

# Tips and tricks in performing a systematic review

## CHAPTER 2

### *Preliminary evidence gathering: snowballing and reverse snowballing*

Previously<sup>1</sup> you have identified that currently no reviews exist, are on the way to completion, or are not of a high enough quality to be considered reliable. Therefore, you need to start some preliminary evidence gathering.

Typically you know of one or two articles that currently exist in or around your topic of interest. Therefore, the first thing to do is to find out which relevant articles those papers cite, and then retrieve them. You should then check if those articles cite any other relevant articles, retrieve those articles, and continue that process until you cannot find any more relevant articles. This process is known as snowballing, and you will notice that you will only ever find articles published before the first article you located or originally knew about.

However, this process can also be implemented in reverse and used to find more contemporary articles, hence reverse snowballing. Large online databases such as ISI Web of Knowledge and Google Scholar offer an advanced facility known as citation tracking. By locating a known article within the database it will display which articles are referenced within the article, and importantly, also indicate more recent articles that cite your article of interest. You can then choose the articles which appear to be of interest and continue the process until you find no more relevant articles.

From this process you should have a number of articles relating to your topic, and the next step is to then identify the words in the title and abstract of the articles and Medical Subject Headings

(MeSH) which define the articles that you have collected. To understand more about MeSH visit the homepage.<sup>2</sup>

Next chapter: reference management and identifying keywords.

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### REFERENCES

1. Sayers A. Tips and tricks in performing a systematic review. *Br J Gen Pract* 2007; **57(538)**: 425.
2. Medical Subject Headings. <http://www.nlm.nih.gov/mesh/MBrowser.html>. (accessed 3 Aug 2007).

Isn't it sad that electronic access has all but put paid to written requests for reprints? They were such a boost to the young researcher, who could, for a little while, imagine that someone else was interested, before realising that many requests were sent automatically by secretaries. After one of my research papers appeared I received requests from three different people who all had the same handwriting. Now, with e-mail requests, no one could tell.

Many journals with websites let us do far more than just read the articles. They allow us to respond, to be alerted to the responses of others, or even to look in PubMed for other articles by the same author. Except that, if the paper is multi-authored, only first or last author can be searched, which avoids long lists of clickable links but is scarcely fair. As for usefulness, it depends on the author's name. I found a review co-authored by Abhay Vasavada. He — which is a presumption on my part, because nowhere is gender listed, the reviewer's constant banana skin — is an ophthalmologist working in India. Unsurprisingly, 'Vasavada, A' has written many papers about eyes. And, it seems, quite a lot of papers about the Cassini satellite imaging Saturn and its moons. Perhaps he is more of a polymath than is common today, but it is unlikely. Also unsurprisingly, Vasavada's co-author 'Allen, D' is active in many more fields than ophthalmology. Medical authors with common names wanting to make a mark might do well to change their names.

It is for this reason that I am grateful for a middle initial, which I use not because I like my middle name; I don't, but it does distinguish me from all the other Goodmans, N. A middle initial would not have helped the Vasavadas, both of whom are 'Vasavada, AR'.

There are other problems with trying to get a full listing of an author's work. In these informal days, we have shed our suits and ties (although infection control won't let us wear them, even if we want to), and encourage everyone to call us by our given names. No longer are the consultants Doctor Brown and Mister Evans; they are Elizabeth and William. An extra layer of informality beckons. Maybe they become Liz and Bill. But if I want to find the research done by Elizabeth Brown, I expect to look for 'Brown, E'. If she decides one day to become 'Brown, L', her body of work is split.