

To make your case, start with a PICOT question

By Ilija M. Echevarria, MS, MSN, RN, CCRN, CHES, NEA-BC, and Susan Walker, DrNP, RN-BC

AT THE MONTHLY staff meeting, Steve's nurse manager Janis is reviewing sternal wound infection metrics for the unit. Because cardiac surgical site infections have increased, she's discussing possible reasons and solutions. Recalling an article he'd read recently, Steve suggests using chlorhexidine bath wipes to reduce surgical site infections.

Janis says, "The wipes are just too expensive. We can't commit to purchasing the wipes when we aren't even sure they'd work." Other staff members have heard conflicting information about chlorhexidine wipes and believe they're not recommended for cardiac patients.

Feeling strongly about the benefits of chlorhexidine wipes, Steve asks Janis to trial the product. She says that if he can produce literature supporting his argument, she'll consider purchasing the wipes for a trial. Steve hasn't done a literature search since he was in nursing school and isn't sure how to begin.

What's the optimum way to find the best evidence? This article will help nurses get started by forming a

clinical or researchable question with an evidence-based practice framework: A well-constructed PICOT question helps find the best evidence available to influence practice.¹ PICOT is an acronym for five key components to a clinical research question. (See *PICOT, point by point.*) The question should be formulated before starting a literature search.

Comparing questions

Finding the best possible evidence requires nurses to formulate a clinical question systematically.² First, they need to consider the two types of questions.

- *Background questions* are broad ones commonly answered in textbooks. These questions typically begin with *what* or *when*. For example, "What are the signs and symptoms of digoxin toxicity?" When answered, background questions enhance general knowledge. Background questions serve as a foundation for foreground questions.
- *Foreground questions* are specific to a clinical issue. When these questions are answered, they provide evidence

for clinical decision making.¹ For example, "In heart failure patients, how do weekly digoxin education sessions compared with monthly education sessions affect the incidence of digoxin toxicity?" According to Stillwell et al., foreground questions can help clinicians decide which of two interventions will improve patient outcomes more effectively.

Foreground questions can be addressed with the PICOT system, which covers these five components: patient population, intervention or issue of interest, comparison intervention or group, outcome, and time frame.³ In the case of the chlorhexidine bath wipes, cardiac surgery patients are the population (P), chlorhexidine bath wipes are the intervention (I), soap and water is the comparison intervention (C), sternal wound infection rates are the outcome (O), and the postoperative period is the time (T) taken for the intervention to achieve an outcome. One way of writing the clinical or researchable question is, "In cardiac surgery patients (P), how does the use of chlorhexidine bath wipes (I) compared with soap and water (C) affect sternal wound infection rates (O) postoperatively (T)?"

Shaping an inquiry

When formulating a PICOT question, nurses must make sure they're using the most appropriate template to frame the question. Melynk and Fineout-Overholt described five types of clinical questions that can be asked and suggested templates that can be used to frame the question.³

PICOT, point by point

PICOT is an acronym for the following components of a clinical question

P	Patient population	What's the patient or group of patients of interest?
I	Intervention of interest	What's the main intervention or treatment you wish to consider?
C	Comparison intervention	Is there an alternative intervention or treatment to compare?
O	Outcome(s)	What's the clinical outcome(s)?
T	Time*	How much time does it take to demonstrate the clinical outcome(s)?

*Note that the time (T) component of the PICOT question isn't always required.

(See *Question templates for asking PICOT questions.*)

These are the five question types:

1. Intervention (or issue of interest): used to determine which treatment leads to the best outcome. For example: In patients at risk for falls (P), how does hourly rounding (I) compared with rounding every 2 hours (C) affect the incidence of falls (O)?

2. Prognosis or prediction: used to determine the clinical course over time and likely complications of a condition. For example: In patients who have a family history of heart disease (P), how does choosing to participate in a nutrition program (I) compared with not choosing to participate in a nutrition program (C) influence healthy food consumption (O) over 6 months (T)?

3. Diagnosis or diagnostic test: used to determine which test is more accurate in diagnosing a condition. For example: In patients with suspected type 2 diabetes (P), is the A1C (I) compared with the fasting plasma glucose (C) more accurate in diagnosing type 2 diabetes (O)?

4. Etiology: used to determine the greatest risk factors or causes of a condition. For example: Are children (P) who have sedentary lifestyles (I) compared with children without sedentary lifestyles (C) at higher risk of developing obesity (O) over a 6-month period (T)?

5. Meaning: used to understand the significance of an experience for an individual, group, or community. For example, how do women (P) with postpartum depression (I) perceive their ability to function (O) during the postpartum period (T)?

Note that in the template proposed, time (T) and comparison (C) aren't always appropriate for every question, but population (P), inter-

Question templates for asking PICOT questions

INTERVENTION

In _____ (P), how does _____ (I) compared to _____ (C) affect _____ (O) within _____ (T)?

PROGNOSIS OR PREDICTION

In _____ (P), how does _____ (I) compared to _____ (C) influence/predict _____ (O) over _____ (T)?

DIAGNOSIS OR DIAGNOSTIC TEST

In _____ (P) are/is _____ (I) compared with _____ (C) more accurate in diagnosing _____ (O)?

ETIOLOGY

Are _____ (P), who have _____ (I) compared with those without _____ (C) at _____ risk for/of _____ (O) over _____ (T)?

MEANING

How do _____ (P) with _____ (I) perceive _____ (O) during _____ (T)?

Source: Melnyk BM, Fineout-Overholt E. *Evidence-Based Practice in Nursing and Healthcare: A Guide to Best Practice*. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2011. With permission.

vention or issue of interest (I), and outcome (O) are always present.

The example given in the beginning of the article about chlorhexidine wipes used the intervention template. So how did that turn out? Upon researching his question, Steve was able to provide evidence for his nurse manager Janis about the effects of chlorhexidine wipes on sternal wound infection rates. The literature supported his position that cardiac surgery patients who'd been bathed with chlorhexidine wipes had better sternal wound infection rates when compared with patients who'd been bathed with only soap and water. As a result, Steve's nurse manager agreed to pilot the use of chlorhexidine wipes.

Questioning minds

Clinical nurses routinely face scenarios in which they encounter more questions than answers: Questions about what works better, why things are done the way they are, or why unusual things happen. Engaging

nurses to ask questions encourages ownership of their practice and empowers them to make positive changes in patient care.⁴ Framing questions in a PICOT format takes practice, and nurses should be encouraged to embrace this process. ■

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Ilia M. Echevarria is an administrative director in critical care and inpatient services at Virtua Health in Marlton, N.J. Susan Walker is a clinical nurse education specialist and a nurse residency coordinator at Pennsylvania Hospital of Penn Medicine in Philadelphia, Pa.

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