

Evidence-based Dental Practice - A Global Revolution

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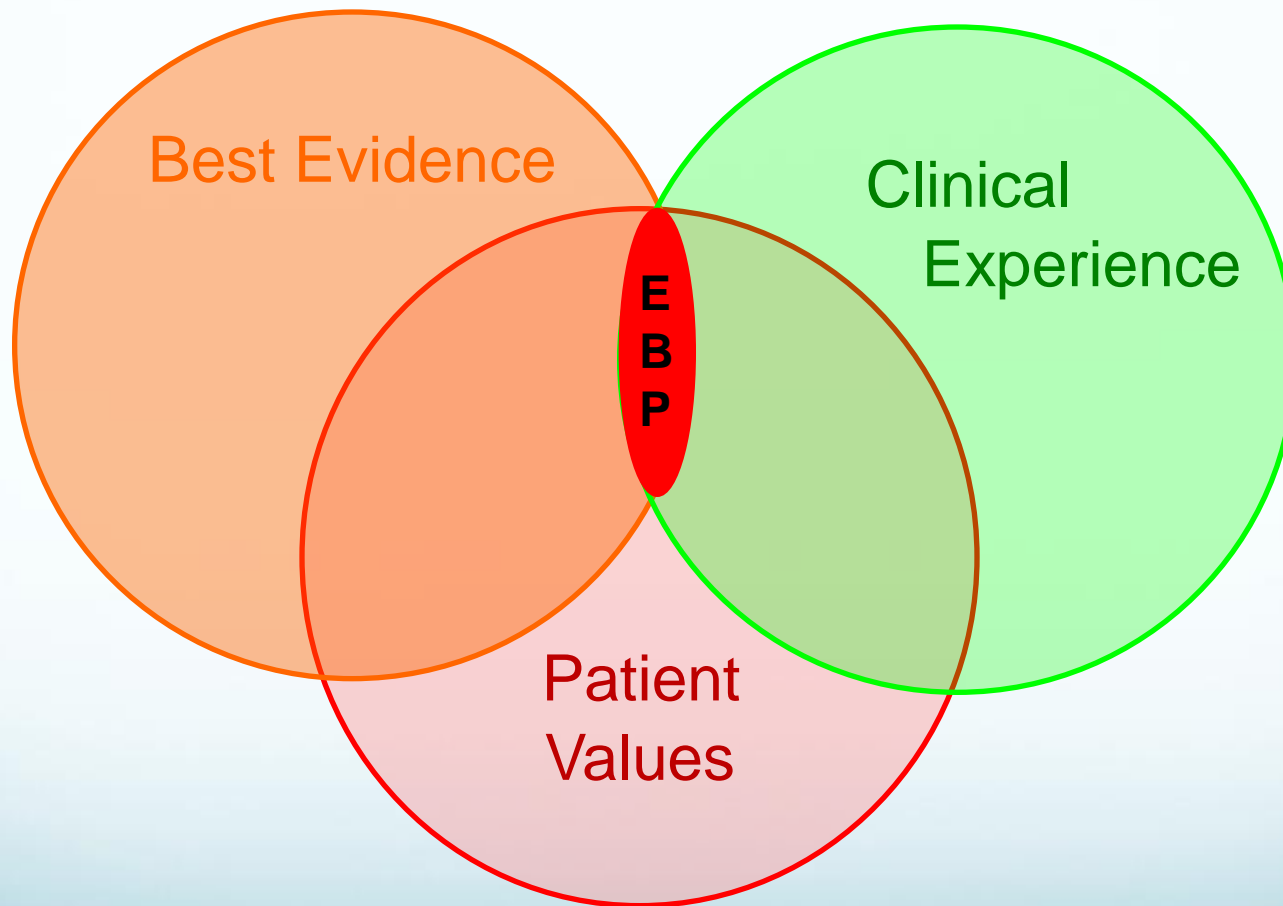
- This lecture will provide a brief outline of the development of EBD and address three main issues;
- Why we need it?
- What are its successes to date?
- What are the future challenges?

Evidence-based Dentistry

ADA Definition:

- EBD is an approach to oral health care that requires the judicious integration of:
 - **systematic assessments** of clinically relevant **scientific evidence**, relating to the patient's oral and medical condition and history,
- with
 - the dentist's **clinical expertise** and
 - the **patient's** treatment **needs and preferences**

Evidence-based Practice



Why?

- Not a new idea
- Information overload
- Focus on quality and consistency
- Avoid unnecessary treatment
- Questioning attitude to traditional beliefs
- Lifelong learning
- Patient empowerment
- Resources finite

Information overload

Search using term 'dental'

- Google - > 356 million hits
- Pubmed (Medline) - 458,163
- Cochrane library - 15567
 - Reviews - 179
 - DARE - 559
 - Central - 16412
 - HTA - 96
 - NHSEED - 102

A brief history of Evidence-based Health Care

- 1990s
- Cochrane Collaboration
- Centre for Evidence-based Medicine
- Centre for Evidence-based Dentistry



International Society for Evidence-based Health Care

- **THE FOUNDING BOARD MEMBERS** are:

- Kameshwar Prasad (India),
- Gordon Guyatt (Canada),
- Paul Glasziou (Australia),
- Carl Heneghan (UK),
- Ken Kuo (Taiwan),
- Nino Cartabellotta (Italy),
- Jose Emparanza (Spain),
- Hilda Bastian (Germany),
- Lubna A. Al-Ansary (Saudi Arabia),
- Dave Davis (Canada),
- Sally Green (Australia),
- Regina Kunz (Switzerland),
- Peter Tugwell (Canada),
- Mahmoud El Barbary (Saudi Arabia),
- Victor Montori (USA).



International Society for Evidence-Based Health Care

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Bringing EBP and SDM together

Posted on **July 21, 2015** by **Admin**

The first joint conference of the International Society for Evidence Based Health Care (ISEHC) and the International Shared Decision Making (ISDM) group, in Sydney, Australia, is off to a smashing start. Over 300 delegates from more than 25 countries are attending. Follow the conference via Twitter #ISDMISEHC, and via co-chair Lyndal Trevena's blog at the BMJ:
<http://blogs.bmj.com/bmj/2015/07/20/lyndal-trevena-whats-happening-on-day-1-of-isdmisehc-sydney-2015/>

Posted in **Uncategorized** | [Leave a reply](#)

Abstract deadline February 27 for ISDM/ISEHC in Sydney

Posted on **February 20, 2015** by **Admin**

February 27 is the deadline to submit your abstract to the fourth ISEHC conference, taking place July 19-22, 2015 in Sydney, Australia. This year, the conference will be a joint conference with the International Shared Decision Making group, bringing evidence-based practice and shared decision-making together. The two fields are closely related and have much to contribute to each other and to better care with patients. This year's conference promises to be as much a success as the previous ones, with prominent keynote speakers such as Victor Montori, Alexandra Barratt and Sharon Strauss. Come and join like-minded colleagues, make your own contribution, and enjoy the many pleasures of Sydney!

We look forward to seeing you there. Go to www.isdm-isehc2015.org for more info.

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EBHC ON TWITTER

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Joanna Briggs Inst @JBIEBHC 4 Sep

First up on day 2 of #JBI2015 the benefits of expert opinion and text to inform #EBHC by Alexa McArthur pic.twitter.com/gthwZiK31N Retweeted by Investén-iscill

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Joanna Briggs Inst @JBIEBHC 4 Sep

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CATEGORIES

- Conferences
- Newsletter
- Trials
- Uncategorized
- Workshops

POLLS

Test Poll

Good

<http://www.isehc.net/>

Archie Cochrane



- 1972 – “people who want to make more informed decisions about health care do not have ready access to reliable reviews of the available evidence.”
- 1979 "It is surely a great criticism of our profession that we have not organised a critical summary, by specialty or subspecialty, adapted periodically, of all relevant randomized controlled trials".

Cochrane Collaboration

- Cochrane has representatives in more than 43 countries

- **Europe**

- Chief Executive Officer's Office
- Dutch Cochrane Centre
- French Cochrane Centre
- German Cochrane Centre
- Iberoamerican Cochrane Centre
- Italian Cochrane Centre
- Nordic Cochrane Centre
- UK Cochrane Centre

- **Asia-Pacific**

- Australasian Cochrane Centre
- Chinese Cochrane Centre
- South Asian Cochrane Centre

- **North and South America**

- Brazilian Cochrane Centre
- Canadian Cochrane Centre
- US Cochrane Center

- **Africa and the Middle East**

- South African Cochrane Centre



Cochrane Oral Health Group

- Established in 1993
- One of over 50 review groups
- 1500 members
- 40 different countries
- 157 reviews
- 49 protocols

The screenshot shows the homepage of the Cochrane Oral Health Group. At the top, there is a navigation bar with links for 'Cochrane Library', 'Cochrane.org', 'Read our blog', 'Tweet us', 'Find us on Facebook', and 'Admin'. Below this is a search bar and a teal navigation bar with links for 'Oral health evidence', 'About us', 'Patients & public', 'News & events', and 'Get involved'. The main content area features a banner image of books with a forest scene, titled 'Recently published on the Cochrane Library Issue 8, 2015'. Below the banner is a 'Site highlights' section with a grid of links: 'Priority oral health research', 'Priority reviews', 'Cochrane OHG blog', 'Behind the evidence', 'Cochrane OHG 20 year anniversary', and 'What we do'. A 'Tweets' sidebar on the right shows recent tweets from @CochraneOHG. At the bottom, a paragraph describes the group's mission: 'Cochrane Oral Health Group comprises an international network of healthcare professionals, researchers and consumers preparing, maintaining, and disseminating systematic reviews of randomised controlled trials in oral health. Oral health is broadly conceived to include the prevention, treatment and rehabilitation of oral, dental and craniofacial diseases and disorders.' A footer note states: 'Activities of the Group are co-ordinated by its editorial base, located within the School of Dentistry, The University of'.

Centre for Evidence-based Dentistry

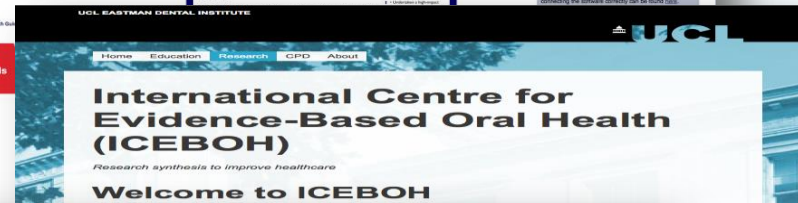
- Established following a workshop in Oxford December 1994
- To promote the teaching, learning, practise and evaluation of Evidence-based Dentistry
- www.cebd.org



Evidence-based health care: a new approach to teaching the practice of health care. Evidence-Based Medicine Working Group. J Dent Educ. 1994 Aug;58(8):648-53
Richards D, Lawrence A. Evidence-based dentistry. Br Dent J. 1995 Oct 7;179(7):270-3.

Evidence-based Dental Centres

- Cochrane Oral Health Group Manchester
- Dundee – formerly Oxford
- London UCL – ICEBOH
- New York – formerly Boston
- ADA–Chicago
- Egypt – Cairo University



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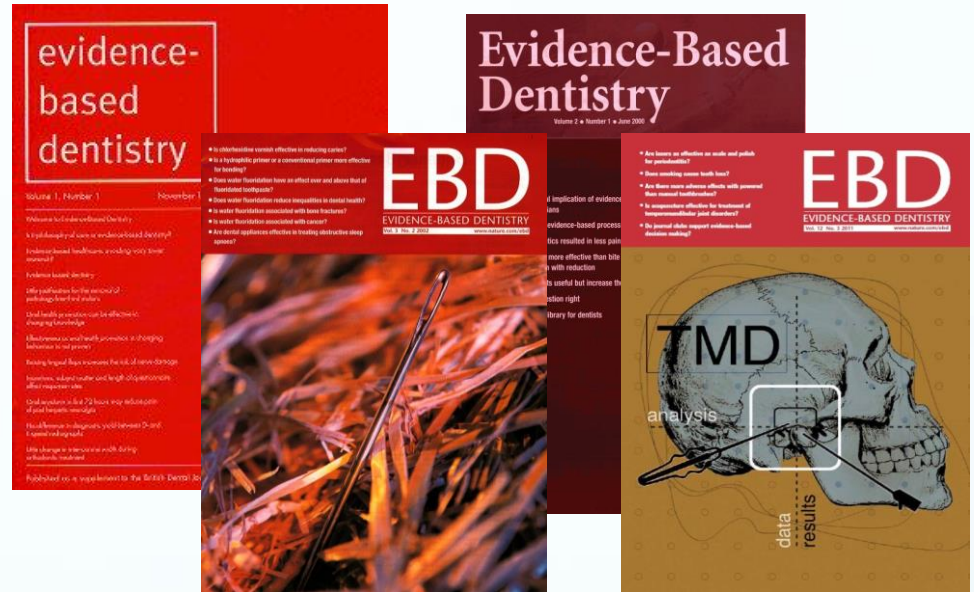
Education and Dissemination

- Raising awareness of EBD
- Teaching appraisal skills
- Evidence synthesis
 - Guideline development
 - Journal
 - Online



Evidence-based Dentistry Journals

- EBD First published as supplement to BDJ - Nov. 1998
- Becomes stand alone in 2000
- Evidence-based Dental Practice launches 2001



The Dental Elf Service

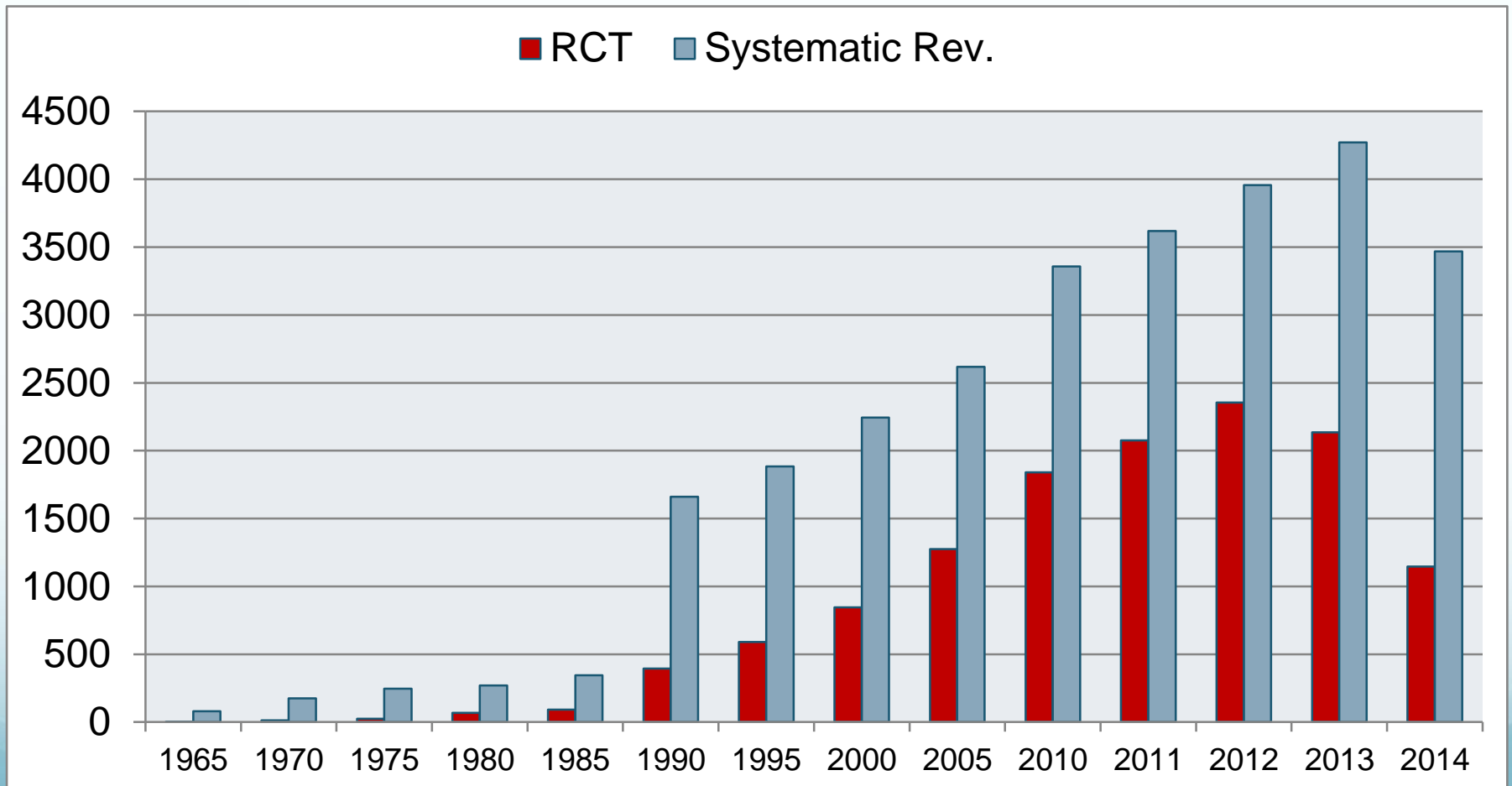
- www.thedentalelf.net
- One of suite of blogs
 - Mental Health
 - Learning disability
 - Diabetes
 - Child
 - Commissioning
 - Education
 - Lifestyle
 - Musculoskeletal
 - Social Care
 - Stroke
- Highlighting good evidence
- <http://www.nationalelfservice.net/>



EBD in Dental Education

- GDC includes EBD in curriculum requirements
- Critical Appraisal incorporated into UK Dental postgraduate exams
- Council on Dental Accreditation's (CODA) requirement that oral health educational programs integrate evidence-based dentistry
- Included in many undergraduate curricula

Increase in dental trials and reviews 1965- 2014



Challenges

- Quality of primary research
- Quality of secondary research
- Implementation

Systematic Reviews in Dentistry

	Number	Percentage
Caries	7	11
Fluorosis	1	2
Oral & Maxillofacial surgery	5	8
Oral Health Promotion	3	5
Oral Medicine	7	11
Orthodontics	3	5
Pain	20	31
Periodontology	6	9
Restorative Dentistry	4	6
Sleep apnoea	2	3
Temporomandibular disorders	5	8
Other	2	3
	65	

Weakness of the reviews

- Search strategies not always adequate.
- Only 12 reviews (19%) attempted to identify all relevant studies.
- Problems with:-
 - screening and quality assessment of primary studies
 - the pooling of data
 - examination of heterogeneity
 - the interpretation of findings.

Are dental reviews improving?

- 157 - Orthodontic systematic reviews identified
- Gradual increase in number over time
- 27% involved a meta-analysis
- Average number of trials = 4 (2-52)
- Overall quality of evidence using GRADE criteria; low to very low

Orthodontic trials in the last 10 years

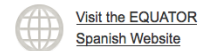
- Assessed 309 trials published in last 10 years
- Reporting quality has improved significantly
 - Identifying trial as randomised
 - Sample size
 - Blinding
 - Randomisation
 - A few items report well – majority poorly
- Need to more closely follow CONSORT guidelines

Sandhu SS, Sandhu J, Kaur H. Reporting quality of randomized controlled trials in orthodontics-what affects it and did it improve over the last 10 years? Eur J Orthod. 2014 Sep 6. pii: cju050. [Epub ahead of print]

Equator Network



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Library for health research reporting

The Library contains a comprehensive searchable database of reporting guidelines and also links to other resources relevant to research reporting.



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Key reporting guidelines

CONSORT	Full Record	Checklist	Flow Diagram
STROBE	Full Record	Checklist	
PRISMA	Full Record	Checklist	Flow Diagram
STARD	Full Record	Checklist	Flow Diagram
COREQ	Full Record		
ENTREQ	Full Record		
SQUIRE	Full Record	Checklist	
CARE	Full Record	Checklist	
SAMPL	Full Record		
SPIRIT	Full Record	Checklist	
PRISMA-P	Full Record		




www.equator-network.org/

Toolkits


The EQUATOR Network works to improve the reliability and value of medical research literature by promoting transparent and accurate reporting of research studies.


Our Toolkits support different user groups, including:

 **Authors**
Information and resources for authors

 **Editors**
Information and resources for editors and peer reviewers

 **Developers**
Information and resources for guideline developers

 **Librarians**
Information and resources for librarians

 **Teachers**
Information and resources for teachers

EQUATOR highlights

[25/11/2014 - Research Waste / EQUATOR Conference 2015 Edinburgh, UK 28-30 September 2015](#)

The 2015 Research Waste / EQUATOR Conference will be held in Edinburgh, UK Save the dates: 28-30 September 2015 Venue: John McIntyre Conference Centre, Edinburgh, UK Conference aims (1) Review the progress made by research regulators, academic institutions, researchers, funders, and ... [Read More](#)

[13/08/2014 - Videos now available from the scientific meeting in Paris: Improving reporting to decrease the waste of research](#)

The 6th annual lecture, presentations and roundtable discussion were recorded and are now available to watch [Read More](#)

[13/08/2014 - Interview with Iveta Simera about the EQUATOR Network](#)

The plagiarism detection software company iThenticate recently interviewed EQUATOR's Head of Programme Development, Iveta Simera [Read More](#)

Interesting videos

[Rigour Mortis: How Bad Research is Killing Science](#)



Professor Malcolm Macleod, Personal Chair in Neurology and Translational Neuroscience, University of Edinburgh, delivers his inaugural lecture entitled:

"Rigour Mortis: How Bad Research is Killing Science".

News


[Editorial: Stronger post-publication culture is needed for better science](#)
23/01/2015

[Pioneers of transparency in health research](#)
9/01/2015

[What trials are really supposed to be – a succinct reminder from J. Ioannidis](#)
8/01/2015

[Guidelines for reporting multivariable prediction models for individual prognosis or diagnosis \(TRIPOD\) published](#)
7/01/2015

[PRISMA-P Statement for protocols published](#)
7/01/2015

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Latest guest blogger

[Planning a systematic review? Think protocols](#)



Evidence-based Guidelines

- SIGN
- NICE
- SDCEP (Scottish Dental Clinical Effectiveness Programme)
- American Dental Association



Implementation

- Delivery of preventive interventions poor despite previous guidelines and prevention programmes
 - SIGN 47, 83 & 138
 - DBOH toolkit
 - SDCEP – Prevention and management of caries in Children
 - Childsmile



Criticisms of EBM

- Criticism has ranged from evidence based medicine being old hat to it being a dangerous innovation, perpetrated by the arrogant to serve cost cutters and suppress clinical freedom.

Criticisms of EBM-

- Evidence based medicine is not "cookbook" medicine. Because it requires a bottom up approach that integrates the best external evidence with individual clinical expertise and patients'

Criticisms of EBM-

The evidence based “quality mark” has been misappropriated by vested interests

The volume of evidence, especially clinical guidelines, has become unmanageable

Statistically significant benefits may be marginal in clinical practice

Inflexible rules and technology driven prompts may produce care that is management driven rather than patient centred

Evidence based guidelines often map poorly to complex multimorbidity

Analysis
Essay

Evidence based medicine: a movement in crisis?

BMJ 2014 ; 348 doi: <http://dx.doi.org/10.1136/bmj.g3725> (Published 13 June 2014)
Cite this as: *BMJ* 2014;348:g3725

Article

Related content

Metrics

Responses

*Trisha Greenhalgh, dean for research impact*¹, *Jeremy Howick, senior research fellow*², *Neal Maskrey, professor of evidence informed decision making*³ for the Evidence Based Medicine Renaissance Group

Author affiliations ▼

Correspondence to: T Greenhalgh p.greenhalgh@qmul.ac.uk

Trisha Greenhalgh and colleagues argue that, although evidence based medicine has had many benefits, it has also had some negative unintended consequences. They offer a preliminary agenda for the movement’s renaissance, refocusing on providing useable evidence that can be combined with context and professional expertise so that individual patients get optimal treatment

It is more than 20 years since the evidence based medicine working group announced a “new paradigm” for teaching and practising clinical medicine.¹ Tradition, anecdote, and theoretical reasoning from basic sciences would be replaced by evidence from high quality randomised controlled trials and observational studies, in combination with clinical expertise and the needs and wishes of patients.

Evidence based medicine quickly became an energetic intellectual community committed to making clinical practice more scientific and empirically grounded and thereby achieving safer, more consistent, and more cost effective care.² Achievements included establishing the Cochrane Collaboration to collate and summarise evidence from clinical trials;³ setting methodological and publication standards for primary and secondary research;⁴ building national and international infrastructures for developing and updating clinical practice guidelines;⁵ developing resources and courses for teaching critical appraisal;⁶ and building the knowledge base for implementation and knowledge translation.⁷

From the outset, critics were concerned that the emphasis on experimental evidence could devalue basic sciences and the tacit knowledge that accumulates with clinical experience; they also questioned whether findings from average results in clinical studies could inform decisions about real patients, who seldom fit the textbook description of disease and differ from those included in research trials.⁸ But others argued that evidence based medicine, if practised knowledgeably and compassionately, could accommodate basic scientific principles, the subtleties of clinical judgment, and the patient’s clinical and personal idiosyncrasies.¹

Two decades of enthusiasm and funding have produced numerous successes for evidence based medicine. An early example was the British Thoracic Society’s 1990 asthma guidelines, developed through consensus but based on a combination of randomised trials and observational studies.⁹ Subsequently, the use of personal care plans and

Greenhalgh T, Howick J, Maskrey N; Evidence Based Medicine Renaissance Group. Evidence based medicine: a movement in crisis? *BMJ*. 2014 Jun 13;348:g3725.

Actions to deliver real EBM

- Patients must demand better evidence, better presented, better explained, and applied in a more personalised way
- Clinical training must go beyond searching and critical appraisal to hone expert judgment and shared decision making skills
- Producers of evidence summaries, clinical guidelines, and decision support tools must take account of who will use them, for what purposes, and under what constraints
- Publishers must demand that studies meet usability standards as well as methodological ones
- Policy makers must resist the instrumental generation and use of “evidence” by vested interests
- Independent funders must increasingly shape the production, synthesis, and dissemination of high quality clinical and public health evidence
- The research agenda must become broader and more interdisciplinary, embracing the experience of illness, the psychology of evidence interpretation, the negotiation and sharing of evidence by clinicians and patients, and how to prevent harm from overdiagnosis

Real evidence based medicine

- Makes the ethical care of the patient its top priority
- Demands individualised evidence in a format that clinicians and patients can understand
- Is characterised by expert judgment rather than mechanical rule following
- Shares decisions with patients through meaningful conversations
- Builds on a strong clinician-patient relationship and the human aspects of care
- Applies these principles at community level for evidence based public health

In summary

- Increased
 - awareness of EBD
 - availability of EBD information
 - number trials, reviews and guidelines
- Methodological/reporting issues with dental research
- Challenges
 - Implementation
 - Education
 - Keeping 'EBM real'

