Steps in designing a search strategy

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Note: Examples in this handout are for illustration only.

1

Develop a research question and identify the main concepts.

In order to search for all the relevant papers on the topic, it is important that your question is both **comprehensive** and **specific**. Make sure your question is open; it is best to avoid closed questions that can be answered with a simple yes or no. The question formation usually includes identifying all the component parts from the PICO Worksheet below.

Research Question

How effective are <u>advocacy programs</u> for <u>women who have experienced domestic violence</u> to improve women's <u>quality of life</u>?

PICO Worksheet

1. Define your question using **PICO**: Population, Intervention, Comparison, and Outcome.

Population/condition	
Who are the relevant patients? Think about age, sex, geographic location, or specific characteristics that would be important to your question. Describe the most important characteristics of the patient. (e.g., age, disease/condition, gender)	**Women who have experienced domestic violence**
Intervention	
What is the management strategy, diagnostic test, or exposure that you are interested in? Describe the main intervention. (e.g., drug or other treatment, diagnostic/screening test)	**Advocacy programs**
Comparison	
Is there a control or alternative management strategy you would like to compare to the intervention or indicator? Describe the main alternative being considered. (e.g., placebo, standard therapy, no treatment, the gold standard)	**General practice or routine treatment**
Outcome	
What are the patient-relevant consequences of the intervention? Describe what you're trying to accomplish, measure, improve, affect. (e.g., reduced mortality or morbidity, improved memory, accurate and timely diagnosis)	**Quality of life**

2. Write your research question in PICO format

In <u>women who have experienced domestic violence</u> [P], do <u>advocacy programs</u> [I] result in better <u>quality of life</u> [O] when compared to receiving support through <u>routine treatment from primary health care practitioners</u> [C]?

More PICO(T) Templates/Examples

Therapy or treatment

In ___[P]___, do/does ___[I]___ result in ___[O]____ when compared with ___[C]___ over __[T]___?

Example:

> In nursing home residents with osteoporosis, do hip protectors result in fewer injuries from slips, trips, and falls when compared with standard osteoporosis drug therapy over the course of their stay?

Etiology

Are __[P]__ with __[I]__ over ___[T]___ more likely to ___[O]____ when compared with __[C]__ ?

Example:

> Are female non-smokers with daily exposure to second-hand smoke over a period of ten years or greater more likely to develop breast cancer when compared with female non-smokers without daily exposure to second-hand smoke?

Diagnosis

Is/are ___[I]___ performed on ___[P]___ more effective than ___[C]__ over __[T]____in ___[O]__?

Example:

> Are self-reporting interviews and parent reports performed on children aged 5-10 more effective than parent reports alone over a four-week consultation process in diagnosing depression?

Prevention

In ___[P]___, do/does ___[I]___ result in ___[O]____ when compared with ___[C]___ over __[T]___?

Example:

> In emergency room visitors, do hand sanitizing stations result in fewer in-hospital infections when compared with no hand sanitizing stations over a year-long pilot period?

Prognosis

Do/does __[I]__ performed on __[P]__ lead to __[O]___ over ___[T]____compared with ___[C]__?

Example:

> Do regular text message reminders performed on patients recently diagnosed with diabetes lead to a lower occurrence of forgotten insulin doses over the first six months of treatment compared with no reminders?

2 **Identify synonyms, related terms and variant spellings.**

In this step, convert your research question into a search strategy. Refer back to the keywords that will form the basis of the search from the PICO form. Free text searching, also known as "natural language" or language we use daily, should be used in addition to or instead of index term searching only.

- Explore **index terms** in electronic databases [e.g. Medical Subject Headings (MeSH), Thesaurus or Subjects in EBSCO databases]
- Find **related terms**, **synonyms**, **acronyms** and **variant spellings** in print thesaurus or dictionaries. They tend to be more comprehensive than the online versions.
- Search for **related articles** or **similar systematic reviews** for key terms found in title, abstract or author supplied keywords.

Use **Excel spreadsheet** to record your key terms. Keep a master copy from which you will modify the search terms according to the syntax of each database.

Population/condition	Intervention	Comparison	Outcome
domestic violence	advocacy programs	routine treatment	women's quality of life
women with abusive partners	treatment	general practice	
wife abuse	individual support	doctors	
partner abuse	group support	health care practitioners	
partner violence	counselling	physicians	
battered women	advocacy		
spouse abuse	community		
rape	therapy		
sexual abuse	support		
coercion			
murder			

- Identify **truncations [*]** and **wild cards [?]** according to the syntax of each database. Use **quotes ["…."]** to search as a phrase when appropriate.

Population/condition	Intervention	Comparison	Outcome
"domestic violence"	advocacy program*	"routine treatment"	women's quality of life
"women with abusive partner*"	treatment	"general practice"	
wife abuse	individual support	doctor*	
partner abuse	group support	health care practitioner*	
partner violence	counsel*	physicians	
battered wom?n	advocacy		
spouse abuse	communit*		
rape*	therap*		
sexual abuse	support		
coercion			
murder			

3 Develop a search strategy string.

- Using **Notepad**, copy and paste the terms from column from PICO table into separate lines.
- Combine synonyms with Boolean operator **OR**.
- Combine all concepts from each column with **AND**.

"domestic violence" OR "women with abusive partner*" OR wife abuse OR partner abuse OR partner violence OR battered wom?n OR spouse abuse OR rape* OR sexual abuse OR coercion OR murder
AND
advocacy program* OR treatment OR individual support OR group support OR counsel* OR advocacy OR communit* OR therap* OR support
AND
"routine treatment" OR "general practice" OR doctor* OR health care practitioner* OR physicians
AND
women's quality of life

- You can either copy/paste each OR-connected string into a separate search box in a database **Advanced Search mode** or enclose each set of key terms with brackets as the following:

("domestic violence" OR "women with abusive partner*" OR wife abuse OR partner abuse OR partner violence OR battered wom?n OR spouse abuse OR rape* OR sexual abuse OR coercion OR murder) **AND** (advocacy program* OR treatment OR individual support OR group support OR counsel* OR advocacy OR communit* OR therap* OR support) **AND** ("routine treatment" OR "general practice" OR doctor* OR health care practitioner* OR physicians) **AND** (women's quality of life)

- It is preferable to **apply limits at the final stage** of the literature search (e.g. restrict to English-language articles, date, geographic location, etc.). If the search retrieves too many irrelevant articles, you might consider limiting to Title and Abstract. Again, add these limits based on the database syntax:

TI "domestic violence" OR **AB** "domestic violence" (in EBSCO)

"domestic violence" **[Title/Abstract]** (in PubMed)

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4 Undertake a comprehensive search using all possible sources.

- At least three online general and subject specific databases
- Journal articles and books
- Grey literature
- Conference papers and proceedings
- Dissertation abstracts
- Contacting experts