question being put forward. Each systematic review has common stages of synthesis but how these are ordered is again dependent on the type of synthesis being pursued and several examples are illustrated. A range of non-statistical and statistical methods for synthesis are presented and discussed.

As a medical writer you will probably work as part of a team involving a statistician to tackle this part of the systematic review. However, it is important to understand the concepts employed if you are going to write about them at a later juncture. This chapter is not for the faint-hearted because, although written to be accessible to a non-statistician, the methods under discussion are not simple, and some prior knowledge of the concepts presented and examined will pay dividends.

Clearly, generating the systematic review is not enough and the best way to communicate the results to a wider population is addressed. How the information is used and what it is used for is discussed and several methods of 'turning knowledge into action' are presented, namely linear push-pull models, relationship models, and system models. Some useful tips on how to communicate with the media are also presented, e.g. include fact boxes and avoid jargon by writing in plain English.

As outlined by the authors, the main audiences for this book are (1) those undertaking reviews; (2) those funding, planning, or undertaking primary research to identify what information is already known and where research needs to be better targeted; (3) those using reviews to better inform decision making; (4) those putting research findings into practice; and (5) stakeholders who are directly affected by research outcomes.

This is not an undemanding introduction to the subject, and readers will need a degree of knowledge or appreciation of this area to fully understand the concepts discussed. However, the book does emphasise what needs to have taken place to result in research deserving of the title 'systematic review', and will be a useful resource for medical writers involved in this specialised area of medical writing.

You might also want to take a look at a workshop presentation on YouTube by Professor David Gough, similarly entitled *Introduction to systematic reviews (I)*, which can be found at <http://www.youtube.com/watch?v=apWAql2TQKM>.

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Reference

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