

SCHI 701

Searching exercise #1: Developing a searchable question

Purpose:

Formulating a clear and searchable question is the first step in conducting a literature search. All other steps in the search process emerge from this one. Questions that are too general will produce off-topic results when searching a citation database. Questions that are too specific will produce too few results. Every search requires a balance of sensitivity and specificity. A sensitive search will return most literature relevant to your topic and a higher proportion of off-topic results. Thus, you will spend more time filtering and screening. A highly specific search will have fewer irrelevant results, but the risk of missing relevant literature is higher.

Learning Objective:

Students will illustrate the process of transforming a question into a more searchable question.

Estimated Time:

25 minutes

How-To:

Choose one of the questions below and make it more searchable. Answer the questions in the Exercise #1 worksheet. **Submit your completed worksheet to Labspot by April 9, 2021.**

1. What is the role of antibodies on viruses?
2. What is the impact of diet on gastrointestinal tumors?
3. What is the role of racism in relation to mental health?
4. What are the ethics of electronic health records?
5. How can we apply process improvement to wait times?

Resources:

What is a clear and searchable question?

A clear and searchable question is neither too broad nor too narrow. It often, but not always, looks at the impact of something on something else, often for a particular kind of patient or to examine a particular outcome. While in this exercise, we are focusing on too broad questions, you may also have questions that are initially too narrow.

Example of how to transform a question into a searchable question

Too broad: Let's say I am interested in researching cancer treatment. Cancer treatment is not a clear and searchable question – it is not even a question! Considering specific aspects within the topic you want to investigate can help transform the question into a more searchable form. In this case, we ask ourselves the following questions:

- What kind of cancer?
- Where in the body?
- Who is the person who has this cancer?
- How effective is this treatment?

After considering these questions, we decide that the question is focused on the **efficacy** of **tamoxifen** used in combination with **chemotherapy** for treating **women over 45** who have been diagnosed **with triple-negative breast cancer**. A way to frame this in question form would be:

“What is the efficacy of combined tamoxifen and chemotherapy, versus just tamoxifen alone, on treating triple-negative breast cancer in women over 45?”

Too narrow: On the other end of the spectrum, it is also possible to have *too* specific and too narrow questions. Let's say my initial question is:

“What is the cost-effectiveness of distribution and what are the adverse effects and impact on quality of life of naloxone in rural adolescents with type 2 diabetes and hearing loss?”

This question has too many elements, and searching all of them at once will probably produce zero results. We, therefore, need to make some decisions and break the question down.

- What is the primary outcome of interest (cost-effectiveness, adverse effects, or quality of life)? **Choose one**
- What is the primary condition of interest, type 2 diabetes or hearing loss? **Choose one**
- Do you need to focus on the population in question, or could you broaden it to just one of the original question dimensions? In other words, rural populations (not limited to adolescents) or adolescents (not limited to rural)?

After careful thought, we reconstruct the initial question as:

“What is the health systems cost-effectiveness of naloxone distribution for adolescents with type 2 diabetes?”

If we still were not getting any or many results, we might broaden this further to:

“What is the cost-effectiveness of distribution of all opioid antagonists (not just naloxone) for adolescents with type 2 diabetes?”

We could even narrow it in another direction if we wanted to go back to focusing on naloxone and decided to look at the broader population of all adolescents, not just ones with type 2 diabetes. Our question then might be:

“What is the cost-effectiveness of distribution of naloxone for adolescents?”

Additional information and tutorials

Tips for Searching PubMed

Framing Questions with PICO

How We Will Assess Your Learning:

- Based on the more searchable question you create, we will evaluate if you are demonstrating the knowledge to form a clear question that allows you to retrieve on-topic search results (5 points)
 - Specifically, we would like to see that you are able to make a too broad question more searchable by incorporating specific characteristics.
- Based on your self-evaluation of the changes you made, we will gauge your understanding of the characteristics of a searchable question (5 points)