PICO

1. PICO

1.1 Start

PICO: Research Questions for Health Sciences

To begin, click the START button.

1.2 Welcome

Welcome to the *PICO: Research Questions for Health Sciences* tutorial!

You can listen to or view the contents of this tutorial on the left menu.

To navigate forward click the NEXT button located in the bottom right hand corner of this screen.

1.3 Learning outcomes

After completing this tutorial you will be able to:
- explain what PICO is & what the letters P I C & O stand for
- apply PICO framework to a specific topic or scenario
- formulate an answerable research question using PICO

1.4 The PICO Model

The first part of research is identifying a question you want to answer.

One method of developing a research question is the PICO model. The PICO model is used most commonly in the fields of Health Sciences, Nursing and Medicine, but can also be adapted for use in other fields.

This model is commonly used because it makes it easier to develop a well-built, answerable, and evidence-based research question. The PICO model also helps to break your topic into its key components and build an initial search strategy.

1.5 P: Patient, Population, or Problem

Now, let's take a look at how the PICO model works. First, know that PICO [pee-co] is an acronym.

The P stands for patient, population, or problem.

Try to think about things like, how would you describe a group of patients? Or, is there a group or community that you are interested in?

Think about characteristics like sex, race, age, geographical location, health issue or disease and so on.

1.6 I: Intervention or Exposure

The I stands for Intervention, or in some cases becomes an E to represent an exposure.

Ask yourself, what intervention or therapy are you considering? What hazards has your patient been exposed to?

For example, if you're interested in treating diabetes you might be interested in a particular **diet** as a type of **intervention**.

Or, if you want to mitigate health concerns from a public health disaster like contaminated water, **lead** might function as your **exposure**.

1.7 C: Comparison

The C stands for Comparison.

Consider, what's an alternative treatment to the intervention you are interested in? Is there an alternative or comparison?

Not all questions or topics will necessarily have an explicit comparison. Sometimes you might be comparing the intervention to standard care or the status quo.

Limit yourself to one comparison as comparing more than two options can make your question too complex.

1.8 O: Outcome

The O stands for Outcome.

What can you hope to accomplish, measure, improve or affect? What are you trying to do for the patient? Choose the best treatment? Relieve or eliminate symptoms? Prevention?

Put some thought into your outcome, how would a researcher measure this outcome? Is your outcome actually measurable? What would be a significant

change in the outcome?

1.9 PICO Definitions Activity

(Drag and Drop, 10 points, 3 attempts permitted)

Match the P I C O letters with the correct definitions.

Drag the definition on the left to the corresponding letter.

When finished, click submit.

Drag Item	Drop Target
Focused on the characteristics of the patient or population.	P
Focuses on the intervention or therapy being considered.	I
Considers an alternate treatment or comparison to the intervention.	C
Considers what you hope to accomplish, measure, improve, or affect.	O

1.10 PICO

(Drag and Drop, 10 points, 3 attempts permitted)

Drag the terms on the left to the correct letter on the right.

When finished, click submit.

Drag Item	Drop Target
Population	P
Patient	P
Problem	P
Pitchforks	
Intervention	I
Integration	
Implementation	
Comparison	C
Control	
Outcome	O
Other Variables	
Opposing Views	

1.11 Breakdown Your Topic

Let's take a look at this topic or scenario:

You are a physical therapist; one of your aides says she has heard that tai chi is an effective therapy for preventing and reducing the risk of falls in the elderly.

She recommends implementing tai chi as part of a physical therapy routine for some of your elderly patients who are at risk of falling.

1.12 Topic-P

What is the P for this topic?

Did you say?
- elderly patients
- elderly patients at risk of falling
- can we be even more specific?

Do these individuals live in a nursing home or are they community dwelling?

Depending on your needs or assignment you can be as specific or broad as appropriate.

1.13 Topic-I

What is the I or intervention in this scenario?

Did you say tai chi?

1.14 Topic-C

What is the C?

Consider, what's an alternative treatment for your intervention? **Is** there an alternative or comparable treatment?

In this case the comparison is the status quo or simply not practicing tai chi.

1.15 Topic-O

What is the O for this topic?

In this case we are interested in reducing falls in our population.

How would we measure this? Is your outcome actually measurable?

Think about what would be a significant change in outcome?

1.16 PICO Breakdown

Here you can see our complete PICO [pee-co] breakdown using this example topic.

As a student or researcher you would do the same with your particular topic or area of interest.

1.17 Create a PICO Activity

(Drag and Drop, 10 points, 3 attempts permitted)

Review the scenario and select the correct options that correspond to the P, I, C, O in PICO.

Drag the options on the right to the boxes on the left.

When finished click SUBMIT.

Drag Item	Drop Target
obese children	Population, Patient, Problem
fresh fruit	Intervention
whole grain crackers	Comparison
reduced weight	Outcome

1.18 Possible PICO Questions

Once you've put the key concepts of your topic into a PICO format, it's easy to turn it into a thesis statement or research question.

Here are a couple of sample questions from the first topic we looked at.

Generally it is best to create your question while keeping the P, I, C, O order intact.

If there is no explicit C then the comparison can be left out of the question.

1.19 Exploring your PICO

Once you have turned your PICO into a thesis statement, or answerable research question you are almost ready to begin searching for articles to answer

your question.

First, consider what other words might be used to describe your question and the concepts you are interested in?

Here, you can see suggested synonyms and related ideas for our topic. Now you are ready to start searching research databases to find relevant information.

1.20 Learning Outcomes

Now that you have completed this tutorial, you can:

- explain what PICO is & what the letters P I C & O stand for
- apply the PICO framework to a specific topic or scenario
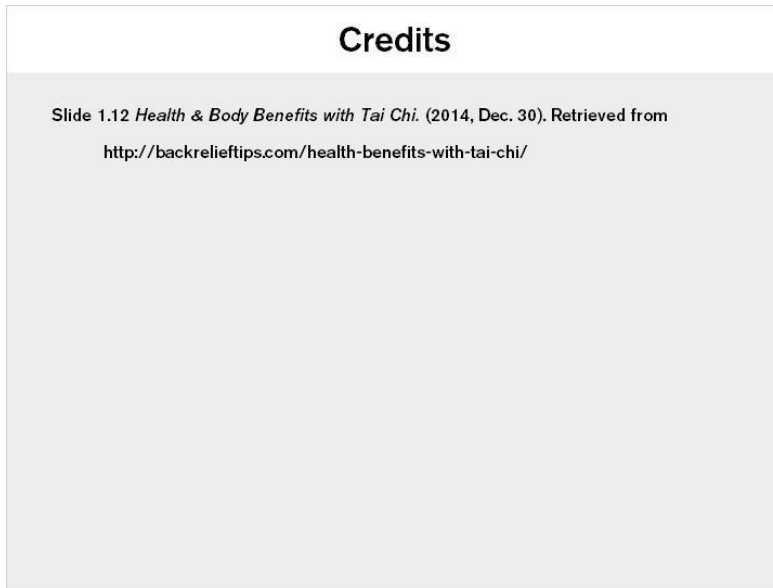- formulate an answerable research question using PICO

1.21 Conclusion

Congratulations, you've completed the *PICO* tutorial!

Click on "Tutorials" to return to the Tutorials page or "Next" to complete a brief quiz.

3. Credits

3.1 Credits

The sources and images used in the *PICO* tutorial are listed here.