

Postgraduate learning and teaching in EBM

Regina Kulier
Geneva Foundation for Medical Education
and Research
University of Birmingham

Training Course in Reproductive Health/Sexual Health Research
Geneva 2008

Evidence based medicine

- *Good doctors use both individual clinical expertise and the best available external evidence, and neither alone is enough. Without current best evidence, practice risks becoming rapidly out of date, to the detriment of the patient*

• Sackett 1996

Evidence based practice

- Integrates the concepts of problem-based learning and life-long learning

Educational objectives

Bloom's taxonomy

- Cognitive (Knowledge)
- Psychomotor (Skills)
- Affective (Attitude/Behaviour)

Planning a course/curriculum

Ten questions to ask when planning a course or curriculum

R. M. HARDEN

Centre for Medical Education, University of Dundee

Summary. This brief practical aid to course or curriculum development cannot replace educational qualifications or experience, but it does examine ten basic questions, any of which may be all too easily neglected. These are: (1) What are the needs in relation to the product of the training programme? (2) What are the aims and objectives? (3) What content should be included? (4) How should the content be organized? (5) What educational strategies should be adopted? (6) What teaching methods should be used? (7) How should assessment be carried out? (8) How should details of the curriculum be communicated? (9) What educational en-

qualification or formal training in educational theory and practice. If asked to plan a course, they will depend on common sense plus three factors based on experience. These are their perception of the subject which they are teaching, the way in which they were educated themselves and current teaching practice elsewhere.

This approach may suffice but it can be improved by considering the ten questions discussed here. Whether the end product is an undergraduate degree course, a short post-graduate course or a 1-hour lecture, a systematic approach encourages timely decision-

Harden's question

- What are the needs in relation to the product of the training programme?
- What are the aims & objectives?
- What content should be included?
- How should the content be organised?
- **What educational strategies should be adopted?**
- **What teaching methods should be used?**
- How should assessment be carried out?
- How should details of the curriculum be communicated?
- What educational environment should be fostered?
- How should the process be managed?

Learning in practice

What is the evidence that postgraduate teaching in evidence based medicine changes anything? A systematic review

Arri Coomarasamy, Khalid S Khan

Abstract

Objective To evaluate the effects of standalone versus clinically integrated teaching in evidence based medicine on various outcomes in postgraduates.

Design Systematic review of randomised and non-randomised controlled trials and before and after comparison studies.

Data sources Medline, Embase, ERIC, Cochrane Library, DARE, HTA database, Best Evidence, BEME, and SCI.

Study selection 23 studies: four randomised trials, seven non-randomised controlled studies, and 12 before and after comparison studies. 18 studies (including two randomised trials) evaluated a standalone teaching method, and five studies (including two randomised trials) evaluated a clinically integrated teaching method.

Best Evidence Medical Education (BEME), and Science Citation Index (SCI) using the following search terms and their word variants: "evidence", "critical", "appraisal" or "journal club" combined with "AND" to "teach\$", "learn\$", "instruct\$", or "education". We also searched reference lists of known systematic reviews.¹⁻⁴ The final electronic search was conducted in April 2004.

We included studies that evaluated the effects of postgraduate EBM or critical appraisal teaching compared with a control group or baseline before teaching, using a measure of participants' learning achievements or patients' health gains as outcomes. Learning achievement was assessed separately for knowledge, critical appraisal skills, attitudes, and behaviour.

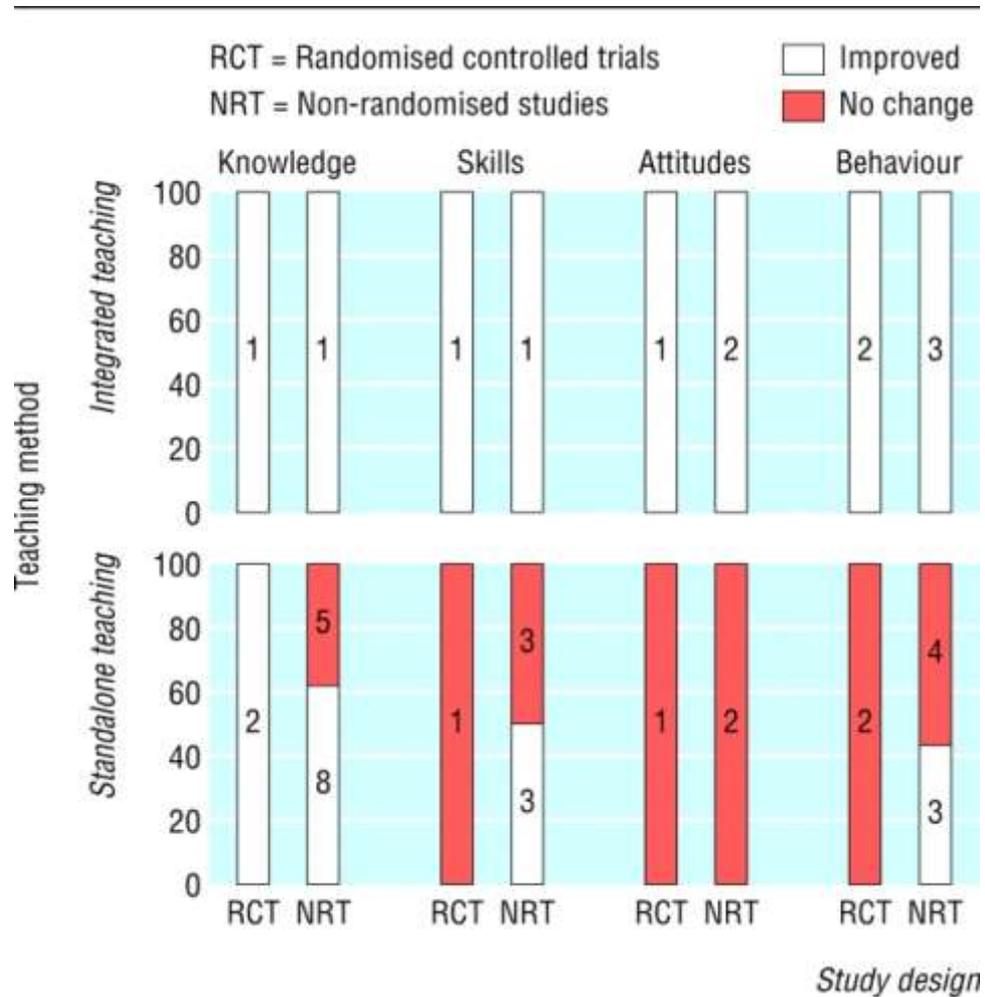
Knowledge relates to issues such as remembering materials as well as grasping the meaning, for example, defining and

Standalone versus clinically integrated teaching

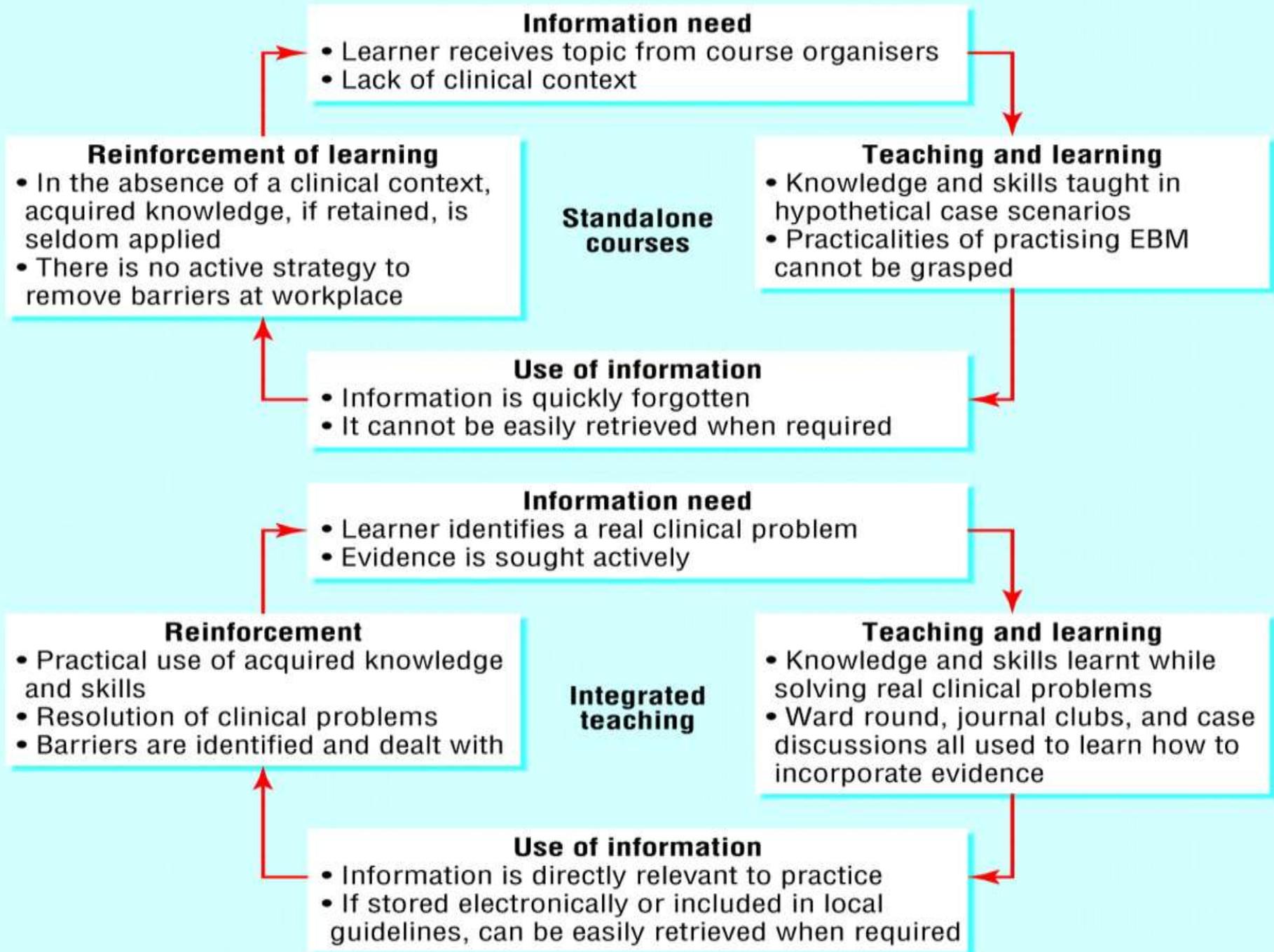
RCT, NRT, before-after

Outcomes: knowledge, CA skills, attitudes/behaviour

Coomarasamy 2004



Coomarasamy, A. et al. BMJ 2004;329:1017



E-learning

- *E-Learning is the effective learning process created by interaction with digitally delivered content, (learning) support and services*

E-learning

- Allows for independence
- Repeat session
- Self assessment and feedback
- Easy and immediate interaction with other learners
- Immediate link to other relevant sites
- Transforms the role of the teacher

E-learning

- Comparing e-learning with traditional teaching
- 16 RCTs

- No data on health outcomes
- Change in knowledge and practice possible
- Extensive heterogeneity
- Unclear which components are effective

E-learning in EBM

- RCT; UK
- Computer-based teaching vs face-to-face teaching
- Knowledge gain similar in both groups
 - scores computer-based: 2.1 (SD 2.0)
 - scores face-to-face: 1.9 (SD 2.4)

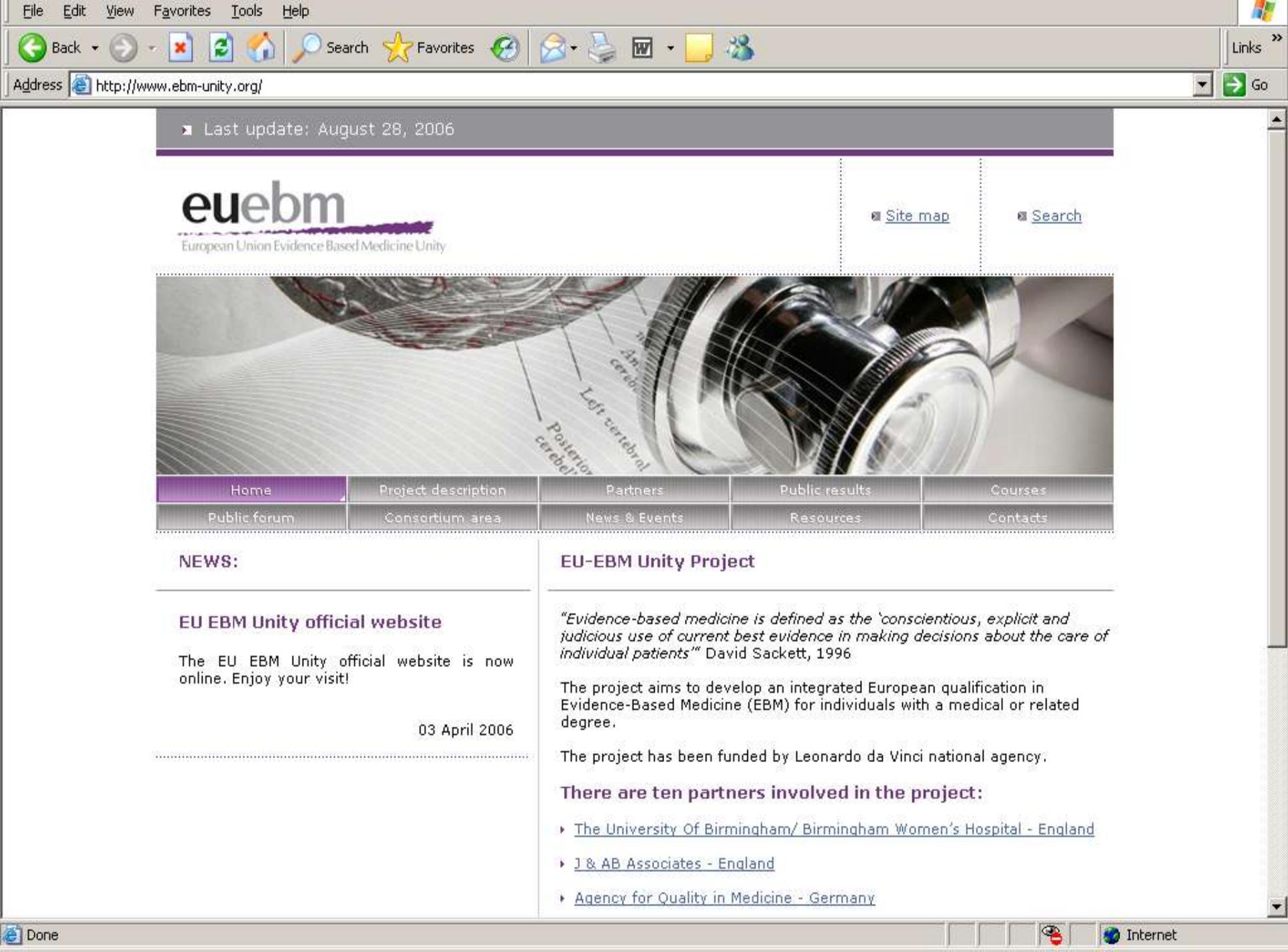
» *Davies 2007*

Andragogy

- Adult learning principles
 - Self-directed learning
 - Taking responsibility for their decisions
 - Focus on process and less on the content
 - Problem-solving
 - Immediate value
 - Why?

Andragogy

- Explanation WHY topic is taught
- Task-oriented instructions instead of memorisation
- Take into account background of learners
- Allow learners to identify learning opportunities
- Facilitator rather than teacher



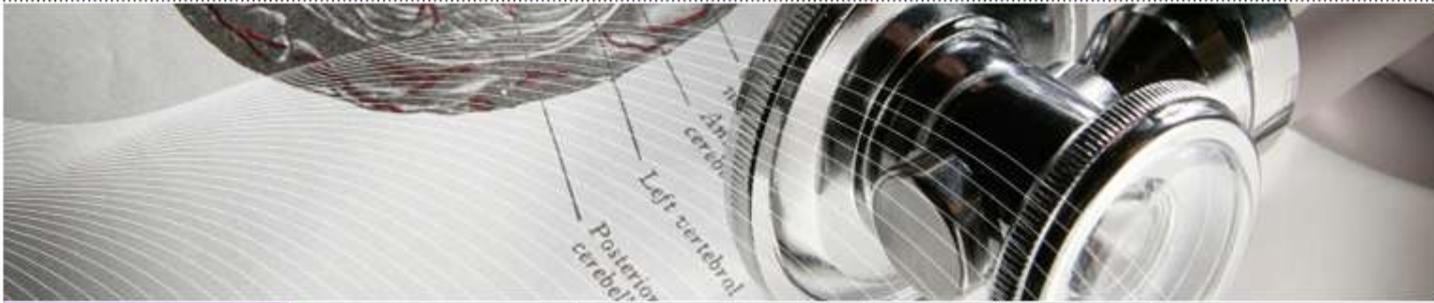
► Last update: August 28, 2006

euebm

European Union Evidence Based Medicine Unity

Site map

Search



Home	Project description	Partners	Public results	Courses
Public forum	Consortium area	News & Events	Resources	Contacts

NEWS:

EU EBM Unity official website

The EU EBM Unity official website is now online. Enjoy your visit!

03 April 2006

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 project aims to develop an integrated European qualification in Evidence-Based Medicine (EBM) for individuals with a medical or related degree.

The project has been funded by Leonardo da Vinci national agency.

There are ten partners involved in the project:

- [The University Of Birmingham/ Birmingham Women's Hospital - England](#)
- [J & AB Associates - England](#)
- [Agency for Quality in Medicine - Germany](#)

Overall aim of the project

- The project aims to improve transparency across the European healthcare sector through the design, development, promotion and piloting of a European qualification in EBM for individuals with a medical or related degree.

Objectives



- Project website: **www.ebm-unity.org**
- Evaluate teaching methods of EBM in each country
- Map current junior doctors medical training in each country
- Develop core curriculum and adapt to each country
- Pilot and evaluate the EBM course in each country
- **Accredit the course in each country**
- Further grant applications for dissemination and evaluation of the courses developed

Outcomes

- To develop an integrated European qualification in EBM
- To improve the relevance and quality of medical training in Europe
- To enable doctors to easily integrate into the healthcare systems of other member states
- To improve mobility and effectiveness of doctors throughout Europe
- To improve care of patients

- Partners:
 - Birmingham Women’s Hospital /The University Of Birmingham
 - Aquamed – Germany/Austria
 - Università Cattolica del Sacro Cuore - Italy
 - AMC Amsterdam - Netherlands
 - CASPi – University of Birmingham
 - CASP Poland
 - CASP Spain
 - CASP Hungary
 - Basel Institute of Clinical Epidemiology Switzerland
- Steering Committee

Evidence based practice

5 steps

- Formulating a structured clinical question
- Search strategy and searching the literature
- Critically appraising the literature
- Applicability of the results to the patient
- Implementation in practice

Learning opportunity identified in a Clinical Setting



Formulate 'Structured Question'

Step 1



Select Keywords



Search the literature

Step 2



Obtain full (relevant) review article(s)



Check the review article for validity



Check the primary studies included for validity

Step 3



Check results for importance and present them in clinically meaningful measures



Assess for applicability to local population

Step 4



Prepare a critically appraised summary of the review



Disseminate the evidence



Step 5

Use the evidence to guide practice