

## EBM and EBVM: what a senile old discipline may impart to a bright young one

### Fifteen years of true lies

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## Personal perspective

- Focus has been on:
  - professional and organizational behavior change.
  - improving technical aspects of care ie how do we ensure patients get the right (evidence based) treatments at the right time.
  - Single physician and populations of physicians (not health care organizations).

## Personal background (disclosure)

- Physician
- 2003-2004 Institute of Population Health, University of Ottawa, Canada
- Cochrane Effective Practice and Organisation of Care Group (EPOC)
- Italian Cochrane Centre
- Clinical Evidence Italian Edition
- Systematic reviews / Meta-analyses
- Clinical trials
- Rigorous evaluations of dissemination and implementation strategies (e-learning)
- AIFA

## Outline

- The role of Evidence based medicine (or practice)
- Making evidence based practice available to all doctors
- Where EBMV now?
- Conclusions

## Knowledge translation blocks



Institute of Medicine; Clinical Research Roundtable, Sung et al. JAMA 289:1278,2003

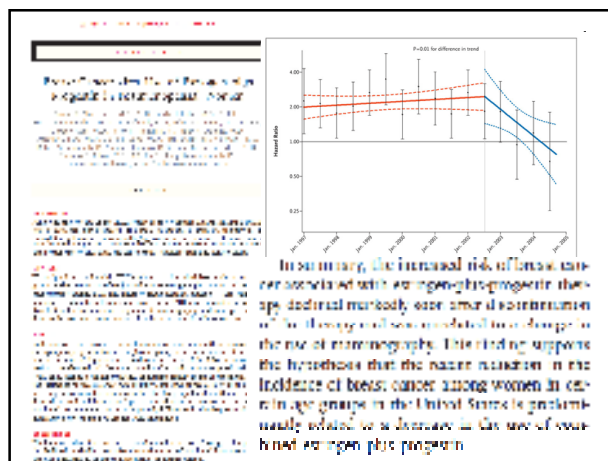
## Evidence based practice: a disastrous personal history

- Administration of menopausal hormonal therapy ... [in kilos]
- Lack of administration of low molecular weight heparin for prevention of venous thromboembolism in adults with lower-leg immobilization
- Use of SSRIs ... [in tons] – scarce use of tricyclics
- I do not use helmet cycling nor skying

## Background

- Consistent evidence of failure to translate research findings into clinical practice
  - 30-40% patients do not get treatments of proven effectiveness
  - 20-25% patients get care that is not needed or potentially harmful
- Increased policy interest in knowledge translation activities to promote evidence based practice

Schuster, McGlynn, Brook (1998). *Milbank Memorial Quarterly*  
Grol R (2001). *Med Care*



In summary, the increased risk of breast cancer associated with estrogen-progestin therapy declined markedly over time, consistent with the theory that some reduction in the use of hormone therapy. This finding supports the hypothesis that the rising incidence in the incidence of breast cancer among women in certain age groups in the United States is predominantly related to a decrease in the use of combined estrogen plus progestin.

La vita di noi  
medici è  
difficile

## Current Problems

On my desk I have accumulated journals and books as information sources, and I assume that I use them. But in some respects they are not as useful as they might be. Many of my textbooks are out of date; I would like to purchase new ones, but they are expensive. My journals are not organised so that I can quickly find answers to questions that arise, and so I don't have print sources that will answer some questions. On the other hand, there is likely to be a human source who can answer nearly all of the questions that arise, albeit with another set of barriers.

An ordinary doctor

Richard Smith

## What is evidence based practice?

- "Evidence based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients."

• BMJ 1996; 312: 71-2.

## What evidence based practice is not...

- Something we've been doing for ages
- Only possible in ivory towers (Mario Negri)
- 1000 "Cookbook" medicine
- A tool of H or ASL managers
- Restricted to randomized trials and systematic reviews
- Antipathetic to patient centred medicine

## Knowledge synthesis (to identify the knowledge base for KT)

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- Analyzed 115 articles published in 1990-2003 in the 3 major general medical journals (NEJM, JAMA, Lancet) and specialty journals that had received over 1000 citations each by August 2004
- 49 reported evaluations of health care interventions; 45 claimed that the interventions were effective.
- By 2004 5/6 non randomised studies and 9/39 randomised trials were already contradicted or found to be exaggerated

Ioannidis JP. JAMA 2005

## Experts vs. Systematic Reviews



## Knowledge synthesis (to identify the knowledge base for KT)

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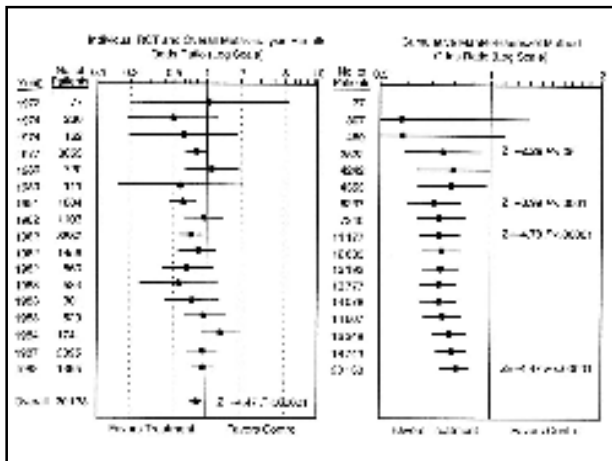
- Individual studies are often misleading
- Individual studies rarely by themselves provide sufficient evidence for policy or practice changes

Antman EM, Lau J, Kupelnick B, Mosteller F, Chalmers TC. A comparison of results of meta-analyses of randomized control trials and recommendations of clinical experts. Treatments for myocardial infarction. *Jama* 1992;268(2):240-8.

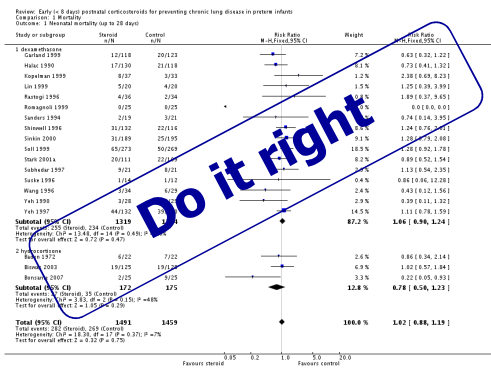
## A Comparison of Results of Meta-analyses of Randomized Control Trials and Recommendations of Clinical Experts

Treatments for Myocardial Infarction

Antman EM, Lau J, Kupelnick B, Mosteller F, Chalmers TC. *Jama* 1992;268(2):240-8.



## Knowledge synthesis – clinical synthesis



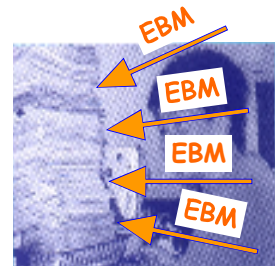
Do it right

Where is?

La vita di noi medici è resa più semplice dall'EBP

New York Times (16 Febbraio 1988)

"... the number of scientific articles and journal being published has grown so large that it is starting to confuse researchers, overwhelm the quality control system of science, encourage fraud and distort the dissemination of important findings."



Pile of articles published every 8 hours

## BMJ Vol. 320 8 April 2000



This 38 year old man attended his local hospital with an apparently minor head injury after a work colleague dropped a nail gun on his head. His small scalp wound was dressed, and he was discharged. Ten days later he had a grand mal fit. On examination he had no neurological deficit but a positive Babinski's sign on the left. A computed tomogram of the head showed a 7 cm nail embedded in the right cerebral hemisphere. It was removed via a burr hole, and he made a full recovery.

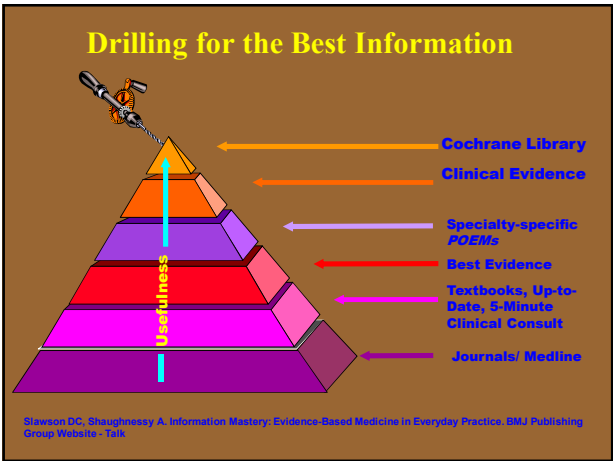
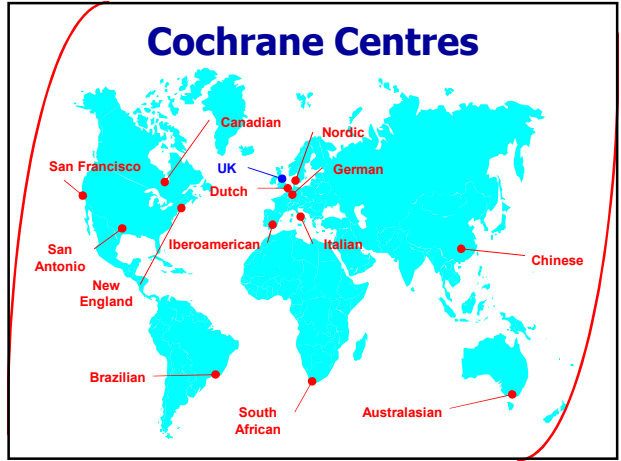
Anup Roy, registrar; Aloke Sen, senior house officer; A T King, consultant; John Thorne, registrar; department of neurosurgery, Hope Hospital, Manchester M6 8HD

## The Cochrane Library

## Knowledge synthesis (to identify the knowledge base for KT)

- Increasing availability of high quality guidelines and systematic reviews available to support practice:
  - Cochrane Collaboration
  - AHRQ evidence based practice reports
  - HUGENet
  - Multiple guideline development agencies

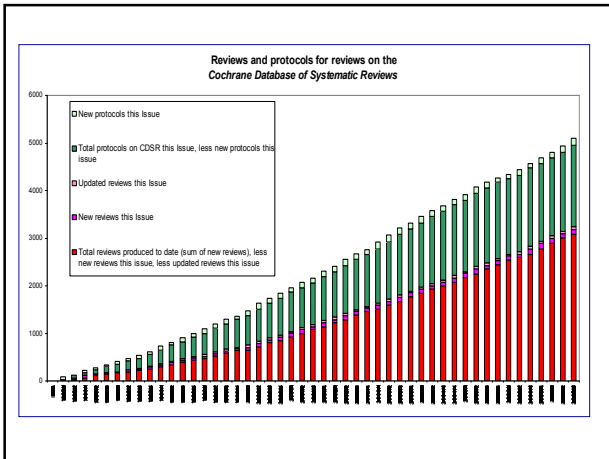
# Where EBMV now?



### WHAT IS THE COCHRANE LIBRARY?

The Cochrane Library is the single most reliable source for evidence on the effects of health care.

A screenshot of the Cochrane Library website, showing a search bar, navigation tabs, and a list of search results.



## Start to think...

- What you've been doing for the last 20 years may be out of date (or simply wrong)
- What you currently find in books/papers should be critically appraised
- You need to access constantly to best evidence
- Research and practice go together
- Patients have access to same amount of info as doctors
- Patients are smarter

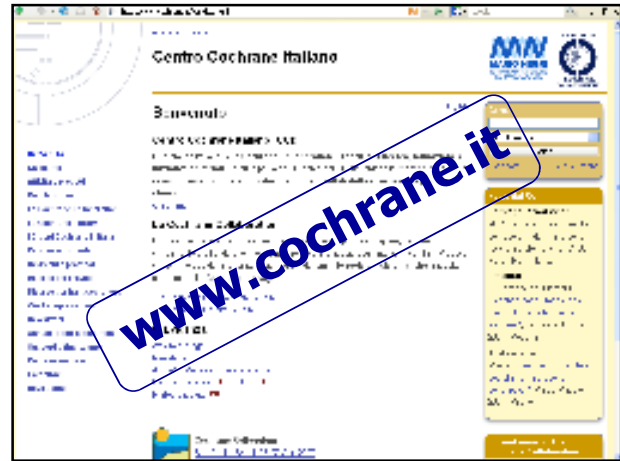


## Conclusions

- **EBP** has swept the world in less than 10 years
- In Italy it took 5 years more
- **Research methods and results are central and impact on your activity**
- **EBVM** - There are many ways in which it might/will develop

## Conclusions

- It is a new world in which the traditional authority and skills are questioned
- Modern medicine has limited powers
- The balance between doing good and harm is very fine



**“Medicine will change more in the next 20 years than it has in the past 2000”**

**Lord Turnberg, former president of the RCP**

I miei recapiti

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- Centro Cochrane Italiano  
– [www.cochrane.it](http://www.cochrane.it)
- [www.cochrane.org](http://www.cochrane.org)