

Exercise: Reviewing a Systematic Search Strategy

Level: Advanced

Time: 45–60 minutes

Setting: Canvas, Padlet, or in-class

This exercise is suitable for students preparing to conduct a literature review. It provides an opportunity to reflect on what characterizes an effective versus an ineffective systematic search, and how small adjustments in the choice of search terms may influence the results.

- Divide students into discussion groups (2–5 participants).
- Distribute the worksheet (see below) to the students.
- Allow approximately 15–20 minutes for group discussion.
- Conclude with a whole-class discussion of the findings.
You will find the worksheet with instructor comments below as a guide for discussion.

Exercise – Reviewing a Search Strategy

All three search strategies are based on the same research question but have been constructed in different ways.

Discuss in your group:

- Does the search strategy adequately address the research question?
- Is the search strategy too broad or too narrow?
- Is the search strategy reproducible?
- Feel free to consult the checklist for search strategies.

Search Strategy 1

Research question: Is video calling effective in reducing loneliness among older adults?

Database: Pubmed	Search terms	Filters/Limitations	Results
Date: 220901			
#1	(aged OR elderly OR nursing homes OR nursing home OR homes for the aged) AND (videoconferencing OR videophone OR video calls OR communication technology) AND (loneliness [MeSH] OR social isolation[MeSH])		128
#2	#1	Filters applied: Free full text, in the last 10 years, English.	63

Search Strategy 2

Research question: Is video calling effective in reducing loneliness among older adults?

Database: PubMed Date: 220901	Search terms	Filters/Limitations	Results
#1	aged AND videoconferencing AND loneliness		29
#2	aged AND video calls AND loneliness		18
#3	nursing homes AND video calls AND social isolation		7
#4	nursing homes AND videophone AND social isolation		4
#5	aged AND communication technology AND loneliness		115
#6	elderly AND communication technology AND social isolation		222
#7	care homes AND video calls AND well-being		25

Search Strategy 3

Research question: Is video calling effective in reducing loneliness among older adults?

Database: PubMed Date: 220901	Search terms	Filters/Limitations	Results
#1	(aged OR elderly OR ageing OR nursing home* OR home* for the aged OR care home*)		6,348,910
#2	(teleconference* OR videoconferenc* OR videophone* OR video call* OR communicat* technolog* OR Skype OR Facetime OR Google hangouts OR Microsoft teams OR Zoom)		88,731
#3	(loneliness OR social isolat* OR lonely OR social relation*)		365,579
#4	#1 AND #2 AND #3		1,253
#5	#4	Filters applied: in the last 5 years, English.	746

Checklist for Search Strategies

	Yes	No
Transforming the research question into a search strategy		
• Does the search strategy align with the research question ?	☐	☐
Selection of search terms		
• Are the chosen search terms relevant to the research question?	☐	☐
• Are appropriate subject headings used (e.g., MeSH terms and CINAHL Headings)?	☐	☐
• Are any important subject headings or free-text terms missing?	☐	☐
Translation of the search strategy across databases		
• Is the search strategy generally consistent across all databases?	☐	☐
• Have controlled vocabulary terms been correctly translated into the corresponding terms in other databases (e.g., MeSH terms to equivalent CINAHL Headings, and vice versa)?	☐	☐
Search techniques, syntax, and spelling		
• Are the search terms combined with Boolean operators (AND , OR) correctly and appropriately?	☐	☐
• Is truncation used appropriately for the search?	☐	☐
• Is phrase searching (using quotation marks) applied appropriately?	☐	☐
• Are there any spelling errors ?	☐	☐
Limits and filters		
• Are limits and filters applied appropriately and relevant to the research question?	☐	☐
Reporting the search		
• Is the search strategy described clearly enough to show in which databases the search was conducted, the date of the search, the search terms used, and how the terms were combined?	☐	☐

Exercise – Reviewing a Search Strategy (with comments)

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Discuss in your group:

- Does the search strategy adequately address the research question?
- Is the search strategy too broad or too narrow?
- Is the search strategy reproducible?

Search Strategy 1

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- One block is searched only as MeSH terms, which is not ideal — it is unnecessary to specify that a term is MeSH. If no field is indicated, the term may be searched both as a MeSH term and in title/abstract fields (“All fields”). PubMed also automatically maps search terms to MeSH, which helps retrieve relevant results.
- The search is limited to “Free full text,” meaning only open access or freely available articles — this makes the search too narrow and excludes much relevant research.

Other improvements, truncation (*), phrase searching (“”) or MeSH?

Is anything good?

Search Strategy 2

Research question: Is video calling effective in reducing loneliness among older adults?

Database: PubMed Date:220901	Search terms	Filters/Limitations	Results
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- The strategy is **not systematic** — not all possible combinations of terms are included (e.g., *elderly AND video calls* is missing).
- A more systematic approach would use **search blocks**, grouping synonyms for each concept. This makes the search easier to read, interpret, and reproduce.
- A possible structure could be:
 - (aged OR nursing homes OR elderly OR care homes)
 - (videoconferencing OR video calls OR videophone OR communication technology)
 - (loneliness OR social isolation OR well-being)

This would, however, result in a very broad search.

Possible improvements: use of truncation (*) or quotation marks (“ ”), and consideration of MeSH terms.

Relevant MeSH examples:

- *Homes for the Aged* = “Ålderdomshem”
- *Housing for the Elderly* = “Äldreboende” (includes group homes and individual apartments but excludes nursing homes providing care)
- *Home Care Services* = “Hemsjukvård”

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- The search is **too broad**; truncations generate a large number of irrelevant results.
- Check the **Search Details** in PubMed to see how terms are mapped: for example, *social relation* maps to *Social Behavior*, a very broad MeSH term. *Teleconference* and *Communication technology* also map to overly broad MeSH categories (*Telecommunications* and *Information Technology*). While broad, these may still be relevant depending on the research scope.

Suggested adjustments:

- Add quotation marks around multi-word terms.

- Consider truncation only where appropriate (when using truncation PubMed no longer maps to a MeSH term).
- Remember that *for* and *the* are stop words in PubMed.

A possible adjustment to cover the topic better but go too broad is:

(aged OR elderly OR ageing OR nursing home OR home for the aged OR care home)

AND

**("teleconference" OR videoconference OR videophone OR video call OR
"communication technology" OR Skype OR Facetime OR Google hangouts OR Microsoft
teams OR Zoom)**

AND

(loneliness OR social isolation OR lonely OR "social relation*")