

Using PICO to help define the problem

Evidence-Based Public Health Practice Step 1: Define the Issue

PICO is a taxonomy used in evidence-based medicine to help formulate questions. It is not prescriptive in that it doesn't tell you how to do an intervention or a comparison. You have to make those determinations.

PICO (EBM) stands for

- ✦ **Patient**
- ✦ **Intervention**
- ✦ **Comparison**
- ✦ **Outcome**

PICO (EBPH) stands for

- ✦ **Population**
- ✦ **Intervention**
- ✦ **Comparison**
- ✦ **Outcome**

The following are two examples that demonstrate how PICO can be used to develop a question for use in public health research.

Example 1: A group of children come down with measles. The parents of these kids are concerned about the potential health risks of vaccinations and have decided not to vaccinate any of their kids. You need to develop an intervention that increases the likelihood that this group will vaccinate their kids.

- ✦ **Population: children with measles**
- ✦ **Intervention/exposure: program to increase vaccinations**
- ✦ **Comparison: group not exposed**
- ✦ **Outcome: Does the exposed group have an increased rate of vaccinations compared to the non-exposed group? Is there a decreased rate of measles among the children of parents exposed to the intervention?**

Example 2: There is a section of town which has a high prevalence rate of obesity and diabetes. There are many churches in that area so you decide to work with the churches to develop a series of interventions to reduce both obesity and diabetes. One of the programs will target foods served at church-sponsored events which are mostly pot-luck.

- ✦ **Population: members of a group of churches in an area of town**
- ✦ **Intervention: program designed to improve types of foods served at church-sponsored events**
- ✦ **Comparison: foods served before the intervention**
- ✦ **Outcome: Are more nutritious foods served at church-sponsored events after the intervention?**

PICO helps to begin the planning process and, by using it, you can develop a concise statement of work with bullet points that are easily understood and highly transportable.

PICO can also be used when you meet with community members to help define your populations and interventions. The example above shows just one arm of an intervention; the PICO statement could have the same population with several interventions (exercise, improve grocery stores in the area, etc.)

Research isn't something that takes place only at universities; it can (and should!) occur in practice at the point of intervention. As dollars become scarce, it is vital to determine which programs are effective and which need to be tossed. PICO is one tool to help begin that planning process.

This project has been funded in part with Federal funds from the National Library of Medicine National Institutes of Health, Department of Health and Human Services, under Contract No NOI-LM-6-3505.