Abstracts Book

Conference Program

International Steering Committee

Amanda Burls
Senior Clinical Lecturer in Public Health and Epidemiology- Director of West Midlands Health Technology Assessment Collaboration - Department of Public Health and Epidemiology University of Birmingham (UK)

Nino Cartabellotta
Director of GIMBE - Gruppo Italiano per la Medicina Basata sulle Evidenze (IT)

Martin Dawes
Department of Family Medicine University of McGill Montreal, Quebec (CA)

Paul Glasziou
Director, Centre for Evidence-Based Medicine, Oxford (UK)

Kev Hopayan
Continuing Professional Development Tutor, Ipswich (UK)

Janet Martin
Project Leader Evidence-Based Prescribing Initiative London Health Sciences Centre London, Ontario (CA)

James Osborne
Clinical Effectiveness Training Coordinator c/o Research & Development Old Building, BRI United Bristol Healthcare NHS Trust Marlborough Street Bristol (UK)

Franz Porzsolt
Clinical Economics University Hospital Ulm (D)

Bill Summerskill
EBM Teaching Coordinator, SW NHS Region University of Bristol Centre for Medical Education (UK)

Wednesday, 10 September

6.00 pm **CONFERENCE INAUGURATION**

6.30 **OPENING TALKS**

8.30 **Cocktail and welcome dinner at Splendid Hotel La Torre**

Thursday, 11 September

9.00 am PLENARY SESSION

Section I. Description of EBM teaching activities

- Crilly M (Scotland). Early development of a curriculum strategy for Evidence-based Medicine at Aberdeen University Medical School, Scotland (8).
- Labreque M. (Canada). Learning EBHC on the Web: the Laval University (Canada) interactive self-learning modules (26).
- Letelier LM (Chile). Teaching EBHC to University colleagues: a Chilean experience (27).
- Mayer D. (USA). A ten-year experience teaching a required four-year course in Evidence-Based Medicine to undergraduate medical students at Albany Medical College (32).
- Meerabeau E (UK). Hierarchies of evidence and hierarchies of education: reflections on a multi-profession education initiative (33)

10.30 POSTERS SESSION

Partecipants allocated to section I and II are invited to present their data

11.00 Break

11.30 PARALLEL SESSIONS (short communications)

Section I. Description of EBM teaching activities

- Dean T. (UK) - Mapping of United Kingdom Postgraduate Courses in Evidence Based Practice (10)
- Dawes M (Canada) - A Website and Online Quizzes Adapted to Medical Student Teaching of Evidence Based Medicine (9).
- Finkel M. (USA) - Teaching EBM: a collaborative effort (12).
- Formoso G. Nonino F (Italy) - A masters course on Evidence-based Medicine and methodology of health care research: first year experience (14)
- Letelier LM. (Chile) - Introducing EBHC practice & teaching in a public teaching hospital in Santiago, Chile (28)
- O'Sullivan A. (Ireland) - The experience of planning patient care in Elderly Mental Health Nursing (35).
- Pacheco C. (Chile) - Development of searching skills in Evidence Based Medicine databases for medical residents (37).
- Parkin C. (UK) - Evidence Based Healthcare - A Multiprofessional Course (38)

Section II. Evaluation of teaching methods

- Falk-Ytter Y (Germany) - Teaching EBM based on a national curriculum in Germany (11).
- Gardner F. (UK) - New developments: Teaching Evidence-Based Social Work in the UK (16).
- Potomková J, Lesenková E. (Czech Republic) - A role of medical librarians in Evidence-based Medicine: Czech experience (40)
- Robertson S. (USA). Integration of Evidence-based Veterinary Medicine into a PBL curriculum: paradigm shift or simple extension? (42)
- Sestini P. Teaching Evidence-Based Medicine skills in an unsupporting environment: the slow pace of the University of Siena towards EBM (44)
- Stewart M., Bennett R. (UK) - Diversity in the workplace – An exploration of the evidence from student placements 48)
- Wylie K (UK) - Learning to find and disseminate best evidence (55)

1.00 pm Snack lunch

2.30 PLENARY SESSION.

Section II. Evaluation of teaching methods

- Harris J, Dewey A, Dean T. (UK) - Assessing Needs for Continuing Professional Development in Evidence Based Practice (22).
- Hopayan K. (UK) - Steps towards a matrix for levels and methods of assessment of the evidence-based practitioner (23).
- Ramos K, Youngclarke D. (USA) - Evaluation of a comprehensive Evidence-Based Health Care curriculum in a family practice residency (41).
- Slavin M. (USA) - Evidence-based Health Care implementation strategies: findings from a faculty institute on teaching evidence-based practice (45).
- Summerskill W. (UK) - Medical Students' Perception of EBHC Teaching at the University of Bristol (49)

4.00 Transfer to hotel and break

5.00-… PARALLEL WORKING GROUPS

8.30 Dinner at "Antica Focacceria San Francesco", historical restaurant in Palermo

Friday, 12 September

9.00 am PLENARY SESSION

Section III. Effective ways to change the behaviour of health care providers

- Gonzales AI. (Spain) - Information needs of primary care physicians at point of clinical contact (21).
- Lyndal T. (Australia) - Online continuing education in Evidence-based Medicine for general practitioners: does it work? (31)
- Pacheco C. (Chile) - Evaluation of long-term impact of a course on Evidence Based Medicine for Librarians (36).
- Porszolt F. (Germany) - Implementing Evidence-based Medicine in day-to-day practice: the 6th step (39)
- Van Driel M. (Belgium) - Implementing EBM: the case of antibiotics for sore throat (51)

10.30 POSTERS SESSION

Partecipants allocated to section III and IV are invited to present their data

11.00 Break

11.30 PARALLEL SESSIONS (short communications)

Section III. Effective ways to change the behaviour of health care providers

- Balogh Ruth. Evidence, evidence, evidence: Magnet accreditation as a whole-organisation method for demonstrating evidence-based health care at the first Magnet hospital outside the USA at Rochdale UK (1).
- Baricchi R. (Italy) - Blood transfusion: a clinical audit for appropriateness and risk management (2).
- Bennet RM (UK) - The benefits of having clinical educators within a workforce (3).
- Cooke M. What limits exist to 'Implementation and commisioning of evidence based health care'? (7)
- Foreur M. (New Zealand) - Framing up research for nurses and midwives who view research as a 'frameup' (13).
- Gibbons C. (Ireland) - Changing students' attitudes - the role and responsibility of all nurses (20).
- Rolli M. Can EBM change clinicians' behavior? Implementation of guidelines within the health service (43).
- Thierry C. (Belgium) - "Transparancy brochures" (TFTs) in Belgium, evidence based information on drugs weighed and explained (50).
- Van Driel M (Belgium) - Minerva: a gift from EBM? (52)
- Van Winckel M. (Belgium) - Structured on-line discussion groups for teaching EBM to pre-registration house officers (53).

Section IV. Generation of new scientific evidence

- Capponi A. (Italy) - The clinical path of acute coronary syndrome (5).
- Cleary J. (Ireland) - An Ex Post Facto Exploration of the Relationship between Dialysis Adequacy and Health-Related Quality of Life in Haemodialysis Patients in Ireland (6).
- Ghosh A. (USA) - Understanding NNT. Patient's and physicians perspective (18)
- Ghosh A. (USA). Does FUTON (Full Text on the Net) and NAA (No Abstract Available) bias impact visibility of cardiology research? (19)
- Kunhardt H. (Germany) - Evidence-based information technology (EBIT): using evidence to save resources in health care management (25)
- Letelier LM (Chile) - How and where do Chilean health professionals get their health information? (29)
- Lynch J. (Ireland) - An exploration of preceptors' perceptions of benefits, rewards, supports and commitment to the role. (30)
- Spector N. (USA) - Evidence Based Indicators of Quality Nursing Education Programs (46).
- Stengel D. (Germany) - The likelihood ratio meta-scatterplot: test efficacy at a glance (47).
- Weiss C, Porzsolt F. (Germany). Does the effectiveness of pharmaceuticals fade with time? Reasons and consequences (54)

1.00 pm Snack lunch

2.30 PLENARY SESSION. Section IV. Generation of new scientific evidence

- Booth A. (UK) - Pretty Darned Kwik (PDK): a method of rapid critical appraisal (4).
- Formoso G. (Italy) - Do doctors like evidence based information and prefer it to guidelines? Hints from the pilot distribution of Clinical Evidence within the Italian National Health Service (14).
- French S. (Australia). BACI: the best available clinical information project. providing recent and rigorous answers for clinicians (15).
- Ghosh A. (USA) - Innumeracy: an impediment to learning Evidence-based Medicine (17).
- Jatene F. Critical appraisal of 28 guideline developed by Brazilian medical association (24)

4.00 Transfer to hotel and break

5.00-… PARALLEL WORKING GROUPS

8.30 Gala dinner at "La Scuderia Restaurant", in Palermo

Saturday, 13 September

9.30 am PLENARY SESSIONS

- Report of working groups
- Feedback session
- Planning future activities
- Final remarks

12.30 pm Snack lunch

1.30 Excursion to Segesta and Erice

8.30 Dinner at Saverino Restaurant, Bonagia

1. Balogh Ruth. Evidence, evidence, evidence: Magnet accreditation as a whole-organisation method for demonstrating evidence-based health care at the first Magnet hospital outside the USA at Rochdale UK
2. Baricchi R. Blood transfusion: a clinical audit for appropriateness and risk management
3. Bennet Rosalie Mary. The benefits of having clinical educators within a workforce
4. Booth Andrew. Pretty Darned Kwik (PDK): a method of rapid critical appraisal
5. Capponi Andrea. The clinical path of acute coronary syndrome
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7. Cooke Mark. What limits exist to 'Implementation and commisioning of evidence based health care'?
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16. Gardner Frances. New developments: Teaching Evidence-Based Social Work in the UK
17. Ghosh Amit (1). Innumeracy: an impediment to learning evidence-based medicine
18. Ghosh Amit (2). Understanding NNT. Patient's and physicians perspective
19. Ghosh Amit (3). Does FUTON (Full Text on the Net) and NAA (No Abstract Available) bias impact visibility of cardiology research?
20. Gibbons Colette. Changing students' attitudes - the role and responsibility of all nurses.
21. González Ana Isabel. Information needs of primary care physicians at point of clinical contact
22. Harris Janet. Assessing Needs for Continuing Professional Development in Evidence Based Practice
23. Hopayian Kevork. Steps towards a matrix for levels and methods of assessment of the evidence based practitioner.
24. Jatene Fabio. Critical appraisal of 28 guideline developed by brazilian medical association
25. Kunhardt Horst. Evidence-based information technology (EBIT: using evidence to save resources in health care management
26. Labreque Micheal. Learning EBHC on the web: the Laval University (Canada) interactive self-learning modules.
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28. Letelier Luz Maria (2). Introducing EBHC practice & teaching in a public teaching hospital in Santiago, Chile
29. Letelier Luz Maria. (3). How and where do Chilean health professionals get their health information?
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31. Lyndal Trevena. Online continuing education in evidence-based medicine for general practitioners: does it work?
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34. Nonino Francesco. A masters course on evidence based medicine (EBM) and methodology of health care research: first year experience
35. O'Sullivan Anne. The experience of planning patient care in Elderly Mental Health Nursing
36. Pacheco Cecilia (1). Evaluation of long-term impact of a course on Evidence Based Medicine for Librarians
37. Pacheco Cecilia (2). Development of searching skills in Evidence Based Medicine databases for medical residents.
38. Parkin Claire. Evidence Based Healthcare - A Multiprofessional Course
39. Porzsolt Franz. Implementing evidence-based medicine (ebm) in day-to-day practice: the 6th step.
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41. Ramos Katie, Youngclarke D. Evaluation of a comprehensive evidence based health care curriculum in a family practice residency
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54. Weiss Christel. Does the effectiveness of pharmaceuticals fade with time? Reasons and consequences
55. Wylie Katharine. Learning to find and disseminate best evidence

1. EVIDENCE, EVIDENCE, EVIDENCE: MAGNET ACCREDITATION AS A WHOLE-ORGANISATION METHOD FOR DEMONSTRATING EVIDENCE-BASED HEALTH CARE AT THE FIRST MAGNET HOSPITAL OUTSIDE THE USA AT ROCHDALE UK

Dr Balogh R[1], Dr Cook M[2]
[1]Director, Centre for Health Research & Practice Development, St Martin's College Carlisle UK
[2]Associate Dean, Teaching & Learning, City University London UK

Background
The Magnet Nursing Services Recognition Program for Excellence in Nursing Services is an North American accreditation scheme that confers an award on institutions that act as a "magnet" through work environments which recognise and reward professional nursing. This paper reports on the role which evidence and evidence based practice played in a case study which explored the Magnet accreditation process as it developed in the first non-US healthcare organisation to attempt to gain the award, Rochdale Healthcare NHS Trust United Kingdom. The development was supported by the American Nurses Credentialing Center (ANCC) as a pilot project. Rochdale was awarded Magnet status in April 2002.

Aims
This paper aims to understand the role played by evidence of different kinds when a non-US health care organisation responded to the requirements of Magnet accreditation.

Method
We conducted this study using case-study methods, drawing on Stake's approach (Stake 1995). Information was collected via 23 face-to-face and 3 telephone interviews carried out with 10 senior figures at Rochdale during the 2-year period of the Magnet project; from field notes of meetings attended by the researchers and from analysis of documents associated with the project.

Results
The results of our case study describe the role which evidence played in the process of obtaining the award. We argue that the standards on which the Magnet award are based espouse three distinct principles of evidence-based practice: internally, as a "learning organisation", and externally, by incorporating evidence based health care and by adherence to professionally accepted standards and guidelines. The process of gaining the Magnet award also required collection of evidence to show achievement of the standards, and contribution to the development of an ongoing evidence base for Magnet Hospitals using Nursing Sensitive Quality Indicators as proxy measures of the quality of patient care (Aiken et al 2000). By tracking the Magnet "journey" at Rochdale, we show how this focus on evidence of different types developed, and how the Magnet project team raised awareness of this among staff within the organisation.

Conclusion
The 2 year Magnet project at Rochdale was essentially a process of collecting evidence to formally recognise a previous 3 year programme of development work and to determine its effects within the organisation. The concept of evidence – discernible in several forms - was central to the process of gaining the Magnet award.

References
Aiken L et al 2000 The Magnet Nursing Services Recognition Program - A comparison of two groups of Magnet hospitals *American Journal of Nursing* 100 3 pp 26 - 35
Stake R 1995 *The art of case-study research* Thousand oaks Sage Publications

Address for correspondence

Title	Dr	**City**	Carlisle
Full Name	Ruth Balogh	**Country**	UK
Affiliation	Director, Centre for Health Research & Practice Development. St Martin's College	**Phone**	+ 44 1228 616360
Street Address*	Fusehill St	**Fax**	+ 44 1228 616367
Postal code	CA1 2HH	**E-mail**	r.balogh@ucsm.ac.uk

2. BLOOD TRANSFUSION: A CLINICAL AUDIT FOR APPROPRIATENESS AND RISK MANAGEMENT

R. Baricchi, B.Curcio, D. Formisano, M. Pinotti, G.Gambarati*, P. Rivasi

Azienda Ospedaliera Arcispedale S.Maria Nuova, Reggio Emilia
*Azienda USL Reggio Emilia

Background. We describe an audit cycle, following the diffusion and implementation of a clinical guideline (issued in April 2002), from April 2001 to April 2003 intended to evaluate the use of cross-matched blood in the province of Reggio Emilia. In this province there is a central blood bank service who supply a provincial hospital and five district hospitals. We can define our audit process as a "**Comparative audit**" that is recognized to be "…a powerful tool for detecting clinically significant variation in practice, and for persuading pratictioners to adjust their practice. (Wallis J.P, Mc.Clelland et al 2002).
Aims: Audit the quality of the clinical blood transfusion process; evaluate the effectiveness of a provincial blood transfusion guideline; set performance indicators for clinical blood transfusion practice.
Methods: phase one of the project was to evaluate retrospectively (in 8 departments of our province) blood transfusion practice ; phase two consisted to evaluate prospectively the orders for blood transfusion in the same departments for the same length of time. Moreover we define a standard against which transfusion practice could be measured ;this standard named "utilization index" is a local adaptation of the commonly used cross-match to transfusion ratio . A index below 33% was taken as the standard indicating efficient usage
Results: there was a statistically significant difference in the utilization index between the provincial hospital and the five district hospitals($p << 0,05$) . In the former the index passed from 11 to 10%, in the latter from 35% to 37%.
Conclusion: Clinical audit is a useful tool for the evaluation of a provincial guideline for the administration of blood , it can also promote behavioral change among health professionals. The type of analysis and the method used for the presentation of audit data developed in our context may be useful for setting ,in the next future, new performance indicators for the clinical transfusion process .

Address for correspondence

Title	Medical Doctor	**City**	Reggio Emilia
Full Name	Roberto Baricchi	**Country**	Italy
Affiliation	Arcispedale S.Maria Nuova	**Phone**	0522/296005
Street Address*	Viale Risorgimento 80	**Fax**	
Postal code	42100	**E-mail**	Baricchi.Roberto@asmn.re.it

3. THE BENEFITS OF HAVING CLINICAL EDUCATORS WITHIN A WORKFORCE

Bennett RM

School of Health Sciences / Physiotherapy, University of Birmingham, UK

Background
Clinical education forms a third of the undergraduate curriculum in physiotherapy within the UK. As a result of a government initiative to vastly increase the number of physiotherapy staff by 2009, there are larger cohorts of undergraduate students requiring supervision during their clinical placements.
The Chartered Society of Physiotherapy Guidelines for Curriculum Framework state a need for research awareness, and undergraduate curricula aim to direct students in a research led and evidence- based practice forum.

Aims
The objective of this study was to provide evidence of the views of clinical managers to accommodating students and clinical educators within their departments.
A second objective was to evaluate how the views of managers compared to those of clinicians.

Method
13 managers took part in in-depth interviews lasting between 45-60 minutes. Transcripts were analysed to produce demographic and thematic qualitative data.

Results
Managers found the benefits of accommodating students and clinical educators far outweigh the disadvantages. Many of the advantages for the individual were perceived to arise from shared learning. Management benefits arose from promotion of a department and/or specific clinical specialty. The benefits centered around personal and professional development

Conclusions
Clinical education is a tool in promoting evidence-based health care by maintaining links between academic and clinical locations.

Title	Mrs	**City**	Birmingham
Full Name	Rosalie Bennett	**Country**	UK
Affiliation	School of Health Sciences / Physiotherapy University of Birmingham	**Phone**	0121 627 2020
Street Address*	Morris House	**Fax**	0121 627 2021
Postal code	B15 2TT	**E-mail**	r.m.bennett@bham.ac.uk

4. PRETTY DARNED KWIK (PDK) : A METHOD OF RAPID CRITICAL APPRAISAL

Booth, A

School of Health and Related Research, University of Sheffield, UK

BACKGROUND: Existing methods of critical appraisal are time consuming. They frequently conflate an assessment of the validity and reliability of a research study with discussion of its applicability. While undoubtedly appropriate for detailed consideration of an individual article this is less satisfactory in rapid assessment of a body of evidence. One reason for this is the fact that existing checklists confuse quality of study criteria with quality of reporting criteria.

AIMS: To investigate the usefulness of a method of rapid critical appraisal.

METHODS: A method for rapid critical appraisal was devised using an innovative PDK model - PROBLEM identified using the PICO anatomy; DESIGN assessing the appropriateness of the research to the problem; KEY QUESTIONS using an abbreviated list of questions derived from empirical research and excluding informational (i.e. quality of reporting) criteria. The method was piloted at two 1 hour sessions for clinical effectiveness staff at the end of July 2003.

RESULTS: Evaluation is by means of a post-workshop questionnaire together with a subjective assessment by the trainer.

CONCLUSIONS: Although rapid approaches to critical appraisal may appear to hold promise further investigation of their usefulness is required. Future research should focus on the sensitivity and specificity of rapid appraisal against the gold standard of full-blown critical appraisal. Such findings can then be weighed against the benefits of differential time savings. [221 words]

Title	MR	**City**	SHEFFIELD
Full Name	ANDREW BOOTH	**Country**	UK
Affiliation	ScHARR, UNIVERSITY OF SHEFFIELD	**Phone**	+44(0)114 222 0705
Street Address*	REGENT COURT, 30 REGENT STREET	**Fax**	+44(0)114 272 4095
Postal code	S1 4DA	**E-mail**	A.Booth@sheffield.ac.uk

5. THE CLINICAL PATH OF ACUTE CORONARY SYNDROME

A. Capponi *, A.S. Bongo, L. Rossi, B. Suardi *, A. Todesco *, C. Cernigliaro.

* Office Assurance Quality - A.O. Maggiore della Carità di Novara
U.O.A. Cardiology Unit - A.O. Maggiore della Carità di Novara

***Aims*:** The clinical path of the patient is the temporal sequence and spaces them of the distributed performances that they agree to make to follow the patients in order to obtain the better risult of the health. The clinical path concurs the passage to on organization for processes, improving the charitable continuity supplied to the patient, reducing some the variability and increasing of efficiency.

***Materials and Methods*:** First of all for the definition of the path of Acute Coronary Syndrome (SCA) it has been described the clinical reasoning carried out on the patient in the several charitable processes.
Subsequently it has been articulated in the regimes of the nurse-care unit and in the time, describing the clinical path properly said. The borders of the clinical path are identify from the income criteria and of escape, while on an appropriate matrix the single responsibilities of operating the control are defined.
The control of the application of the clinical path happen by the help of the instruments commonly in use in the Office Assurance Quality that previews with quarterly cadence the control:

- of the clinical documentation, that go away from the preferential clinical path, with aimed analysis at least 10% of the cases;
- of the database of the Cards of Resignations of the Hospital by means of result and process markers;
- of the adoption of the previewed organizational behaviors from the clinical path, by means of a check-list of inspecting verification;
- of the acquisition of the contents technical-clinicians of the clinical path by means of a learning questionnaire.

Results and Conclusions: L'adozione of the clinical path has improved the attendance supplied to the patients. From 2001 to 2002 mortality for IMA it is reduced from the 16,96 to 12.31%($p<0,05$), not changing in the patients < 65 anni (from 2.42 to 2.34%) but in the patients > 65 anni (from 14.31 to 9,34 $p<0,05$). This is not a reduction of mortality in the patients subordinates to PTCA (p: n.s.) but to an increase of the IMA subordinates to PTCA from the 31,5 to 38% ($p<0,01$). The clinical path has moreover concurred one reduction of the medium stay in hospital from 6,69 with 5,63 days ($p<0,01$).

Title	Dr.	**City**	Novara
Full Name	Andrea Capponi	**Country**	Italy
Affiliation	A.O. Maggiore della Carità	**Phone**	0321/373.3718-3693
Street Address*	C.so Mazzini 18	**Fax**	0321/373.3922
Postal code	28100	**E-mail**	qualita@maggioreosp.novara.it

6. AN EX POST FACTO EXPLORATION OF THE RELATIONSHIP BETWEEN DIALYSIS ADEQUACY AND HEALTH-RELATED QUALITY OF LIFE IN HAEMODIALYSIS PATIENTS IN IRELAND.

Joanne Cleary

Dublin City University

Background: The utilisation of urea kinetic modelling (UKM) to measure dialysis adequacy (expressed as a Kt/V level) has been shown to positively influence survival rates of haemodialysis patients. However, improved survival rates do not, in themselves, indicate improved quality of life. Quality of life is a fundamental measure of treatment outcome and improving a patient's quality of life is a crucial goal of patient care. The quality of survival, therefore, must be considered.
Aims: The purpose of this study was to explore the quality of life of haemodialysis patients to investigate the relationship between dialysis adequacy (Kt/V = 1.2) and the quality of life in this patient group.
Methods: An ex post facto design was utilised. A non-probability convenience sample of 97 participants was used. Quality of life (QoL) was assessed using the SF-36v2® health-related quality of life questionnaire, the reliability and validity of which has been well documented. The participants' medical charts were reviewed to aid identification of extraneous variables.
The QoL of the whole sample was compared with that of a general population reference group. The sample was then divided into two groups. Group 1 (44) consisted of participants whose Kt/V ≥ 1.2 and Group 2 (53) consisted of participants whose Kt/V < 1.2.The demographic profiles, clinical variables and QoL means of the groups were compared. As appropriate, parametric and non-parametric statistical procedures were employed to analyse the data, utilising the Statistical Package for Social Sciences (SPSS version 10.0.7).
Results: The QoL of the study participants was significantly lower than that of the general population reference group ($p<0.05$). Significant gender differences were identified between Groups 1 and 2 ($p=0.001$) indicating that more females are adequately dialysed than males. However, this was not reflected in an improved QoL for females. Age had significant effects on mental health and physical functioning with older patients scoring better on mental health ($p=0.01$) and their younger counterparts scoring better on physical functioning ($p=0.023$). Dialysis adequacy (defined by UKM) did not positively affect QoL ($p>0.05$) and, in fact, demonstrated a negative effect on emotional and mental health.
Conclusion: The value of urea kinetic modelling alone as an indicator of dialysis adequacy must be questioned. A greater emphasis must be placed on patient-reported QoL as a measure of treatment outcome. Greater individualisation of haemodialysis prescriptions particularly in relation to body weight, body surface area and urea distribution volume is needed.

Title	Ms	**City**	Dublin
Full Name	Joanne Cleary	**Country**	Ireland
Affiliation	Dublin City University	**Phone**	00 353 1 8367446
Street Address*	15 The Green, Beaumont Woods, Beaumont,	**Fax**	
Postal code	9	**E-mail**	joanne.cleary@dcu.ie

7. WHAT LIMITS EXIST TO'IMPLEMENTATION AND COMMISIONING OF EVIDENCE BASED HEALTH CARE'?

Cooke ME, BMedSci(Hons), MSc, SRPara

Ambulance Service Association (UK) National Clinical Effectiveness Manager

This presentation applies to all areas of health care delivery, but especially Primary Care

Background
Recent years have seen a move towards evidence based medicine in healthcare, whereby decisions are based on the best available evidence from research. This approach, however, is not perfect and there are many conflicts and issues regarding the commissioning, policy making and implementation of evidence based medicine.

This particular paper seeks to provide a thought provoking insight to just some of the issues associated with the implementation and commissioning of Evidence Based Medicine, and how acting on good quality evidence may sometimes come into conflict with other desirable goals of a health care system, such as ethical practice, equity, efficiency, public preferences, resource constraints and other relevant issues.

Aims
To reinforce the importance of EBM, but importantly to identify potential conflicts to the delivery of EBM.

Methods
Paper and Microsoft PowerPoint presentation

Results/Conclusions
There are many potential conflicts to the commissioning and implementation of EBM and that these should be considered by both consumers and providers of EBM.

Address for correspondence

Title	Mr	**City**	London
Full Name	Mark Edward Cooke	**Country**	UK
Affiliation	Ambulance Service Association	**Phone**	07766 250810
Street Address*	Friars House, 157-168 Blackfriars Road, London	**Fax**	0207 928 9502
Postal code	SE1 8EU	**E-mail**	mark@bizuk.com

8. EARLY DEVELOPMENT OF A CURRICULUM STRATEGY FOR EVIDENCE-BASED MEDICINE (EBM) AT ABERDEEN UNIVERSITY MEDICAL SCHOOL, SCOTLAND.

Crilly, M, Moffat, M..

Senior Lecturer in Clinical Epidemiology, Aberdeen University Medical School, Scotland.

Background: In Scotland the five medical schools (Aberdeen, Dundee, Edinburgh, Glasgow and St.Andrews) have collaboratively developed a common framework for undergraduate medical teaching (the 'Scottish Doctor'). This development expands upon guidance issued by the national regulatory body for pre-registration physician training in the UK ('Tomorrows Doctors'). Aberdeen University has an 'integrated' curriculum. General practice, public health, occupational medicine, geriatrics and paediatrics are taught jointly within a 3-phase 'community course'. Students have early home contact with patients. Most of the teaching is delivered by primary care physicians.

Aim: Develop a strategy for embedding EBM in the undergraduate medical curriculum.

Methods: A combination of both qualitative and quantitative information has been used to assess the current provision of EBM teaching at Aberdeen. This has included interviews and focus groups with both students and community tutors (conducted by MM); feedback from student-staff liaison meetings; student assessment sheets; discussions within the 'curriculum steering group' and the 'community teaching group' (MC); the mapping of the undergraduate curriculum.

Results: Epidemiology teaching consistently receives lower ratings than other aspects of the community course. Students dislike 'theoretical' approaches to teaching and also perceive some tutors as lacking critical appraisal skills. Students prefer to actively participate in tutorials that apply epidemiology to relevant clinical problems. Students are aware of EBM and perceive an understanding of research methods as both beneficial for patient care and their future career development. Community based tutors admit to a lack of 'epidemiological' confidence and do not feel that it is their role to teach the 'science'. There are concerns that the development of EBM may become isolated within primary care and not extend to the rest of the curriculum.

Discussion: EBM needs to be a 'vertical' curriculum theme. A small multi-disciplinary group (librarian, statistician, epidemiologist and GP) is identifying what EBM knowledge/skills graduating students should posses and mapping these to the current curriculum.

Address for correspondence

Title	DR	**City**	Aberdeen
Full Name	Mike CRILLY	**Country**	Scotland, UK
Affiliation	University of Aberdeen Medical School	**Phone**	44 (0)1224 553863
Street Address*	Dept Public Health, Foreterhill, Polwarth Building.	**Fax**	44 (0)1224 662994
Postal code	AB25 2ZD	**E-mail**	mike.crilly@abdn.ac.uk

9. A WEBSITE AND ONLINE QUIZZES ADAPTED TO MEDICAL STUDENT TEACHING OF EVIDENCE BASED MEDICINE.

G. Dougherty,[1] S. Grant,[2] A. Lambrou,[2] J. Henderson[2,] Dawes M

[1]Department of Pediatrics & Epidemiology & Biostatistics and [2]Library Sciences, McGill University, Montreal, Quebec

In the context of a fully electronic curriculum, we have developed a website and set of online quizzes used to present all required materials for a medical student's intensive course in evidence based medicine. Our aim is to make all didactic and administrative materials as well as useful evidence based links available on a single, user-friendly website. The website was developed in collaboration with experts in online library science, over a period of three years and now is structured to include all course materials, evaluation processes, information for students, and exercises and tutorials. The site is online on the web at www.health.library.mcgill.ca/ebm. *Course Information* includes all scheduling, tutorial assignments, online quizzes, links, readings, information about the instructors, evaluation, and organizational matters. Course teaching material slides are included. A second section entitled *Library Information* includes a professionally selected collection of EBM resources, access to the Cochrane library, and EBM review databases, as well as a medical student link to the University access to Medline as well as Pubmed. Searching tutorials for Medline and Pubmed are also accessed via this site. This site is revised annually as the course evolves and as newer evidence based resources become available on the web. Recent evolution and adaptation has focused on the incorporation of online quizzes, which are self-correcting and provide immediate feedback to students. The presentation will review issues involved in the development and maintenance of the site and also its usefulness to instructors and students and aspects of its ability to facilitate course management, evolution, and effectiveness.

Address for correspondence

Title	Division Head, Intensive Ambulatory Care Service	**City**	Montreal
Full Name	Geoffrey Dougherty, MDCM, MSc, FRCPC, CSPQ	**Country**	Canada
Affiliation	Department of Pediatrics	**Phone**	(514) 412-4420
Street Address*	2300 Tupper Street, Room A216	**Fax**	(514) 412-4424
Postal code	H3H 1P3	**E-mail**	geoffrey.dougherty@muhc.mcgill.ca

10. MAPPING OF UNITED KINGDOM POSTGRADUATE COURSES IN EVIDENCE BASED PRACTICE

Dean, T*, Ward, D*, Dewey, A*, Harris, J‡.

*PIMHS, University of Portsmouth. ‡Dept of Continuing Education, University of Oxford.

Background: The number of EBP courses is increasing in the UK in response to government policies regarding the need to develop EBP skills. This abstract aims to identify provision, focus and content of postgraduate EBP courses with UK Universities.

Aims: To identify and map postgraduate courses within the UK that focus on EBP within health and social care services.

Methods: Electronic search for postgraduate courses on internet databases and scrutiny of all UK Universities postgraduate electronic prospectus using the term 'evidence based' and focusing on health and social care. Course details were obtained from these sources and from host sites administrative offices.

Results: Fifteen courses were identified that appeared to be running, or due to commence. Five were focused towards health care sciences and were designed for multi-disciplinary health professionals (Group 1). Seven were targeting clinical specialties (e.g. evidence based orthopaedic studies) (Group 2). Three courses included evidence based social work, education and research and application (Group 3). Group 1 courses offered stand-alone modules specifically targeted to the five steps of EBP (question formulation, searching, research methodology, critical appraisal, implementation and evaluation). In contrast, Group 2 and 3 courses claimed to integrate EBP with other core skills and specialty specific modules. Whilst some courses in the latter Groups explicitly covered a subset of EBP steps, several either implied their coverage or no reference was observed. For example, five of the seven (Group 2) were assessed as covering critical appraisal skills, whilst it was difficult to identify if the two other course modules covered this.

Conclusion: UK Universities provide relatively few courses in EBP. Two models of EBP education appear to be developing which either specifically target EBP as a separate component of the curriculum or integrate it into existing specialist subjects. Further evaluation is needed to determine the relative merits of each.

Address for correspondence

Title	Dr	**City**	Portsmouth
Full Name	Tara Dean	**Country**	United Kingdom
Affiliation	Portsmouth Institute of Medicine, Health and Social Care	**Phone**	(044) 023 92 845243
Street Address*	University of Portsmouth, St Georges Building, 141 High Street	**Fax**	(044) 023 92845200
Postal code	PO1 2HY	**E-mail**	tara.dean@port.ac.uk

11. TEACHING EBM BASED ON A NATIONAL CURRICULUM IN GERMANY

Falck-Ytter, Y; Lelgemann, M; Motschall, E; Antes, G.

German Cochrane Centre, Institute for Medical Biometry and Medical Informatics, University Hospital, Freiburg

Background: In Germany, EBM is not a part of the governmentally mandated medical school curriculum. Recently, key stakeholders of the health care system developed a national continuing medical education curriculum in EBM to compensate for this shortcoming.

Aims: To develop and evaluate a basic course in EBM for final year students/first year residents, in terms of feasibility, knowledge acquisition and development of practical skills.

Methods: A highly structured, weekly two-hour teaching session was developed and offered to sixteen final year students and first-year residents. Teaching staff included methodologists, full time clinicians, and an information retrieval specialist. The weekly teaching sequence was modeled after a simulated patient encounter:
- Formulating a searchable question from a patient,
- Searching PubMed at home with retrieval of the correct search strategy from the course website,
- Careful reading of the study over the weekend,
- Critical appraisal of the study by the group, and application of the evidence to answer the clinical question,
- A short introduction into the next EBM topic.

Pre- and post-tests using pre-validated items (extended matching, standard MCQ, write-in) were used to assess increase in knowledge. A questionnaire was used to evaluate satisfaction and teaching effectiveness.

Results: Overall, the students rated the course as good to very good and superior in comparison to other study courses. A mean increase of 2.5 [1.3; 3.6] correctly answered items was achieved in the knowledge test ($p < .001$). Informal feedback revealed the importance of receiving an official certificate of completion, as well as the difficulties in applying the acquired knowledge in day-to-day patient care.

Conclusion: A nine-week basic course in EBM for final year students/residents can increase knowledge in evidence based medicine. However, resource utilization was quite high and change of attitude towards systematically using external evidence in day-to-day patient care has yet to be demonstrated.

Address for correspondence

Title	Associate Director	**City**	Freiburg
Full Name	Yngve Falck-Ytter, MD	**Country**	Germany
Affiliation	German Cochrane Centre, Institute for Medical Biometry and Medical Informatics, University Hospital Freiburg	**Phone**	+49-761-203-6695
Street Address*	Stefan-Meier-Str. 26	**Fax**	+49-761-203-6712

12. TEACHING EBM: A COLLABORATIVE EFFORT

Finkel, ML Brown, HA

Weill Cornell Medical College

BACKGROUND: While many medical schools are incorporating the teaching of EBM into their curriculum, most have integrated the concepts narrowly and selectively. The Weill Medical College of Cornell University recognized the need to provide a formal course in EBM. A four-week required course is taught in the first year, immediately following an eight-week course in Epidemiology/Biostatistics.

AIMS: To have the student: develop relevant skills in question framing, critical appraising, and database searching; develop an ability to analyze, synthesize, and apply knowledge; help the student better communicate with patients about the rationale behind clinical decisions. By the end of the course, the student should be able to analyze a clinical scenario; search on-line for the literature most relevant to answer a specific clinical question; discuss the potential strengths and weaknesses of the studies; and critically appraise the evidence for its validity and appropriateness.

METHODS: The four sessions are co-taught by epidemiologists and librarians. We believe that our program is the only one to integrate the library staff in the direct teaching of EBM. Each session consisted of a 50-minute lecture followed by a 75-minute seminar in which a case study is analyzed. Database searching strategies were taught. Students orally review the case and report on results of their search. The student was to respond as if discussing the case with the patient.

RESULTS: The epidemiologist-librarian team graded weekly homework assignments. Based on a standardized grading format, students showed improvement in searching skills and in evaluating the medical literature. Evaluation showed that students felt that the course helped them to understand better the importance of accessing and interpreting the literature.

CONCLUSIONS: The EBM course is well received by students. It is viewed as an excellent foundation for the clinical years where EBM techniques are used.

Address for correspondence

Title	Librarian	**City**	New York
Full Name	Helen-Ann Brown	**Country**	USA
Affiliation	Weill Cornell Medical Collge	**Phone**	212-746-6092
Street Address*	1300 York Avenue	**Fax**	212-746-8364
Postal code	New York, New York 10021-4896	**E-mail**	habrocome@med.cornell.edu

13. FRAMING UP RESEARCH FOR NURSES AND MIDWIVES WHO VIEW RESEARCH AS A 'FRAMEUP'

Foureur, M [2], Crisp, J [1]

[1]Sydney Children's Hospital at Randwick and the Faculty of Nursing, Midwifery and Health at the University of Technology Sydney Australia;
[2]Graduate School of Nursing and Midwifery at Victoria University of Wellington New Zealand.

In Australia and New Zealand registered nurses and midwives:

- commonly focus on questions of process over questions of outcome when thinking about practice;
- rarely understand and/or value the full range of research methods evident in nursing/midwifery research – particularly those methods at the top of evidence hierarchies related to 'best practice';
- exist comfortably in the world of words, but tend to flounder in that of numbers.

As teachers of EBHC we need to develop strategies for equipping nurses and midwives with the knowledge and skills they require for thinking critically about the role of research evidence in their practice (ebp), therefore, need to overcome the obvious challenges presented by these tendencies.

Over the past several years we have developed an approach that, on evaluation by peers and students, effectively copes with diverse entry behaviours – from beliefs that the ebp movement is a conspiracy to a willingness to 'give it a go' – as well as dealing with the problems of a minimal knowledge base, apparent tensions between world views and a dislike of numbers. The approach outlined in this paper evolved out of our own exposure to the teaching and learning processes now well established within the ebp movement, plus the need to teach ebp in bigger groups of post graduate nursing and midwifery students who are commonly enrolled in 'the research subject that looks the least aversive research subject option'. At the heart of our approach is the use of a conceptual framework that captures the links between research questions (the intention of the researchers), research designs (the intended form of evidence), the phenomena of interest (operationalisation process), measurement of the phenomena (levels of data to be obtained), and analysis (descriptive and/or inferential statistics; clinical significance). The teaching and learning process involves working with students as they build their understanding of the different elements of the framework as they read and struggle to make sense of research reports in relation to their own practice.

Address for correspondence

Title	Professor	**City**	Sydney
Full Name	Jackie Crisp	**Country**	Australia
Affiliation	Sydney Children's Hospital and the Faculty of Nursing, Midwifery and Health University of Technology Sydney	**Phone**	61 02 93821784
Street Address*	Level 2, Sydney Children's Hospital High Street, Randwick	**Fax**	61 02 93821786
Postal code	2031	**E-mail**	Jackie.Crisp@uts.edu.au

14. DO DOCTORS LIKE EVIDENCE BASED INFORMATION AND PREFER IT TO GUIDELINES? HINTS FROM THE PILOT DISTRIBUTION OF CLINICAL EVIDENCE WITHIN THE ITALIAN NATIONAL HEALTH SERVICE

Formoso G (1), Moja PL (2), Bidoli S (2), Liberati A (1,2) on behalf of the national CE Working Group
(1) Centre for the Evaluation of the Effectiveness of Health Care, (CeVEAS), Modena, Italy
(2) Italian Cochrane Centre, Istituto Mario Negri, Milano, Italy

Background: Effective dissemination of evidence-based information is crucial for its uptake. Clinical Evidence (CE) is a book-format information resource for clinicians containing concise and regularly updated summaries of the best available evidence on clinical interventions. The Italian Ministry of Health promoted its translation in Italian and its free distribution to NHS doctors.

Aims: To evaluate physicians' opinions about CE after its free distribution to 40.000 Italian doctors by the Italian Ministry of Health.

Methods: Survey through a questionnaire distributed anonymously to 6619 Italian physicians, either during dedicated meetings or by mail.

Results: 1350 physicians completed the questionnaire (63% general practitioners and 23% hospital doctors). 84% reported having used CE at least once in the month prior to the survey and most considered it very/quite comprehensible (92%) and useful (89%), and its scientific contents very/quite valid (96%). 29% respondents said they had changed sometimes their practice after consulting CE, and 54% thought CE could favour a positive interaction between primary and secondary care. 38% considered CE a collection of guidelines while 64% said it was a synthesis of scientific information and prefer CE to guidelines.

Conclusions: Despite the low response rate (20%), our survey provides useful qualitative information about CE and its perceived utility. The free distribution of CE to NHS doctors appears to be seen as a useful initiative to promote evidence-based practices and a better communication between primary and secondary care. Evidence-based information seem to be preferred to guidelines.

Address for correspondence

Title	Prof.	**City**	Modena
Full Name	Alessandro Liberati	**Country**	Italy
Affiliation	Università di Modena e Reggio Emilia	**Phone**	+39/335/6058828
Street Address*	Via Campi 287	**Fax**	+39/059/435222
Postal code	41100	**E-mail**	liberati.alessandro@unimo.it

15. BACI: THE BEST AVAILABLE CLINICAL INFORMATION PROJECT. PROVIDING RECENT AND RIGOROUS ANSWERS FOR CLINICIANS.

French SD, Anderson JN, Burrows EA, Johnston RV

Centre for Clinical Effectiveness, Monash Institute of Health Services Research

BACKGROUND: Accessing appropriate information when required is a recognised barrier to clinicians aiming to get research into practice. Since its establishment in 1998, the Centre for Clinical Effectiveness (CCE) has offered a service that identifies the best available clinical information (BACI) to answer questions submitted by health professionals.

AIMS: To clarify the information clinicians want and the nature of the evidence available to answer their questions. To increase clinicians' use of research evidence by improving their access to the best available information.

METHODS: BACI operates on systematic review principles. Users submit their questions in a standard PICO format (Patients-Interventions-Comparisons-Outcomes) that defines their interests. CCE staff search a range of electronic information resources using rigorous, pre-determined, search strategies. Identified studies are critically appraised using appropriate techniques to identify the best available information. BACI maintains an extensive database of basic information concerning each request submitted. In addition we seek detailed feedback by questionnaire on satisfaction with the service from each user.

RESULTS: Between July 1998 and June 2003 BACI completed 807 evidence requests. Service users come from a variety of professional disciplines. For intervention questions, 53% were answered by research conducted with the most rigorous methods (that is, evidence-based guidelines, systematic reviews or randomised controlled trials) published in the last five years. Sixty-four per cent of users provided satisfaction feedback: 79% of users said the BACI report answered their question either well or very well and 52% said it was likely or very likely that the report would influence their practice.

CONCLUSIONS: The BACI evidence center has completed over 800 evidence requests over 5 years. Questions concerning therapeutic interventions far outweigh other topics. The identified information was more rigorous than expected. We believe the completed requests accumulated by the service is the largest evidence centre dataset reported internationally.

Address for correspondence

Title	Mr	**City**	Clayton, Melbourne
Full Name	Simon French	**Country**	Australia
Affiliation	Centre for Clinical Effectiveness, Monash Institute of Health Services Research	**Phone**	+61 3 9594-7526
Street Address*	Monash Medical Centre Block E, Level 1 246 Clayton Road	**Fax**	+61 3 9594-7552
Postal code	3168	**E-mail**	simon.french@med.monash.edu.au

16. NEW DEVELOPMENTS: TEACHING EVIDENCE-BASED SOCIAL WORK IN THE UK

Dr Frances Gardner

University Lecturer in Applied Social Studies & Honorary Clinical Psychologist
Department of Social Policy and Social Work University of Oxford.

The field of Social Work pioneered many of the earliest RCT's of complex interventions, in the 1930's - 1950's. Disappointingly, these efforts appeared to dwindle in the latter half of the last century. Recently, there has been renewed interest in carrying out high quality evaluation of interventions in social work, and in applying lessons learned from the field of evidence based health care. This has led to the development of a new Masters degree in Evidence-Based Social Work at the University of Oxford, which we believe to be the first of its kind.

It aims to provide:

i) A thorough training in research methods for evaluating social interventions
ii) An understanding of the findings of intervention research within specialist fields (e.g. mental health; children and families; offenders)
iii) Exploration of barriers and possibilities for applying evidence and implementing interventions in practice

This paper will outline some of the challenges involved in this field:

i) measurement and research design,
ii) teaching and disseminating evidence based practice in a field which, to some extent, has tended to resist the use of scientific methods
iii) what can we learn from evidence based health care, and in what way is the field of social care different?

Address for correspondence

Title	Dr	**City**	**Oxford**
Full Name	Frances Gardner	**Country**	**UK**
Affiliation	University Lecturer in Applied Social Studies - & Honorary Clinical Psychologist. Department of Social Policy and Social Work. University of Oxford.	**Phone**	tel 44 [0] 1865 270334
Street Address*	32 Wellington Square	**Fax**	fax 44 [0] 1865 270324
Postal code	OX1 2ER,	**E-mail**	frances.gardner@socres.ox.ac.uk

17. INNUMERACY: AN IMPEDIMENT TO LEARNING EVIDENCE-BASED MEDICINE

AK Ghosh*, K Ghosh*, PJ Erwin**

Department of Internal Medicine * & Bio-Medical Library**, Mayo Clinic, Rochester, Minnesota, USA 55905

Background: Within the last decade teaching evidence-based medicine (EBM) has become popular in most medical schools. Interpretation of diagnostic terms like sensitivity, specificity, positive predictive value (PPV), likelihood ratio(LR), receiver operating characteristic (ROC) form the basis of clinical practice and is stressed in EBM curriculum.
Aim: To determine how often physicians correctly describe and understand the terms used in diagnostic tests.
Methods: Relevant articles were identified by searching various database including MedLine (1980-2003), Embase (1988-2003), PsychInfo(1984-2003), Web of Science(1993-2003), educational websites, and bibliography of relevant articles. Study design, quality of study, and limitations of study were abstracted by two independent reviewers. Review articles, letters of editors, editorials of innumeracy, and diagnostic tests were excluded.
Results: Eight articles (case scenario 5, questionnaire 2, telephone survey 1) met the inclusion criteria. Number of participants varied from 31-300. There was considerable heterogeneity in the various studies. The commonest physician error was in overestimating the PPV (78-95%). One study described that the number of physicians using Bayesian calculations ,ROC and LR was 3%, 1% and 0.66% respectively. Medical students could not rule out diseases in low and intermediate probability case scenarios applying Bayesian estimates. In one study 13/50 (26%) physicians stated that they could describe PPV, only one could actually illustrate it with an example. In one study, presenting the data in Natural frequency format increase the accuracy of determining PPV to 46%.
Conclusions: Physician innumeracy remains an impediment in popularizing EBM. Despite the limitations of the studies, the results are generalizable as they have been carried out in four continents and yield similar results. Increased attention to EBM instructions and presentation of data in alternative format (Natural frequency) may be indicated. Ongoing studies are indicated to indicate if current methods of teaching improve understanding and application of terms used in diagnostic testing.

Address for correspondence

Title	Associate Program Director, General Medicine Fellowship Program	**City**	Rochester, Minnesota
Full Name	Amit Kumar Ghosh	**Country**	USA
Affiliation	Mayo Medical School	**Phone**	507-538-1128
Street Address*	200 First Street, SW	**Fax**	507-284-4959
Postal code	55905	**E-mail**	ghosh.amit@mayo.edu

18. UNDERSTANDING NNT- PATIENT'S AND PHYSICIANS PERSPECTIVE

Amit K Ghosh*, K Ghosh*

Department of Internal Medicine * Mayo Clinic, Rochester, Minnesota, USA 55905

Background: Number needed to treat (NNT) has been described as an essential paradigm in understanding the clinical significance of a new therapy. Few studies have been performed in enquiring the ability of patients and physicians not trained in EBM, to understand NNT.
Aim: To determine how often patients and physicians understand the concept of NNT.
A secondary aim was to determine the limitation of NNT.
Methods: Relevant articles were identified by searching various database including MedLine (1980-2003), Embase (1988-2003), PsychInfo(1984-2003), Web of Science(1993-2003), educational websites, and bibliography of relevant articles. Study design, quality of study, and limitations of study were abstracted by two independent reviewers. Review articles on therapy, and studies on efficacy of workshops on EBM were excluded.
Results: Four articles met the inclusion criteria . One study involving patients failed to show any improvement in their perception when the treatment was expressed as NNT (range 25-400). Another study involving medical students revealed impaired understanding of NNT as compared to RRR and ARR(25% vs.75%). One study involving students and physicians revealed that the both group preferred results when presented as RRR as compared to NNT. A fourth study involving 50 Australian physicians, only 8(16%) could understand and explain NNT to others. Two studies explored the limitations of NNT; included difficulty in interpretation when comparing the effects of interventions over different period of time, or applied in different population, using NNT in for preventive interventions, and equating NNT with winning a lottery.
Conclusions: Despite numerous studies revealing the efficacy of teaching EBM in workshops the overall understanding of NNT among patients and medical personnel is limited. Ongoing effort is indicated in educating both the patients and physicians about terms commonly used in EBM. Limitations of NNT should be stressed to physicians.

Address for correspondence

Title	Associate Program Director, General Medicine Fellowship Program	**City**	Rochester, Minnesota
Full Name	Amit Kumar Ghosh	**Country**	USA
Affiliation	Mayo Medical School	**Phone**	507-538-1128
Street Address*	200 First Street, SW	**Fax**	507-284-4959
Postal code	55905	**E-mail**	ghosh.amit@mayo.edu

19. DOES FUTON (Full Text on the Net) AND NAA (No Abstract Available) BIAS IMPACT VISIBILITY OF CARDIOLOGY RESEARCH?

Murali NS, Auethavekiat P, Murali HR and Ghosh AK

Mayo Clinic, Rochester, MN

Background: Accessibility of articles on the web has greatly enhanced EBM. The tendency to rely on Full Text on the Net articles, or selectively ignore articles with No Abstracts Available is thought to have created a new bias that impacts visibility of research: the FUTON and NAA bias. Impact factor is the measure of the frequency with which the average article in a journal has been cited in a particular year.
Aim: We sought to determine if Impact Factor affected the availability of full text articles of cardiology journals online.

Methods: All cardiology journals were identified using Medline, EmBase and several mega-search engines. The online status of these journals was ascertained in MEDLINE as having FUTON, abstracts only, and NAA or no citations available. Impact factors for all available journals from the Institute for Scientific Information, Journal Citation Reports, 2001 were abstracted.

Results: We identified 144 journals. Fifty-one journals had full text available, 65 had abstracts only, and 28 of them had NAA or were not cited. The mean and standard error of the Impact factor were 2.04 ± 0.23, 1.05 ± 0.20 and 0 ± 0.30 respectively. The highest Impact factor was 10.52. A one way ANOVA and Turkey Kramer HSD revealed a statistically significant difference ($p=0.0001$) in the Impact factor of journals by their availability as FUTON, abstracts or NAA.

Conclusion: This study suggests that cardiology journals with higher Impact Factors were more frequently available in full text on the web. As greater than half of online session's end with full text downloads and libraries are moving from paper to online subscriptions, the trend to report easily visible articles may not only affect their Impact factors but also create a bias similar to publication or language bias. It would behoove publishers and journal editors to make available their articles as full text online.

Address for correspondence

Title	Associate Program Director, General Medicine Fellowship Program	**City**	Rochester, Minnesota
Full Name	Amit Kumar Ghosh	**Country**	USA
Affiliation	Mayo Medical School	**Phone**	507-538-1128
Street Address*	200 First Street, SW	**Fax**	507-284-4959
Postal code	55905	**E-mail**	ghosh.amit@mayo.edu

20. CHANGING STUDENTS' ATTITUDES – THE ROLE AND RESPONSIBILITY OF ALL NURSES.

Gibbons, C

SCHOOL OF NURSING, DUBLIN CITY UNIVERSITY, COLLINS AVENUE, DUBLIN 9, IRELAND.

General student nurses undertake a mental seconded placement during their training. As attitudes are a major determinant of behaviour awareness of students' attitudes toward people with mental health problems should inform educators in preparation for training, setting objectives and in curriculum development.

The factors that influenced the students' attitudes are explored. How the placement experience influenced their attitudes, knowledge and nursing practice is examined.

Triangulation of quantitative and qualitative methods were used to collect data.

Findings suggested that student nurses held many fears, anxieties and negative perceptions about caring for people with mental health problems prior to their placement despite receiving classroom theoretical preparation. Results indicated that following seconded placements attitudes were very positive. The student group attributed this change to the contact with the Client group, the perceptorship they recieved and the class support and tuition received by the group throughout the placement period. The students felt that this placement experience had significantly positive influence on their clinical interactions and the quality of care that they subsequently provided to people living with mental health problems in the general hospital setting. The students described encountering negative perceptions from qualified general nursing colleagues in the general hospital setting. They believed that this limited the quality of care provided to mentally ill requiring general health care and their ability to practice the knowledge they had gained on placement.

These findings have implications for nurses and educators involved in care, education and practice development. The commitment of mental health nurses in student perceptoring has influences in how people with mental health problems are perceived and cared for in the wider community. General nurses have a responsibility to maintain their professional competence regarding caring for mentally ill persons. Awareness of their ongoing role-modelling of good practice has influence on students' learning and patient care.

Address for correspondence

Title	Ms.	**City**	DUBLIN
Full Name	Colette Gibbons	**Country**	IRELAND
Affiliation	NURSING, DUBLIN CITY UNIVERSITY,	**Phone**	0035317008527
Street Address*	COLLINS AVENUE, DUBLIN 9, IRELAND.	**Fax**	
Postal code	9	**E-mail**	Colette.Gibbons@dcu.ie

21. INFORMATION NEEDS OF PRIMARY CARE PHYSICIANS AT POINT OF CLINICAL CONTACT

González AI, Sánchez JF, Hernández T, Fernández MI, Escortell E, Riesgo R, Doménech P, Muñoz JC, Cabello L, Sanz T, Silva A, Martín JM, López C, Zarco J, Dawes M.

IMSALUD, MADRID, SPAIN

BACKGROUND:
We do not know enough yet about the area of clinical uncertainty that arises during clinical consultations and how much this could affect the patient outcome

AIMS:
To determine the information needs of primary care physicians by recording the frequency and type of questions about patient care arising during consultation and describing the information seeking pattern.

METHODS:
Design: observational descriptive study.
Setting: primary care practices located in Madrid, Spain.
Patients: random sample of 125 primary care physicians.
Interventions: physicians are invited by phone to be observed with a video-camera during four hours of consultation; they are asked to say between patients all questions related to care of patients seen; questions that remain unanswered at the end of session are followed up by phone two weeks later to see if answers have been obtained.

RESULTS (preliminary):
40 primary care physicians have been included leading to 80 days (2 hours per day) of video-recording. 274 clinical questions have been raised (2.21 questions for every 10 patients seen). The most frequent topics have been about orthopaedics (12.7%) for general practitioners and infectious diseases (17.4%) for paediatricians; and the most frequent question type about diagnosis (51.3% general practitioners and 47.8% paediatricians) and treatment (26.3% general practitioners and 23.9% paediatricians). 18.7% of questions have been sought and 74.5 % of them have been solved, mainly using text-books.

CONCLUSIONS:
The number of questions posed and the percentage of them solved are smaller than in previous studies.

Address for correspondence

Title	Responsible for Development and Improvement of Health Services	**City**	**Getafe, Madrid**
Full Name	Ana Isabel González	**Country**	**Spain**
Affiliation	Gerencia AP Area 10	**Phone**	**34-91-6957013**
Street Address*	Avda. Juan de la Cierva s/n	**Fax**	**34-91-6955160**
Postal code	28007	**E-mail**	**anaglezglez@hotmail.com**

22. ASSESSING NEEDS FOR CONTINUING PROFESSIONAL DEVELOPMENT IN EVIDENCE BASED PRACTICE

Harris, J.*, Dewey, A.□, Dean, T. □, Ward, D. □ , Wortham, K.**

*Continuing Professional Development Centre, University of Oxford. □ PIMHS, University of Portsmouth. **KWA Associates, Oxford.

Background: Standards for continuing professional development (CPD) that emphasise Evidence Based Practice (EBP) skills have been established by the National Health Service. Funding is available to develop EBP in the context of a national programme of clinical effectiveness. Little is known, however, about the ability of EBP courses to meet the CPD needs of health professionals.

Aims: To assess the CPD needs of professionals who were applying for or who had completed a postgraduate level course in EBHC at the universities of Portsmouth and Oxford.

Methods: Data was obtained from 26 participants in 2 postgraduate Certificate level focus groups and extracted from 50 application forms. Groups had independent facilitators and recorders who were not known to participants. Data was independently analysed and then compared to identify common issues and discrepancies.

Results: Learning needs included developing EBP skills in teaching and decision making, and increasing knowledge of research design and evidence. Decisions to commit to part- time study were based on personal recommendations, the course schedule, access to funding, travel time and study leave. Barriers to coursework included Internet access, computer skills, study leave, family needs, and work based support. Factors facilitating learning included work-related projects, funding, flexible schedule, course delivery, and tutorial support. Sessions on the first three of the five EBP steps of (1) question formulation, (2) searching and (3) critical appraisal were very useful, but some wanted to spend less time on step (4) applying evidence to practice and (5) evaluating the process.

Conclusions: Courses need to accommodate learning needs, work situations and social situations. Findings can be used (1) to develop competency-based assessment criterion, (2) as a baseline for evaluation of CPD courses; and (3) to track the evolution of CPD learning needs as EBP skills become increasingly integrated with different levels of professional training and development.

Address for correspondence

Title	Dr	**City**	Oxford
Full Name	Janet Harris	**Country**	United Kingdom
Affiliation	Continuing Professional Development Centre	**Phone**	(044) 01865 286944
Street Address*	University of Oxford, 16/17 St. Ebbes Street	**Fax**	(044) 01865 286943
Postal code	OX1 1PT	**E-mail**	janet.harris@conted.ox.ac.uk

23. STEPS TOWARDS A MATRIX FOR LEVELS AND METHODS OF ASSESSMENT OF THE EVIDENCE BASED PRACTITIONER. -

Hopayian, K (1), Hooper, L (2)

(1) Continuing professional development, Post-graduate medical centre, Heath Rd, Ipswich, England
(2) Lecturer in Evidence Based Care and Systematic Reviews, MANDEC, University Dental Hospital of Manchester, England

Background,
At the First International EBHC Developers and Teachers Conference in September, 2000, the possibility of developing a matrix for the assessment of the evidence based practitioner was raised. Some of the work started in the workshops has been continued since then and is being brought back to the second conference.

Aims
To develop a generic matrix for the assessment of achievement in evidence based practice to assist teachers to choose appropriate methods and grades appropriate to a variety of situations.

Methods
The author started with a consideration of the features that demarcate the evidence based practitioner from others. He drew on the assorted methods of assessment that were presented at the workshop and has plotted them into a matrix.

Results
The matrix is ready for presentation to a larger group for further work. The author will give examples of its use. It is hoped that the group can create a final version for presentation to the conference with a view to adoption as a model for general use.

Conclusions
Intentionally left blank – the workshop will write the conclusion

Address for correspondence

Kevork Hopayian
Seahills
Leiston Rd
Aldeburgh
Suffolk
IP15 5PL
England
Tel +44 (0)1728 454918
k.hopayian@btinternet.com

24. CRITICAL APPRAISAL OF 28 GUIDELINE DEVELOPED BY BRAZILIAN MEDICAL ASSOCIATION

Nobre, MR; Bernardo, WM; Jatene, FB.

Associação Médica Brasileira

Background: Clinical practice guidelines have been developed by Specialists Committee of the Brazilian Medical Association (http://www.amb.org.br/inst_projeto_diretrizes.php3), using the grade of recommendation sugested by the Oxford Centre for EBM.

Aims: Critical appraisal of guidelines already developed in order to implement the quality of the process in course.

Methods: 28 guidelines was submit to The Appraisal of Guidelines for Research & Evalution (AGREE) Instrument (www.agreecollaboration.org) by 2 independent appraisers.

Results: The six differents domains scored 77% on scope and purpose, 27% stakeholder involvement, 48% rigour of development, 64% clarity and presentation, 3% applicability, 50% editorial independence. The key items evaluation shows that besides the government financial funding did not influenced the final recommendations, the conflits of interest of the developers was not explicited. Organizational barriers, cost implications of applying and criteria for audit purposes was not considered in the majority of guidelines. Overall, the recommendations are specifics, the options for management are clearly presented and key recommendations are easily identifiable. In the item *rigour of development* the positive points are systematic method to search for evidence, explicit link between recommendation and the supporting evidence and externally review by methodological experts; the negative points are absence of procedure for updating and criteria for selecting the evidence described. Overall, the patients views and preferences have not been sought; and the guidelines have not been piloted among target users. The overall objectives and the clinical questions covered was specifically described on the majority of the guidelines.

Conclusions: The Brazilian guidelines was appraised as objective and supported by evidence. Nonetheless, the applicability was not pre-tested and patient's preference, criteria for including evidence and statement of conflicts of interest was not provided.

Address for correspondence

Title	Dr	**City**	São Paulo
Full Name	Moacyr Nobre	**Country**	Brazil
Affiliation	Associação Médica Brasileira	**Phone**	55 11 3266-6800 # 131
Street Address*	Rua São Carlos do Pinhal 324	**Fax**	55 11 3266-6800 # 125
Postal code	05454-030	**E-mail**	diretrizes@amb.org.br

25. EVIDENCE-BASED INFORMATION TECHNOLOGY (EBIT): USING EVIDENCE TO SAVE RESOURCES IN HEALTH CARE MANAGEMENT

Kunhardt H[1], Schreiber W[1], Porzsolt F[2]

[1] District Hospital Mainkofen, 94469 Deggendorf, Germany, [2]Clinical Economics, University Hospital Ulm, 89073 Ulm, Germany

Background: Hospitals are complex systems requiring a dense cross-linking and multiple interactions between several groups of health care professionals. The increasing use of resources for the necessary collection and processing of data is a growing problem in many hospitals and out-patient clinics.

Aim: To demonstrate that Evidence-Based Information Technology (EBIT) can improve the economic situation and quality of health care providers.

Method: Using the example of collecting socio-demographic data from patients of a 800 bed hospital a large amount of information was identified which was redundantly stored leading to errors and inconsistencies. Digital forms were developed for the input of socio-demographic data. These digital forms are based on Active Server Pages and store information in a relational database. The involved groups of health professionals can communicate via a clinical-information-system, which serves as a groupware-system.

Results: The introduction of the EBIT concept reduced the time to collect and process patient's socio-demographic data from 15 minutes to 2 minutes (87% saving). The number of input errors was reduced and the electronic availability of the data was guaranteed. The collection of the data at the site of the origin prevented breaks in the input-process. The change from paper-based forms to digital forms saved the position of one secretary corresponding to 25.000 € per year and additional 8.000 € per year for printing and archiving the paper forms. The monetary value of doctor's and nurse's time saved by avoiding redundancy and the management of inconsistencies is estimated.

Discussion: The example demonstrates that the concept of evidence-based decision making is a valuable tool to save time and manpower. The positive experience with the digital forms (EBIT) stimulates further investigation of the interfaces between doctors, nursing and administration to reduce redundancy and inconsistencies. The effects of well-planned information-processing improve the economic situation and the service quality of health care providers.

Address for correspondence

Title	CIO	**City**	**Deggendorf**
Full Name	Horst Kunhardt	**Country**	**Germany**
Affiliation	District Hospital Mainkofen	**Phone**	0049 9931 87 600
Street Address*		**Fax**	0049 9931 87 610
Postal code	94469	**E-mail**	h.kunhardt@mainkofen.de

26. LEARNING EBHC ON THE WEB: THE LAVAL UNIVERSITY (CANADA) INTERACTIVE SELF-LEARNING MODULES.

Labrecque M, MD PhD (1), Baillargeon L, MD, MSc (1), Cauchon M, MD (1), Frémont P, MD, PhD (1, 2), Légaré F, MD, MSc (1), Misson L, BSc(1).

(1) Department of Family Medicine, Laval University;
(2) Department of Physical Therapy, Laval University

Background: Basics principles of critical appraisal of medical literature and medical information mastery are mandatory standards for accreditation of residency training program in Family Medicine (FM) in Canada.

Aims: The objective of this project was to facilitate and enhance learning of Evidence-Based Medicine skills among French speaking resident, teachers and practising family physicians.

Methods: A team of clinical teachers at Laval University (Canada) developed a series of five web-based self-learning modules on the following topics: 1) Web information retrieval strategies, 2) new drug/intervention evaluation and optimisation of the physician – drug representative encounter, 3) appraisal of review articles, 4) appraisal of clinical practice guidelines, and 5) clinical diagnostic strategies and appraisal of articles on diagnostic test. Each self-learning module proposes various educational tools: theoretical concepts, clinical scenarios, critical appraisal worksheets, appraisal exercises with interactive feed-back, post test evaluation, hyperlinks with relevant Internet resources, and glossary. The modules are available at http://www.fmed.ulaval.ca/medfami

Results Early version of the modules were formally evaluated by 16 family medicine physicians and residents. The pedagogical qualities were rated “positive” to “very positive” by all participants. The modules are now integrated into the residency program curriculum of Family Medicine at Laval University, and should be available to other FM residency programs and as an accredited CME course this coming year. A sixth module on qualitative research is under development as well as “clones” of the five basic modules in nursing, physical therapy, reproductive health, paediatrics, and surgery.

Conclusion: This innovative educational tools for teaching EBM have been very well-received by educators and residents in Family Medicine. We are planning to complement the modules with video conference sessions, worksheets and calculators for Palm OS PDA, and online mentoring and technical support. Our next step is to evaluate the impact of these learning tools of EBM principles.

Address for correspondence

Title	Professor	**City**	Québec
Full Name	Michel Labrecque	**Country**	Canada
Affiliation	Laval University	**Phone**	418 525 4425
Street Address*	UMF Saint-François d’Assise, 10 rue de l’Espinay	**Fax**	418 525 4322
Postal code	G1L 3Y5	**E-mail**	Michel.labrecque@mfa.ulaval.ca

27. TEACHING EBHC TO UNIVERSITY COLLEAGUES. A CHILEAN EXPERIENCE

Letelier LM. MD, Moore P. MD, Guyatt G. MD, MSc

Internal Medicine and Family Medicine. Catholic University, Santiago, Chile.
Clinical Epidemiology Department. Mc Master University, Ontario, Canada.

Background: The Faculty Development Program of the Medical School at the Catholic University in Santiago, Chile is interested in promoting EBHC to Faculty Clinical Teachers.

Aims: Encourage Faculty to learn and teach EBHC.

Methods: We organized a 4-day How to Teach EBHC Workshop with Dr. Guyatt's assistance and participation. Faculty were invited to participate in three different ways: to attend to Dr. Guyatt's motivational lectures, to participate in small groups workshops on teaching EBHC for those previously introduced to EBHC and to be tutors of these small groups for those experienced in EBHC at our Faculty. Tutors also had lunchtime sessions with Dr Guyatt to solve issues arising from their groups. The small group workshop were organized using Mc Master's style of see one, do one, teach one. At the start and the end of the workshop participants completed pre and post workshop questionnaires to evaluate knowledge. This instrument was modified and translated from the one used in the Master's of EBHC, Oxford University but has not been validated.

Results: Over 60 participants attended each of 4 one- hour lectures. Thirty-four physicians formed 4 groups with 2 tutors each. Most of them were internists, family physicians or pediatricians from our Faculty and few from other institutions including 2 internist from Argentina. Participants were in charge of conducting one session at the end of which they received feed-back from their colleagues and tutors. Thirty participants responded both the pre and post questionnaires: 22 improved, 8 maintained and 1 lowered their score.

Conclusion: The workshops achieved 73% improvement of the instrument score for content knowledge. The whole activity produced enough enthusiasm to create an on-going e-group to share information relating to evidence and allow faculty to learn and practice their teaching skills in EBHC.

Address for correspondence

Title		**City**	Santiago
Full Name	Luz Maria Letelier Saavedra	**Country**	Chile
Affiliation	Internal Medicine Department. Catholic University and Sotero del Rio Hospital, Santiago, Chile	**Phone**	56 2 2880970 56 2 2880965
Street Address*	Apoquindo 3990 Of. 605. Las Condes. Santiago. Chile	**Fax**	56 2 2897638
Postal code		**E-mail**	lmletel@med.puc.cl

28. INTRODUCING EBHC PRACTICE & TEACHING IN A PUBLIC TEACHING HOSPITAL IN SANTIAGO, CHILE

Luz M. Letelier. MD

Internal Medicine Department. Catholic University and Sotero del Rio Hospital
Santiago, Chile.

Background: Sotero del Rio, a public hospital for over one million people and a Clinical Teaching Unit for the Catholic University Medical School at Santiago, Chile has a 70 beds Internal Medicine Ward receiving 70 medical students monthly. No EBHC activity existed before September 2001.

Aims: Describe our experience of introducing EBHC to usual clinical and teaching activities of attending clinical teachers at the Internal Medicine Ward.

Methods: Sponsored by the University Faculty Development Program, physicians interested in EBHC were invited, to small groups introductory workshops to learn concepts and skills on clinical questions, searching and critical appraisal, through weekly prepared practical exercises. Some also participated in a "How to Teach EBHC" workshop. With those participating in the previous activities I organized a weekly EBHC Journal Club (JC) where participants present the EBHC process for solving clinical uncertainty, by presenting the scenario, question, search strategy, critical appraisal and applicability of the study to solve the scenario.

Results: Since September 2001, 16 attendings completed one of the two initial activities. EBHC-JC started on December 2001. Eighteen months later we still have a weekly motivating EBHC activity with 12 current participants allowing each participant to lead a session every 3 months. They can identify and transform uncertainty into clinical questions, have improved their searching and critical appraisal skills on therapy, diagnosis and systematic review studies. They can teach EBHC concepts to their colleagues and discuss on applicability to our clinical practice and teaching activities. Acknowledging there is no quantitative measure of impact, there has been a qualitative impact on keeping us updated on relevant topics to our practice, and students more are exposed to EBHC practice.

Conclusion: This stepwise approach of learning, practicing and teaching EBHC to colleagues created a critical mass of EBHC oriented attending clinical teachers at our Internal Medicine Ward.

Address for correspondence

Title		**City**	Santiago
Full Name	Luz Maria Letelier Saavedra	**Country**	Chile
Affiliation	Internal Medicine Department. Catholic University and Sotero del Rio Hospital, Santiago, Chile	**Phone**	56 2 2880970 56 2 2880965
Street Address*	Apoquindo 3990 Of. 605. Las Condes. Santiago. Chile	**Fax**	56 2 2897638
Postal code		**E-mail**	lmletel@med.puc.cl

29. HOW AND WHERE DO CHILEAN HEALTH PROFESSIONALS GET THEIR HEALTH INFORMATION?

Moore P. Letelier LM

Family Medicine and Internal Medicine Catholic University, Santiago, Chile.

Background: In Chile, there is interest from the universities and the Ministry of Health to introduce EBM into clinical practice. However little is known about the clinical information needs of Chilean health professionals

Aims: Initial screening of how much time Chilean health professionals spend keeping up to date and where they get clinical information.

Methods: Between 2000-2002 we gave motivational lectures on EBM to several different groups of health professionals: non-academic primary health care professionals(PCP), nurses, doctors entering their residency programmes and final year medical students . At the beginning of the lectures we asked participants two questions:

- How many hours/week do you dedicate to reading health literature?
- When you need information on a clinical matter, where do you go first to find the answer: Books – Internet – Librarian – Colleagues – Journals?

Residents were also asked how much they thought they should read during their training.

Results: 239 participants replied : 29 PCP, 40 nurses, 133 residents and 36 medical students. The average time spent reading was 4.2hrs/week: PCP = 2.2; nurses = 2.6, students = 5, residents = 9. To find clinical information, 49% used books (range 37% residents – 62% nurses) 22% used internet (range 6% PCP- 30% residents), 16% used colleagues (0% medical students – 46% PCP). Residents thought they should spend 22 hrs/week reading.

Conclusion: Though those in an academic environment tend to spend more time reading than PCP or nurses, all health professionals dedicate little time to keeping up to date. All would benefit from an EBM approach; however, the low use of internet even in academic settings is a clear challenge to those who hope to introduce EBM into clinical practice in Chile.

Address for correspondence

Title		**City**	Santiago
Full Name	Luz Maria Letelier Saavedra	**Country**	Chile
Affiliation	Internal Medicine Department. Catholic University and Sotero del Rio Hospital, Santiago, Chile	**Phone**	56 2 2880970 56 2 2880965
Street Address*	Apoquindo 3990 Of. 605. Las Condes. Santiago. Chile	**Fax**	56 2 2897638
Postal code		**E-mail**	lmletel@med.puc.cl

30. AN EXPLORATION OF PRECEPTORS' PERCEPTIONS OF BENEFITS, REWARDS, SUPPORTS AND COMMITMENT TO THE ROLE.

James Lynch

Dublin City University

Background: This study was provoked by the move of nurse education in Ireland to third level institutions and student nurses being educated to degree level. An Bord Altranais (The Irish Nursing Board) recommends that during the clinical placement, the student nurse should be supported by a preceptor, defined as "a registered nurse who has been specially prepared to guide and direct student learning during clinical placement". The creation of a positive clinical learning environment has always been a challenge for nurse educators and subsequently this challenge has been passed on to preceptors as they assume a major responsibility for clinical teaching. The success of the student nurses' clinical learning rests largely with the tone set by the preceptor.

Aims: The purpose of this study was to explore the role of the preceptor: their perceptions of benefits, rewards, supports and the impact these have on their commitment to the role.

Methods: The design of the study is descriptive and exploratory. It targeted one hundred and two psychiatric nurses who work in a mental health organisation in Dublin city and who are preceptors. Data was elicited by means of a four part questionnaire. Quantitative data analysis procedures were used to describe and examine the data utilising the Statistical Package for Social Sciences (SPSS) programme.

Results: The major findings of this study demonstrate that there is a clear commitment to the preceptor role when the preceptors perceive that there are benefits and rewards associated with the role. The findings also suggest that the preceptors are more likely to be committed to the role when they feel supported by their line mangers and clinical placement co-ordinators. This support indicates that administration is committed to the preceptor programme. There are clear indications that more support from nurse educators is required for these preceptors to feel supported. The majority of respondents consider they had adequate preparation for the role. Preparation as a form of support has been identified as essential to the success of preceptor programmes.

Conclusions: It is important that administrators and educators determine what benefits, rewards and supports are necessary to sustain preceptors in the role. These should be acknowledged and nurtured so that the preceptors will continue to invest in the role. It is clear that continued positive attitudes towards preceptorship, attention to the development of preceptor skills, support for the preceptor and rewards for participation need to be ongoing priorities, for without such, preceptorship may become an ineffective programme, unable to fulfil its objectives. Support, rewards and benefits are crucial to commitment to the preceptor role.

Address for correspondence

Title	Mr	**City**	Dublin
Full Name	James Lynch	**Country**	Ireland
Affiliation	Dublin City University	**Phone**	00 353 1 7008534
Street Address*	School of Nursing, Dublin City University, Collins Avenue,	**Fax**	
Postal code	9	**E-mail**	james.lynch@dcu.ie

31. ONLINE CONTINUING EDUCATION IN EVIDENCE-BASED MEDICINE FOR GENERAL PRACTITIONERS: DOES IT WORK?

Trevena, LJ , Robinson, L

School of Public Health, The University of Sydney
Med-E-Serv Pty Ltd

Background:
Teaching searching and critical appraisal skills to practitioners through face-to face workshops can increase their ability to find and appraise evidence. For many clinicians, time, geographical and financial constraints preclude access to continuing education in evidence-based medicine.

Aim:
To assess the effect of an online continuing education course in evidence-based medicine on practitioners' knowledge of critical appraisal concepts, self-reported information seeking behaviour and attitudes to evidence-based medicine.

Method:
A web-based continuing education course in evidence-based practice was developed for general practitioners in Australia and New Zealand during 2002. This twelve-hour course is currently available at no cost to medical practitioners. They obtain continuing education points for completion of course content. The instructional design consists of lecture notes, printable worksheets, discussion-based activities and self-assessment tasks. Case scenarios illustrate the EBP method throughout the course and participants are encouraged to investigate their own clinical questions in parallel. Since August 2002, over 300 doctors have enrolled in the course and have completed a validated instrument to measure their pre-intervention knowledge, attitudes and skills in evidence-based medicine. During the same period, a control group of 130 practitioners have attended 1.5 hour face-to-face workshops on formulating clinical questions but had no online searching or critical appraisal teaching. They have also completed the validated instrument prior to their workshops. The same instrument will be completed by online participants at the conclusion of the course and by control group members within 12 months of the initial face-to-face workshop.

Results:
This study is currently in progress. It is anticipated that by September 2003 some preliminary results will be available for presentation. The instructional design and delivery model of the online course will also be demonstrated.

Conclusions:
Preliminary results indicate that online continuing education is highly accessible and acceptable to general practitioners. We await the results on efficacy.

Address for correspondence

Title	Dr	**City**	Sydney
Full Name	Lyndal Trevena	**Country**	AUSTRALIA
Affiliation	School of Public Health, The University of Sydney	**Phone**	+61 2 9351 7788
Street Address*	Room 322, Edward Ford Building (A27) The University of Sydney, NSW	**Fax**	+61 2 9351 5049
Postal code	2006	**E-mail**	lyndalt@health.usyd.edu.au

32. A TEN-YEAR EXPERIENCE TEACHING A REQUIRED FOUR-YEAR COURSE IN EVIDENCE BASED MEDICINE TO UNDERGRADUATE MEDICAL STUDENTS AT ALBANY MEDICAL COLLEGE.

Mayer, D

Professor of Emergency Medicine, Albany Medical College, Albany, New York, USA

Background: Evidence Based Medicine became one of the new goals of curriculum reform at AMC beginning in 1993. The charge to develop the course was to teach medical students how to become lifelong learners.

Aims: To teach medical students in all fours years of the curriculum how to use EBM to become lifelong learners and improve their critical thinking skills.

Methods: The first year of the course (93-94) focused on presenting several topics of importance to practicing physicians in a lecture and small group discussion format. Failure of this initial plan led to the introduction of a formal syllabus, education using small group Journal Clubs, and formation of a student/faculty theme group. It has developed over the next eight years into moderately successful course. This year (02-03) we began using Team Based Leaning (TBL) to increase stakes for students. Barriers have included the pass/fail nature of this course (where most others are not pass/fail) and the lack of explicit use of EBM by lecturers, ward residents and attendings.

Results: The initial course, based upon classical epidemiology, was too random and not relevant for the students. The course developed increasing coherence and relevance over the next eight years with significant positive outcomes. These included improvements in student attitudes as measured by the AAMC outcome survey and better scores on the Biostatistics/Epidemiology subsection of the USMLE. Anecdotal results relating to student confidence with EBM skills will be presented. Several of our graduates are active in “EBM movement”. Introduction of TBL resulted in qualitative improvement in quality and quantity of small group discussions and results of the first year of this experience will be presented.

Conclusion: Despite various barriers inherent in the structure of the medical school curriculum, EBM can be successfully taught to undergraduate medical students.

Address for correspondence

Title	Professor of Emergency Medicine	**City**	Albany
Full Name	Dan Mayer	**Country**	USA
Affiliation	Albany Medical College	**Phone**	518-262-6180
Street Address*	MC-34, 47 New Scotland Ave	**Fax**	518-262-5029
Postal code	12208	**E-mail**	mayerd@mail.amc.edu

33. HIERARCHIES OF EVIDENCE AND HIERARCHIES OF EDUCATION: REFLECTIONS ON A MULTI-PROFESSION EDUCATION INITIATIVE.

Meerabeau E, Page SNL

School of Health and Social Care, University of Greenwich, London.

Background: An established part of the discourse associated with the world of evidence-based health care, is the concept of a hierarchy of evidence. That is to say, amidst the drive to incorporate research findings into all aspects of health and social care practice, value judgements about the quality of the evidence available are common place, with research findings obtained via particular research approaches ('positivistic') often being given more scientific credence than those obtained by alternative methods. This hierarchy of evidence correlates with the existence of a well documented professional hierarchy (with medicine as the dominant occupational group) within the health care workplace. Academic argument for a broader appreciation of research evidence has been raised in the literature for a number of years and achieved considerable success. Equally, medical dominance in the workplace has been challenged on various levels. One approach to addressing professional dominance has been the rise in multiprofessional education initiatives.

Aim: This paper aims to draw on the experience of facilitating multiprofessional groups undertaking a research appraisal skills programme within Trust based, 'classroom' settings.

Results: The perception of the continuing existence of medical dominance in the health care arena was apparent from the course participants. Medicines' perceived 'power' was also reflected in the status attributed to different types of research evidence; quantitative data being widely seen as more robust than qaulitaitve. In addition to these apaprent professional and research heirachies, what might be called a hierarchy of educational backgrounds was noted amongst the participants which presented some complex dynamics within the teaching situation and raised a number of hitherto seemingly unaddressed questions for facilitating critical appraisal and EBHC**.**

Conclusion: The consideration of 'educational heirarchies' is largely absent from the literature on teaching EBHC. We suggest it may merit further attention.

Address for correspondence

Title	Mrs	**City**	London
Full Name	Susie Page	**Country**	UK
Affiliation	University of Greenwich..	**Phone**	01732 353468
Street Address*	Home address for correspondence: 1 Dry Hill Road, Tonbridge, Kent. England.	**Fax**	
Postal code	TN9 1LT	**E-mail**	Page.perks@ukgateway.net

34. A MASTERS COURSE ON EVIDENCE BASED MEDICINE (EBM) AND METHODOLOGY OF HEALTH CARE RESEARCH: FIRST YEAR EXPERIENCE

Formoso G[1], Liberati A[1,2], D'Amico R[2], Magrini N[1], Grilli R[3], Nonino F[1], Pistotti V[4]

Centre for Evaluation of Effectiveness of Health Care(CeVEAS) Modena[1], University of Modena and Reggio Emilia[2], Regional Health Authority, Emilia-Romagna Region [3] and Italian Cochrane Centre, Milan, Italy[4]

Background: Contrary to the popularity that EBM and EBHC have enjoyed within the National Health Service, their teaching is still an exception in the curricula of Medical Schools in Italy. These curricula are in fact still largely characterized by vertical transmission of information and separation between basic and clinical disciplines. While innovation of official curricula faces substantial resistance from the academic establishment it is easier to introduce EBM and EBHC teaching through Masters and post-graduate specialization courses. We report here on the experience gained by running an EBM master course in 2003.

Aims. To develop a teaching curricula aimed at providing EBM basic skills to clinicians, pharmacists and health care managers.

Methods: Six teaching modules have been designed to provide students with basic skills in epidemiology, biostatistics, information management, critical appraisal, methods for research synthesis and health services research. Whenever possible, problem-oriented, small group learning approaches were preferred to plenary and theoretical ones. Students' evaluation was based on daily assessments of clarity, relevance, and balance between teaching and small group work using a semi-structured questionnaire. To have the degree awarded students had, among other things, to prepare the protocol of a self-selected project to be discussed according to its practical relevance, the "added value" of new research and the rationale of the methodology to be followed.

Results: Nineteen students were enrolled and 15 attended most of the course. Students liked problem oriented sessions better than solely theoretical ones. Methodological sessions on epidemiology and biostatistics were appreciated as long as practical implications were highlighted. Most appreciated were sessions on critical appraisal and information tools for decision-making (systematic reviews, clinical practice guidelines).

Conclusions: Transferring a problem-oriented approach in medical teaching in Italy seems feasible through post-graduate specialization courses.

Address for correspondence

Title	Dr	**City**	Modena
Full Name	Giulio Formoso	**Country**	Italy
Affiliation	CeVEAS	**Phone**	+39 059 435212
Street Address*	Viale Muratori 201	**Fax**	+39 059 435222
Postal code	41100	**E-mail**	g.formoso@ausl.mo.it

35. THE EXPERIENCE OF PLANNING PATIENT CARE IN ELDERLY MENTAL HEALTH NURSING

Anne O'Sullivan

Dublin City University

Background: This background for this study is based on the researchers previous practice interest, that of Elderly Mental Health Nursing. The researcher has been teaching nursing at undergraduate level for 4 years. Part of the teaching role involves maintaining clinical links with student nurses, and their mentors. Through this role it became apparent that there were some discrepancies between what was being taught to the students in relation to planning patient care, and what was being carried out in the clinical care setting.

Aims: To explore the nature of care-planning practices in elderly mental health nursing.

Methods: Hermanuetic phenominological enquirey using a sample of 12 RPN's. Interview methodology was employed, and data was analysed using Giorgi's framework.

Results: identified five categories relating to ;Nursing Process, Documentation, Knowledge, Attitudes and Communication.

Conclusions: Findings indicate that nurses have knowledge of the nursing process and aspire to use this method linked to a prescribed nursing model. The findings further indicate that nurses carry out well documented assessments, but fail to use this information to communicate patients care needs to other staff, relying heavily on verbal communication based on tacit knowledge of patients needs. The rationale for this is the reported perception of the time consuming nature of accessing care-plan documentation within the confines of staff shortages. Findings further indicate that care plans are rarely fully evaluated, except in terms of the persons' functional abilities, or in the context of an individuals ability to 'settle in' to a unit. It can be surmised that much of what is documented relates to functional care priorities, rather than psychosocial priorities that the nurses identified as valuable. This may result in care deliver which may become physically orientated and routine-based, in congruence with the espoused philosophy of individualized patient care. Furthermore the findings identify a gap between the taught 'theory' of care planning and the reality of care-planning practices in the clinical environment.

Address for correspondence

Title	Ms	**City**	Dublin
Full Name	Anne O'Sullivan	**Country**	Ireland
Affiliation	Dublin City University	**Phone**	00 353 1 7008542
Street Address*	School of Nursing, Dublin City University, Collins Avenue,	**Fax**	
Postal code	9	**E-mail**	anne.osullivan@dcu.ie

36. EVALUATION OF LONG-TERM IMPACT OF A COURSE ON EVIDENCE BASED MEDICINE FOR LIBRARIANS

Moore, P Leyton, V Pacheco,C

P. Universidad Católica de Chile

Background:
Evidenced based Medicine (EBM) has been introduced within the medical community in Chile and has had an impact on health professional information needs. Librarians in Chile receive 5 years of university training, but there has been no formal training for medical librarians who have little access to the EBM approach.

Aims
1. To evaluate the short- and long-term impact of a course on EBM for medical librarians

Methods
We ran a 16 hour hands-on workshop for 24 medical librarians from different clinical backgrounds. At the end of the course we hoped the librarians would be able to:

- Understand the basic concepts of EBM
- Formulate a precise clinical question with the appropriate search strategy
- Use of electronic databases: Cochrane, Tripdatabase, MEDLINE

The participants completed questionnaires before, immediately after and two years after the course

Results
24 librarians attended the course and completed the pre- and immediately post-course questionnaires. Pre-course 50% had a very positive attitude to EBM and thought EBM was very useful in clinical care. 91% stated that they used internet daily but only 52% used MEDLINE daily, 43% had never used the Cochrane Library and 60% had never used Bandolier. Immediately after the course, 45% had a positive change of attitude to EBM. Two years later, 75% (18/24) replied. Compared to their pre-course score 50%(9/18) had a positive change and 16%(3/18) had a negative change in attitude to EBM. 72%(13/18) had increased their use of the Cochrane library and 16%(3/18) had increased their use of Bandolier. However only 66% (12/18) used Medline and 11%(2/18) used Cochrane Library on a daily basis.

Conclusions
This course for medical librarians had a persistent positive impact on attitudes to EBM and on the use of the Cochrane library. There are still challenges to encourage the use of computerized databases by medical librarians in Chile.

Address for correspondence

Title	Dr	**City**	Santiago
Full Name	Philippa Moore	**Country**	Chile
Affiliation	P. Universidad Católica de Chile	**Phone**	56 2 354 8551
Street Address*	Lira 44	**Fax**	56 2 518 6760
Postal code	1	**E-mail**	moore@med.puc.cl

37. DEVELOPMENT OF SEARCHING SKILLS IN EVIDENCE BASED MEDICINE DATABASES FOR MEDICAL RESIDENTS.

Pacheco, C Leyton V, Moore P

Pontificia Universidad Católica de Chile .Facultad de Medicina. Biomedical Library

Background:

Since 2000 , doctors entering all the residency programmes of the Catholic University are offered a workshop on searching skills run by reference librarians who have attended an Evidence Based Medicine course at the Faculty of Medicine , went to Cochrane Colloquium (2002) and having a continuous informal training.

Aims

At the end of the workshop our residents would be able to:
1. Have developed skills the use of Evidence Based Medicine databases. (Cochrane Library, Clinical Queries(PUBMED), Tripdatabase)

2.Use MESH in their search strategy in PUBMED

3.Use the function Limits in their search strategy in PUBMED

Methods

- Professors : reference librarians
- Four 3.45 hour sessions
- 20 residents/session with his own computer
- Introductory power point presentation
- Individual task with a guideline.
- Sharing individual experience with the group.
- Final evaluation

Results

80 residents participated in one of the four sessions
80/76 answered the final evaluation
75/76 considered that the workshop had improved their skills
72/76 liked the teaching method
69/76 felt that the objectives of the course had been fulfilled

Conclusions

In terms of post course participant satisfaction, the workshop was successful and we have been requested to repeat the experience with another similar group. To evaluate the impact of this workshop, we propose to evaluate the use of these skills during the residency programmes.

Address for correspondence

Title	Dr	**City**	Santiago
Full Name	Philippa Moore	**Country**	Chile
Affiliation	P. Universidad Católica de Chile	**Phone**	56 2 354 8551
Street Address*	Lira 44	**Fax**	56 2 518 6760
Postal code	1	**E-mail**	moore@med.puc.cl

38. EVIDENCE BASED HEALTHCARE - A MULTIPROFESSIONAL COURSE

Parkin Claire, Bullock I, Cullinan P.

Royal Brompton & Harefield NHS Trust, Sydney Street, London. SW3 6NP.

This multiprofessional EBHC course, designed for participants from all health disciplines, has attracted 300 candidates over the last seven years.
The structure of the course is built on contemporary educational principles, it is experiential and innovative moving away from formal lectures with the majority of learning taking place in directed small group work which allows the candidate to explore key EBHC concepts and apply them to their own areas of clinical interest.
Course content includes sessions on diagnostic tests, searching the literature, effectiveness of treatment, prognosis, clinical governance, systematic reviews & statistics. Throughout the course participants formulate a clinical question based on their practice, search for evidence, assess its validity and relevance to a clinical scenario and then present their findings to the group on the final day.
This educational strategy is key to the success of the course, reflected in the positive evaluative data collected from candidates. EBHC concepts are applied into their real world, which then changes the way they think and appraise evidence underpinning practice. Prize winning presentations, from different disciplines, are retained and added to a portfolio of critiqued papers, which are then used in future courses to emphasize the multi-professional nature of EBHC.
Most participants are naive to EHBC, and the perspective change over the six week duration of the course is always rewarding as they gain confidence in understanding terms and concepts such as Likelihood Ratio's, Numbers Needed to Treat, Systematic Review, clinical trial, Odds Ratio, expressions of risk (RR,AR,ARR) and Confidence Intervals.
The faculty are able to facilitate learning around these principles based on real clinical scenarios, with all concepts covered within each small group.
Course evaluation data demonstrates how this course is successful in increasing the candidate's confidence to appraise disseminated research.

Address for correspondence

Title	Research Practitioner	**City**	London
Full Name	Claire L Parkin	**Country**	UK
Affiliation	Royal Brompton & Harefield NHS Trust	**Phone**	020 7351 8208
Street Address*	Sydney Street, London	**Fax**	020 7351 8836
Postal code	SW3 6NP	**E-mail**	c.parkin@rbh.nthames.nhs.uk

39. IMPLEMENTING EVIDENCE-BASED MEDICINE (EBM) IN DAY-TO-DAY PRACTICE: THE 6th STEP.

Porzsolt F[1,2], Ohletz A[2], Thim A[2], Gardner D[3], Ruatti H[4], Meier H[4], Schlotz-Gorton N[1], Schrott L[5]

[1] Clinical Economics, University Hospital Ulm, Ulm, Germany, [2]Human Studies Center, Ludwig Maximilians University, Munich, Germany, , [3]Dalhousie University, Halifax, Nova Scotia, Canada, [4]Bressanone Hospital, Bressanone, Alto Adige, Italy, [5] Bureau for Education of HeathCare Personnel Autonomous Province of Bolzano, Alto Adige, Italy

Background: In teaching the standard 5-step approach of EBM we noticed a growing hesitance to accept this strategy the further students or physicians advanced in their experience.

Aims: First, the hesitance to accept the strategy of EBM has to be reduced. Second, the growing individual experience has to be integrated into the process of evidence-based decision making. Third, it has to be confirmed that the integration of EBM influenced the outcome of health care services.

Methods: Physicians select a clinical problem and two or more alternative solutions. The standard EBM program including the additional step (providing a formal answer to the clinical question based on own current knowledge, i.e. internal evidence) is applied in the clinical practice teaching program.

Results: The collective experience concerning this additional step was extremely positive. Students and physicians using this new step were satisfied that their pre-existing knowledge had been integrated into the evidence-based approach. By documenting their internal evidence explicitly, they used the remaining steps of the process to evaluate not only the best evidence toward making a clinical decision but also to assess the accuracy of their internal evidence, the grounds upon which their preconceptions were based, and the utility of the available literature in supporting a decision for their patient. The advantage of the added step was exemplified in the "Bressanone Model" which was initiated and supported by the health authority of Alto Adige in northern Italy.

Discussion: We assume that the barrier to accept EBM is associated with the process of socialization in medicine as the medical profession is virtually "trained" to make decisions under uncertainty. The advanced student and more so the physician is at increasing risk to lose the ability to differentiate between scientific evidence and what seems to be evident. The reported "Bressanone Model" describes a possible way to overcome this barrier and to assess the effect of implementing EBM.

Address for correspondence

Title	Dr	**City**	Ulm
Full Name	Franz Porzsolt	**Country**	Germany
Affiliation	Clincal Economics	**Phone**	xx49 731 500 26777
Street Address*	Steinhoevelstr. 9	**Fax**	xx49 731 500 26733
Postal code	89073	**E-mail**	Franz,porzsolt@medizin.uni-ulm.de

40. A ROLE OF MEDICAL LIBRARIANS IN EVIDENCE-BASED MEDICINE: CZECH EXPERIENCE

J. Potomková[1], V. Mihál[2], E.S. Lesenková[3]

[1] Palacký University Medical Library, Olomouc, [2] Palacký University Department of Pediatrics, Olomouc, [3]Institute for Postgraduate Medical Education, Prague, CZECH REPUBLIC

BACKGROUND

Evidence-based medicine (EBM) has close links to health sciences librarianship sharing the same goal of applying the best clinical research to efficient medical services. Health sciences librarians can serve as advocates of EBM providing training to end-users how to access and interpret evidence. Since 1996, some Czech medical libraries have been involved in an international project "Learning Resource Centers" supported by the American International Health Alliance (AIHA).. One of the goals of the project is promotion of EBM principles.

AIMS

Demonstration of a 6-year-collaboration among medical librarians, clinicians, University teachers, and medical students to adopt the EBM concept and incorporate it into their daily practice.

METHODS

- Information retrieval with EBM filters, critical appraisal of search results
- AIHA Practice Standard Reviews modelled after systematic reviews, but without statistical analysis of results.
- Workshops, interactive courses
- Case studies in teaching pediatrics.

RESULTS

- Nationwide: promotion of EBM principles among medical librarians (training courses, workshops)
- Local (Palacky University): book translation, EBM workshops for epidemiologists, medical students with clinical research committment, introduction of EBM principles into medical curricula..

CONCLUSIONS

The results of the proficient cooperation among librarians, clinicians, medical teachers and students are a great challenge for developing evidence-based medical librarianship in the Czech Republic.

Address for correspondence

Title	Dr.	**City**	Olomouc
Full Name	Jarmila POTOMKOVA	**Country**	Czech Republic
Affiliation	Palacky University Medical Library	**Phone**	+420-585 632 951
Street Address*	3 Hnevotinska	**Fax**	+420-585 632 966
Postal code	775 03	**E-mail**	potomkov@tunw.upol.cz

41. EVALUATION OF A COMPREHENSIVE EVIDENCE BASED HEALTH CARE CURRICULUM IN A FAMILY PRACTICE RESIDENCY

Ramos, KD, Youngclarke, D

University of California San Francisco – Fresno Medical Education Program

BACKGROUND: Evidence based health care (EBHC) curricula are being widely incorporated into medical school and residency training programs. Evaluation of these curricula has depended primarily on subjective reports of effectiveness or on assessment of only one skill. The Fresno Test of Evidence Based Medicine is an objective and comprehensive test with demonstrated reliability and validity.

AIMS: The aim of the current study is to determine the measurable effects of a comprehensive EBHC curriculum in a family practice residency program, and to isolate the aspect(s) of the curriculum responsible for any effect.

METHODS: Before implementation of a comprehensive EBHC curriculum, family practice residents completed the Fresno Test. The authors' residency program launched a curriculum that included didactic training in the principles of EBHC, the explicit incorporation of EBHC into existing clinical activities, and academic exercises involving critical appraisal of research evidence. Researchers monitored resident involvement in these activities. After two years, residents completed the Fresno Test again.

RESULTS: Fifteen of 17 residents demonstrated improvement on the Fresno Test. The mean post-test score (105 out of 210 possible) was greater ($p<0.001$) than the mean pre-test score (79). Analysis of individual test items suggests the greatest improvements in the areas of focusing clinical questions, identifying important elements of study design, searching electronic databases, and understanding measures of effect size. Participation in various aspects of the curriculum was quantified using lecture attendance and completion of required activities. Stepwise linear regression suggested that no single element of the curriculum was independently responsible for the improvement in test scores.

CONCLUSIONS: A comprehensive EBHC curriculum can produce significant gains in knowledge, probably through exposure to concepts in multiple contexts.

Address for correspondence

Title	Dr.	**City**	Fresno, CA
Full Name	Kathleen D. Ramos, PhD	**Country**	USA
Affiliation	UCSF Fresno Family Practice	**Phone**	559-459-3703
Street Address*	445 South Cedar Avenue	**Fax**	559-459-4443
Postal code	93702	**E-mail**	katie.ramos@ucsfresno.edu

42. INTEGRATION OF EVIDENCE-BASED VETERINARY MEDICINE INTO A PBL CURRICULUM: PARADIGM SHIFT OR SIMPLE EXTENSION?

Stanley R. Robertson, D.V.M., M.P.H.

College of Veterinary Medicine, Mississippi State University

Problem-based learning (PBL) is a student-centered approach to education in which real or simulated problems are used to stimulate student learning. In PBL, active discussion and research of each case promotes student learning. Students assume primary responsible for learning issues associated with each case. Although students develop a strong interdisciplinary knowledge base, emphasis is place on self-directed learning, analytical (problem-solving) skills, communication skills, interpersonal skills, and professional values and behaviors.

Problem-based learning in medical education began with the Faculty of Medicine at McMaster University in Canada in the mid 1960s and has since spread to many medical schools in this country and abroad, as well as to other schools of health sciences, nursing, dentistry, pharmacy, public health, and veterinary medicine. The College of Veterinary Medicine, Mississippi State University implemented PBL into its curriculum since 1992. During this time, we have made several changes and modification to the curriculum model.

Evidence-based medicine (EBM) is the conscientious, explicit, and judicious use of the best current evidence in making decisions about the care of patients. EBM requires four steps: formulating well-built clinical questions, finding the best evidence to answer the questions, critically appraising the evidence, and applying the evidence to specific patients. To practice EBM, students must be trained in and have experience in applying these four steps. This training and application should be part of the veterinary curriculum, as well as post-graduate continuing education.

Our aim is to graduate veterinary students who will be able to apply these four steps of EBM. We have developed methods of integrating EBM into our PBL curriculum and extend this into our post-graduate continuing education offerings. Each year, we will evaluate how effective these methods and materials are in regard to teaching and learning, both for our veterinary students and practicing veterinarians.

Address for correspondence

Title	Associate Professor	**City**	Mississippi State, MS
Full Name	Stanley R. Robertson	**Country**	USA
Affiliation	College of Veterinary Medicine Mississippi State University	**Phone**	662-325-2283
Street Address*	Spring Street	**Fax**	662-325-1027
Postal code	39762-6100	**E-mail**	srobertson@cvm.msstate.edu

43. CAN EBM CHANGE CLINICIANS' BEHAVIOR? IMPLEMENTATION OF GUIDELINES WITHIN THE HEALTH SERVICE

M. Rolli °, A. Cartabellotta #, M. Cellini #, A.Toni° , M. Annichiarico*, R. De Palma **, A.Potena ^, G.Rossi §, B.Perticarà°

° Rizzoli Orthopaedic Institute, Bologna (Italy); # GIMBE® (Italy); *AUSL Bo Nord (Italy); ** Ausl Città di Bologna (Italy);^ AOSP S. Anna, Ferrara (Italy);§ Ausl Imola, (Italy)

BACKGROUND
Guidelines are a tool for transferring research results to clinical practice, but their efficacy is conditioned by several factors, among which widespread agreement among healthcare workers and the "strategic" use of implementation methodologies.

AIMS
With regards to this, with the coordination of Rizzoli Orthopedic Institute and the methodological support of Gimbe, a specific research project was set up by the Health Ministry concerning thromboembolic disease (TED), which involves four agencies in the Emilia Romagna Region.The general aims of the project are to improve the efficacy and appropriateness of healthcare processes in the management of TED, reduce inappropriate diagnostic and therapeutic procedures, and improve results.

METHODS
The tools for achieving these goals are: balanced integration among TED methodologies – producing an evidence report for TED – and local contextualization of such evidence; fine-tuning a system of Knowledge management constantly updated for the management of knowledge about TED; training healthworkers; using strategies to change the behavior of clinicians; fine-tuning a system to verify results. The project is articulated into nine phases that include revising the scientific literature, adapting guidelines to local contexts, realizing computer support, planning implementation strategies and two clinical audits. The former verifies the current behavior of clinicians, the latter if and how behavior changes following the implementation of the above-mentioned guidelines. To this aim ad hoc files have been designed, with the implementation of a single database.

RESULTS
By elaborating the data from the first clinical audit, we found that prophylaxis of TED with low molecular weight heparin is used widely in orthopedic wards. Instead, non-fractionated heparin is used more in Accident and Emergency and especially in more critical patients. The elaboration of the second audit data is in progress.

CONCLUSIONS
This evidence has aroused great interest in the clinicians taking part in the study. The elaboration of the second audit data is in progress, and will enable us to assess whether clinician's behavior has changed and if there has been a subsequent improvement in the efficacy-appropriateness of healthcare processes with regards to TED and an improvement in clinical outcome.

Address for correspondence

Title	Doctor – Quality Manager	**City**	**Bologna**
Full Name	Maurizia Rolli	**Country**	**Italy**
Affiliation	Rizzoli Orthopaedic Institute (IRCCS)	**Phone**	**0039-051-6366393**
Street Address*	Via Pupilli, 1	**Fax**	**0039-051-6366424**
Postal code	40136	**E-mail**	**Maurizia.rolli@ior.it**

44. TEACHING EVIDENCE-BASED MEDICINE SKILLS IN AN UNSUPPORTING ENVIRONMENT: THE SLOW PACE OF THE UNIVERSITY OF SIENA TOWARDS EBM

Sestini P

Department of Clinical Medicine and Immunological Sciences, Division of Respiratory Diseases, University of Siena, Italy

The Medical School of the University of Siena is a small, 762 years old University strongly oriented toward traditional academic teaching and a gerarchic and experience-based paradigm for clinical practice and clerkship.

Since 1996, however, a course on Evidence-Based Medicine was offered as an optional course for students of the fourth year. The course has the format of six 2-3 hours small group encounters, focusing on basic EBM skills (formulating clinical queries, using Pubmed, appraising evidence on diagnosis and treatment) and is centered on material from the Oxford Centre for EBM and online information at www.gimbe.it.

Attendance has been limited, ranging between 4 to 10 students, while a similar optional course on the health effects of tobacco offered by the same teacher consistently gathered more than 60 medical students.

Major obstacles found were: 1) Lack of interest toward EBM, mostly fostered by the traditional academic habit and by the lack of academic support, 2) Math panic 3) Poor English literacy (ability to read scientific English was the only requirement for admission at the course) 4) Computer panic 5) Poor/slow access to the Internet.

The last two points have been steadily improving over the years, while interest for EBM still appears to originate mostly from sources of information outside the University. Nevertheless, a small, multisciplinary group of teachers interested in EBM has grown over the years.

This year we were able to organize a course on basic skills of search and appaisal of scientific information, based an small group technology and problem-based learning, for all the 140 students of the second year. This group will be the basis for a more structured course on EBM in the clinical years. Increasing popularity of EBM outside the academy may help to promote teaching of EBM in unsupporting environments.

Address for correspondence

Title	Prof	**City**	Siena
Full Name	Piersante Sestini	**Country**	Italy
Affiliation	Department of Clinical Medicine and Immunological Science, Division of Respiratory Diseases, University of Siena	**Phone**	0577 586717
Street Address*	Viale Bracci 3	**Fax**	0577 280744
Postal code	53100	**E-mail**	Sestini@unisi.it

45. EVIDENCE-BASED HEALTHCARE IMPLEMENTATION STRATEGIES: FINDINGS FROM A FACULTY INSTITUTE ON TEACHING EVIDENCE-BASED PRACTICE

Slavin MD[1], Seibens HC[2]

Boston University[1] and University of California, Irvine[2]

Background: Teaching evidence-based healthcare content does not guarantee that clinicians will be able to use this knowledge in clinical settings. Implementation of an evidence-based approach to healthcare requires that clinicians and administrators adopt a new approach to practice, but there is little information on evidence-based healthcare implementation strategies.
Aims: 1. Understand barriers and facilitators to implementing an evidence-based approach to healthcare in clinical settings; 2. Identify specific personal and management strategies to promote an evidence-based approach to healthcare.

Methods: Clinicians (n = 45; physical therapists, occupational therapists, speech and language pathologists, and physicians) attending a faculty institute on teaching evidence-based practice were surveyed. Respondents identified barriers and facilitators to incorporating an evidence-based approach to clinical practice and suggested specific actions that can be taken to promote evidence-based practice in the clinical setting. Using the constant comparative method, barriers, facilitators, and actions were independently reviewed to identify common themes.

Results: We identified four categories of barriers and facilitators to evidence-based practice. The following are examples of the facilitators identified for each theme: 1. Reflection (e.g. co-workers who value intellectual exchanges); 2. Knowledge (e.g. affiliation with academic institutions), 3. Management (e.g. incorporate evidence-based practice model into scheduled clinical activities), 4. Peers (e.g. good communication among staff. Actions to promote evidence-based practice in the clinical setting were on an individual clinician level (e.g. use evidence for patient and family education) and management level (e.g. incorporate demonstration of evidence-based healthcare behaviors into criteria for performance review).

Conclusions: Clinicians encounter barriers to adopting an evidence-based approach to clinical practice. Learning more about the barriers and facilitators to evidence-based healthcare will help clinicians and administrators develop successful strategies for promoting an evidence-based approach in their practice setting.

Address for correspondence:

Title	Director of Education and Dissemination, CRE	**City**	Boston
Full Name	Mary D. Slavin, PhD, PT	**Country**	USA
Affiliation	Boston University	**Phone**	617-353-1541
Street Address*	635 Commonwealth Avenue, Room 605	**Fax**	617-358-1355
Postal code	02115	**E-mail**	mslavin@bu.edu

46. EVIDENCE BASED INDICATORS OF QUALITY NURSING EDUCATION PROGRAMS

Spector, N., Crawford, L., Smith, J.

National Council of State Boards of Nursing

Background
The National Council of State Boards of Nursing (NCSBN) serves as a resource to the 61 boards of nursing that regulate nursing in our states or territories. Since the boards approve nursing programs to protect public safety, it is reasonable that these approval criteria should be based on evidence. The two national nursing accrediting agencies in the U.S. have not based their standards on the evidence, but rather through task forces and round tables of educators and practitioners. Other health care professions in the U.S. have developed competencies and use evidence to measure student outcomes. NCSBN has just begun a long-term initiative of identifying evidence-based indicators of quality nursing programs.

Aim:
Identify evidence-based indicators of quality nursing education programs for the purpose of public protection.

Methods:
Exploratory
Stratified sample of 1,000 newly licensed RNs (65.5% return rate)
97% currently employed in nursing; 93% were female; 73% were Caucasian
Outcomes: involvement in nursing errors and perception of difficulty of their client assignments.
Recorded their perception of being adequately prepared for practice setting competencies.

Results:
The following are the preliminary evidence-based indicators of quality nursing education programs; *this is an ongoing study*:
Call a client's physician
Effective teamwork
Make decisions based on assessment
Psychomotor skills
Supervise others
Administer medications
Document care
Understand pharmacokinetics
Use information technology
Teach
Utilize research
Synthesize data for decision making

Conclusions:
NCSBN is continuing with this initiative by designing further studies and collaborating with other health care professionals, as well as with the international community. Once the evidence-based criteria are identified from a variety of sources, we will develop a task force of nursing educators for validation and for identifying best practices for educating students using these criteria.

Address for correspondence

Title	Director of Education	**City**	Chicago
Full Name	Nancy Spector	**Country**	U.S.A.
Affiliation	National Council of State Boards of Nursing	**Phone**	312-525-3657
Street Address*	111 E. Wacker Dr., Suite 2900	**Fax**	312-279-1032
Postal code	60601-4277	**E-mail**	nspector@ncsbn.org

47. THE LIKELIHOOD RATIO META-SCATTERPLOT: TEST EFFICACY AT A GLANCE

Dirk Stengel, Kai Bauwens, Axel Ekkernkamp, Franz Porzsolt

Clinical Epidemiology Working Group, Dept. of Trauma Surgery, Unfallkrankenhaus Berlin, Germany (DS, KB, AE), Evidence-Based Health Care, Human Science Centre, Ludwig-Maximilians-University of Munich (FP), Germany, Institute of Clinical Economics (ICE [all contributors])

Backgrounds
Diagnostic tests are still treated as step-children within the growing family of meta-analyses. Meta-analysis has two major goals: 1) to illustrate the variability and range of different study results, 2) to provide a communicable overall measure of efficacy.

Aims
We posed the question whether likelihood ratios meet the requirements of a useful meta-analysis estimator.

Methods
A two-step model was used involving four fictitious sets of 10 studies each with varying sensitivity and specificity; this was followed by the application of the method to data from a published systematic review of emergency ultrasound. Multidimensional test characteristics (relating to the detection or exclusion of the condition of interest) were described by likelihood ratio scatterplots and pooled likelihood ratios. Likelihood ratios are odds ratios (i.e., the ratio of the prior and posterior odds of disease) and can be summarised by established fixed-effects and random-effects methods.

Results
Likelihood ratios precisely describe both directions of test performance. By plotting positive against negative likelihood ratios, together with their 95% confidence intervals, a multidimensional forest plot is obtained that can be interpreted in analogy to therapeutic meta-analyses. There are accepted threshold values of positive and negative likelihood ratios (i.e. 10.0 and 0.1) to recommend a test for clinical use. In the matrix space, distinct test characteristics can even be assessed by eyeballing. With regard to data from the real meta-analysis, the suggested high discriminatory power of ultrasound was only partially qualified by likelihood ratios. The positive value confirms the reliability of a positive scan, whereas the negative value questions a normal sonogram.

Conclusions
A full characterisation of test performance requires multidimensional effect measures. Likelihood ratios are recommended descriptors of the two dimensions of diagnostic research evidence and provide a convenient means to visualise and to communicate results as weighted summary estimates of a diagnostic meta-analysis.

Address for correspondence

Title	Dr	**City**	Berlin
Full Name	Dirk Stengel	**Country**	Germany
Affiliation	Clinical Epidemiology Working Group, Dept. of Trauma Surgery, Unfallkrankenhaus Berlin	**Phone**	(49) 30 5681 3170
Street Address*	Warener Str. 7	**Fax**	(49) 30 5681 3003
Postal code	12683	**E-mail**	stengeldirk@aol.com

48. DIVERSITY IN THE WORKPLACE. - AN EXPLORATION OF THE EVIDENCE FROM STUDENT PLACEMENTS.

Stewart M., Bennett R.

School of Health Sciences / Physiotherapy. University of Birmingham

Background
The UK government requires health care practitioners to recognise and value diversity. However, preparation for managing diversity within clinical placements has been criticised by students. Additionally, undergraduates entering health care education come from increasingly diverse cultural backgrounds. This has further implications within healthcare management.
The Chartered Society of Physiotherapy requires physiotherapists to responds to individual's lifestyle, cultural beliefs, and practices.
Evidence-based Practice requires that there is an existing system to ensure that all physiotherapists provide care that is based on the best available evidence of effectiveness. However, there is a dearth of evidence of effective systems from which this response can be assessed.

Aims
In relation to the management of diversity, the objectives of this study were to :
a) Measure the effectiveness of a Professional Development Module, and its influence on the clinical activity of the students.
b) Seek evidence to support the notion that through exploration of student perceptions and attitudes, improvements could be made in teaching and learning.
and
c) increase understanding of the complexity of interactions between students and clients.

Method
A self-administered semi-structured questionnaire was distributed to a purposive sample of 82 first year physiotherapy undergraduates following completion of their first clinical placement. Analysis of the data was carried out using SPSS to produce demographic, thematic and other qualitative information.

Results
An 88% response rate was gained. Overall students were satisfied with the input of the module. 'Age' emerged as the most significant issue on placement. Other topics included, religion, and gender of the students. A common perception was that the inclusion of more clinically based examples would be of benefit within the module.

Conclusions
Explorations of the context and the retrieval of student experiences from clinical placements is vital in informing curriculum development in the management of diversity.

Address for correspondence

Title	Ms / Ms	**City**	Birmingham,
Full Name	Melrose Stewart, Rosalie Bennett	**Country**	England
Affiliation	University of Birmingham	**Phone**	0121 627 2020
Street Address*	School of Health Sciences, Physiotherapy, Morris House,Edgbaston,	**Fax**	0121 627 2021
Postal code	B15 2TT	**E-mail**	m.stewart@bham.ac.uk r.m.bennett@bham.ac.uk

49. MEDICAL STUDENTS' PERCEPTION OF EBHC TEACHING AT THE UNIVERSITY OF BRISTOL

Summerskill, WSM, Ben-Shlomo, Y

Centre for Medical Education, University of Bristol

Background: The General Medical Council expects United Kingdom medical graduates to be able to practise EBHC. The University of Bristol claims a 'vertical theme' of evidence-based practice in its medical curriculum, yet there is concern about how well students are prepared for EBHC. Previous EBHC studies have assessed medical student performance and satisfaction, but none have addressed their perceptions of EBHC teaching quality, nor opportunities to practise EBHC skills.

Aims: A pilot study to explore medical students' experiences of evidence and opportunities to practise EBHC skills within five clinical rotations at one UK medical school.

Methods: Five questions about EBHC were added to the standard questionnaire completed by students at the end of their clinical attachment in five specialities. Free-text comments were also invited. A focus group study is underway to understand medical student experiences and attitudes in greater detail.

Results: 286 questionnaires were returned from 377 students (76% response rate). Whereas students were generally satisfied with their overall teaching (4.1 out of a maximum of 5), they were consistently less satisfied with EBHC teaching (2.0 $\pm$1.0).
95% confidence intervals for the odds ratio of receiving a 4 or 5 for EBHC teaching vs standard teaching in any speciality were always <1 ($p < 0.002$). Free text comments revealed deficits in knowledge, skills and attitudes, despite good performance on exams. 109 out of 239 students had been asked to find evidence, of whom only 22 (20%) received regular feedback. The findings were validated by students and teachers. (Focus group results are not yet available).

Conclusion: Compared with their general teaching, medical students at the University of Bristol are less satisfied with EBHC teaching and report fewer opportunities to practise EBHC skills. As a result, some do not feel prepared to practice EBHC. Understanding student concerns can improve EBHC teaching and learning.

Address for correspondence

Title	Dr.	**City**	Bristol
Full Name	William S. M. Summerskill	**Country**	U.K.
Affiliation	Centre for Medical Education, University of Bristol	**Phone**	+44+ (117) 954-6535
Street Address*	41 St. Michael's Hill	**Fax**	+44+ (117) 954-6525
Postal code	BS2 8DZ	**E-mail**	W.Summerskill@bristol.ac.uk

50. "TRANSPARANCY BROCHURES" (TFTS) IN BELGIUM, EVIDENCE BASED INFORMATION ON DRUGS WEIGHED AND EXPLAINED.

Christiaens T* [and **], Elinck K*, Habraken H*, Verhamme K*, Soenen K*, Bogaert M**, Massonnet S***.

*Projekt Farmaka, **Belgian Center of Pharmacotherapeutic Information, ***Directorate-General Public Health Protection: Medicinal Products.

Background: Belgian doctors work in an open drug market with a strong impact of the pharmaceutical industry on CME. They have limited access to practice oriented evidence based information.

Aims: To provide all Belgian physicians and pharmacists with readily accessible information on the evidence base of drug treatment options for common diseases.

Method: Four times/year, summaries of evidence ("Transparancy brochures" or TFT) are sent to physicians and pharmacists. These are presented in a standard structure and prepared according to predefined procedures, with systematic appraisal of EBM-sources. As primary sources, Clinical Evidence, Cochrane Collaboration and International Society of Drug Bulletins are consulted. In addition, journal clubs as well as the last 5 years of important medical journals (Arch Intern Med, BMJ, JAMA, Lancet, NEJM) are screened. Finally, this information is checked with national and international guidelines.
When possible, clinically relevant endpoints are emphasized. The cost-benefit ratio is illustrated by tables for comparison of prices and side-effects of different drug classes.
The content will also be available for the general public, adapted to their needs, as a tool for communication with professionals.

Results: So far, 3 TFTs have been published (migraine, diabetes type 2 and dementia) and 3 other (gout, shingles and atrial fibrillation) are in preparation. Implementation in CME, physician-pharmacist meetings and academic detailing projects is planned.
During preparation of these TFTs, two points were striking. First: older products are often underrepresented in RCTs. Second: even in recent studies, less relevant clinical endpoints are often overemphasized.

Conclusions: Existing EBM sources can be used to produce and disseminate reliable information suitable for use by busy practitioners, to help them make well-founded choices between different drug treatment options.

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Address for correspondence

Title	Dr.	**City**	Ghent
Full Name	Thierry Christiaens	**Country**	Belgium
Affiliation	Projekt Farmaka and BCFI	**Phone**	*/32/9/230.03.03
Street Address*	UZG 1K3 De Pintelaan 185	**Fax**	
Postal code	B9000	**E-mail**	thierry.christiaens@ugent.be

51. IMPLEMENTING EBM: THE CASE OF ANTIBIOTICS FOR SORE THROAT.

Van Driel M, De Meyere M, De Maeseneer J.

Department of General Practice and Primary Health Care, Ghent University, Belgium.

Background: Evidence-based guidelines on antibiotic use exist, but overprescribing remains, adding to the growing microbial resistance. GP's often claim the patient's demand for antibiotics as important reason for prescribing antibiotics for self-limiting diseases. But, what do patients want and how do they communicate this with their GP?

Aims: To explore patients' reasons for encounter and GPs' perceptions of these reasons in consultations for sore throat.

Methods: A random sample of 7 peer review groups in the region of Flanders was selected to participate in a questionnaire survey. All patients (>12 years) consulting for acute sore throat and their GP were asked to fill out separate questionnaires post-consultation exploring illness perceptions and reasons for encounter. Results were analyzed in total and for each peer group separately. Feedback was given to the participating GP's in a peer review meeting.

Results: A total of 343 consultations with 74 GP's were registered. The average age of the patients was 36.9 years (42.3% men) and the GP's 47.2 years (80.4% men). 40.8% of patients received a prescription for antibiotics; only 22.8% a first-choice antibiotic. GP's claim to have followed the guideline in 79.4% of all antibiotic prescriptions.
Patients consult their GP mainly for pain relief, information and clinical examination. A desire for antibiotics belongs to the 3 least important reasons for encounter (list of 13) and is seldom expressed during the consultation. GP's perception of their patient's desires were poorly correlated (gamma-statistic 0.22-0.60). The GP's perception of the patient's wish is significantly related to the outcome of an antibiotic prescription. There is no difference in satisfaction between patients with or without antibiotic prescription.

Conclusion: Communication skills aimed at exploring the patient's expectations during a consultation may assist in reducing antibiotic prescribing for sore throat. The lack of awareness of GP's of overprescribing needs further exploration.

Address for correspondence

Title		**City**	Ghent
Full Name	VAN DRIEL MIEKE	**Country**	Belgium
Affiliation	Department of General Practice and Primary Health Care, Ghent University	**Phone**	+32/9/240 60 82
Street Address*	De Pintelaan 185, 1K3	**Fax**	+32/9/240 49 67
Postal code	B-9000	**E-mail**	Mieke.vandriel@ugent.be

52. MINERVA: A GIFT FROM EBM?

Van Driel M, Chevalier P, De Meyere M.

Minerva, Journal for evidence-based medicine, Ghent, Belgium.

Background: Uptake of evidence-based information among Belgian general practitioners is poor. Few GP's read international journals and many rely on information provided by pharmaceutical companies through representatives or free mailings. In 1998 the academic departments of general practice launched Minerva, an independent evidence-based journal for physicians and students in general practice. Minerva is supported by Belgian universities, government, insurance agencies and the scientific organizations.

Aims: To disseminate relevant evidence-based information to professionals in order to promote EBM practice. To increase awareness and knowledge of EBM. To provide materials and tools for individual and peer group learning. To evaluate uptake and appreciation of Minerva.

Methods: An independent editorial board of GP's and pharmacists select articles from 20 international journals. Criteria for selection are: relevance to primary care, patient-oriented, valid design, relevant message. Selected articles are summarized and discussed by colleagues with experience in the topic and EBM. A recommendation for practice follows each discussion. A glossary explaining the epidemiological and statistical terms is provided. Minerva is published in 10 issues each year in both national languages (French and Dutch) and is available free of charge to subscribers. In 2002 a pilot survey was carried out in Flanders.

Results: Minerva has approximately 8.000 subscribers, including over 50% of GP's in Belgium. Among 185 responders to the questionnaire survey, 78% said they read each issue, 99% value the selected publications as relevant and 97% find the recommendations useful. The average appreciation is 8.55 on a 10-point scale. About one third of GP's use Minerva for self-learning and one third discusses Minerva in their peer review sessions.

Conclusions: Promoting EBM through an EBM journal in the local language is feasible and likely to be well appreciated. The effect on raising awareness and promoting evidence-based practice needs to be explored.

Address for correspondence

Title		**City**	Ghent
Full Name	VAN DRIEL MIEKE	**Country**	Belgium
Affiliation	Department of General Practice and Primary Health Care, Ghent University	**Phone**	+32/9/240 60 82
Street Address*	De Pintelaan 185, 1K3	**Fax**	+32/9/240 49 67
Postal code	B-9000	**E-mail**	Mieke.vandriel@ugent.be

53. STRUCTURED ON-LINE DISCUSSION GROUPS FOR TEACHING EBM TO PRE-REGISTRATION HOUSE OFFICERS

Van Winckel M*, De Wever B°, Valcke M°

Ghent University, faculty of medicine and biomedical sciences*, faculty of educational sciences and psychology°, Ghent, Belgium

Background: Internet based discussion groups use collaborative learning as a powerful tool in adult education. These groups, which offer other opportunities than real-time discussions, are not dependent on time nor place, and direct links to EBM information sources can be made.

Aim: We developed a highly structured on-line case-based discussion forum in order to increase the students' knowledge and use of EBM information sources in patient management.

Method: During their clinical rotation in paediatrics, last year students have pass-word protected access to an on-line discussion group. The discussion opening page offers a summary of the task, and direct links to EBM based information databases. An introduction session of two hours precedes the discussion. Cases are real patients seen by students. Discussion is focused on (pharmaco)therapy. During the first phase of a two-week discussion, students are asked to propose a management plan individually, explicitly mentioning on which evidence it is based. The following ten days are spent on reacting to each other, and on reaching a consensus. The tutor guides when neccessary. Minimal 2 contributions/week/student are mandatory. Students are asked to evaluate this exercise by a standardised questionnaire.

Results: By the end of april 2003, 30 students had participated in the discussion groups. They spent 2 – 5 h/week (median 3,5 h) on it. Tutor-time varied between 1-3 h/week. On a 5-point Likertscale, all students agreed (2/30) to fully agreed (28/30) on "I did learn a lot doing this exercise". 25/30 students fully agreed it was a pleasant, motivating exercise that helped creating a link between theory and practice, and enhanced clinical reasoning skills.

Conclusion: Case-based on-line discussiongroups with structured tasks can be a motivating and highly appreciated tool for teaching EBM practice during clinical rotations. We'd like to discuss possibilities of more objective evaluation of this teaching tool.

Address for correspondence

Title	MD, PhD	**City**	Gent
Full Name	Myriam Van Winckel	**Country**	Belgium
Affiliation	University Hospital Ghent and Ghent University	**Phone**	*32 9 240 39 66
Street Address*	3K3 UZ Gent De Pintelaan 185	**Fax**	*32 9 240 38 75
Postal code	B 9000	**E-mail**	myriam.vanwinckel@ugent.be

54. DOES THE EFFECTIVENESS OF PHARMACEUTICALS FADE WITH TIME? REASONS AND CONSEQUENCES

Gehr BT[1], Weiss C[2], Porzsolt F[1,3]

[1]Evidence-Based Health Care, Ludwig-Maximilians University, Munich. [2]Institute for Statistics, University of Mannheim. [3]Clinical Economics, University Hospital Ulm

BACKGROUND: Many clinicians have the impression that there is a gap between the extent of medical progress published in medical journals and the ”real” clinical progress. In other words: The ”real” long-term-progress is possibly not as big as the sum of subsequently reported improvements. There are two models to explain this impression: 1. The reported effectiveness of medical treatments fades with time, thus exaggerating the improvement reportedly achieved by newer therapies (ratchet effect). 2. The ”real” progress is bigger than the progress experienced by clinicians. As this second model is not plausible, it was not followed. AIMS: To investigate if the effectiveness of pharmaceuticals, reported in RCT’s, changes with time, and to identify the reasons for this possible change.
METHODS: The anti-glaucoma drugs Timolol and Latanoprost and the lipid-lowering drugs Pravastatin and Atorvastatin were chosen for this investigation because of well established outcome parameters (change of intraocular pressure/serum LDL-cholesterol). Based on a standardized search in PubMed, years of publication, applied doses of the pharmaceutical, numbers of patients, reported effectiveness, baseline intraocular pressure/serum LDL-cholesterol and the assignments to experimental or control group were extracted. Inclusion criteria were e. g. monotherapy and application of the drug in the most commonly used dosage. Exclusion criteria have been specified. Statistical analyses including multiple regression analysis were done with SAS (6.0).
RESULTS: 625 studies were identified, of whom 227 met the inclusion criteria. 68 studies were excluded, leaving 159 studies for statistical analysis. The reported effectiveness of Timolol (yearly change of effectiveness: - 0.13 mmHg/year, p<.0001), Latanoprost (- 0.32 mmHg/ year, p=.0181) and Pravastatin (- 0.50 % LDL-cholesterol/year, p=.0085) faded with time, while there was no significant change for Atorvastatin. The reasons for this loss of reported effectiveness are inhomogeneous. Most important influencing factors are: Baseline of outcome parameter (T: p<.0001, L: p<.0001, P: p=0.4149), treatment group (T: p=0.0071, L: p=0.1402, P: p=0.0605); study size was also evaluated but did not play a significant role. Multiple regression analysis produced models of the following qualities: T: R^2=0.5675, L: R^2=0.7963, P: R^2=0.2991.
CONCLUSIONS: In three of four investigated drugs, the reported effectiveness faded with time, thus exaggerating the improvement achieved by newer therapies (ratchet effect). We could identify two factors contributing to this effect: First, in studies with new drugs, the included patients were more sick than in studies which used well established drugs. Sick patients have a higher chance to benefit from treatment than more healthy patients. This leads to a seemingly fading effectiveness. Second, a drug achieves better results if it is new and used in the experimental treatment arm than if it is old and used in the control group. Expectations of physicians and patients may play a role although the studies were conducted as RCT’s. Neither blinding nor containment of blinding was verified in this investigation. The concept is published to stimulate the adequate generation and collection of more data which are needed to confirm the hypothesis.

Address for correspondence

Title	Cand. Med.	**City**	Kirchheim
Full Name	Bernhard Gehr	**Country**	Germany
Affiliation	Ludwig-Maximilians University Munich	**Phone**	+49/ 89 90539159
Street Address*	Vogelbeerenweg 26	**Fax**	+49/ 89 90539166
Postal code	85551 Kirchheim	**E-mail**	b.gehr@gmx.de

55. LEARNING TO FIND AND DISSEMINATE BEST EVIDENCE

K M Wylie 1, **Prof. K Mackway-Jones** 2, **Dr S Carley**3, **M Jenkins**4, **C Green**5

1. Project manager, Information Officer, Manchester Royal Infirmary (MRI)
2. Professor of Emergency Medicine, Emergency Department, MRI
3. SpR in Emergency Medicine,
4. Information Officer, MRI, 5. Information Officer, MRI.

Background

Not every clinical question has a systematic review available to guide decision-making. Medical staff within the Emergency department of the Manchester Royal Infirmary discovered that the quality of trauma evidence was mixed. In response to this, Best Evidence Topics (BETS) were devised. BETS are one-page digests of available research using the four guiding principles of EBM:

- Asking the right question
- Finding the evidence
- Appraising the evidence
- Research synthesis

Over 650 topics are on-line at http://www.bestbets.org and form regular columns within high impact medical journals.

BET authors have found their own evidence based competencies enhanced as a result. Consequently a BestBET course has been devised to deliver just these EBM skills to other health service staff.

Aims

- Promoting the principles of Evidence Based Medicine across Greater Manchester
- Delivering practical skills of EBP in: Information Retrieval, Critical Appraisal, Research synthesis
- To facilitate the dissemination of such ideas and skills throughout the region.

Methods

- Each course is free
- Any health worker is eligible to apply
- No pre-requisite expertise is required.

DAY ONE – students are encouraged to develop answerable questions from real-life clinical scenarios, alongside information skills training by two senior informaticists on retrieving best evidence from databases and the Internet.

DAY TWO – Involves critical appraisal of 5 papers, each with a differing methodology. Senior Emergency Medicine personnel teach within a workshop format. Skills on research synthesis help to conclude the course.

Results. Participants are predominately clinically based health professionals. 99% of all responses graded the course as good > excellent.

Conclusion. By being part of this BET process we primarily aim to foster within students a culture of inquiry and investigation, concepts which they can take back to their own clinical area. Approaches and skills such as these can readily equip the BestBET student to go on and provide the best in patient care.

Address for correspondence

Title	Miss	**City**	Manchester
Full Name	Katharine Wylie	**Country**	UK
Affiliation	Senior Information Officer, Manchester Royal Infirmary	**Phone**	0161 276 5798
Street Address*	Oxford Road	**Fax**	0161 276 6925
Postal code	M13 9WL	**E-mail**	kmwylie@yahoo.com