

Editorial

The Underappreciated and Misunderstood PICOT Question: A Critical Step in the EBP Process

Regardless of what model of evidence-based decision-making and practice is selected, Step #1 in the EBP process is to ask the burning clinical question in PICOT format.

As an early and critical step in the EBP process, it is remarkable to discover how often PICOT questions are incorrectly written. Whether it is the fact that the value of the PICOT question is underappreciated, the purpose of the PICOT question is misunderstood, or the approach to formulating and using a PICOT question is taught incorrectly, the outcome is the same: People are writing incorrect PICOT questions, which leads to a problematic EBP process (Table 1).

The purpose of a PICOT question is simple: It is the mechanism to identify the terms to be used to search for the best evidence to answer a burning clinical question. In other words, the PICOT question is the search strategy. The search strategy leads to an unbiased and effective search. The unbiased and effective search leads to the evidence. The evidence answers the question and underpins the evidence-based recommendation, decision, or practice. Instead of uncovering hundreds of studies, most of which do not answer the clinical question because of a poorly designed PICOT question, use of a correctly formed PICOT question when conducting a search allows for a small number of relevant studies to be discovered to answer the question.

The fact that this first step in the EBP process is often undervalued, misunderstood, and miscommunicated is not a benign problem. It is, instead, a major error that leads to a number of critical problems that carry through the rest of the EBP process and can lead to very biased recommendations and those not based on best evidence, the exact opposite of the intent of EBP.

The best way to conduct a great search for evidence is to write an excellent PICOT question and take that question to a skilled librarian. Many of the dangers caused by an incorrectly formed PICOT question can be averted with the expertise of a librarian, and they are surely the evidence-based practitioners' most important "searching" partner. However, not every curious clinician has access to a librarian. Therefore, PICOT skills have to be developed, refined, honed, and mastered to avoid faulty results.

The following are some basic tips for writing well-designed PICOT questions.

PICOT questions should not be wordy. Instead of a "P" of "hospitalized geriatric patients with dementia," a "P"

that would lead to a better search is "geriatric patients with dementia" OR "geriatric dementia patients" because you want to search for and find all the literature about the "P" (population) of interest. Your intent may be to implement the evidence found on this population when they are in the hospital, but that is your project not your question. PICOT questions should not include unnecessary words. Instead, PICOT questions should include only the key term(s) you are interested in. Instead of an "I" of "applying a sterile dressing," an "I" of "sterile dressing" will lead to a better search. Extra words such as "provide," "implement," "use," "deliver," or "apply" add more words for the search engine to look for that are not important. Only include the key words that matter.

PICOT questions should not be used to find evidence to support the solutions that clinicians have already decided is the right answer. Instead, PICOT questions should be used to find out what is the best practice. Instead of an "I" of "providing distraction activities," an "I" that would lead to a better search is "interventions" OR "strategies" because the best practice is often something that you (and your committee or task force or council) did not know about or consider. For instance, what if the best intervention for addressing agitation in dementia patients is music therapy? You would never discover the right answer if you only searched for something that you had already decided on. This critical error leads people to search for evidence to support their idea, and it may not be—and often is not—the best idea. This mistake can be made inadvertently or with true intention. In the first scenario, you do not realize that you are making the mistake. In the second scenario, you intentionally look for evidence to support your idea and intentionally do not look for anything else. Either way, this problem needs to be avoided.

PICOT questions are always written in the past tense. You are searching for things that have already occurred. Research questions, on the other hand, are written in the present tense.

PICOT questions never include a directional term such as "increased" or "improved." Once a directional term is included, the search is biased; if you only look for studies where a particular intervention "increased" an outcome of interest, you will miss all the articles where the intervention "decreased" that outcome. This is a dangerous mistake.

PICOT questions cannot be changed once you have started searching. More PICOT questions can be written

Table 1. An Example of a Poorly Written PICOT Question and the Corrected Version

This is an example of a PICOT question that is wrong in all facets. A dissection of the question will help identify the poorly written components.

In hospitalized geriatric patients more than 65 years of age with dementia (P), how does providing distraction activities (I) compared with providing traditional hospital care (C) decrease agitation (O)?

P: hospitalized geriatric patients more than 65 years of age with dementia

I: providing distraction activities

C: providing traditional hospital care

O: decrease agitation

1. The terms in this PICO question are too wordy.

The words placed into the search database are the exact words the computer is going to scan in the literature, so the more words, the less you will find.

2. By including the word “providing” in the I and C search, you would miss any study where the title included words such as “implementing” or “utilizing” because the computer would be looking specifically for “providing.”

3. This PICOT is not written in past tense; as such, it is a research question.

4. PICOT questions should not include any directional words. They will cause a biased search.


The correctly written PICOT question to yield the most efficient search would be:

In geriatric patients with dementia (P), how do distraction activities (I) compared with traditional care (C) affect agitation (O)?

Your PICOT question does not always match the change project or initiative you originally imagined or planned. That is because a well-written PICOT question leads you to the best practice to answer your inquiry, not the answer you were thinking about or for which you had hoped.

It is critical to invest time in writing a great PICOT question, as it is the gateway to an efficient, effective search and, ultimately, to making robust, evidence-based recommendations with confidence to assure the best decision-making possible and to improve care and outcomes.

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for the same inquiry, but you cannot change a question that you have already used. That question is already part of your EBP adventure and needs to be included in your story.