

# EBM as a Clinical Competence Teaching Clinical Trainers

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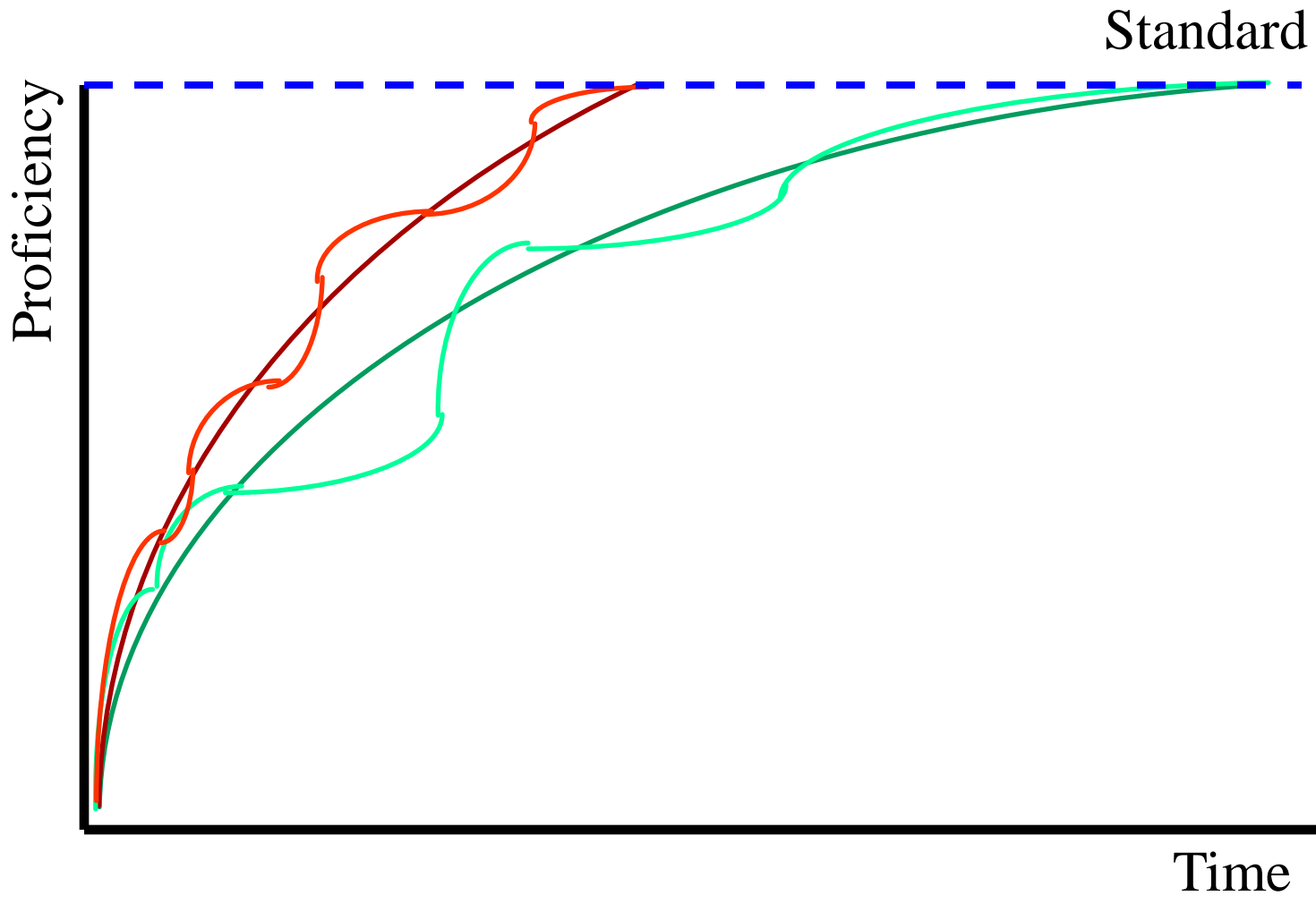
# EBM: Teaching Clinical Teachers

- Why
- How
- Results
- Conclusion

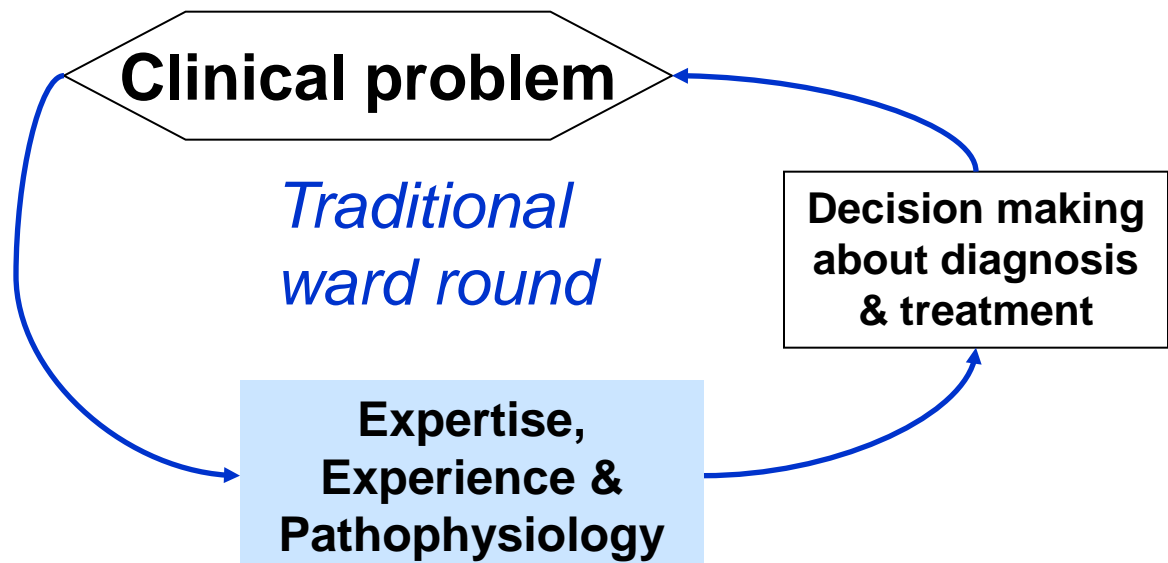
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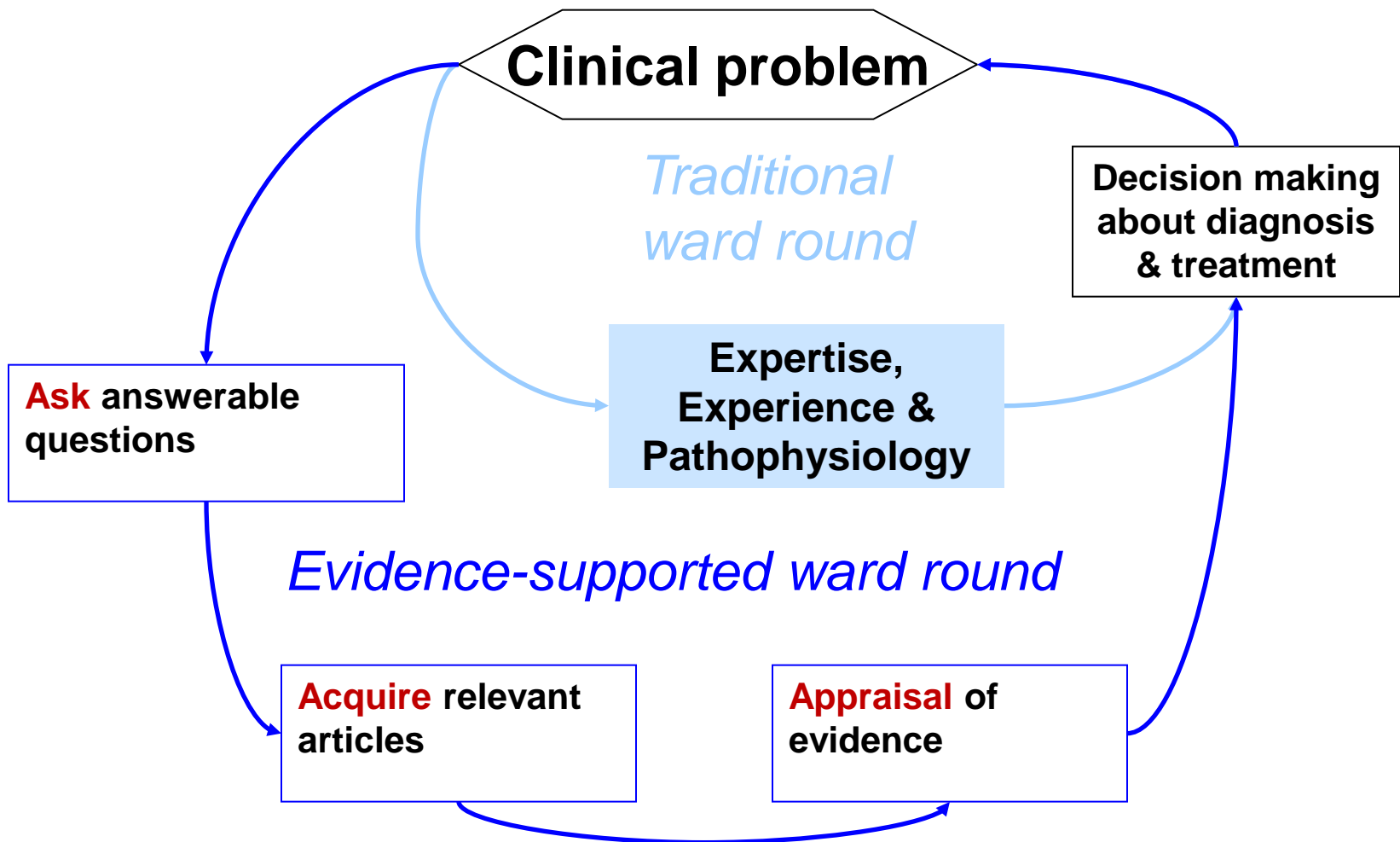






## **Incorporating the views of obstetric clinicians in implementing evidence-supported labour and delivery suite ward rounds: a case study**

Neelima Deshpande, Mary Publicover, Harry Gee and Khalid S. Khan, Birmingham Women's Health Care NHS Trust, Birmingham, UK



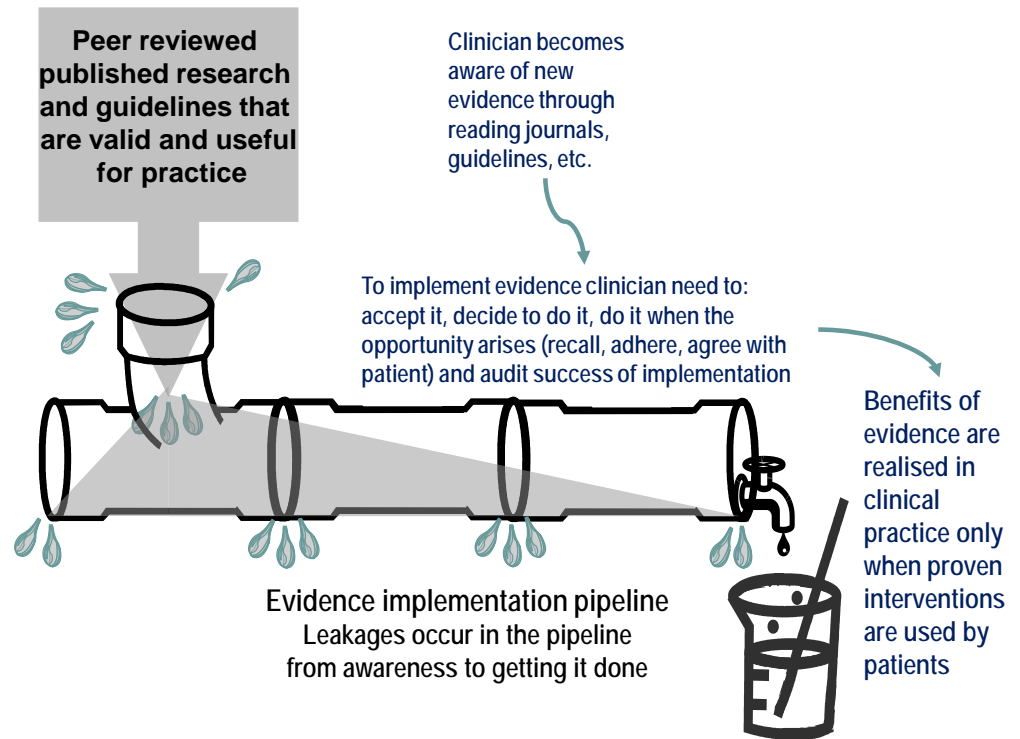
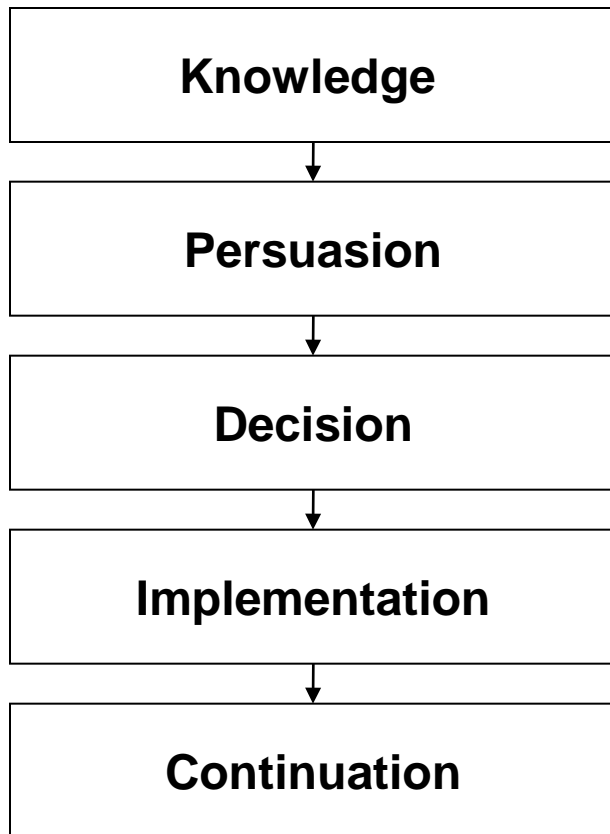
# Five steps from evidence to effect: exercising clinical freedom to implement research findings

R Kulier,<sup>a,b</sup> H Gee,<sup>a,b</sup> KS Khan<sup>a,b</sup>

<sup>a</sup> Education Resource Centre, Birmingham Women's Hospital, Birmingham, UK <sup>b</sup> Division of Reproductive and Child Health, University of Birmingham, Birmingham, UK

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# BMC Medical Education

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Debate

## **A hierarchy of effective teaching and learning to acquire competence in evidenced-based medicine**

Khalid S Khan<sup>\*1,2</sup> and Arri Coomarasamy<sup>1</sup>

**Table 2: A hierarchy of evidence-based medicine (EBM) teaching and learning**

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Level 1:

Interactive, and clinically integrated teaching and learning activities

Level 2:

(a) Interactive, classroom based teaching and learning activities

(b) Didactic, but clinically integrated teaching and learning activities

Level 3:

Didactic, and classroom or standalone teaching and learning activities

---



## Knowledge

- **Knowledge**      • Remembering materials
- **Comprehension**      • Grasping the meaning
- **Application**      • Using knowledge in new situations
- **Analysis**      • Understanding organizational structure
- **Synthesis**      • Formulating new structures
- **Evaluation**      • Judging the value of materials

## Skills

- **Perception**      • Obtaining cues
- **Set**      • Getting ready
- **Guided response**      • Imitating
- **Mechanism**      • Performing confidently
- **Overt response**      • Performing quickly and accurately
- **Adaptation**      • Performing in various circumstances
- **Origination**      • Creating original performance

## Attitudes & Behaviour

- **Receiving**      • Showing awareness
- **Responding**      • Responding to stimuli
- **Valuing**      • Worth attached to particular behaviour
- **Organisation**      • Developing a value system. Resolving conflict between different values
- **Characterisation**      • Life style or behaviour

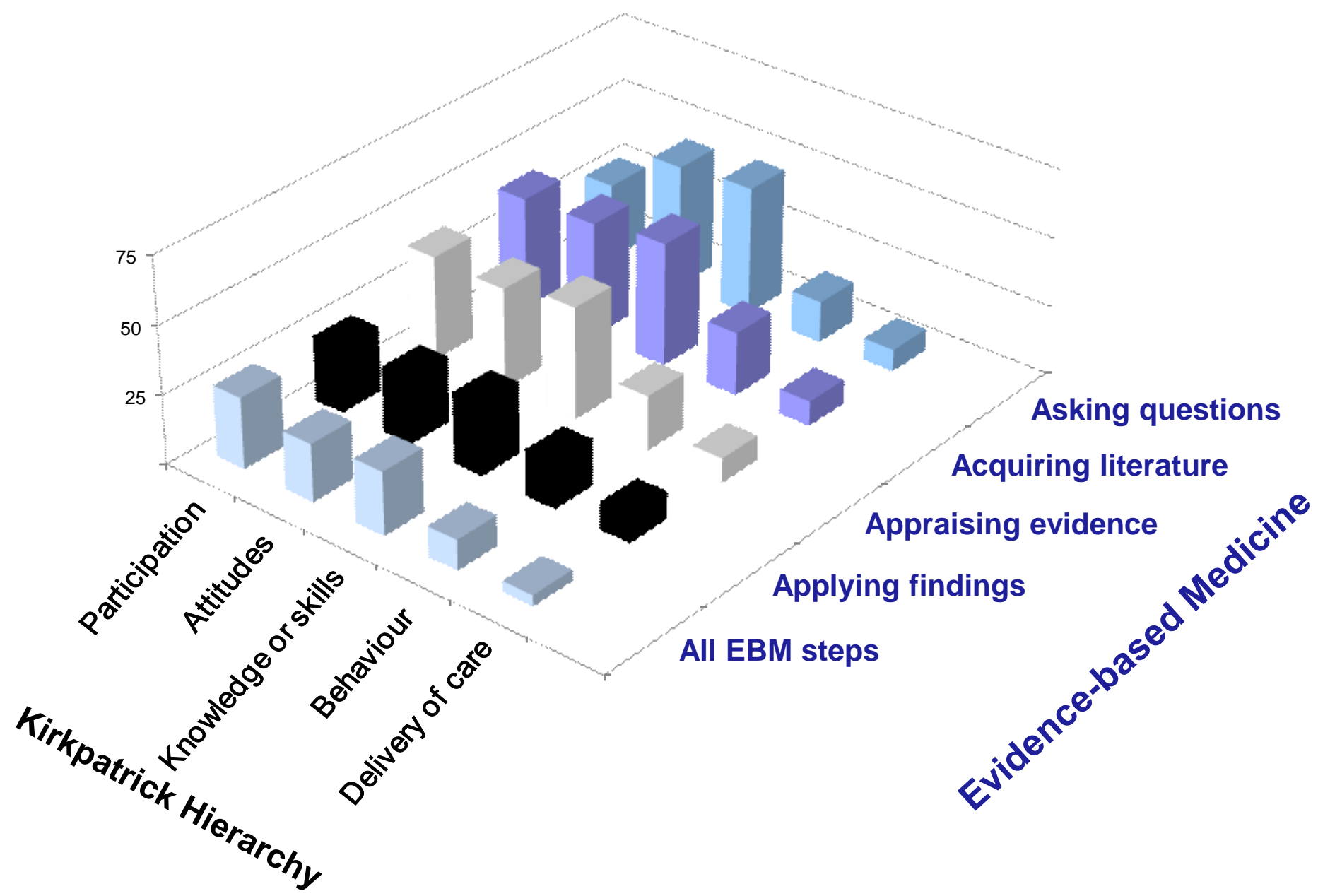
**Table 1. Levels of effectiveness.**

- 
1. Healthcare outcomes
  2. Health professionals' behaviour, performance or practice
  3. Learning or knowledge
  4. Reaction or satisfaction of participants
  5. Participation or completion
- 

*Source: Adapted from Kirkpatrick (1967).*

**Kirkpatrick Hierarchy**  
Participation  
Attitudes  
Knowledge or skills  
Behaviour  
Delivery of care

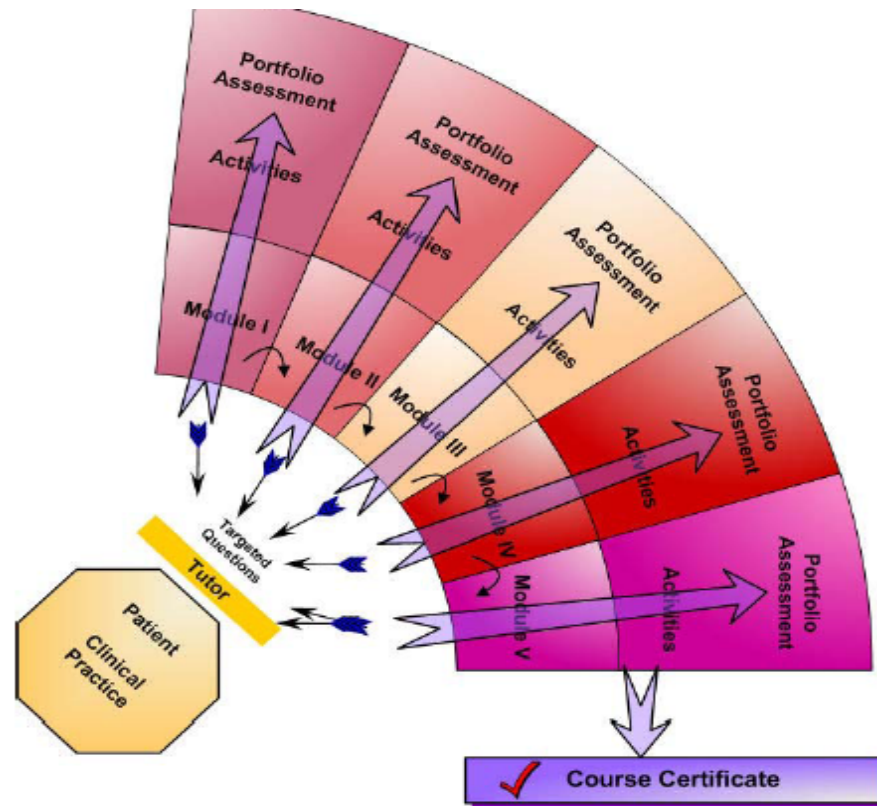
**Evidence-based Medicine**  
Asking questions  
Acquiring literature  
Appraising evidence  
Applying findings  
All EBM steps



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## A clinically integrated curriculum in Evidence-based Medicine for just-in-time learning through on-the-job training: The EU-EBM project



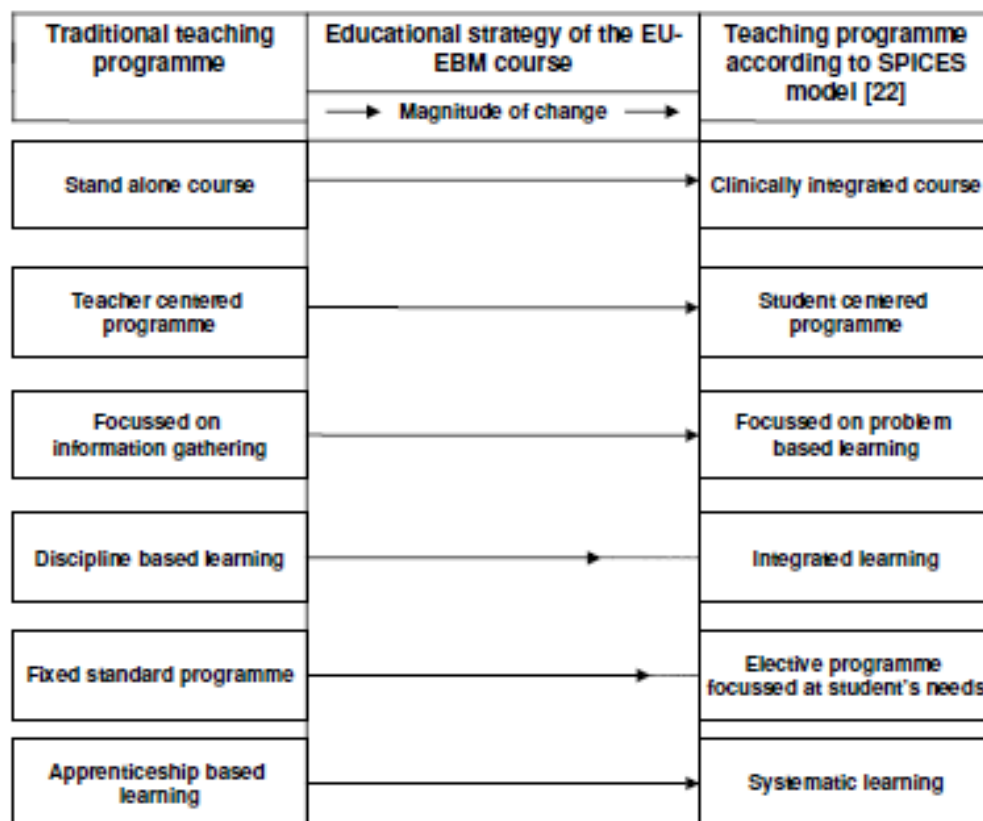
**Figure 1**

**An overview of teaching and learning activities in the EU EBM course.** Graphical representation of the EU-EBM curriculum. A facilitator picks up problems encountered with patients in daily clinical work and helps in formulating targeted questions. Hereafter, the learner attends the e-learning modules and consequently completes small activities and an assignment. All five modules are collected in a portfolio. After successful completion of the course, the student will receive a course certificate.

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## A clinically integrated curriculum in Evidence-based Medicine for just-in-time learning through on-the-job training: The EU-EBM project



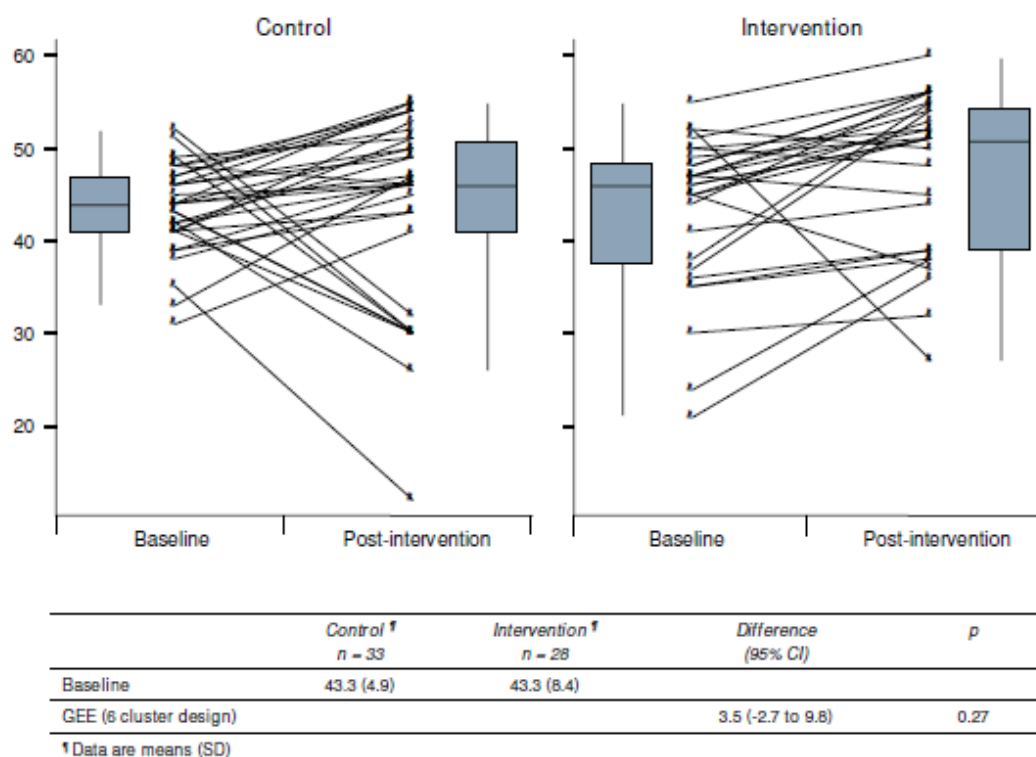
**Figure 3**

An overview of educational strategy of the EU-EBM curriculum according to the SPICES model. The educational strategy of the EU-EBM curriculum according to the SPICES model [19] moving away from traditionally, teacher centred educational programs to student orientated, problem based learning programs. The size of the arrows in this figure indicates the magnitude of change between a traditional and the EU-EBM course.

Research article

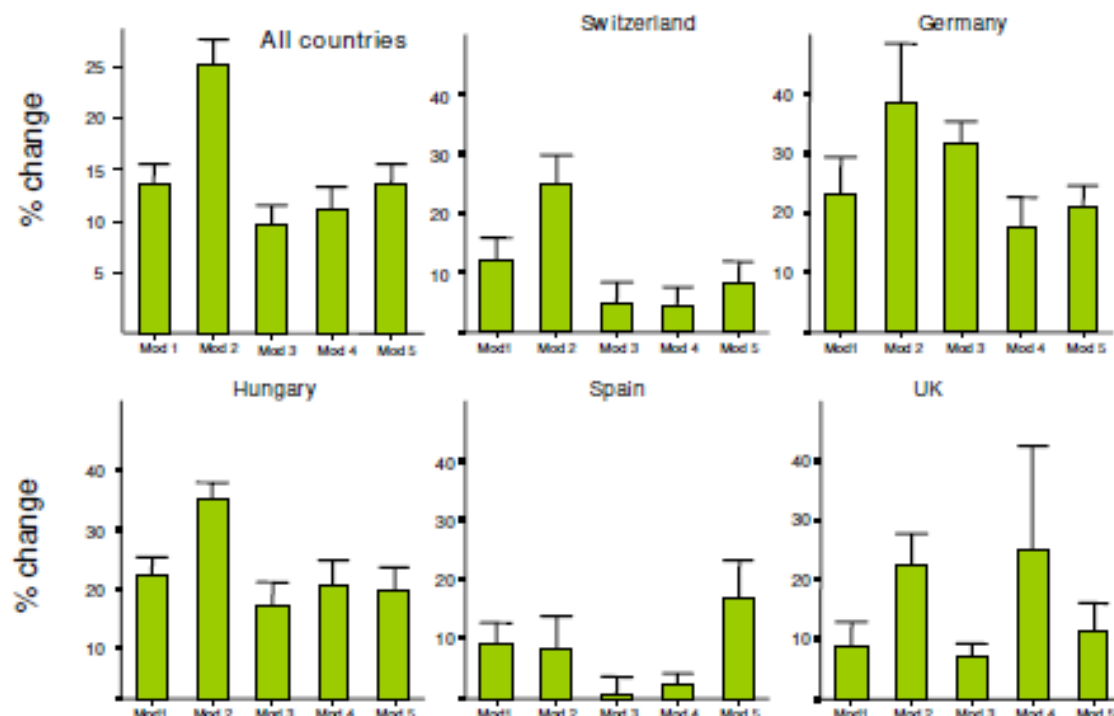
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## The effectiveness of a clinically integrated e-learning course in evidence-based medicine: A cluster randomised controlled trial



**Figure 2**  
Pre- and post-course scores adjusted for baseline knowledge.

## Harmonising Evidence-based medicine teaching: a study of the outcomes of e-learning in five European countries



**Figure 3**

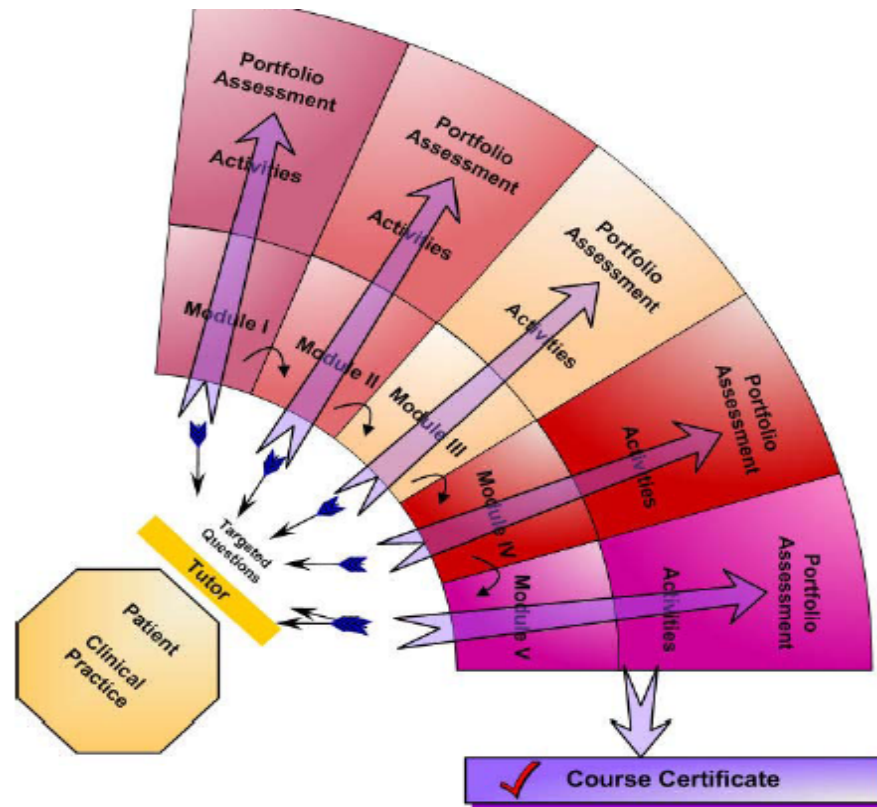
Knowledge gain in the five e-EBM modules in all centres and per country: (a) absolute values of pre- and post course scores; (b) mean knowledge gain as a percent of total score per module.

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## A clinically integrated curriculum in Evidence-based Medicine for just-in-time learning through on-the-job training: The EU-EBM project

Teacher training



**Figure 1**

**An overview of teaching and learning activities in the EU EBM course.** Graphical representation of the EU-EBM curriculum. A facilitator picks up problems encountered with patients in daily clinical work and helps in formulating targeted questions. Hereafter, the learner attends the e-learning modules and consequently completes small activities and an assignment. All five modules are collected in a portfolio. After successful completion of the course, the student will receive a course certificate.



# Survey availability of teach the teacher EBM courses

- Aimed to catalogue availability teach the teacher EBM courses in 6 European countries by questionnaire
- 115 responses, 16 courses regularly available. Hungary (4), Germany (4), the Netherlands (4), UK (4) Switzerland and Poland currently no courses available
- Teachers mentioned they need further help in demonstrating application of EBM in clinical setting (6 courses), and curriculum for trainers to train health care workers (5 courses).

**Your trainee has recently attended an EBM course.  
You would like to assess her EBM competence. What  
will you do?**

**Your trainee has recently attended an EBM course. You would like to assess her EBM competence. What will you do?**

- a) Undertake a formal clinical assessment examining how she employed her EBM knowledge for management of a patient
- b) Ask her to complete an existing validated questionnaire that will assess her EBM knowledge

**Your trainee has recently attended an EBM course. You would like to assess her EBM competence. What will you do?**

- a) Undertake a formal clinical assessment examining how she employed her EBM knowledge for management of a patient ✓
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# EBM: Teaching Clinical Teachers

- Why
- How
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[www.ebm-unity.org](http://www.ebm-unity.org)



# Development of e-modules

- identification of learning needs in each partner country
- formulation of the aims, objectives and learning outcomes
- development and organisation of the content of the curriculum
- definition of the educational strategy and educational environment
- delineation of an assessment strategy

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## Teaching trainers to incorporate evidence-based medicine (EBM) teaching in clinical practice: the EU-EBM project

**Table 1: Learning opportunities for teaching evidence based medicine (EBM) in clinical practice**

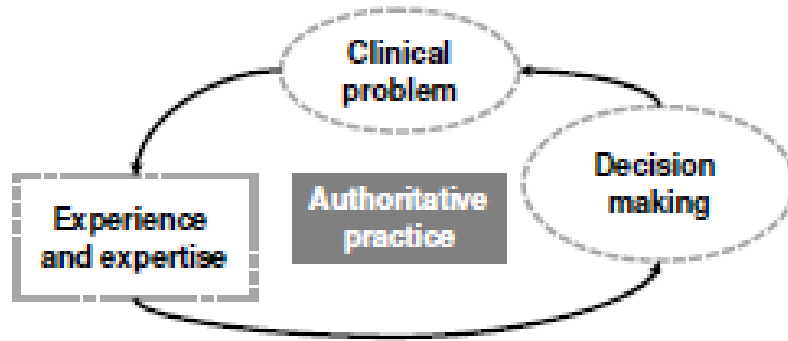
Learning Opportunities	EBM Steps				
	Formulating Questions	Searching for Evidence	Critical Appraisal	Integrating Evidence with Clinical scenario	Bringing Change to Practice
Ward Round	+++	(+)	+	+++	+
Journal Club	+	++	+++	+	+
Clinical Teaching And Assessment	++	(+)	++	+++	+
Outpatients Clinic	+++	(+)	++	+++	+
Formal Clinical Meeting	+++	(+)	+	++	+
Audit	++	++	++	+	+++

Each clinical setting offers varying opportunities to teach application of the 5 EBM steps.

(+) Opportunity may arise + Minimal opportunity

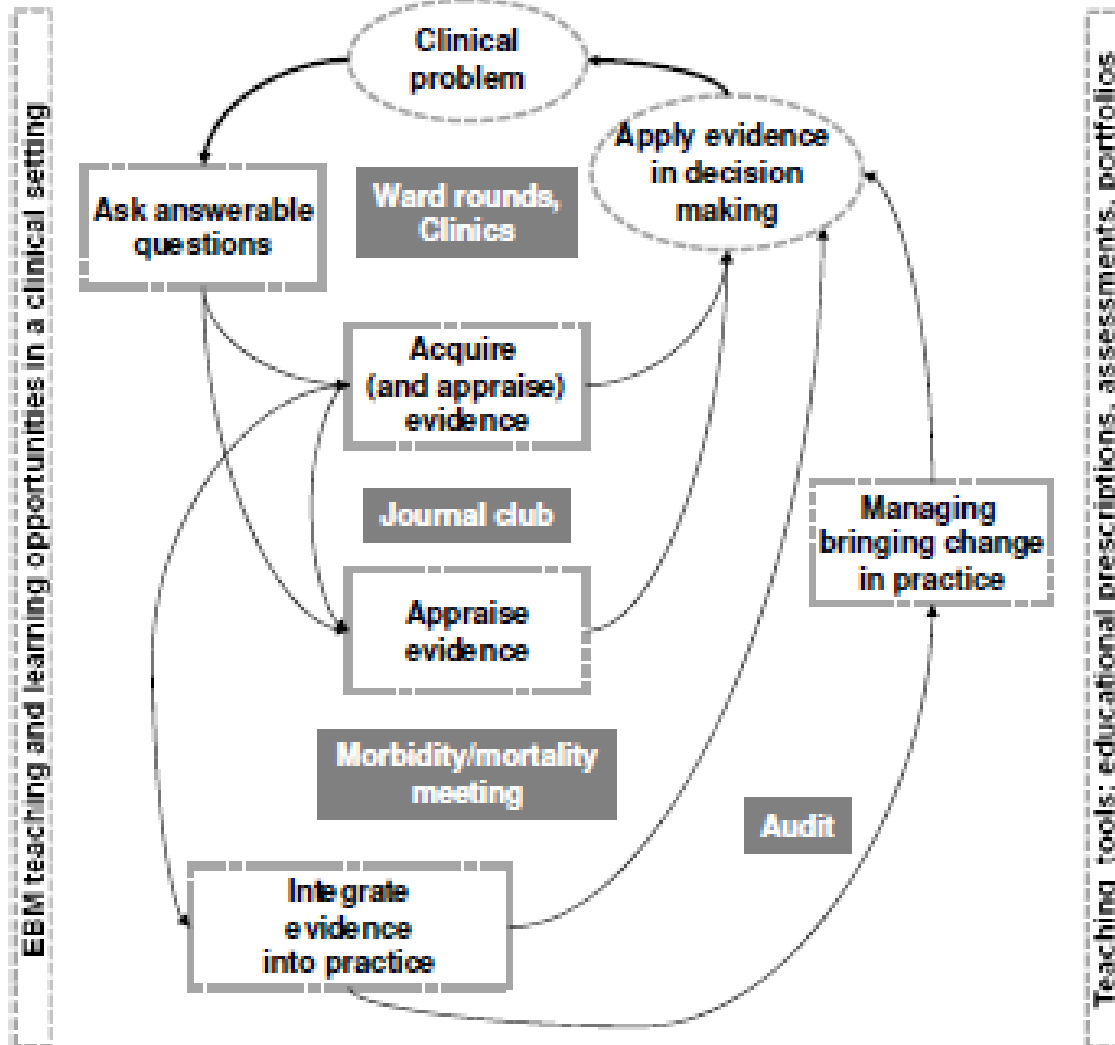
++ Moderate opportunity +++ Maximum opportunity

Traditional clinical teaching









## EU-EBM (Evidence Based Medicine) Courses



COURSES
EBM students
EBM teachers
ASSESSMENTS
EBM students
EBM teachers
PODCAST
FACEBOOK
GLOSSARY
HANDBOOK
EU-EBM UNITY
EU-EBM TTT
BLOGS
PUBLICATIONS
ABOUT US
CONTACTS



### EU-EBM Unity Project

Evidence-based medicine is defined as the *'conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients'*  
David Sackett, 1996

The EThe EU EBM Unity project (funded by Leonardo da Vinci national agency), aims to develop a European Qualification in Evidence Based Medicine (EBM) that will improve the relevance and quality of medical training in Europe, and enable doctors to easily integrate into the healthcare systems of other member states. It will ultimately improve the care of European patients and the mobility and effectiveness of doctors throughout Europe.

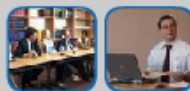
In the EBM-Basiccurriculum you get to know the 5 basic steps of Evidence Based Medicin.

### EU-EBM Training the Trainers Project

Teaching EBM should not only equip practitioners with knowledge and skills but also foster their attitudes and encourage the practice of EBM. Critical appraisal and EBM teaching that is integrated into clinical practice seems more effective in improving substantial outcomes including behavioural changes (Coomarasamy A, Khan KS. BMJ 2004; 329:1017).

This project aims to develop a European Qualification in Teaching Evidence Based Medicine that will improve transparency across the European healthcare sector through the design, development, promotion and piloting of a European training programme specifically for the training of healthcare trainers in EBM, through a curriculum that is integrated into clinical practice.

The EBM Train-the-trainer curriculum provides ideas, examples and tools to improve EBM teaching integrated in 6 different clinical settings.



EBM UNITY Leonardo Project - MODULE 1 - Internet Explorer fornito da Dell

http://ebm-unity.pc.unicatt.it/e-learning/module1/player.html

EBM UNITY Leonardo Project - MODULE 1 (00:56 / 09:19)

euebm European Union Evidence Based Medicine Unit

Cultura finestra Leonardo da Vinci

## Learning Objectives

At the end of module 1 you will:

- Be able to identify knowledge practice and prioritise them.
- Be able to translate your know structured PICO questions.
- Be able to choose the most appropriate design to answer a given clinical question.
- Know that systematic reviews are the highest level of evidence.

MODULE 1

Outline Thumbnails Notes Search

1. Evidence Based Medicine/Module 1
2. Learning Objectives
3. Recognizing knowledge gaps
4. Prioritizing questions in two dimensions
5. Type of questions
6. Specific questions - PICO structure
7. Question and study design
8. Example question
9. An example question
10. Module 1: Summary

articulate POWERED PRESENTATION

SLIDE 2 OF 19 PAUSED 00:19 / 00:52

Internet | Modalità protetta: attivata

Gmail - Risultati di ric... Course: EBM TTT On ... Module\_1 http://www.ebm-unit... iGoogle

http://ebm-unity.pc.unicatt.it/e-learning/TTT\_module1/player.html

Module\_1 (00:06 / 18:46)

euebm<sup>ttt</sup> Training the trainers across the healthcare sector

# MODULE 1

## Teaching and Learning EBM during ward rounds

Education and Culture Lifelong learning programme LEONARDO DA VINCI

MODULE 1

Outline Thumbnails Notes Search

1. MODULE 1 Teaching and Learning EBM during ward rounds
2. Learning Objectives
3. Learning opportunities
4. Learning opportunities
5. Evidence based ward round in delivery suite
6. Case discussed
7. Video clip
8. Preliminary hand over session
9. Ward rounds
10. Concluding session

articulate POWERED PRESENTATION

SLIDE 1 OF 12 PLAYING 00:06 / 00:21

Posta inviata - ... Module\_1 - Go... 2008-2009 ebm TTT proje... 2 Strumento ... IT 16.53

EBM UNITY Leonardo Project - MODULE 1 - Internet Explorer fornito da Dell

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Module\_1 (00:06 / 18:46)

euebm<sup>ttt</sup> Training the trainers across the healthcare sector



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articulate POWERED PRESENTATION

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**Which of the following identifies the correct sequence to teach the trainee EBM during a ward round**

## **Which of the following identifies the correct sequence to teach the trainee EBM during a ward round**

- a) Identify knowledge gaps, frame clinical question; Issue an educational prescription, guide the trainee with search strategies
- b) Issue an educational prescription, frame clinical question; guide the trainee with search strategies, Identify knowledge gaps

## Which of the following identifies the correct sequence to teach the trainee EBM during a ward round

- a) Identify knowledge gaps, frame clinical question; Issue an educational prescription, guide the trainee with search strategies ✓
- b) Issue an educational prescription, frame clinical question; guide the trainee with search strategies, Identify knowledge gaps

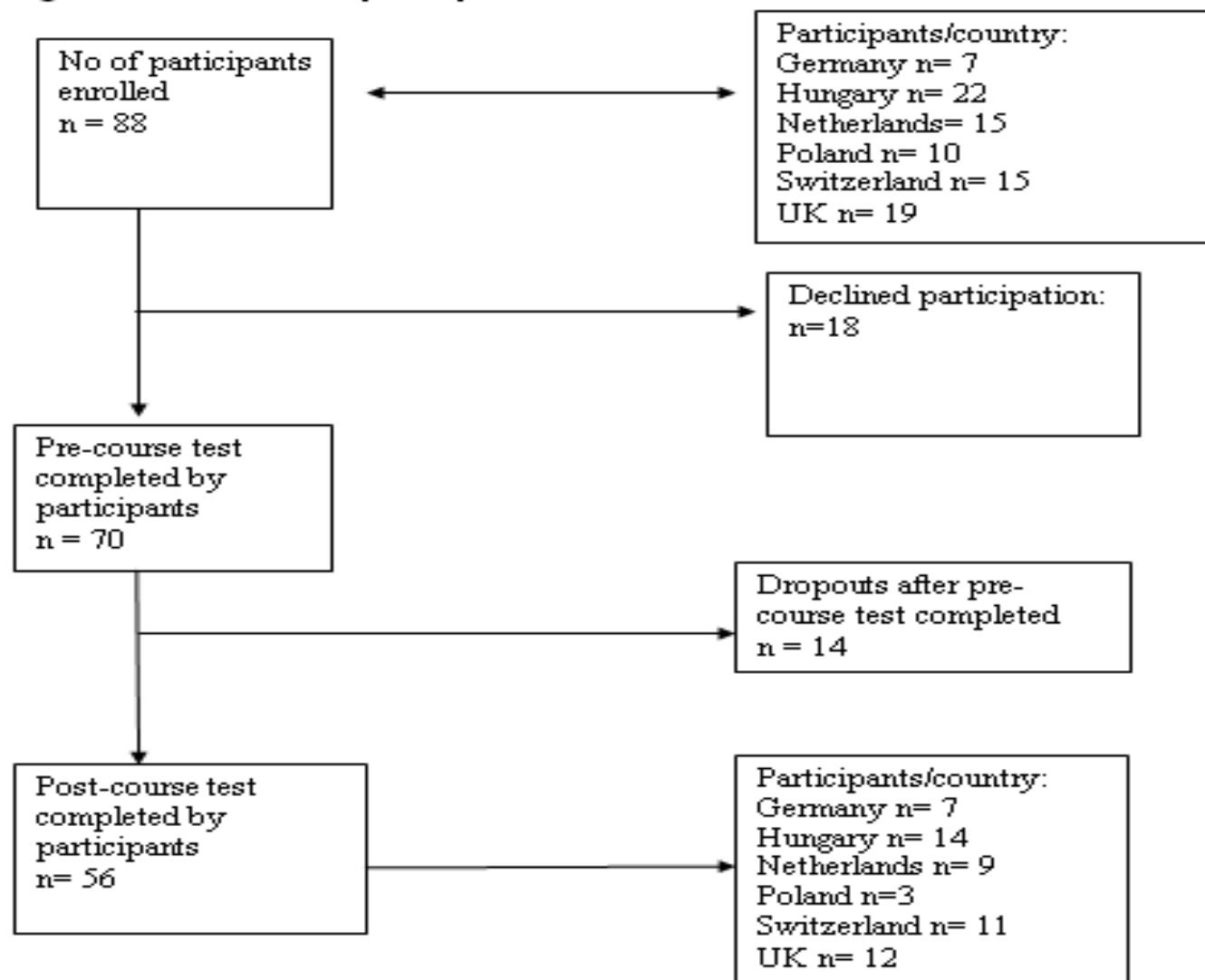


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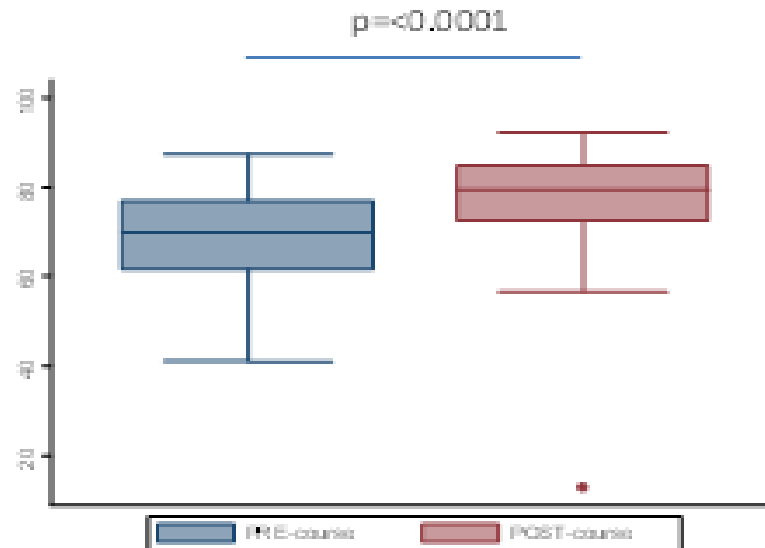
# A pilot study of an e-learning course in six European countries

**Figure 1. Flow chart of participants in the e-EBM Teach the Teachers course**



# A pilot study of an e-learning course in six European countries

**Figure 2: Scores of participants in the e-EBM Teach the Teachers course**



# EBM: Teaching Clinical Teachers

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# Training EBM Trainers

- EBM is an integral part of medical training
- On-the-job EBM training in clinical service areas is uncommon
- There is a need to teach trainers how to integrate EBM teaching in everyday clinical practice

# EBM as a Clinical Competence Teaching Clinical Trainers

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