# Pharm 832: What is PICO

Welcome to your Pharm 832 PICO tutorial. We will be doing this in class together and it **should take about 15 minutes** for your groups to go through this tutorial and then we will meet back in the main room to discuss. The activity will be reviewed by Kelleen and will be **worth 10 points**. **You only need to have 1 person in your group answer the questions and submit the certificate at the end.** If at any point you have questions while working feel free to use the Help option in Zoom and Kelleen will come to assist.

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# Pharm 832: What is PICO

## What is PICO?

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PICO is a way to frame your research questions with effective searching in mind. It allows you to pull key terms/concepts out to focus your search. PICO stands for:

- **P**atient/Problem
- **I**ntervention
- **C**omparison
- **O**utcome

Occasionally you will also see:

- **T** for **T**ime element

*We are indebted to the **Medical College of Wisconsin Libraries** for the basis of our chart.*
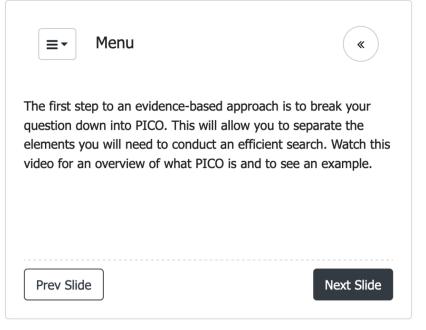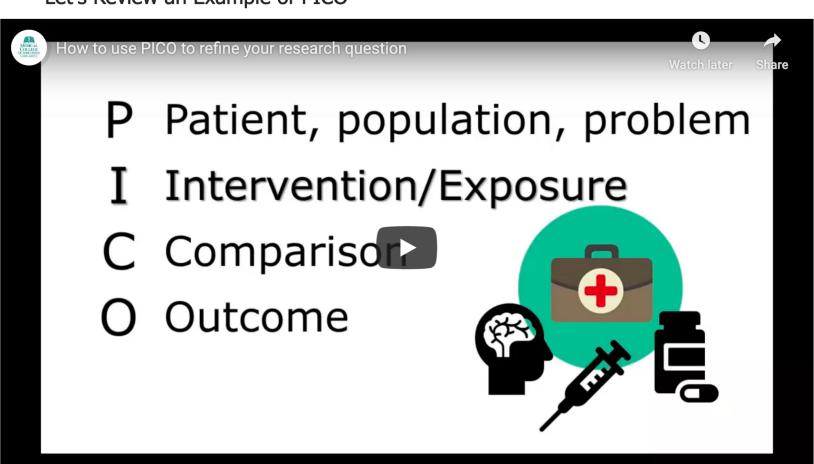
| Patient/Problem | Intervention | Comparison | Outcome |
|---|---|---|---|
| Who is your patient? What is the problem you are investigating? <br><br> • Health status <br> • Age, Sex, Race, etc. <br> • Concerns | What are you planning on doing or investigating to do for the patient? <br><br> • Medication or treatment <br> • Diagnostic test | What other options are there? What else do you want to investigate? | What do you and the patient wish to accomplish? (be specific) <br><br> • Accurate diagnosis <br> • Relieve or improve symptoms <br> • Improve quality of life |

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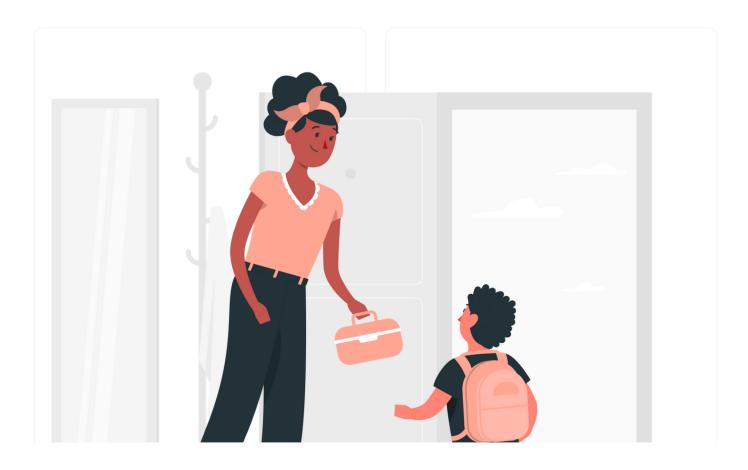
## Let's Review an Example of PICO

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The first step to an evidence-based approach is to break your question down into PICO. This will allow you to separate the elements you will need to conduct an efficient search. Watch this video for an overview of what PICO is and to see an example.

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How to use PICO to refine your research question

Watch later     Share

P Patient, population, problem

I Intervention/Exposure

C Comparison

O Outcome

# Let's Break That Down More

In this scenario we can see that the PICO was:

- **P**atient/Problem: Children with type 2 diabetes
- **I**ntervention: Metformin
- **C**omparison: Rosiglitazone
- **O**utcome: Glycemic control

Many times when creating a PICO out of a question people mix up the Intervention and the Comparison. On the surface that might not seem like a big deal, but it matters because when starting to search for your PICO you might actually want to only start with the Patient/Problem and Intervention.

Starting with Patient/Problem and Intervention in your initial search allows you to see what research is out there on your topic and helps to eliminate confirmation bias. You can look for the Comparison and Outcome when you browse abstracts and full text articles. If you are getting a large amount of articles in this initial search you can of course add the additional factors, but many times adding the Comparison and Outcome too early can lead to elimination of important resources.

Illustration by **Freepik Storyset**.

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# What is Confirmation Bias?

It is important to consistently check your own biases and your own preferences for reading one source over another. If you are looking for information that merely supports what you think is or should be the case or aren't checking your own search biases then you are committing confirmation bias.

The Pew Research Center has done research on news audiences and has rated news sources by the ideological leanings of their followers. A chart of this information can be viewed at: **Ideological Placement of Each Source's Audience**.

**When building your PICO you are helping to avoid confirmation bias because you are working to eliminate terms that aren't pertinent and might be based on biases.**

However, when selecting what keywords to search you still need to be aware of where biases might creep in. We will discuss that more when we begin searching.
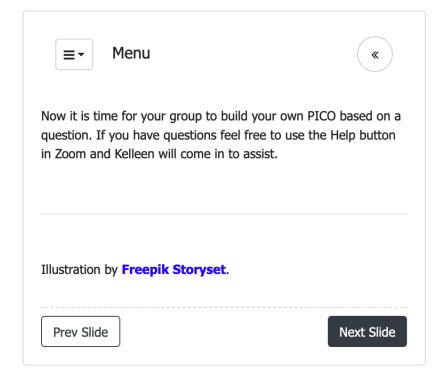
**Confirmation Bias is**

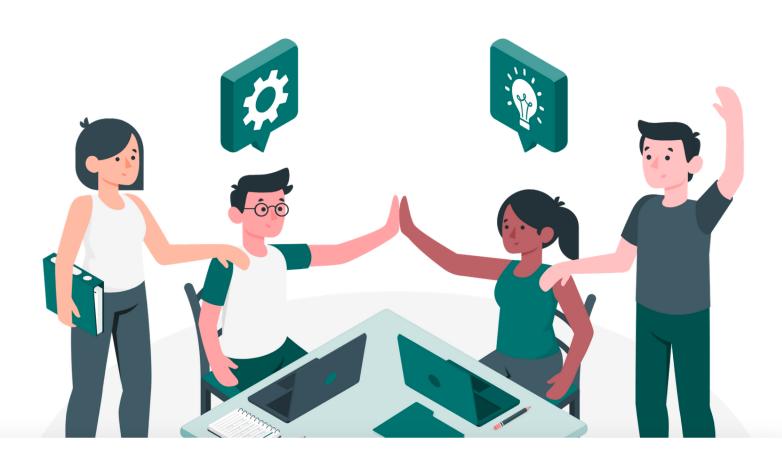Interpreting new evidence as validation of one's existing beliefs.

# Pharm 832: What is PICO

## Time to Try It!

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Now it is time for your group to build your own PICO based on a question. If you have questions feel free to use the Help button in Zoom and Kelleen will come in to assist.

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What is your group letter? (required)

You are a community pharmacist and a patient has an 11 year old boy with asthma. The parent has been told that the child should take inhaled steroids or corticosteroids but has heard that this can slow bone growth. The parent asks your advice as to whether their child should use the inhaled corticosteroids and if it will really impact their son's growth.

What is the question that you should be asking here? How would you parse out the question and phrase it? Write out the full question below, you don't need to break out the P/I/C/O yet.

**Example:** For the PICO that was listed in the video the question was "What is the efficacy of metformin versus rosiglitazone on glycemic control for children with Type 2 Diabetes?"

(required)

Now that you've identified the question please break out the P, I, C, and O in the lines below. Remember to pull out the appropriate keywords (take out any unnecessary words).

What is the P (Patient/Problem)? (required)

What is the I (Intervention)? (required)

What is the C (Comparison)? (required)

What is the O (Outcome)? (required)