

Improving the confidence of health professionals searching for best evidence using PICO

Authors: Dr Denise Blanchard & Dr Kim van Wissen

Affiliation: Charles Sturt University & Massey University

Introduction

Complex clinical problems often exist for a patient and, by searching effectively using PICO, answers are at hand.

What is the functional language of a database?

The functional language of a database is a controlled vocabulary that allows users to make queries against the database.

Controlled vocabulary includes a knowledge organisation system, e.g., subject indexing, subject headings, thesaurus and taxonomies: so the results may be more relevant.

In contrast, free-text searching examines every word included in the search strategy and tries to match the search criteria; it maps to all possible subject indexing, subject headings, thesaurus and taxonomies within a database.

Different databases for health care include a varied range of data, therefore, knowing the functional language of EACH database is important.

Interrogating a database

Within the database, the functional language helps interrogate the database by implementing a search strategy consistent to that database. Unfortunately, if a poor search strategy has been entered, it is likely that poor results will result from the search.

The person entering the search ought to be familiar with the language of each database to create a query and apply a format for the query. For example, in evidence-based health care, this may be the PICO format:

- Patient/People/Persons
- Intervention to achieve the outcome
- Comparator or not
- Desired outcome

Example: Falls prevention and foot care

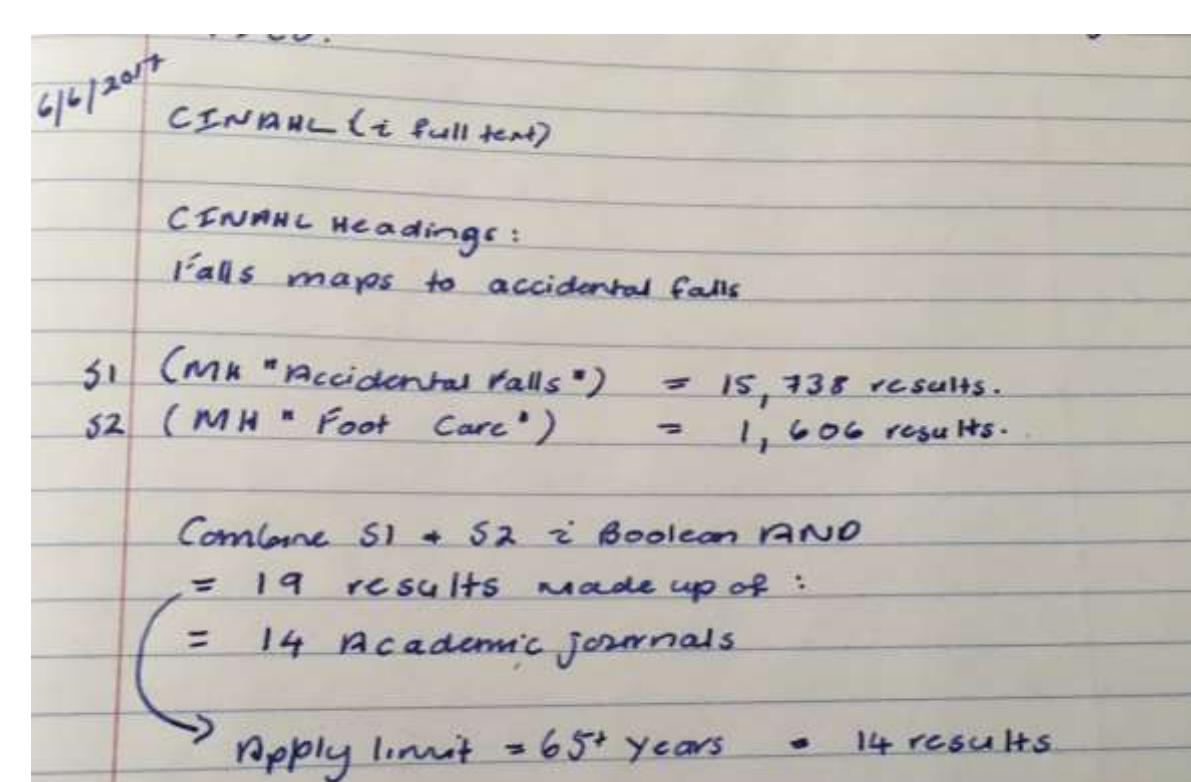
We want to prevent falls and need to identify if regular foot care for older people will help with this. So, as we start to develop the PICO we start to see the required language and limiters emerge:

- Who are the people/patient we are interested in? People **65 years +**
- What is the intervention we want to put in place to prevent falls? **Foot care**
- Are we going to compare the intervention with another intervention at this time? **No**
- What is the outcome we want for the people/patient? **Falls prevention; prevent falls**

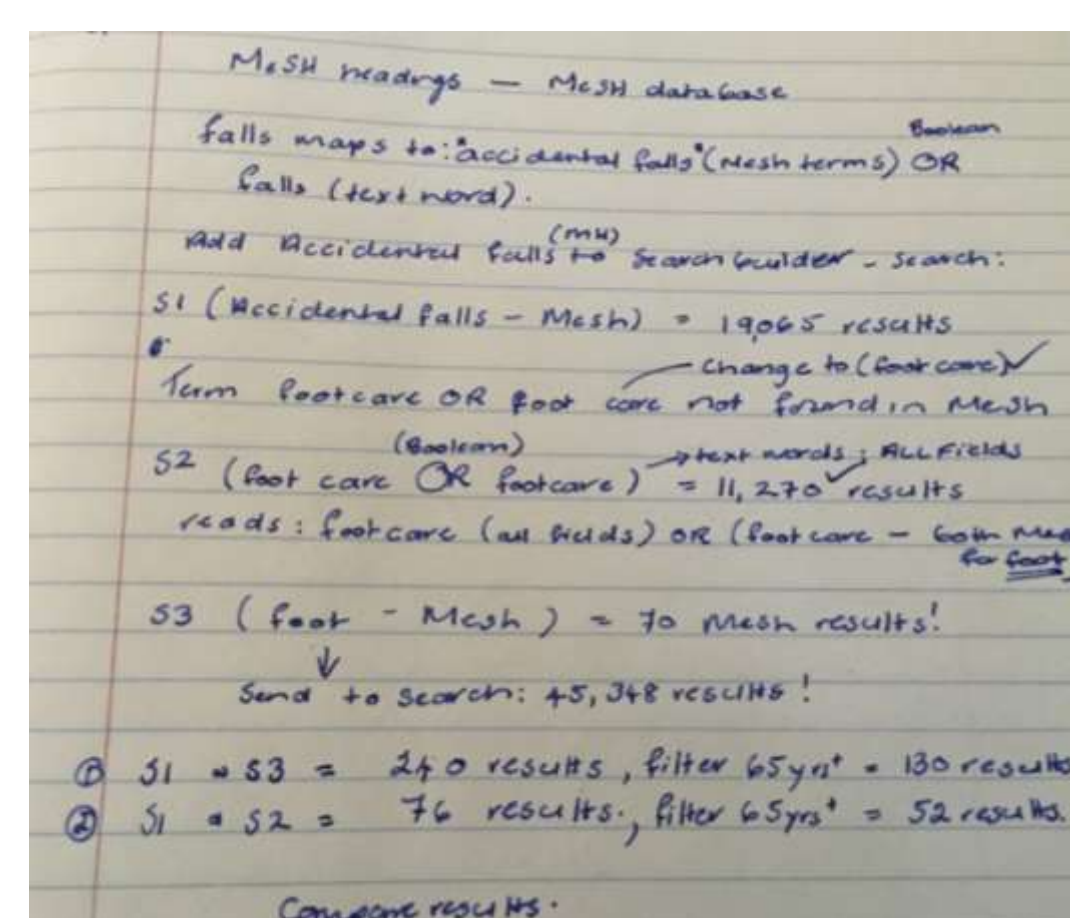
This becomes a PICO Question: For people 65 years and over does foot care prevent accidental falls?

Searching

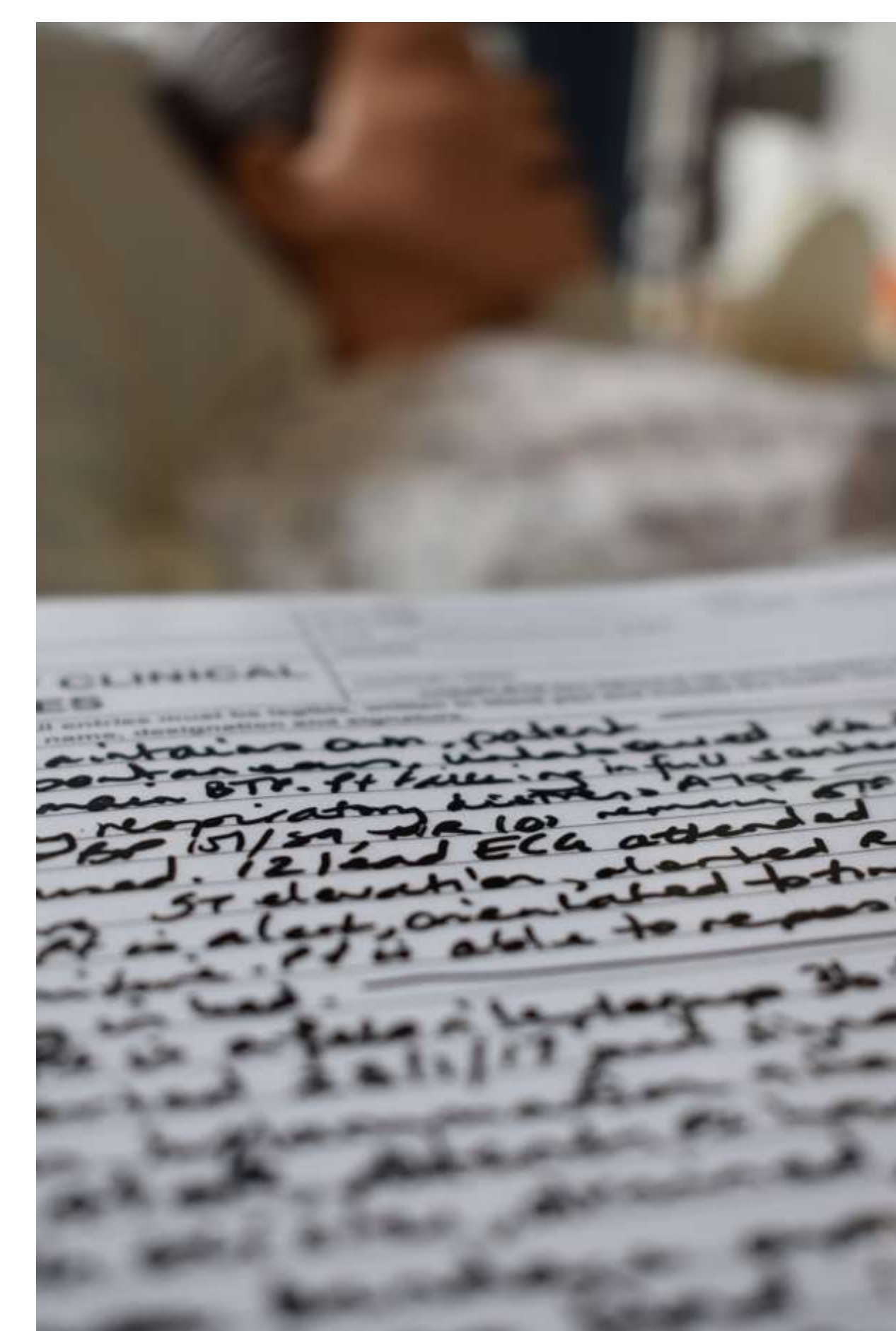
1.



2.



Hint:
keep a
record of
your search
strategy



Search 1 is from CINAHL, Search 2 from PubMed: spot the difference in results when the functional language and natural language in each search are applied in the two databases. Consider how this may impact on clinical reasoning.

Clinicians need to consider what the preferred outcome is for the patient. In the example above, the search could be extended to be diabetic people over the age of 65 years, and a desired outcome for the patient worked from this new perspective.

Additional clinical problems contributing to falls

May include: 1. Diagnosis, e.g., diabetic?; 2. Gait?; 3. Shoe fitting? 4. Annual foot care? All require a new PICO and a new search. Additional comorbidities will mean exploring a different outcome from the primary outcome, that is, preventing falls. You may think of others?

Conclusion

The language of a database supports effective searches for clinical information. Knowing how databases differ is important to help access relevant information. The case study example, above, illustrates that there is inconsistency between databases. Learning how to interrogate each database requires clinicians to be *vigilant* when applying search strategies. It also means contending with multiple clinical (e.g., PICO) questions for any one patient.



Contact details

Phone: +61 2 6338 4589

Email: dblanchard@csu.edu.au