

# Impact of a community based EBM workshop on participants' clinical practice and teaching of EBM

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# Conflict of interest

- We have no financial conflicts of interest to declare
- *Nous avons pas de conflits d'intérêts financiers à déclarer*



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# Needs Assessment

## Perceived needs

Clinical faculty at NOSM expressed concern that they were **expected to teach EBM** without feeling confident in their ability to do so

Postgraduate learners felt that EBM was being taught in a vacuum, **without application at the bedside\***

\*Dr. C. Cervin, private communication



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# What did participants want help with?

- ***Tips for teaching EBM***
- New resources
- Enhanced quick search skills
- Discover alternatives to UpToDate
- ***An EBM refresher***
- Take advantage of a locally based CEPD opportunity



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# What rarely came up?

- Help with **critical appraisal**
- Help with **understanding statistical concepts**
- Enhanced deep search skills



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# Unperceived need: PICO



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# Literature Review

- Literature search revealed that in one study a half day workshop on critical appraisal resulted in no long term change in behaviour (1)
- Another study showed that a longer workshop improved attitudes and knowledge about EBM, with no discernible change in behaviour apart from an increased use of a drug database (2)

(1) Taylor RS, Reeves, BC et al. Critical appraisal skills training for health care professionals: a randomized controlled trial. BMC Medical education 2204, 4:30.

(2) Shuval K, Shachak A et al. The impact of an evidence-based medicine educational intervention on primary care physicians: a qualitative study. Journal of the Society of General Internal Medicine 2007; 22:327-331.



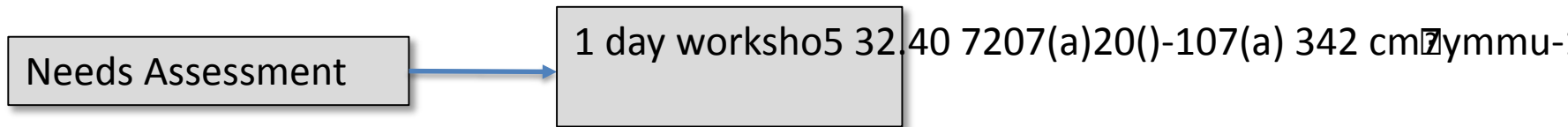
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# Study design and data analysis



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# Participation

Total # of participants	110
# who filled out the pre-workshop questionnaire	105
# who filled out the post-workshop questionnaire	95
# who filled out post-workshop questionnaire at 3-12 months	40



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# Typical agenda

- *Introduction to the 5 A's of EBM*
- *How to frame a searchable question (PICO)*
- *Resources for “hunting” and “foraging” for information*
- Common tricks in the literature
- Teaching EBM on the run
- Hands-on session taking a clinical scenario and finding an answer
- Other topics that individual communities identified

# Steps to Evidence-Based Medicine (5 A's)

Adapted from School of Public Health University of Wisconsin-Madison

- Step 1: Define a Clinical Question
- Step 2: Find the Evidence
- Step 3: Assess the evidence (Critical Appraisal)
  - Not emphasized, unless community requested it
- Step 4: Apply the Evidence
- Step 5: Communicate
  - Communicate information to patients and integrate patient values and preferences in decision-making<sup>1</sup>

1. McAlister FA, Straus SE, Guyatt GH, Haynes RB for the Evidence-Based Working Group. User's guide to the medical literature: XX. Integrating research evidence with the care of the individual patient. *JAMA*. 2000;283(1):2829-36.



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# Methodology to develop a searchable question

P	Patient, Population, or Problem	How would I describe a group of patients similar to mine?
I	Intervention, Prognostic Factor, or Exposure	Which main intervention, prognostic factor, or exposure am I considering?
C	Comparison or Intervention (if appropriate)	What is the main alternative to compare with the intervention?
O	Outcome you would like to measure or achieve	What can I hope to accomplish, measure, improve, or affect?



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# Clinical scenario

Albert is a 62 year old patient. He quit smoking 10 years ago, he has no known renal or CV problems and his cholesterol is so-so. His BMI is 29.

His last six BP readings have averaged 154/96

*“Do I really have to take blood pressure pills, doc?”*



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# Clinical scenario Defining the population

How the population is defined?

- Middle-aged?
- Over 60?
- Male?
- Hypertension Rx?
- Class 1 hypertension?
- Primary prevention?



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# Define Clinical Outcome

And how the outcomes are defined:

- Mortality?
- Stroke?
- Myocardial infarction?
- Renal failure?
- Some combination?



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*“The multitude of guidelines from respected professional bodies...have caused needless confusion bordering on chaos”*

(Editorial, J Clin Hypertens 2004; 16:251)

Canadian Hypertension Education Program. (CHEP 2015)	Maybe –depend how you define “other cardiovascular risk factors”
National Institute for Health and Care Excellence (NICE)	No
Eighth Joint National Committee (JNC 8)	Yes
Cochrane 2012	No
Sundstron et. al, <i>Effects of blood pressure reduction in mild hypertension: a systematic review and meta-analysis</i> . Ann Int Med 2015 Feb 3;162(3)	Weak benefit



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# Questions

1. Can a one-day workshop improve faculty comfort with practicing and teaching EBM?

YES

# Questions

2. Which parts of the workshop, if any, resulted in changes to practice or behaviour?

- Using more resources
- Using PICO
- Getting learners to do more searches  
(Kirkpatrick Level 3- change in behaviour)

# Stratification of impact of a learning intervention

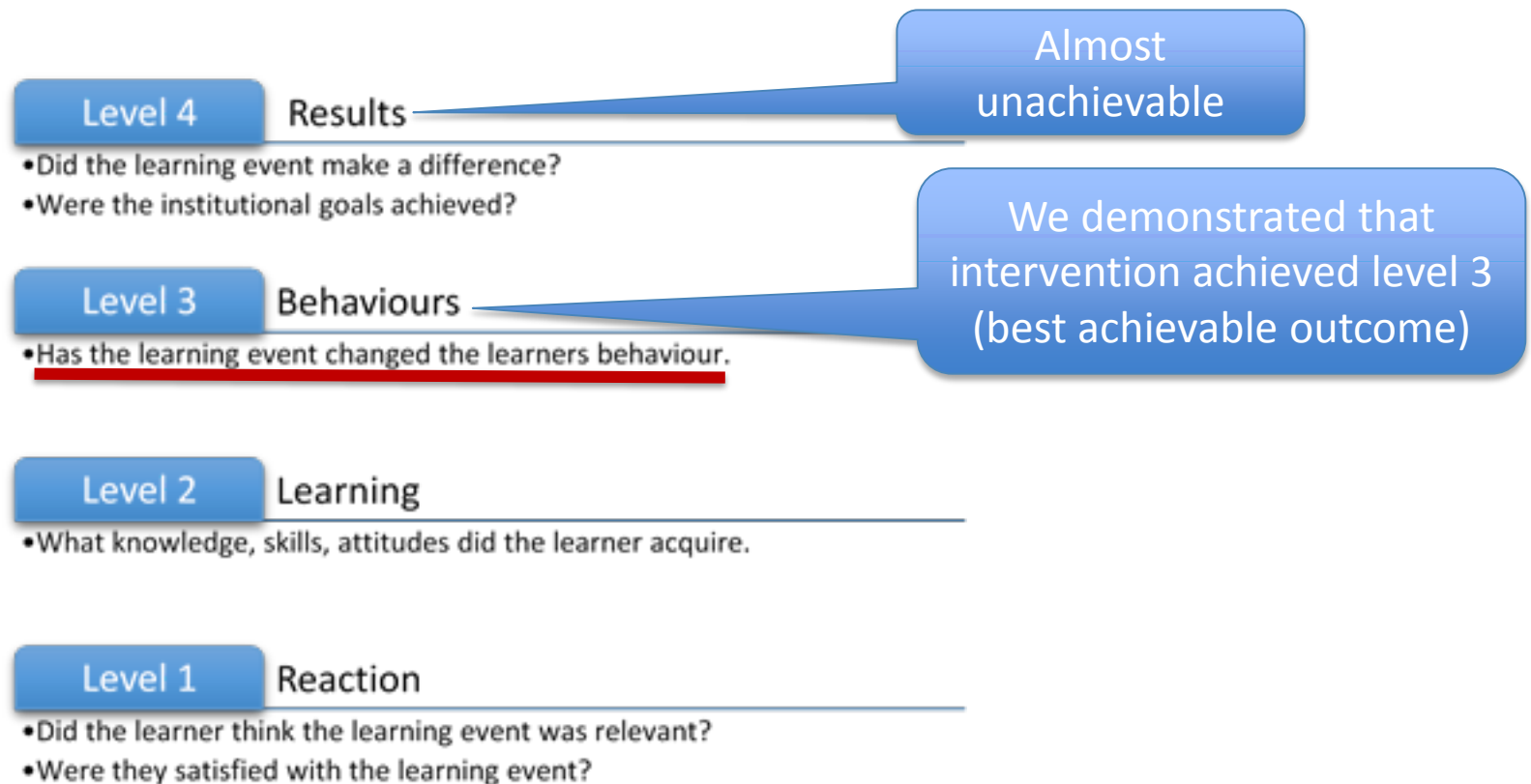


Figure 1. Kirkpatrick's Model of Evaluation



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# Survey Questions: 5 point Likert scale

*“Please indicate your comfort level with each of the following?”*

1. Your ability to *keep up to date* using high-quality, evidence-based resources
2. Your ability to *find and apply answers* in response to *specific clinical problems*
3. Your ability to *teach EBM* to learners
4. Your ability to *role model* EBM for learners



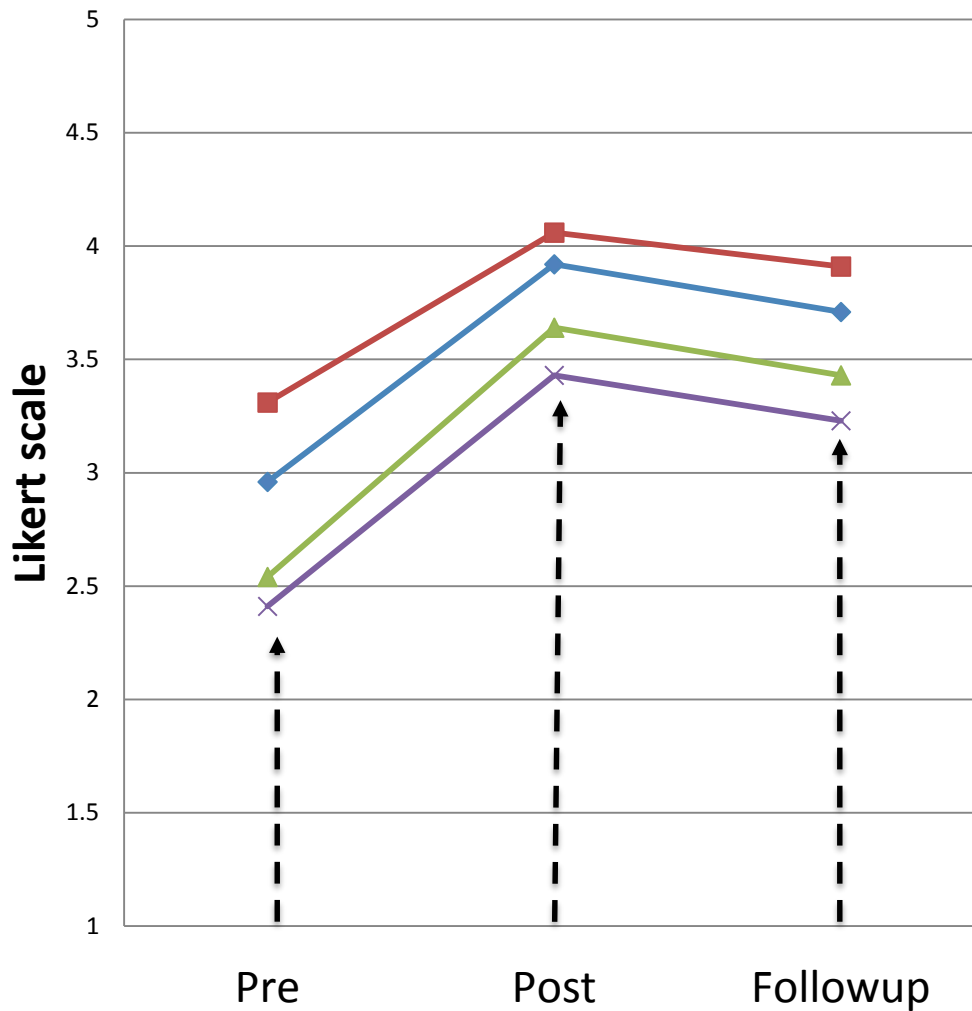
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# Surveys Results



Changes were sustained at 3-12 months later

Q1: keep up to date

Q2: answers to clinical questions

Q3: teach EBM

Q4: role modeling

*Differences between pre-workshop, immediate post and 3-12 months later were statistically significant ( $p < 0.001$ )*

# Qualitative Data results

- Most useful components of workshops

- Teaching tips

- “[...]To see an approach to teaching those particular topics.” (A 004)”*

- New resources and apps

- “[...]learning about resources that I may not be aware of to support evidence-based practice.” (A 004)*

- Tips on quick search strategies

- “[...]more resources, places where I could turn to be able to quickly look up results or answers for a clinical question I might have had.” (B 003)*



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# PICO Qualitative Data Quotes

*“Yes I do [use PICO] and that’s totally new, I wasn’t using the PICO system before at all.”*

*“...that's the way I often will frame a question on the TRIP Database. And it usually leads me to articles and then reviewing the articles will help direct my therapy of the patient.”*

*“That’s the other thing I learned from the workshop was how to use [PICO]. [...] I think that’s a good system when you know how to use it. [...] Like I didn’t – I never even heard of it before the workshop.”*

*“I had a resident at that time so that spurred me to assign a lot more PICO questions to try and answer critical questions.”*



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# *“What had changed in your teaching or practice?”*

- **Using new resources**
  - TRIP
  - Dynamed
  - Evidence Updates from BMJ
  - TheNNT.com
- **Getting learners to do more searches**
- Half reported they were now using PICO for teaching or clinical practice, when less than 5% were using it before



# Conclusions

- Clinical faculty report **more comfort with teaching and practicing EBM** after a one-day workshop, and this effect is **sustained 3-12 months later**



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# Conclusions

- Months after a workshop, many participants are **continuing to use the resources** they were introduced to, specifically TRIP, Dynamed, Clinical updates and TheNNT.com



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# Conclusions

Half the participants reporting that they were using **PICO for teaching, clinical practice or both 3-12 months after the workshop**



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# Questions?