How to Write a Clinical Question

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Overview

• Why it’s important to know how to write a question
• How to write clinical questions
• Practice writing questions
  – As I’m reviewing please be thinking of clinical questions you have in your current practice
• Review and group feedback of some questions
Objectives

• Identify the 4 components of a clinical question using the PICO format
• Apply PICO concepts and formulate a clinical question
• Constructively critique a clinical question

GOAL

you will leave here with a question you can take back to your work place and use!!
Why is it important to know how to write a clinical question?

• Evidence Based Practice
  – Conscientious use of current best evidence in making decisions about patient care\(^1\)
  – It’s an approach that enables clinicians to provide quality healthcare\(^2\)

• There are multiple EBP models and processes
  – One common aspect is writing the clinical question

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\(^1\) Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000
\(^2\) Melnyk & Fineout-Overholt, 2005
Johns Hopkins Nursing Evidence-Based Practice Model

Practice

Internal Factors
- Culture
- Environment
- Equipment/Supplies
- Staffing
- Standards

Research
- Experimental
- Quasi-experimental
- Non-experimental
- Qualitative

Non-Research
- Organizational experience
  - Quality improvement
  - Financial data
- Clinical expertise
- Patient preference

External Factors
- Accreditation
- Legislation
- Quality Measures
- Regulation
- Standards

Education

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Step 1: Identify an EBP question

### PRACTICE QUESTION
- **STEP 1:** Identify an EBP question
- **STEP 2:** Define scope of practice question
- **STEP 3:** Assign responsibility for leadership
- **STEP 4:** Recruit multidisciplinary team
- **STEP 5:** Schedule team conference

### EVIDENCE
- **STEP 6:** Conduct internal and external search for evidence
- **STEP 7:** Critique all types of evidence
- **STEP 8:** Summarize evidence
- **STEP 9:** Rate strength of evidence
- **STEP 10:** Develop recommendations for change in processes or systems of care based on the strength of evidence

### TRANSLATION
- **STEP 11:** Determine appropriateness and feasibility of translating recommendations into the specific practice setting
- **STEP 12:** Create action plan
- **STEP 13:** Implement change
- **STEP 14:** Evaluate outcomes
- **STEP 15:** Report results of preliminary evaluation to decision makers
- **STEP 16:** Secure support from decision makers to implement recommended change internally
- **STEP 17:** Identify next steps
- **STEP 18:** Communicate findings
Why is it important to know how to write a clinical question?

• Because it is a key step in the EBP process and EBP is how “we” improve the care “we” provide to patients and families.

• Writing a well-developed, well-structured question
  – Drives the search strategy and narrows the focus of the search
  – Provides focus to the project

Melnyk & Fineout-Overholt, 2005
Newhouse et al, 2007
How do you write a question?

• PICO
  – P= population, patient or problem
  – I= Intervention
    • For questions where there is no intervention it can stand for area of interest
  – C= Comparison
  – O= Outcome
PICO

• P=Identify the patient, population or problem succinctly.
  – Considerations: age, gender, setting, symptoms
• I= Intervention can be a treatment, an educational intervention, or administrative. It can also be an area of interest such as post-op surgical complications
• C= Comparison with another intervention or comparison with another group. This can be a comparison with usual care.
• O=Outcome of interest
PICO Example

What is the duration of breast feeding in new mothers who have breast-related complications in the first 3 months after giving birth compared to mothers who do not have complications?

- **P** = new breast feeding mothers
- **I (area of interest)** = breast feeding complications
- **C** = mothers who do not have complications
- **O** = breast feeding duration
Clinical Scenario

Pediatric triage nurses reported frequently responding to parental calls regarding febrile school-age children. There was no policy on whether to recommend acetaminophen or ibuprofen for temperatures of 100.4F or higher.

PICO= In febrile school-age children with temperatures greater than 100.4F, which is more effective in fever reduction, acetaminophen or ibuprofen?

• P= febrile school-age children with temperatures greater than 100.4F
• I= acetaminophen or ibuprofen
• C= which is more effective
• O= fever reduction

Neville & Horbatt, 2008
Clinical Scenario

After attending a healthcare conference on alternative therapies and learning about the use of acupuncture as a treatment of asthma in adults, 2 nurses were interested in exploring this treatment option.

PICO = Among adults with asthma, is acupuncture more effective than oral inhaled steroids in maintaining effective respiratory function?

- P = adults with asthma
- I = acupuncture
- C = oral inhaled steroids
- O = effective respiratory function

Neville & Horbatt, 2008
<table>
<thead>
<tr>
<th>JHNEBP Question Development</th>
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<tbody>
<tr>
<td><strong>What is the practice issue?</strong></td>
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<tr>
<td><strong>1. What is the practice area?</strong></td>
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<td><strong>2. How was the practice issue identified?</strong> (Check all that apply)</td>
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<tr>
<td>- Safety/risk management concerns</td>
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<td>- Unsatisfactory patient outcomes</td>
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<td>- Wide variations in practice</td>
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<td>- Significant financial concerns</td>
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<td>- Difference between hospital and community practice</td>
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<td>- Clinical practice issue is a concern</td>
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<td>- Procedure or process is a time waster</td>
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<td>- Clinical practice issue has no scientific base</td>
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<td><strong>3. What is the scope of the problem?</strong></td>
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<td><strong>4. What are the PICO Components?</strong></td>
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<tr>
<td><strong>P</strong> – (Patient, Population or Problem):</td>
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<tr>
<td><strong>I</strong> – (Intervention):</td>
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<tr>
<td><strong>C</strong> – (Comparison with other treatments, if applicable):</td>
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<td><strong>O</strong> – (Outcomes):</td>
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<td><strong>5. What evidence must be gathered?</strong> (Check all that apply)</td>
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<tr>
<td>- Literature Search</td>
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<td>- Standards (Regulatory, Professional, Community)</td>
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<tr>
<td>- Guidelines</td>
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<tr>
<td>- Expert Opinion</td>
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<td>- Patient Preferences</td>
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<td>- Clinical Expertise</td>
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<td>- Financial Analysis</td>
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<td><strong>6. State the search question in narrow manageable terms:</strong></td>
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Does the early administration of beta blockers improve the in-hospital mortality rate of patients admitted with acute coronary syndrome?

P = patients admitted with ACS
I = early administration of beta blockers
C = usual care? Late administration? No administration?
O = in-hospital mortality rate

Should family members be present when their child is being resuscitated?

P = Children being resuscitated
I = Family members present
C = Family members not present (assumed)
O = Unknown

Potential outcomes: reduce anxiety?

What are the benefits of family members being present…?
Summary

• Writing a clinical question is the first step in the EBP process
• The quality of the question drives the remainder of the process
• PICO is a standardized method of writing a well-structured question
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