How do we know what we know? Teaching evidence-based practice in paramedicine

Neil McDonald, Winnipeg Fire Paramedic Service

Project Overview

- Paramedic students will choose a clinical question and review current research literature to formulate an answer to it.
- Students will generate both written and oral presentations of their findings.
- Students will gain an appreciation of the value of research for the profession and how they can continue to integrate research findings into their clinical practice.

Example Topic: How to develop a PICO question

**Objectives**

At the conclusion of the topic, students will be able to:

- Define the PICO format
- Discuss the benefits and limitations of PICO
- Critique sample PICO questions
- Appraise strengths and weaknesses of PICO questions drafted by their colleagues and themselves
- Formulate their own PICO question

**Delivery**

- Preparation: students will arrive with an identified area of clinical interest
- Lecture: define elements of PICO
- Group discussion:
  - activity – PICO “slots”
  - critique PICO’s drawn from the literature
  - reverse-engineer PICO’s from published studies
  - workshop class PICO’s

Strategies and implementation

**Knowledge and comprehension**

- Pre-reading and lectures

**Application and analysis**

- Exercises and discussions, where students demonstrate their understanding of concepts, critique areas of practice, and inspect and question existing studies.

**Synthesis and evaluation**

- Case studies and simulated problems that ask students to assess existing research, evaluate internal and external validity, and create their own summaries and judgements.

**Evaluation**

**Reaction**

Students will evaluate the delivery of each topic on an ongoing basis with existing “smile-sheet” feedback forms.

**Knowledge**

Students will demonstrate their accumulated knowledge and skills in their final essay and presentation.

**Behavior**

After the project, students will be (voluntarily) tracked for 14 hours throughout the academic year, culminating in the submission of a final paper and oral presentation on a service-wide research day.

**Results**

In cases where a student’s project contributes to practice change, related patient- and system-level outcomes will be tracked.

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