PICOS/T, PICo, PEO, SPIDER Frameworks

See also University of Edinburgh's library guide: [Guidance for systematic reviews - Search plan](#)

Research question frameworks are commonly used in literature reviews (including systematic or systematic style reviews). The heading entries describe what makes research eligible for inclusion in a review. They provide relevancy criteria, and some of the inclusion/exclusion criteria, against which results from academic literature searches are assessed, this happening in the systematic review process, during the Screening phase.

In the earlier stages of the review process, considering your review question against framework headings might help consolidate your thinking around the concepts you want to read about and also suggest search terms which could retrieve publications on those concepts.

Completing a framework may even help clarify the review/research question itself.

- ❖ Some research questions will have multiple entries for some headings, *e.g.* both parents and their children, both educators and the population(s) they educate.

- ❖ Research questions may not lend themselves to populating all of the headings.

- ❖ Different research question frameworks have been developed for different types of research question, possibly discipline dependent.

A commonly used example for quantitative health related reviews goes by the acronym **PICOS/T**

Population/Participants [incl. Problem]:
- o What type of people are you interested in and what do they have to be experiencing for research on them to be useful?

Intervention:
- o What has to have been done to the population for resulting publications to be useful to you?

Comparison:
- o Does research need to have included control groups/alternative interventions?

Outcome:
- o What has to have been the outcome a research group was trying to measure for their publication to be useful to you?

Study Type:
- o Are RCTs the only acceptable method for what you want to write about? If not, what research methodologies are acceptable?

Time:
- o Over what period of time do you want your population to have been measured/observed?

To develop the PICOS/T approach see:
Thomas, J., et al (2019) 'Determining the scope of the review and the questions it will address', in J.P.T. Higgins et al (eds) *Cochrane Handbook for Systematic Reviews of Interventions*. 2nd edn. Hoboken, NJ: Wiley Blackwell, pp. 13-31.
[DiscoverEd](#)

Qualitative studies may lend themselves better to **PICo**

Joanna Briggs Institute (JBI) advises PICo for systematic reviews of qualitative evidence - [Section 3.3.7 Determining the review question](#) and [Section 3.3.8 Identifying eligibility criteria for the review](#), JBI Manual for Evidence Synthesis

<u>P</u>opulation/<u>P</u>articipants

o   What have the people you are interested in got to have in common?

Phenomena of <u>I</u>nterest

o   What do you want to understand better?

<u>C</u>ontext

o   What are the relevant settings or circumstances in which you want the population or phenomena of interest to occur? These could include physical settings (hospitals, community, etc) and also geographic, cultural or socio-economic factors.

Similar headings which may help fully develop the scope of what the literature needs to address:

Population, Exposure, Outcome (PEO)

Explore this further in Kestenbaum, B. (2019) General considerations in epidemiological research, In: *Epidemiology and biostatistics: an introduction to clinical research*. 2nd edn. Cham: Springer. [DiscoverEd record](#)

Sample, Phenomenon of Interest, Design, Evaluation, Research (SPIDER)

o   Cooke, A., Smith, D. and Booth, A. (2012) Beyond PICO: The SPIDER Tool for Qualitative Evidence Synthesis, *Qualitative Health Research*, 22(10), 1435–1443. [DiscoverEd record](#)

Designed in 2002 for health policy questions:

ECLIPSe: Expectation (what does the search requester want the information for, *eg* Improvement or Information?), **Client Group, Location, Impact** (including how any change is measured), **Professionals, Service** (*eg* outpatient services, nurse-led clinics, intermediate care).

o   Wildridge, V. & Bell, L. (2002) How CLIP became ECLIPSE: a mnemonic to assist in searching for health policy/management information. *Health Information & Libraries Journal*, 19(2), 113-115. [DiscoverEd record](#)

Designed for "information practice" [information science / evidence-based librarianship] questions:

SPICE: Setting (of service), **Perspective** (whose?), **Intervention, Comparison**, **Evaluation**

o   Booth, A (2004) 'Chapter 6: Formulating answerable questions' in A. Booth and A. Brice *Evidence-based practice for information professionals: a handbook*. London: Facet. [DiscoverEd record](#)

Other libraries' guides for more frameworks and the disciplines or question types to which they are best suited:

[Developing a research question: Frameworks (University of Maryland)](#)

[Using frameworks to structure your question (City St George's, University of London)](#)