# Transcript of video ‘Get started building and testing your systematic-style search’

A comprehensive search strategy is fundamental to any systematic-style review, and to create this strategy, you’ll need to use many different search techniques. In this video, I’ll show you how to use the technique of turning your research question into key concepts and related terms and then how to build and test your search in a library database.

Getting this initial part of your search right is vital, because without the right concepts, you’ll never find the information you need. By using the techniques I demonstrate in this video, you’ll be able to test out different ideas and approaches, and make decisions about how to best address your research question and build a strong systematic-style search.

Our example review aims to assess the impact of mHealth interventions on Australian First Peoples’ health. This means we need to find any research article about an intervention delivered via mobile phones or other mobile technologies, which is designed to support Australian First Peoples’ health.

To break this question into its key concepts, it’s useful to start a table or list. Key concepts are the essential ingredients that make up the essence of the review question or topic. These are often, but not always, nouns. Let’s start with the two major ideas in the topic as our key concepts – mHealth and Australian First Peoples. When we search the databases for these key concepts, we’ll use the AND operator to join the concepts together, because we need research articles that contain both ideas.

Before we try this search in a database, we need more terms for each of the key concepts. These terms are usually synonyms, but for a systematic-style search this might also include more specific words or related terms. When creating your own table or list of terms you’ll need to think broadly and creatively about your key concepts and the way researchers write about them. You might want to use a thesaurus to find appropriate synonyms and you should add to your lists as you encounter new terms in your reading. For some concepts you might need to include archaic and outdated terms. Older studies may have used terms no longer considered culturally appropriate, and to find this research you need to search using this old terminology. This is particularly common when you need to find research involving marginalised people or groups, due to evolving cultural understanding and language. This is the list of terms I’m going to start with – by the time you finalise your systematic-style search, you should have included all relevant terms for your key concepts.

Now it’s time to try this search in a database – I'm going to use the Medline database today, on the EBSCOHost platform, but you’ll find many of the same options in other databases across all disciplines.

I’m going to search for one key concept at a time and combine them together later – let’s search for the mHealth terms first. I’ll use the OR operator between each term to make sure we find results that include any of the terms, and I’m adding in truncation and phrase searching as I type too – if you need a refresher on using AND and OR, truncation or phrase searching, this video provides a good overview. The link is available below.

I’m going to use the search history to keep track of my searches, and combine them together - in this database you click ‘search history’ to display it. You can see the mHealth search here already. Now I’ll search for the concept about Australian First peoples

And now we combine each of those searches together with AND, to find articles with both ideas.

If you want to learn more about using search history like this, including adding in subject headings to your search, this video has more detail on these techniques.

Now I need to evaluate my search – is it finding the kind of results I want, have I missed any research, and what can I change to make my search more systematic? To do this, let’s look at the results – straight away I’m a bit concerned I’ve missed some of the research because I only have a few results – even for a very focused topic area that isn’t well researched, this is a very low number of results – and because a systematic search needs to find ALL relevant articles, you should usually have a relatively high number of results. Looking at the results, I can already see that my first choice of concepts is probably not the best search approach – a lot of these articles are using words about Australia, and terms to name the First Nations participants that aren’t the phrases I searched with. This means that there are probably other relevant articles that didn’t use my phrases at all, that are missing from my results.

This suggests that I need to go back to my concepts, and try again.

Let’s split up the words in the ‘Australian First Nations’ concept, and make it two concepts – one on Australia, and one that will include terms identifying the First Nations participants. By doing this, I should find more research, because I’m searching for the research ideas more broadly.

Let's try this search in Medline I can keep the mHealth terms from my first search, but now I’ll add the two new concepts, and then combine the three concepts together to find my articles. This new search has increased the number of results I’ve found, and they’re still fairly on-topic, so I’m going to keep these search concepts.

The next step in building to a systematic search is to evaluate the results again, in more depth, to help identify more search terms, so that all relevant synonyms are in the search. This search is not finished yet, and will need more testing and development before I can use it in my systematic-style review.

This video has shown you how to find and test the search concepts for your systematic-style search – how will you use this search testing and development process to create and refine your literature searches?

There are also more search techniques to add into this search to make it properly systematic like subject headings and I’ll show you how to do this in the next video.