Systematic approaches to identifying the literature

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Outline of session

What is a systematic review?

What's out there?

Systematic tools to finding information

Are you experienced?

3 Top Tips for Searching

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What is a systematic review?

"Systematic reviews seek to collate all evidence that fits pre-specified eligibility criteria in order to address a specific research question." (Green, S. and Higgins, J. eds*., 2011)*

"being systematic is a way to tie down the results as much as possible without conducting primary research." *Bettany-Saltikov, J. (2010)*

Stages of a systematic review

1. Determine the question

2. Define terms/ concepts

3. Set inclusion/ exclusion criteria

4. Search for and collect studies which seem to be relevant to the question

5. Assess quality, apply eligibility criteria and justify any exclusions

6. Synthesize the evidence

7. Compare analysis with other reviewers

8. Prepare a critical summary and make recommendations

(Moule and Goodman, 2014)

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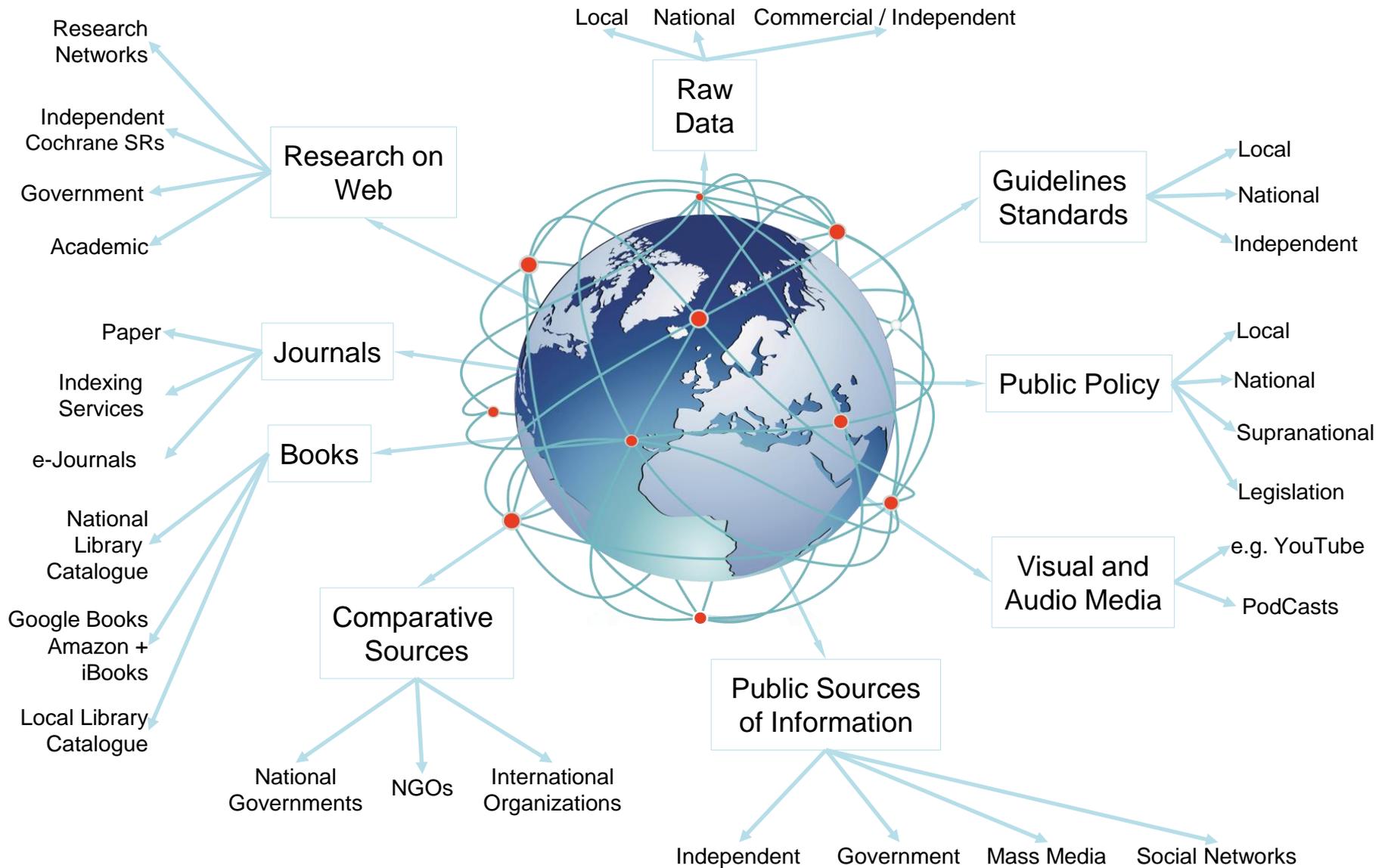University

Why be systematic?

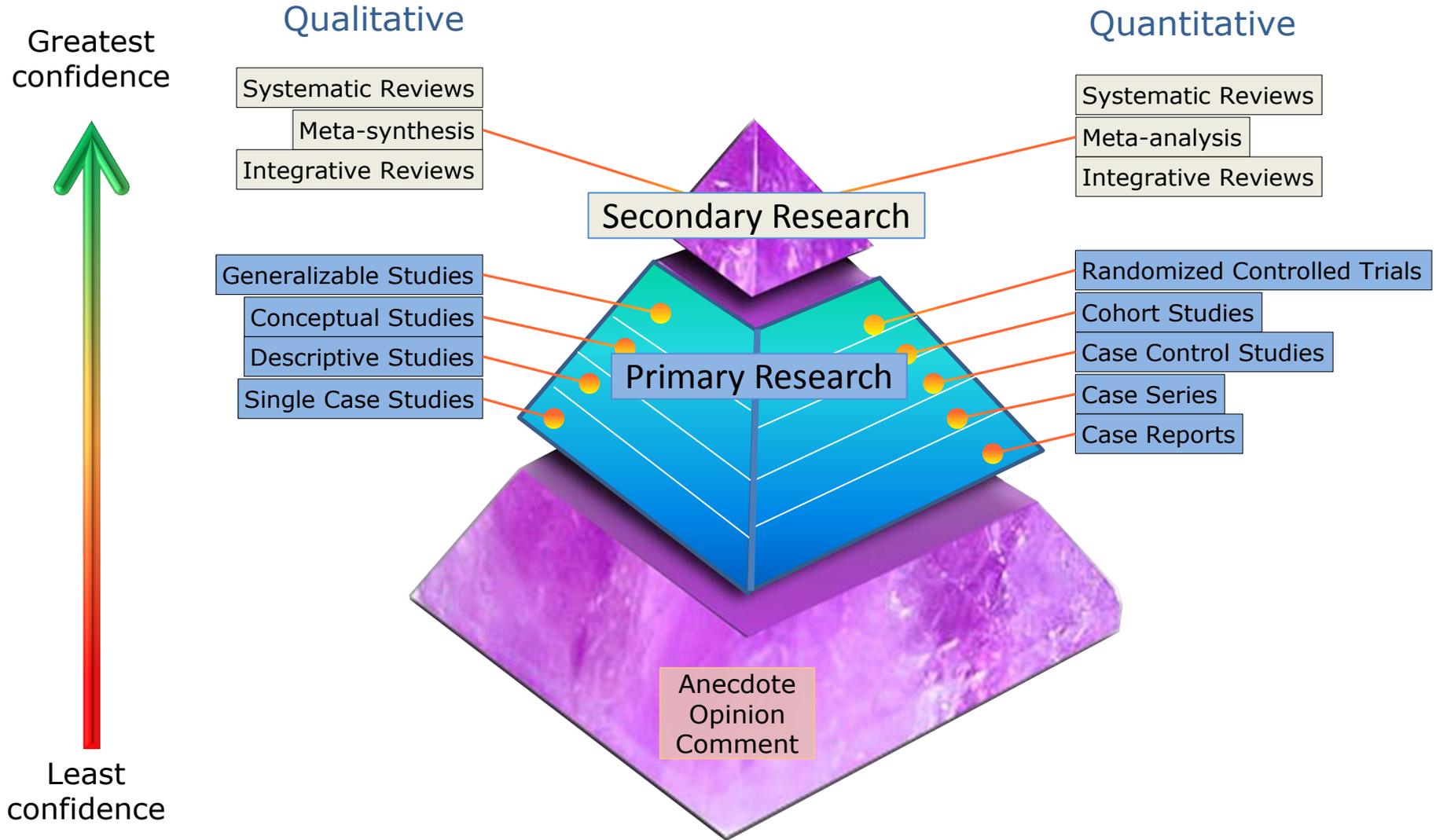- Good quality research underpins evidence-based practice and safer care because it is:

Exhaustive

Representative and

Covers pivotal works.
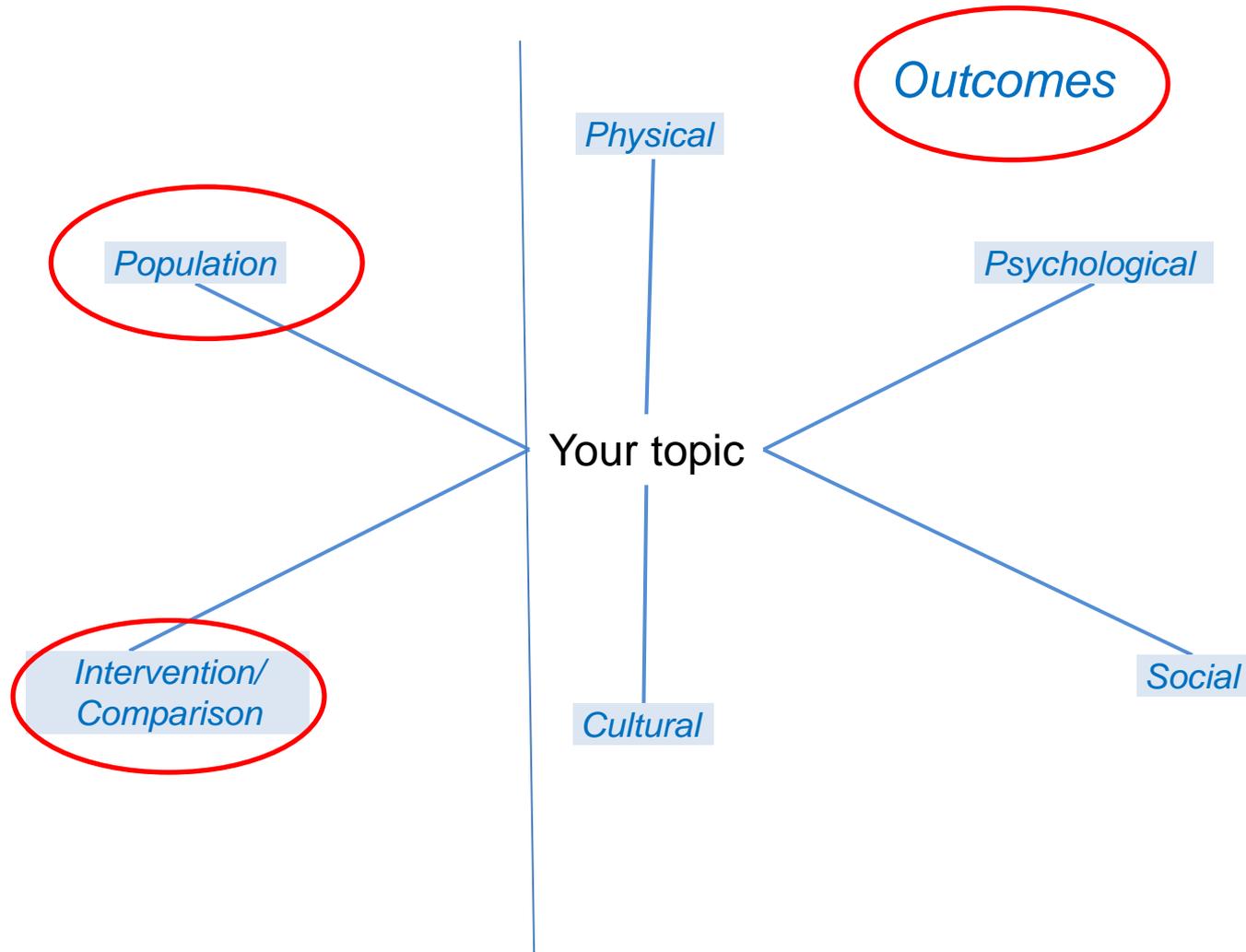
Healthcare Information Landscape

Research Networks

Independent Cochrane SRs

Government

Academic

Research on Web

Paper

Indexing Services

e-Journals

Journals

National Library Catalogue

Google Books Amazon + iBooks

Local Library Catalogue

Books

Local   National   Commercial / Independent

Raw Data

Guidelines Standards

Local

National

Independent

Public Policy

Local

National

Supranational

Legislation

Visual and Audio Media

e.g. YouTube

PodCasts

Comparative Sources

National Governments   NGOs   International Organizations

Public Sources of Information

Independent   Government   Mass Media   Social Networks

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The evidence hierarchy

Qualitative

Quantitative

Greatest confidence

Least confidence

Systematic Reviews
Meta-synthesis
Integrative Reviews

Systematic Reviews
Meta-analysis
Integrative Reviews

Secondary Research

Generalizable Studies
Conceptual Studies
Descriptive Studies
Single Case Studies

Randomized Controlled Trials
Cohort Studies
Case Control Studies
Case Series
Case Reports

Primary Research

Anecdote
Opinion
Comment

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What does a systematic review look like?

Map the topic

Outcomes

Physical

Population

Psychological

Your topic

Intervention/
Comparison

Cultural

Social

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P.I.C.O.D.

Population – Who is it you are interested in?

Intervention – What is it you are interested in?

Counter Intervention / Comparison – Compared to what?

Outcome – What are you hoping for?

Design – Quantitative or Qualitative

A PICO will help you construct a question and identify keywords

P.E.O. – for qualitative studies

Population – Who is it you are interested in?

Exposure – What is it you are interested in?

Outcome – What are you hoping for?

Activity

Search terms for : Laxatives for the management of constipation in palliative care patients (Review)

a. Constipation /Laxative Studies

b. Laxatives

c. Patient Group

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a. Constipation / Laxative Studies   b. Laxatives   c. Patient Group

MeSH subject headings:	MeSH headings:	MeSH subject headings:
Constipation	Cathartics	Palliative care
Defaecation	Dietary fibre	Terminal care
Diarrhoea	Enema	
Faecal incontinence	Fruit	Textword terms/synonyms:
Faeces, impacted	Glycerin	Care of the dying
	Magnesium compounds	End-of-life-care
	Phenolphthaleins	
	Phosphates	
	Polyethylene glycols	
	Sorbitol	
	Plus BNF laxative terms and brand names	
Textword terms/synonyms	Textword synonyms:	
bowel function$	names of drugs	
bowel habit$	synonyms/related words (bulk, casantranol, cellulose, glucitol, glycerol, laxative$, purgative$, faecal adj. softener$, liquid paraffin, roughage, stool adj. Softener$, suppositories)	
bowel movement$	names of particular foods including: bran, fruit adj. juice, prune$, rhubarb	
bowel symptom$		
colon adj. transit		
Evacuation		
faecal adj. incontinence		
impaction		
impacted adj. faeces		
intestinal adj. motility		
irritable adj. bowel adj. syndrome		
stool$		
stool with (hard or impacted)		

Keywords: advanced strategies 1

Entering keywords in a search

Subject Terms are supported by a thesaurus and therefore will link synonyms, alternative terms and spellings. A truly systematic approach on CINAHL and Medline needs to include Keywords to ensure that all relevant studies are found.

Truncation

Where there is a variation in a term use a symbol – usually * or $ - to account for all variations. For example:

*alcohol** will find *alcohol > alcohol*s > *alcohol*ic > *alcohol*ism
*nurs** will find *nurs*e > *nurs*es > *nurs*ed > *nurs*ing > *nurs*ery

NB : EbscoHost (CINAHL, Medline, PsycINFO), Cochrane Library (Wiley) and Science Direct use *
Ovid (Maternity and Infant Care) uses $.

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Keywords: advanced strategies 2

Wildcards

Wildcards help address the issue of variations in spelling.

For a variation in spelling of only one letter: anaestheti?e will find anaesthetise or anaesthetize.

For a variation in spelling of more than one letter: an#esthetise will find anaesthetise or anesthetise.

Keywords: advanced strategies 3

Proximity

Google uses natural language so two or more words in a search produce results where the words are next to each other at the start of the results but drift apart the further down the list.

EbscoHost suggests the use of the search phrase: *socially* **n3** *disadvantaged*. "n" is near. "3" is within 3 words.
In Ovid databases "adj" (adjacent to) is used instead of n.

Exact phrase searching

Some databases, including Google, do not use proximity operators but do offer exact phrase searching. Simply put speech marks around the phrase to be searched,
 e.g. "clinical governance"

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Sticking it all together: combining

Boolean Searching

Boolean Operators are **AND**, **OR** and **NOT**.

In a search these give the ability to connect Subject Terms / Keywords demonstrating the relationships between them and helping to refine a search.

AND = First term and second term **must** appear in the same paper. AND helps to provide a focus.

OR = Either the first term or the second term have to appear in the papers. OR is used to combine searches for synonyms or concepts where it is not important which term appears as long as one of them is in a paper.

NOT = To exclude terms from a search.

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Sticking it all together: combining

Boolean Searching 2

Vitamin D	**AND**	Bone Loss	To find Vitamin D and Bone Loss in the same papers
Vitamin D2	**OR**	Vitamin D3	To search for either Vitamin D2 or D3 in any papers
Vitamin D2	**NOT**	Vitamin D3	To exclude any papers from a search on Vitamin D2 that also include mention of Vitamin D3

Database subject coverage

Cochrane Library   Systematic reviews and clinical trials

CINAHL   Nursing and allied health journals

Medline   Medicine, Psychiatry, Health Services

PsycARTICLES/PsycINFO   Psychology, Mental Health

Maternity and Infant Care Midwifery

NHS Evidence   Clinical guidelines, knowledge summaries

British Nursing Index   Nursing and Midwifery

Embase   Biomedical

PILOTS   Post Traumatic Stress Disorder

ETC…..

Being thorough

You will also need to check sources that are not included in databases. These include:

Hand searching recent editions of journals not yet indexed or not on databases but relevant to your subject area

Grey literature

Check the reference lists of relevant publications to find related material

Contact authors of key articles

What are your top tips?

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Suggested reading

Bethany-Saltikov, J. (2012) *How to do a systematic literature review in nursing: a step-by-step guide*. Maidenhead: Open University Press.

Bethany-Saltikov, J. (2010) Learning how to undertake a systematic review: part 1. *Nursing Standard*, 24(50), pp. 47-56.

Bethany-Saltikov, J. (2010) Learning how to undertake a systematic review: part 2. *Nursing Standard*, 24(51), pp. 47-58.

Green, S. and Higgins, J. (eds*.*) *(2011) Cochrane handbook for systematic reviews of interventions. Version 5.1.0*. Available at: *http://handbook.cochrane.org/*

Moule, P. and Goodman, M. (2014*) Nursing research: an introduction 2nd ed*. London: Sage.

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