WHEN PICO DOESN’T CUT IT:
FORMULATING WELL-BUILT RESEARCH QUESTIONS, LITERATURE SEARCH PROCESSES, AND PARAMETERS FOR UNIQUE HEALTH CARE TOPICS

INTRODUCTION
What is PICO?

P = Patient Group
- Specific features; i.e., age group, disease type, comorbidities, health care setting, etc.

I = Intervention
- Specific drug name, route of administration, surgery, diagnostic test, etc.
- The alternative intervention that is being compared to the intervention in question (e.g., similar drug, standard of care). If no comparison is necessary, this field is left blank.

C = Comparator
- Results regarding clinical benefits, clinical harms, costs, cost-effectiveness, or guidelines, for the use of the intervention described.

O = Outcomes

Applying PICO in Rapid Response
The goal of the topic refinement process at the Canadian Agency for Drugs and Technologies in Health (CADTH) is to gather specific information for each part of PICO and use it to form research questions and literature search processes. The literature search process includes two or three defined concepts — often well-aligned within the PICO framework. Traditionally, concepts of PICO are combined with the Boolean operator “AND” to ensure relevant results. The grey literature search is completed using a list of validated websites, plus a limited Google search.

Why PICO Doesn’t Always Cut It
Recently, CADTH’s Rapid Response service expanded to include new topics such as health human resources, health systems, and patient-reported outcomes. It became evident that CADTH needed to modify the way it applied PICO to these new topics. Search processes often require more advanced search strategies for both database and grey literature searching. This has been the case for approximately 25% of Rapid Response products in 2011 and 2012.

Case Studies: Topics Related to Health Systems and Health Human Resources
Applying the PICO framework to topics related to health systems and health human resources is challenging:
- There is often more than one population of interest; a patient group may be a patient care setting.
- It may not be a “typical” intervention (e.g., the intervention may be a checklist, a grouping of checklists, a tool, a communications model, a technique).
- Research questions must still be specific, open-ended, and detailed, but may be more general with respect to the population and more conceptual with respect to the intervention.

With these new questions, the literature search includes “soft concepts,” such as “screening” and “transfer,” which pose new challenges:
- More complicated literature search strategy
- Retrieval of extraneous results, which may require the Boolean operator “NOT” to be used
- Use of phrase searching (e.g., “patient transfer”), which is done with caution (results may be unintentionally excluded)
- Requirement to rely more heavily on association websites and Google searches
- More time- and labour-intensive and yields less evidence-based results.

CONCLUSION
New topics in the CADTH Rapid Response service have created new challenges in applying the PICO framework. In response, researchers have adapted the PICO framework and modified the way in which research questions are written, and Information Specialists have made developments in both interpretation and searching techniques.