4th International Conference of Evidence-Based Health Care Teachers & Developers
Better Evidence for Better Health Care
Taormina (Italy), 31st October – 4th November, 2007

Hosted by GIMBE®
in cooperation with Oxford Centre for Evidence-based Medicine, CASP International Network

ABSTRACTS BOOK

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Conference Program

Wednesday, 31st October

06.15 pm **CONFERENCE INAUGURATION**

Welcome to Sicily
Nino Cartabellotta (IT)

Introduction to the Conference program
Paul Glasziou (UK)

"Icebreaker"
Janet Harris (NO)

Presentation of Theme Groups
Theme Groups leaders

Thursday, 1st November - Morning

9.00 am PLENARY SESSION 1

Teaching EBP

Long presentations (20')

- Drew Keister (USA). Listening to our learners: designing and maintaining a residency Evidence-based Medicine curriculum using a learner-driven method **(15)**

Short Presentations (10')

- Dragan Ilic (AU). Teaching EBHC: online or face to face? **(14)**
- Piersante Sestini (IT). Teaching EBP pre-core curriculum to non-English speaking medical students. Four-years experience at the University of Siena **(24)**
- Paolo Chiari (IT). Education of EBP through problem-based interactive participation modality: a randomized controlled trial **(3)**
- Nina Rydland Olsen (NO). Integrating EBP into a physiotherapy bachelor programme – Overview of educational activities **(22)**
- Lubna A. Al-Ansary (SA). Impact of EBHC mini-course on the attitudes, knowledge and skills of female medical students, Saudi Arabia **(1)**
- Antoinette Conca (CH). Gaps in knowledge and practice of research utilization in nurses and allied health professionals **(5)**

10.45 POSTERS SESSION & Break

11.30 PLENARY SESSION 2

Improving the evidence we need

Long presentations (20')

- Paul Glasziou (UK). Inadequate descriptions of treatments in published reports: a common but correctable barrier to research uptake **(9)**

Short Presentations (10')

- Michael Kidd (AU). A database of medical case reports: how the knowledge captured in individual case reports can inform Evidence-based Practice and clinical education **(16)**
- Jeff Andews (USA). Grading diagnostic statements and recommendations **(2)**
- Marie France Coutu (CA). Using cartoon strips as a facilitating tool to implement EBP **(6)**
- Martin Dawes (CA). Identification of clinically important elements in abstracts and clinical questions (patient-population-problem, exposure-intervention, comparison, outcome, duration, results: PECODR) **(7)**

1.00 pm Lunch

Thursday, 1st November - Afternoon

2.30 pm **Plenary. EBHC International Library**
The Project
Nino Cartabellotta (IT)

3.00 **POSTERS SESSION & Break**

3.30-5.00 **THEME GROUPS**

Theme Group 1
E-learning
Kevin Ketchner (USA), Julie Hadley (UK)

Theme Group 2
Assessment Tools
Monica Nortvedt (NO), Janet Harris (NO)

Theme Group 3
Best Teaching Methods
Madelon Finkel (USA)

Theme Group 4
Evidence-based Diagnosis
Martin Dawes (CA)

Theme Group 5
EBP Curriculum
Janet Martin (CA)

Theme Group 6
Change Management
Martin Dawes (CA), Franz Porzsolt (D)

Theme Group 7
Tools for Teaching
Paul Glasziou (UK), Fatma El-Zahraa (KW)

Friday, 2nd November - Morning

9.00 am PLENARY SESSION 3

Teaching EBP: Tools and e-learning

Long presentations (20')

- Nathalie Hugenholtz (NL). Combining an EBM course with case method learning sessions effective in enhancing EBP in a non-clinical setting **(13)**

Short Presentations (10')

- Hildegunn Lygren (NO). Systematic implementation of EBP in physiotherapy education. Does it make a difference? **(18)**
- Peggy Schmidt (USA). Surveying EBP assessment methods at an institution with multiple health professions colleges **(23)**
- Geert van der Heijden (NL). Teaching and promoting rapid access and use of evidence from clinical medical research: the construction of a best medical practice resource **(26)**
- Gudbjørg Øen (NO). How to base teaching on evidence when health problems and the health care system are new and the users' perspectives should be our focus? **(21)**
- Kent Stobart (CA). Does the hidden curriculum hinder the implementation of EBHC? **(25)**

10.45 POSTERS SESSION & Break

11.30 PLENARY SESSION 4

Changing Practice Using Evidence in the workplace

Long presentations (20')

- Carl Heneghan (UK). Hypertension guideline recommendations in UK general practice: survey of awareness, agreement, adoption, and adherence **(12)**

Short presentations (10')

- Sally Doshier (USA). Implementation and evaluation of an EBP project as a senior capstone project for BSN students **(8)**
- Olav Vandvik (NO). Pilot study of new course in EBP for hospital physicians: will practice-training with portfolio evaluation make a difference? **(27)**
- Jenny Morris (UK). The feasibility of introducing an EBP cycle into a clinical area: an evaluation of process and outcome **(20)**
- Emma Meats (UK). Talking about evidence: a study of journal clubs **(19)**
- Janet Harris (NO). Do journal clubs support learning and evidence-based decision making in health care? **(11)**

1.00 pm Lunch

Friday, 2nd November - Afternoon

2.30 pm **Statistics for the terrified - Advanced level: The Jelly Baby**
Amanda Burls (UK)

3.00 **POSTERS SESSION & Break**

3.30-5.00 **THEME GROUPS**

Theme Group 1
E-learning
Kevin Ketchner (USA), Julie Hadley (UK)

Theme Group 2
Assessment Tools
Monica Nortvedt (NO), Janet Harris (NO)

Theme Group 3
Best Teaching Methods
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Theme Group 4
Evidence-based Diagnosis
Martin Dawes (CA)

Theme Group 5
EBP Curriculum
Janet Martin (CA)

Theme Group 6
Change Management
Martin Dawes (CA), Franz Porzsolt (D)

Theme Group 7
Tools for Teaching
Paul Glasziou (UK), Fatma El-Zahraa (KW)

Saturday, 3rd November

9.00 am PLENARY SESSIONS 5

Teaching EBP: Curriculum and workforce development

Long presentations (20')

- Julie Hadley (UK). European Union Evidence-Based Medicine Unity Project (EU-EBM Unity). Transferring evidence into practice using a blended learning approach **(10)**

Short Presentations (10')

- Veronica Wilkie (UK). Writing a national curriculum in EBP for the training and recertification of UK general practitioners, trial by committee **(28)**
- Regina Kulier (UK). European Union Evidence-Based Medicine Unity Project (EU-EBM Unity). Development of a web-based clinically integrated EBM curriculum for post-graduate medical doctors **(17)**
- Charles Coleman (USA). Implementing e-mentoring training and clinical performance assessments using evidence based best practices to improve quality and safety of patient care through clinical simulations as part of a critical appraisal skills program (CASP): application notes from the field **(4)**

10.15 Plenary. EBHC International Library
Feedback report
Nino Cartabellotta (IT), Paul Glasziou (UK), Martin Dawes (CA)

10.45 Break

11.00 Reports of Theme Groups

12.30 pm Organisational issues and votes

1.00 Lunch

Oral Presentations

ORAL PRESENTATIONS

1. **Al-Ansary Lubna**. Impact of Evidence-based Health Care mini-course on the attitudes, knowledge and skills of female medical students, Saudi Arabia
2. **Andrews Jeff**. Grading diagnostic statements and recommendations
3. **Chiari Paolo**. Education of EBP through problem based interactive participation modality: a randomized controlled trial
4. **Coleman Charles**. Implementing e-mentoring training and clinical performance assessments using evidence based best practices to improve quality and safety of patient care through clinical simulations as part of a Critical Appraisal Skills Program (CASP): application notes from the field
5. **Conca Antoinette**. Gaps in knowledge and practice of research utilization in nurses and allied health professionals
6. **Coutu Marie-France**. Using cartoon strips as a facilitating tool to implement Evidence-based Practice
7. **Dawes Martin**. Identification of clinically important elements in abstracts and clinical questions (patient-population-problem, exposure-intervention, comparison, outcome, duration, results: PECODR)
8. **Doshier Sally**. Implementation and evaluation of an Evidence-based Practice project as a senior capstone project for BSN students
9. **Glasziou Paul**. Inadequate descriptions of treatments in published reports: a common but correctable barrier to research uptake
10. **Hadley Julie**. European Union Evidence-Based Medicine Unity Project (EU-EBM Unity). Transferring evidence into practice using a blended learning approach
11. **Harris Janet**. Do journal clubs support learning and evidence-based decision making in health care?
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25. **Stobart Kent**. Does the hidden curriculum hinder the implementation of Evidence-based Health Care?
26. **Van der Heijden Geert JMG**. Teaching and promoting rapid access and use of evidence from clinical medical research: the construction of a best medical practice resource
27. **Vandvik Per Olav**. Pilot study of new course in EBP for hospital physicians: will practice-training with portfolio evaluation make a difference?
28. **Wilkie Veronica**. Writing a national curriculum in Evidence-based Practice for the training and recertification of UK general practitioners, trial by committee

1. IMPACT OF EVIDENCE-BASED HEALTH CARE MINI-COURSE ON THE ATTITUDES, KNOWLEDGE AND SKILLS OF FEMALE MEDICAL STUDENTS, SAUDI ARABIA

Al-Ansary LA

Dept of Family and Community Medicine, College of Medicine, King Saud University

Background: Teaching the concept and skills of EBHC to medical students is essential if we wish to prepare them to be able to keep up with the expansion of biomedical knowledge for their entire working life

Aims: To evaluate the impact of a mini-course in EBHC on the attitudes and proficiency in EBHC skills of the fourth year female medical students at the College of Medicine, King Saud University. The course is provided as a part of the Family Medicine rotation and consists of 4 sessions in which the students learn the concept and skills of EBHC with more emphasis on the secondary sources of evidence in step 2 and therapy articles in step 3. An assignment is prepared by each student at the end to demonstrate that she can practice these steps.

Methods: Students were surveyed immediately before and after the mini-course (between March and June 2006) using a modified version of the SIGM questionnaire. The marginal homogeneity test was used to compare the responses.

Results: Seventy-one students completed the pre and post tests (response rate 87.7%). Their views and attitudes towards the role, importance, practicality and the need for training in EBHC have significantly changed (P< 0.001). Their familiarity, frequency of use, comfort level and ease of access for the Cochrane database, the TRIP database, InfoRetriever and Clinical Evidence have significantly improved after the mini-course (P<0.001). Their self-rated comfort levels in performing specific tasks related to the steps of EBHC were significantly better. Their abilities to formulate a PICO question (using a case scenario) and calculate the absolute and relative risk change and the number needed to treat (from a given abstract) were cultivated (P <0.001 and <0.01 respectively).

Conclusions: Introducing the concept and skills of EBHC to medical students provides them with an opportunity to learn and practice these skills with confidence in a safe environment. The resultant change in their willingness, knowledge and skills may direct their future behaviour towards providing more EBHC actions and better patient outcomes.

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2. GRADING DIAGNOSTIC STATEMENTS AND RECOMMENDATIONS

Andrews J

Vanderbilt University Medical Center

Background: How EBHC developers, using the GRADE system, rate the quality of evidence and move from evidence to a recommendation for diagnostic tests and strategies. Although recommendations concerning diagnostic testing share the fundamental logic of making a recommendation for therapy, the diagnostic field presents unique challenges. A recommendation associated with a diagnostic PICO question depends upon the balance between desirable and undesirable consequences of the diagnostic test or strategy.

Aim: The author will demonstrate and teach the GRADE system for grading EB diagnostic recommendations and statements.

Methods: The author is a member of GRADE (www.gradeworkinggroup.org) The GRADE working group, (Grading of Recommendations Assessment, Development and Evaluation), began in the year 2000 as an informal collaboration of people with an interest in addressing the shortcomings of present grading systems in health care. Our aim is to develop a common, sensible approach to grading quality of evidence and strength of recommendation.

Results: The GRADE working group has prepared a publication about grading diagnostic recommendations, which the author will use as a reference.
The author will cover these topic areas: judgement about the quality of studies, study limitations, directness, test results as a surrogate for outcomes, accuracy, likelihood ratios, precision, pre-test and post-test probability, sensitivity, specificity, positive predictive value, negative predictive value, true positives (patients correctly classified above the treatment threshold), true negatives (patients correctly classified below the treatment threshold), false positives (patients incorrectly classified above the treatment threshold), and false negatives (patients incorrectly classified below the treatment threshold).

Conclusion: The GRADE approach to grading the quality of evidence and strength of recommendations for diagnostic guidelines provides comprehensive and transparent methodology for developing these recommendations.

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3. EDUCATION OF EBP THROUGH PROBLEM BASED INTERACTIVE PARTICIPATION MODALITY: A RANDOMIZED CONTROLLED TRIAL

Chiari P, Mosci D, Ruffini B, Naldi E, Biavati C, Peghetti A, Parma D, Robb MC, Calanchi S, Pellecchia C, Chiarabelli M

Centro Studi EBN – Azienda Ospedaliero-Universitaria di Bologna

Background: Since 1999 EBN Centre Study of S.Orsola-Malpighi was performed EBP classes to health professions. In 2005 a quali-quantitive research was conducted. Its aim was to review the educational course to improve EBP teaching. Literature indications are poor and not very specific, as they are essentially addressed to students education and not to professionals (Ciliska D,2005). A sample of 100 students gave not the evidence of knowledge gaps, so the attention was diverted to the education methodology. A Focus group conducted with the teachers has pointed out a wide margin of improvement, in particularly about a teaching based on students active role.

Aims: The aim of the study is to verify with experimental method if an active education approach obtains better results than passive one in terms of learning and participant's satisfaction.

Methods: Randomized controlled trial expertise-based.

Results: 12 courses EBP have been randomized (6 to traditional methodology and 6 to experimental active methodology). The teaching has been conducted from two different groups of teachers, one for traditional classes and one for the experimental classes. The courses have involved 225 from nurses, midwives and physiotherapists; 112 in the experimental group, and 113 in the control group. Participants have filled a satisfaction questionnaire and have answered to a learning test. Moreover, it has been required a consent, for the follow up assessment after one year.

Conclusions: The last EBP course will be completed at June 2007, and it will be possible to work out the findings and compare them with those obtained at the end of the single course. The outcome measure investigate:
- the improvement of EBP skill learning
- the improvement of participant's satisfaction
- the teachers feeling about the effectiveness of the education methodology (qualitative aim)

Major educational lacks in respect to different length of the courses and difference in gender, age, seniority, division membership, motivation and commitment.

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4. IMPLEMENTING E-MENTORING TRAINING AND CLINICAL PERFORMANCE ASSESSMENTS USING EVIDENCE BASED BEST PRACTICES TO IMPROVE QUALITY AND SAFETY OF PATIENT CARE THROUGH CLINICAL SIMULATIONS AS PART OF A CRITICAL APPRAISAL SKILLS PROGRAM (CASP): APPLICATION NOTES FROM THE FIELD

Coleman CA[1], Bartlett JG[2], Hadden DD[3]

[1]SAS Institute, Evidence Based Health Care Initiative, [2]Johns Hopkins School of Public Health, Epidemiology, [3]CEO and Founder, TheraSim

Background: Adoption of the practices and processes inherent in the outcomes of applying clinical, evidence based health care has always been a recognized problem. The collection, aggregation and timely dissemination of information which directly effects diagnoses and clinical treatment has traditionally been dependent on clinicians' access to journals and on-line resources—many of which are neither comprehensive nor timely. Simulation—historically confined to hands-on procedures on dummies—has now expanded into demonstrating real-time best practices in diagnostics and treatment through computerized case modeling and testing algorithms.

Aims: Implementing an on-line clinical teaching tool that is configured to update a best practices "rules engine" (e.g. new contraindications, new laboratory tests, latest FDA warnings, latest clinical trial citations) across a spectrum of diseases and conditions has recently been proven to be effective in quantifying the behavior of clinicians and healthcare teams in the classroom and in the field. The aim is: reach more, teach more, save more.

Methods: Simulation of the clinical experience begins as a virtual "patient" presents the clinician with his or her "case"—an actual patient case that has been translated into a clinical, computerized encounter that tests the "student(s)" as they move through the logical process of assessment, ordering and interpreting labs, diagnosing, and prescribing meds—all of which is displayed in an intuitive EMR that includes clinical images—along with real-time mentoring feedback. As each clinician moves through cases specifically selected to improve skills in certain critical areas of expertise, the simulator records their behavior and scores performance based on weighted metrics. Deficiencies are presented along with specific references to current evidence-based best practices.

Results and conclusions: Over 30,000 clinicians in 122 countries have demonstrably improved their skills by incorporating evidence based health care into their quality of care "curriculum" using computerized clinical case simulations and clinical performance management reporting.

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5. GAPS IN KNOWLEDGE AND PRACTICE OF RESEARCH UTILIZATION IN NURSES AND ALLIED HEALTH PROFESSIONALS

Conca A, Hantikainen V, Barbezat I, Fliedner M, Hirter K, Huerlimann B, Spichiger E, Willener R, Wuethrich E

University Hospital of Berne

Background: To implement evidence-based practice (EBP) in nursing and allied health professionals at the University Hospital of Berne a five-year strategy for continuing clinical practice development and research was developed. As part of the more large evaluation of this strategy implementation a baseline assessment of nurses and allied health professionals regarding EBP was conducted.

Aims: To describe current EBP in our hospital, explore the resources and problems in clinical practice and to adapt the strategy.

Methods: Prospective descriptive design. Questionnaires were sent to all nurses and allied health professionals (N= 2500) including questions about demographic characteristics, knowledge, attitude and practices in research utilization, use of informational sources, perceived barriers, and English reading skills.

Results: Preliminary data of 948 nurses and allied health professionals showed a mean age of 38 years, and the median of 12 years of professional experience. The response rate was 39%. We found several gaps in knowledge and practices: Identifying a clinical problem from risk management, quality improvement data; Gathering and critiquing literature; Determining sufficient research literature and drawing conclusions, Selecting outcomes to be achieved, designing research based practice interventions and participating in the design of multidisciplinary intervention(s); Implementing, evaluating practice for process and monitoring outcome changes, and using research findings to improve practice. Attitudes were lowest in gathering literature and highest in implementing practice change. Generally the motivation of learning EBP was reported high, the knowledge and practices were perceived overall low.

Conclusion: We modified our strategy and developed new support activities based on the reported gaps. As in Switzerland the basic education until the recent years contained very few training on research, EBP, literature search, or critical appraisal the nurses and allied health professionals need the methodological background and training for EBP. To get a good picture of the barriers and resources a baseline assessment is crucial.

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6. USING CARTOON STRIPS AS A FACILITATING TOOL TO IMPLEMENT EVIDENCE BASED PRACTICE

Coutu MF, Durand MJ, Fassier JB, Labrecque ME, Loisel P

Université de Sherbrooke

Background: Clinicians' adherence to Evidence Based Practice (EBP) is associated with a reduction in health care cost. However, there is still a gap between EBP and clinical practice. Barriers to implementing EBP are, among other factors, lack of time and knowledge, complexity, negative attitudes and beliefs and resistance. In order to address these barriers, the medium used has to be clear, concise, coherent and convincing. Emotions could also help the integration of the content. Case examples have been recommended as an efficient medium. For this, two case examples have been presented in the format of cartoon strips to captivate the targeted audience. They summarize on one page key evidence based principles in work rehabilitation.

Aims: Validate the content and the medium per se as a facilitating tool to implement EBP.

Methods: This is a qualitative and descriptive study. Participants were recruited in clinical settings, University training programs and continuing education trainings. Two groups were built: (1) professionals having more than two years of experience in work rehabilitation (n = 45) (2) trainees in a discipline leading to practice in work rehabilitation (n = 45). A questionnaire with open questions documented the understanding of the participant for each square of the cartoon strip. Another question asked about the usefulness of this medium. Content analysis of the responses was performed to validate the content of the medium.

Results: Inter-rater agreement was found satisfactory. Results revealed a good agreement for both groups with key evidence based principles illustrated in the cartoon strip. The cartoon strips were also considered a useful communication strategy for them.

Conclusions: Cartoon strips have the advantage of presenting the most important elements of a case study. Also, the funny nature of this medium helps gripping the readers and therefore may improve their integration of the key concepts.

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7. IDENTIFICATION OF CLINICALLY IMPORTANT ELEMENTS IN ABSTRACTS AND CLINICAL QUESTIONS (PATIENT-POPULATION-PROBLEM, EXPOSURE-INTERVENTION, COMPARISON, OUTCOME, DURATION, & RESULTS; PECODR)

Dawes M, Pluye P, Shea L, Grad R, Greenberg A, Jian-Yun N

Background: Information retrieval is becoming more difficult as the volume of medical information held in electronic databases expands. The lexical structure of this information may permit automatic indexing and improved retrieval.

Aims: To identify and analyse the PECODR elements (Patient-population-problem, Exposure-intervention, Comparison, Outcome, Duration, & Results) from the abstracts of medical journals.

Methods: We used a convenience sample of 20 synopses from the journal Evidence-Based Medicine (EBM) and their matching original journal article abstracts obtained from PubMed. Three independent health professionals identified PECODR related extracts of text. Rules were developed to define each PECODR element and the selection process of characters, words, phrases and sentences. For each PECODR element, element-related extracts were read by two researchers who proposed potential lexical patterns. Using NVivo software, descriptive statistics on the assignment process were produced, and the occurrence of patterns was compared.

Results: A total of 835 PECODR related text extracts containing 41,263 individual text characters were identified from 20 EBM journal synopses. There were 759 extracts in the corresponding Pub Med abstracts containing 31,947 characters. PECODR elements were found in nearly all abstracts and synopses with the exception of duration. There was agreement on 86.6% of the extracts from the 20 EBM synopses and 85.0% on the corresponding Pub Med abstracts. We found potential text patterns in the Comparison, Outcome & Results elements of both EBM synopses and PubMed abstracts. Some phrases and words are used frequently and are specific for these elements in both synopses and abstracts.

Conclusions: Results suggest a PECODR related structure exists in the literature. More sophisticated computer-assisted lexical-semantic analysis may refine these results, and pave the way to automate a PECODR indexing, and improve information retrieval at the point-of-care.
We hope to be able to present preliminary results on the prevalence of PECODR in clinical questions at this meeting.

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8. IMPLEMENTATION AND EVALUATION OF AN EVIDENCE-BASED PRACTICE PROJECT AS A SENIOR CAPSTONE PROJECT FOR BSN STUDENTS

Doshier SA

Northern Arizona University

Background: Successful implementation of evidence-based practice (EBP) into a BSN curriculum involves multiple opportunities for students to develop skills and apply principles across levels and in various practice settings. Summative assessment of achievement can be made in a final "capstone" project in which students demonstrate integration and mastery of key concepts.

Aims: Develop, implement, and evaluate an EBP project as a senior capstone experience for BSN students.

Methods: A capstone assignment was developed in which senior BSN students were assigned actual hospital patient care policies or procedures that were scheduled for routine review. Students were required to search relevant research and practice sources, collect and critically appraise recent evidence, and evaluate the assigned policy/procedure for currency and adherence. A written summary of the evidence, analysis of the policy/procedure in relation to the evidence, and recommendations for update and revision was submitted to the hospital manager and the course instructor. Students evaluated the experience as part of the regular course evaluation process, and hospital managers were also surveyed for their assessment of the experience.

Results: Students reported a high level of satisfaction with the project, and thought it "relevant" to improving nursing practice. Of 18 students who completed the assignment, 17 strongly agreed that it was both "useful" and "important" for their future practice. Hospital managers (n=9) agreed that the assignment was a good one. Comments included appreciation of the work contributed by the students, and acknowledged the positive example that the students set in their thorough review and analysis.

Conclusions: Both students and hospital managers viewed the assignment as a useful, relevant, and effective application of evidence into practice. Continued implementation of the assignment will provide the opportunity for students to synthesize EBP knowledge and contribute to the further implementation and utilization of current evidence in hospital-based nursing practice.

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9. INADEQUATE DESCRIPTIONS OF TREATMENTS IN PUBLISHED REPORTS: A COMMON BUT CORRECTABLE BARRIER TO RESEARCH UPTAKE

Glasziou PP, Meats E, Heneghan C, Shepperd S

Centre for Evidence-Based Medicine, University of Oxford, Oxford, UK

Background: Since the aim of health care research is improved patient care, a lack of detail in describing an intervention in a trial or systematic review will limit the extent to which research can influence practice.

Aims: We aimed to assess whether (i) the details of treatment interventions are sufficient to allow most clinicians to reproduce the treatment, and (ii) if reproducibility can be improved by writing to authors, checking references, and internet searches.

Methods: For 80 studies (randomized trials or systematic reviews) selected for the EBM journal, two general practitioners assessed whether they could reproduce the treatment tested. If information was missing, we retrieved papers cited relevant to the treatment description, wrote to study authors, and searched the internet to obtain additional details.

Results: Of the 80 reports 49% (39/80) had an adequate treatment description: 65% (36/55) of randomized trials and 12% (3/25) of systematic reviews. This proportion was improved to 76% by checking references, responses from authors, and searches. Problems with treatment descriptions included missing information on timing and dosage, on technique, and access to educational and training materials used in studies.

Conclusion: For a high proportion of the reports of trials and systematic reviews, the description of the treatment is insufficient to permit a clinician to reproduce the treatment in practice. However, provision of some additional details by authors could substantially improve the proportion of treatments that clinicians could reproduce in practice. These inadequate treatment descriptions represent a waste of research resources and a lost opportunity to improve patient care.

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10. EUROPEAN UNION EVIDENCE BASED MEDICINE UNITY PROJECT (EU-EBM UNITY) - TRANSFERRING EVIDENCE INTO PRACTICE USING A BLENDED LEARNING APPROACH

Hadley J[1], Weinbrenner S[2], Kulier R[1], Coppus SFPJ[3], Emperanza J[4], Avanitis T[1], Burls A[5], Capello-Lopez J[4], Decsi T[6], Horvath R[6], Kaczor M[7], Manfredini A[10], Pierer K[8], Zanrei G[10], Schaffler R[9], Stawiarz K[7], Kunz R[8], Mol BWJ[2], Khan KS[1]

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Background: The University of Birmingham, together with ten European partners have received funding from the EU Leonardo da Vinci programme to run a pilot project addressing the inconsistency of EBM training in the UK and Europe.

Aim: The EU EBM Unity project aims to develop a post-graduate European Qualification in EBM that will improve the relevance and quality of medical training in Europe.

Methods: The project has developed an EBM curriculum that is integrated into clinical practice. A blended learning approach has been used, which combines the concepts of e-learning with conventional lectures. The project has developed an EBM curriculum that is integrated into clinical practice. A blended learning approach has been used, which combines the concepts of e-learning with conventional lectures. A project-specific web-site and web-based interactive teaching materials and assessment tools have been developed, using a variety of e-learning concepts. The course management system Moodle is integrated into this website. Didactic tools are adapted to the needs of web-based training, promoting instant communication, enabling participants to exchange materials and information all over Europe.

An interactive session/ workshop could be arranged at the conference to provide participants with the experience of navigating and experimenting with the on-line interactive teaching materials and assessment tools.

The presenters will outline the aims and objectives of the EU EBM Unity project and present the theory behind the curriculum development. At the end of the workshop participants will 1) have experience of utilizing web-based teaching materials and assessment tools and 2) be aware of some of the challenges of developing a web-based curriculum The workshop is designed for participants of all levels with an interest in innovative methods of curriculum development, e-learning and post-graduate medical training.

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11. DO JOURNAL CLUBS SUPPORT LEARNING AND EVIDENCE-BASED DECISION MAKING IN HEALTH CARE?

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Background: A journal club is a group of individuals who meet regularly to discuss the clinical applicability of research articles (Linzer 1987). Although many countries use journal clubs, there are few evaluations of their effectiveness as an intervention to support evidence-based practice. Systematic reviews of evidence based learning have included journal club interventions, but the studies have been restricted to quantitative methodologies. Critical factors that contribute to the success of journal clubs may be found if the inclusion criteria include qualitative methodologies.

Aim: To determine the effectiveness of the journal club in supporting learning and evidence-based decision making in terms of learner reaction; changes in knowledge, skills, attitudes, or behaviour; and patient outcomes.

Methods: Two variations on the systematic review question have been developed to acknowledge the fact that effectiveness is likely to be different in undergraduate and postgraduate learners.
Is the journal club an effective intervention in
(1) supporting evidence-based decision making in health care professionals?
(2) supporting learning about evidence-based health care for students during their training, before graduation as health care professionals?
Using key terms related to journal clubs, education and evaluation, we are searching the major health and social care databases, research registers, and conference abstracts. Bibliographies of relevant publications and review articles are also being scanned and abstracts from conference proceedings will be searched. No language restrictions are being applied.

Results: Preliminary results indicate that definitions of interventions and outcomes vary greatly across studies. A definition for journal club interventions needs to be developed. To date, no studies have assessed effects of journal clubs on patient outcomes.

Conclusion: Final results will be presented at the conference with discussion of the implications for both teaching and research.

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12. HYPERTENSION GUIDELINE RECOMMENDATIONS IN UK GENERAL PRACTICE: SURVEY OF AWARENESS, AGREEMENT, ADOPTION, AND ADHERENCE

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Background: General practitioners vary greatly in their clinical management of hypertension for reasons that are poorly understood.

Aim: To explore general practitioners' awareness of current hypertension guidelines and their self-reported implementation of them in clinical practice.

Methods: Questionnaire survey of 800 practitioners based on the 'awareness-to-adherence' model of innovation diffusion; the 401 (50.1%) responders were similar in year of qualification and employment status to all practitioners in England.

Results: The gap between awareness of guidelines and application of them was often wide. Virtually all (99%) practitioners were aware of the guidance on statin therapy but less than half (43%, 95% CI 38-48%) adhered to it. Three-quarters (77%) were aware that blood pressure should be measured in both arms, but only 30% agreed with it (95%CI 26-34%) and 13% (95%CI 10-16%) had a systematic to apply it. For most practitioners, application of a guideline was consequent on agreement with it although 19% (95%CI 15-23) reported adherence to the financially incentivised guidance on statin therapy without either being aware of it or in agreement with it. No significant associations were found between age, sex, year of graduation and post held and the level of awareness, agreement or application.

Conclusions: The specific barrier and action needed to promote application of hypertension guidelines varies with each clinical action. Lack of awareness is seldom the problem. Most general practitioners are unlikely to implement elements of guidance they disagree with even if given financial incentives. High adherence requires a reflective workforce that can respond to the scientific evidence underpinning the guidance.

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13. COMBINING AN EBM COURSE WITH CASE METHOD LEARNING SESSIONS EFFECTIVE IN ENHANCING EVIDENCE-BASED PRACTICE IN A NON-CLINICAL SETTING

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Background: To teach effectively occupational physicians how to practice Evidence-based medicine (EBM), insights from Continuing Medical Education (CME) can be useful. Recent CME studies show that interactive, problem-based, multifaceted implementation forms in peers groups are first choice to increase physicians' performance. Therefore we developed an EBM project including both an EBM course as well as recurrent case method learning sessions.

Aims: To enhance the EBM knowledge, skills, and application as well as professional performance, self-efficacy, and job satisfaction of occupational physicians.

Methods: A cluster randomized controlled trial was set up in which the intervention group received a regular EBM course followed by a four month period of sessions in small peer groups. During the two-weekly organized sessions, the participants discussed cases from their own clinical practice in a prescribed structured way. EBM knowledge and skills were measured by a paper test. All other outcomes were measured by means of self assessment. Data were collected through questionnaires at baseline (T0), directly after the intervention (T1) and seven months after baseline (T2). The perceived value of the sessions was also evaluated by interviewing the participants.

Results: The overall effect over time comparing the intervention group with the control group was significant for EBM knowledge, skills, and behaviour, and for professional performance ($p<0.001$). Job satisfaction and self-efficacy changes were small and not statistically significant. Participants valued the sessions as a useful method to enhance their ability to provide better, scientifically based advices and to improve their job satisfaction, self-confidence and communication skills.

Conclusions: Combining a regular EBM course with case method learning sessions has shown to be effective in enhancing EBM knowledge, skills, and behaviour and professional performance of occupational physicians. Moreover, it is perceived as valuable by participants. Therefore, this CME approach is beneficial to promote Evidence-based practice in occupational health.

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14. TEACHING EVIDENCE BASED HEALTH CARE: ONLINE OR FACE TO FACE?

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Background: Monash University offers a five year undergraduate degree in medicine. Students enter clinical placement during their third year. In this year students are formally taught evidence based health care (EBHC) via 10 tutorial sessions. In year 4 students have two semesters of EBHC delivered online during their clinical rotations.

Aims: To explore student attitudes on the barriers and enablers to teaching EBHC in face-to-face and online environments.

Method: A total of 235 third year medical students were quantitatively and qualitatively surveyed on the perceived barriers and enablers to learning EBHC in a traditional face-to-face tutorial. The same students are currently being survey (June 2007) to identify their attitudes toward learning EBHC in an online environment as 4th year medical students.

Results: A total of 136 students completed the evaluation of which 88% agreed they were able to construct an answerable question using PICO. A total of 95% believed that their MEDLINE searching skills had significantly improved. Students were more confident in their appraisal of articles involving 'therapy' and 'harm' (81% and 74%) rather than 'diagnosis' (57%). A total of 81% of students believed that they would use their EBHC skills in 4th year and beyond. Qualitative outcomes indicated that the learning how to effectively search the medical literature, interpret statistics and apply article outcomes to clinical situations as facilitators to learning EBHC in a face-to-face tutorial environment.

Conclusion: Teaching EBHC skills in a face-to-face environment assists medical undergraduate students in their ability to formulate a focused clinical question, search the literature for a relevant article, appraise and integrate appropriate findings in the clinical environment. Data available in June 2007 will explore what impact teaching EBHC in an online environment has upon students' ability to retain, reinforce, learn and integrate new EBHC concepts relevant to their clinical rotation.

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15. LISTENING TO OUR LEARNERS: DESIGNING AND MAINTAINING A RESIDENCY EVIDENCE-BASED MEDICINE CURRICULUM USING A LEARNER-DRIVEN METHOD

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Background: Hatala and Guyatt's 2002 commentary stated that "qualitative research methods are an underused and valuable research tool for evaluating EBM and could help identify learners' needs, effective components of intervention, and barriers to behavioural change" (Hatala, JAMA 2002). In response to this call to action, we developed a learner-driven EBM curriculum that utilized qualitative methods to assess learners' needs and perceptions about the curriculum.

Aims: We investigated resident-perceived EBM educational needs prior to curriculum implementation. We then examined residents' perceptions about the curriculum 6 months after implementation, specifically the program's strengths, weaknesses, most effective components, and areas for improvement.

Methods: A cross-sectional sample of residents from a family medicine residency participated in an 11-member focus group to explore their priorities for the new EBM curriculum. Six months later, a purposive sample of 11 residents took part in semi-structured interviews. Finally, a "member checking" focus group assured that data analysis accurately represented the residents' opinions. All sessions were recorded, transcribed and analyzed using template analysis.

Results: Focus group domains emerged in the following areas: barriers and benefits to EBM, key components, and teaching EBM. Additionally, themes emerged in the areas of "the art versus the science of EBM" and "valuing while not always liking EBM". Semi-structured interview results confirmed these themes and highlighted residents' understanding of the value of EBM.

Conclusions: Study results suggest that due to the diverse desires of the participant residents, no single approach to EBM instruction works for everyone. Balancing this realization, we found that residents value EBM and desire to understand it. As such, we conclude that EBM teaching must be practical and must address how to embrace the science of EBM without losing the art of medicine. We will address these issues and offer suggestions for EBM faculty in our presentation.

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16. A DATABASE OF MEDICAL CASE REPORTS: HOW THE KNOWLEDGE CAPTURED IN INDIVIDUAL CASE REPORTS CAN INFORM EVIDENCE BASED PRACTICE AND CLINICAL EDUCATION

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Background: Accurate recounting of clinical experience continues to be essential to the progress of medicine. A case report provides important and detailed information about an individual, which is often lost in larger studies. The aggregation of individual case reports can inform research into evidence based practice and can be incorporated into the practice of teaching. The new *Journal of Medical Case Reports* is an online, open access journal dedicated to the publication of high quality case reports. The journal invites submission of original case reports that expand the field of general medical knowledge. Case reports can include previously unreported or unusual side effects or adverse interactions involving medications, unexpected or unusual presentations of a disease, new associations or variations in disease processes, presentations, diagnoses and/or management of new and emerging diseases, an unexpected association between diseases or symptoms, an unexpected event in the course of observing or treating a patient or any findings that shed new light on the possible pathogenesis of a disease or an adverse effect.

Aim: To describe the types of case reports submitted by clinicians from around the world to a new open access online journal devoted to medical case reports. To review how the aggregated database of case reports can be used to inform evidence based practice and be incorporated into clinical education. To describe how medical students and recent medical graduates can be encouraged to start researching and writing up their clinical observations about individual patients as part of their training in evidence based practice.

Methods: All case reports published in *Journal of Medical Case Reports* are aggregated into a structured case reports database. The database makes it possible to search for patterns of drug reactions, or demographic data and disease information, across multiple case reports, and inform further research. In addition the database incorporates clinical images and is a rich resource of material for clinical education.

Results: The authors will present details of the types of case reports submitted by clinicians from around the world including the number of reports, the country of origin, the numbers of cases in each of the categories, examples of cases which have contributed to the expansion of current medical knowledge, and ways in which the database can be used to inform evidence based practice and be incorporated into clinical education.

Conclusions: Case reports can serve as an early warning signal for the adverse effects of new medications, or the presentations of new and emerging diseases. The aggregation of individual case reports can inform research into evidence based practice and can be incorporated into the practice of teaching.

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17. EUROPEAN UNION EVIDENCE BASED MEDICINE UNITY PROJECT (EU-EBM UNITY). DEVELOPMENT OF A WEB-BASED CLINICALLY INTEGRATED EBM CURRICULUM FOR POST-GRADUATE MEDICAL DOCTORS

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Background: Over the last years evidence based medicine (EBM) has gained recognition by the key stakeholders in the healthcare sector, as a means to improving the quality of healthcare provision. There is a huge variation across Europe regarding EBM educational provisions, settings, durations, intensity, content, and teaching methodology. There is a need for modern EBM teaching courses that employ principles of effective continuing education. The EU EBM Unity working group, funded by the Leonardo da Vinci pilot programme, has been charged with the responsibility to develop an e-based clinically integrated basic EBM course for life long learning.

Aims: The EU EBM Unity pilot project aims to develop a post-graduate European Qualification in EBM that will improve the relevance and quality of medical training in Europe, and enable doctors to easily integrate into the healthcare systems of other member states. This course integrates the concepts of problem-based learning, life-long learning and e-learning to improve the relevance and quality of on-the-job training to embed evidence based practice in the clinical setting.

Methods: A course developed in a collaborative project involving 11 European partners within the Leonardo da Vinci - Community Vocational Training Action Programme initiated and supported by the European Commission.
The course provides an EBM curiculum that applies an integrated teaching and learning approach using the following:

- Identification of learning opportunities in a clinical setting
- Independent study
- E-learning
- Small group or one-to-one teaching and learning
- Assessment with feedback, testing knowledge gain and attitude
- The course is being evaluated by testing it on 50 doctors in the partner countries.

Results and Conclusions: The results of the course evaluation will be presented at the conference.

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18. SYSTEMATIC IMPLEMENTATION OF EVIDENCE BASED PRACTICE IN PHYSIOTHERAPY EDUCATION. DOES IT MAKE A DIFFERENCE?

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Background: Systematic education in EBP has been implemented at the Institute of physiotherapy at Bergen University College. It is of importance to know if this education in using EBP will influence the use of EBP in clinical placements.

Aim: The aim of this pilot evaluation project is to examine 3rd year students` self reported ability to use the five steps in evidence based practise (EBP), and their ability to integrate EBP in clinical decision making.

Methods: A 26-item self-report questionnaire based on the five steps in EBP was developed to survey the students` ability to use the five steps in EBP. At baseline thirty one students offered traditional education (no systematic education in evidence-based physiotherapy) filled out the questionnaire after a period of 10 weeks in clinical placement. The coming group of students is offered systematic education in EBP, and they will fill in the same questionnaire at the end of their 10 weeks clinical placement. The results from both these students groups will be analysed and presented at the congress in November 2007.

Results: At baseline only seven of thirty-one students managed to convert information needs into answerable questions. Furthermore, only a smaller number reported to use medical databases to track down the best evidence to answer clinical questions. Twenty seven students often asked their supervisor at the practice place, twelve reported that they often asked the patient, asked other students or used textbooks. Six reported that they to some degree managed to critical appraise research studies. Two students reported frequent use of research knowledge in clinical practice. Four students reported that they to some degree changed their practice in the light of research knowledge, but twenty-six did that in little or no degree.

Conclusions: The group of 3rd year students without systematic education in EBP lacked the ability to use the five steps in EBP in a sufficient way, and as a result few had incorporated use of EBP in clinical decision making.

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19. TALKING ABOUT EVIDENCE: A STUDY OF JOURNAL CLUBS

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Background: To make changes in practice, health care professionals need to access and be convinced by the current best evidence.

Aims: To understand the impact of general practitioner (GP) journal clubs we aimed to record journal club activity, investigate participants' views and experiences of attending a journal club, document changes in clinical practice that occurred as a direct result of the journal clubs, and identify the key components necessary for sustaining a successful journal club.

Methods: GP practices were offered training including: a visit from an experienced journal club facilitator, and places on an evidence-based practice workshop. Semi-structured telephone interviews were conducted with journal club participants. Results were transcribed and analyzed thematically using NVIVO software. Practices provided details of all journal clubs that occurred.

Results: Twenty seven of 46 health care professionals who consented from 5 practices were interviewed. Journal clubs occurred every 2-6 weeks; 2 practices had established journal clubs prior to the study. Participants included GPs, practice nurses, community nurses and health visitors. Participants valued the opportunity to use quality information and evidence to guide clinical practice, keep up to date, and feel more confident in their own clinical practice. Participants who had received training reported having more confidence when critically appraising research articles. The opportunity for group decision making appeared crucial and journal clubs often led to changes in practice, for example the use of a particular asthma inhaler within a practice. A successful journal club initially requires at least one participant with skills in evidence-based practice to guide the participants, before it becomes part of an established practice.

Conclusions: Journal clubs together with basic training in evidence-based practice can lead to changes in practice and can provide a forum for discussing evidence relating to important issues in a supportive learning environment with colleagues.

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20. THE FEASIBILITY OF INTRODUCING AN EVIDENCE BASED PRACTICE CYCLE INTO A CLINICAL AREA: AN EVALUATION OF PROCESS AND OUTCOME

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Background: Several studies have shown the importance of incorporating the teaching of EBP in the clinical setting. Different methods have been used including teaching rounds and journal clubs but mainly in a medical environment; however, there is a relative lack of research around introducing an EBP cycle into a clinical area within nursing and allied health.

Aims: To examine the feasibility of introducing an evidence based practice cycle into a practice area within an undergraduate pre-registration programme.

Methods: A pre- and post-test design to evaluate process and outcome. The cycle involved four meetings over a five week period. Three 3rd year adult nursing students took part together with their mentors. A web page for the project was developed to support the process. Process was evaluated by assessing ease of identifying a suitable practice area; duration of the EBP cycle; ease of participation from the students' and mentors' perspectives; and the feasibility of incorporating the EBP cycle into an undergraduate curriculum. Outcomes were evaluated by assessing changes in EBP knowledge and skills; the extent to which the cycle impacted on students' practice, and the perceived value of the cycle.

Results: The main findings were that the cycle was relatively straight forward to set up and was recognized as being of value by students and their mentors. However, it was not possible to include students from more than one programme, and there were difficulties in accessing computers for both students and trained staff. Time constraints were identified for both students and staff. Additionally, the students demonstrated modest improvements in EBP knowledge & skills post-test in all areas except writing a focused question where there was no change. Pre-test scores around research methods & interpretation of results were notably poor. Students felt participation in the cycle improved their knowledge of the management of the patient group studied; and aided their integration into the unit.

Conclusions: This study has shown the benefit of developing further students' evidence based practice knowledge and skills in the practice setting. The cycle was feasible to undertake but not in the current format. It is recommended that further research is undertaken to identify alternative ways of enabling students to access the relevant resources electronically, and providing students with academic support.

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21. HOW TO BASE TEACHING ON EVIDENCE WHEN HEALTH PROBLEMS AND THE HEALTH CARE SYSTEM ARE NEW AND THE USERS' PERSPECTIVES SHOULD BE OUR FOCUS?

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Background: In the planning of new courses or in-service extension courses for health professionals, the challenge for teachers is to base the content on best current research and best available evidence. Even without evidence, professionals must endeavour to solve the massive health problems that strike their patients. The question is what shall we teach the students? What works in therapy? And what do the students need to learn most to give the best health care?

Aims: To study research philosophy to find what is considered 'valid knowledge' when little or no research is available, so that health education may be based on the best current evidence in the health-knowledge continuum.

Methods: Literature sources used in the investigation used keywords: evidence based health care, - nursing, - medicine, users perspectives, empowerment.

Results: Wellness or illness can be understood as based upon an understanding of patients' "first person experiences" called "sensibility", and also based upon "reflection" informed by therapeutic and professional competence and technological knowledge evidenced in certain interpersonal situations.
To teach good health care it seems important to focus upon both the user point of view and best evidence from current research and to teach these perspectives in a balanced way.

Conclusions: When little research is undertaken in the field, it seems helpful to invite patients to teach professionals about their health problems and the support they need, and to search for written narratives describing certain situations. It seems important to show respect for different kind of knowledge; that of data collected both from individuals and groups. To also stimulate a debate among colleagues regarding the foundation of our knowledge is appropriate at this time.

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22. INTEGRATING EVIDENCE-BASED PRACTICE INTO A PHYSIOTHERAPY BACHELOR PROGRAMME – OVERVIEW OF EDUCATIONAL ACTIVITIES

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Background: It was recently recommended that curricula should be grounded in the five-step model (Dawes et al. 2005). Furthermore, evidence-based practice (EBP) needs to be integrated into all educational activities, commencing with entry level (The World Confederation for Physical Therapy 2002).

Aims: To integrate EBP systematically across the curriculum using several educational activities.

Methods: The following educational activities are utilized:
1) Interactive lectures to introduce the five-step model.
2) Small-tutorial group work is organised to facilitate the five-step model and steps in problem-based learning (PBL). Specific questions are designed to ensure this, and a model has been developed to guide the process.
3) A learning management system (LMS) is used to ensure that students document and share the result of working in groups, including search strategies. Students use LMS to give each other feedback.
4) Seminars are arranged, related to topics from group work, and students are required to use knowledge sources from research evidence, books, practice-based knowledge, user preferences and values, and contextual factors.
5) E-mail communication between experienced physiotherapists and small-tutorial groups is organised to ensure the use of practice-based knowledge.
6) Students write clinical placement assignments where they are required to incorporate the principles of EBP in relation to a real clinical scenario. They receive written formative feedback.
7) Search courses are arranged by librarians regularly, most often in relation to assignments.

Results: Written student work indicates that students manage to formulate answerable clinical questions, design search strategies, find research evidence and critically appraise research evidence. However, many students struggle to apply the research evidence and they formulate clinical questions that are too complex.

Conclusions: EBP has been successfully integrated across the curriculum. However, the educational activities need to be continuously improved, in order to facilitate a progression among students, considering skills in EBP.

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23. SURVEYING EVIDENCE-BASED PRACTICE ASSESSMENT METHODS AT AN INSTITUTION WITH MULTIPLE HEALTH PROFESSIONS COLLEGES.

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Western University of Health Sciences

Background: As part of the institutional accreditation process, Western University of Health Sciences (WUHS) identified evidence-based practice (EBP) as one of the key "themes" for our review of outcomes of student learning and the educational effectiveness of programs.

Aims: In order to determine current EBP assessment methods across five health professions colleges, a survey and structured interview process was developed and implemented by a panel of faculty and staff involved in centralized learning outcomes database development. Open-ended questions were used to gather information on assessment methods within vastly different pedigogical methods and curricula.

Methods: A survey and structured interview process were developed through WUHS Office of Institutional Research. At least three individuals within each professional program were identified by panel members and subjected to a minimum 60 minute structured interview. Data from each program was reported to the panel in defined direct and indirect assessment categories. Methods of assessment data collection, storage, and accessability were also recorded.

Results: All five colleges reported using direct and/or indirect measures to assess components of the EBP process, but no college evaluates EBP as a whole. Quizzes, exams, problem sets, and written assignments are used to assess research methodology and evaluation of the literature in all five colleges. Standardized patients and/or capstone projects are used by all colleges to evaluate the EBP process in various stages. No colleges are using validated tools for the assessment of EBP, such as the Fresno Test. Other reported assessment measures include: standardized exams, licensing exams, case presentations, faculty/preceptor evaluations, and peer evaluations.

Conclusions: Health professions programs at WUHS are not assessing EBP in students to the level the institution as a whole desires, but are making efforts to evaluate student performance in the basic steps of EBP. However, no published, validated EBP assessment tools are currently utilized.

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24. TEACHING EBP PRE-CORE CURRICULUM TO NON-ENGLISH SPEAKING MEDICAL STUDENTS. FOUR-YEARS EXPERIENCE AT THE UNIVERSITY OF SIENA

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The EBP pre-core curriculum includes basic knowledge and skills about clinical epidemiology and and study design, scientific English, scientific literature, computer/internet. At the University of Siena we designed a course to familiarize medical students with the medical scientific literature.

The course, now at the 4th edition, is part of a small-group problem-based learning course spread on the first 3 years. In the 2nd year, about 140 students in groups of 12-13 meet weekly for three months with two teachers/tutors to discuss a clinical scenario that includes finding and reading a recently published review article to answer background questions. They also participate in two hands-on sessions in a computer room to familiarize with online journals and Pubmed searches. Clinical problems with foreground (PICO) questions are presented in the 3rd year. The final exam is performed online in the computer room and consists in a multiple choice quiz and writing a short assay on a clinical problem requiring finding and appraising a clinical study.

At the end of the 2nd year, virtually all the students know the different types of sources of information and are able to read and identify the different sections of an article, but most of them still misclassify a clinical review as an original article or as a systematic review. At the end of the 3rd year, however, 98% correctly classify a randomized controlled trial or a systematic review.

Most students appreciate the course, particularly group discussions and learning to use of Pubmed. Although they had a formal course on statistics/epidemiology in the first year, very few students are able to recall basic concepts and to integrate them in the problems during the group discussions.

We conclude that learning EBP pre-core curriculum skills is feasible for non-English speaking medical students using a pbl course, and clinical epidemiology is better suited to be learnt in a clinical context than in a theoric course.

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25. DOES THE HIDDEN CURRICULUM HINDER THE IMPLEMENTATION OF EVIDENCE BASED HEALTH CARE?

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Background: Despite two decades of evidence-based health care instruction, about 30% of patients receive care that is inconsistent with scientific evidence, and more than 20% receive care that is not needed or is potentially harmful. Communication through care guidelines and best practices has had only modest effects on changing clinical practice.

Aims: Although some health educators and evidence-based practitioners believe that poor practice results from insufficient instruction, we propose that an alternate explanation for the poor uptake of evidence-based practice is that the “hidden curriculum” contributes to health care trainees’ daily performance and the consequent care their patients receive.

Methods: Health sciences education is a multi-layered learning environment that embraces three interrelated curricula. The formal curriculum is the received curriculum, consisting of notes, lectures and objectives. The informal curriculum is the process by which learned knowledge and skills become situated in the context of daily activity. The third is the hidden curriculum, represented by the three ”R’s”: rules, regulations, and routine. It is a set of influences that functions at the organizational structure and cultural level of the institution.

Results: Contradictions between the formal and hidden curricula create internal conflicts in students that diminish the credibility of the evidence-based practice educators. In clinical situations when reliance on authority figures conflicts with the evidence, these contradictions lead to erosion of altruism, undermine ethics, and create cynicism, all contributing to inadvertent negative attitudes, beliefs and behaviors expressed by health care trainees about evidence-based practice.

Conclusion: To modify the impact of these information sources on trainees’ attitudes and behaviors, educators need to identify and directly address the specific characteristics of the hidden curriculum that impact the use of evidence-base practice. This abstract will explore potential methods to uncover the hidden curriculum, as well as what techniques may assist in improving the implementation of evidence-based health care.

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26. TEACHING AND PROMOTING RAPID ACCESS AND USE OF EVIDENCE FROM CLINICAL MEDICAL RESEARCH: THE CONSTRUCTION OF A BEST MEDICAL PRACTICE RESOURCE

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Background and Aims: The medical school of University Medical Center Utrecht is the second largest in the Netherlands, with 300 medical students per year. Over the last 6 years a new curriculum was implemented. A final exam assignment for all students is to contribute to a repository of up-to-date summaries of medical research evidence which are based on point-of care questions from clinical medicine. They need to write an up-to-date evidence summary for 3 educational prescriptions, each one on diagnosis, prognosis and treatment.

Methods: The evidence summaries take the form of a short report with an informative title, very short structured abstract, and a structured style text body (max 1200 words) with fixed style figures and (evidence) tables. Per year 150 couples of students together write 450 up-to-date medical evidence summaries. Each student subsequently reviews 6 evidence summaries written by other students. Thereby each evidence summary is graded for quality by 4 (blinded) reviewers according to a predetermined format and on a 5 star rating scale. Evidence summaries are revised based on the quality grading by the initial authors; updates are triggered by the date of completion and are undertaken by a new couple of students. Evidence summaries of sufficient quality that after being updated once are graded as sufficient in quality, evidently have involved 10 persons: 2 couples of authors and 2 times 4 reviewers. The work flow of this ongoing process of quality assurance and quality improvement is managed via a website. All these evidence summaries are kept in a database linked to this website.

Results: The database currently contains about 800 evidence summaries on a wide range of topics: each 200 on diagnostic, prognostic and therapeutic point-of-care clinical questions. Many of these have already been used as best practice resource for patient care in daily practice in the University Medical Center Utrecht. Currently the first contributors (former students) use the database for their clinical work.

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27. PILOT STUDY OF NEW COURSE IN EBP FOR HOSPITAL PHYSICIANS: WILL PRACTICE-TRAINING WITH PORTFOLIO EVALUATION MAKE A DIFFERENCE?

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Background: We are developing the first formal education in evidence based practice (EBP) for Norwegian hospital physicians. Current evidence suggests that clinically integrated learning by identification of current clinical scenarios and utilization of EBP-steps by portfolio-evaluation represents a promising method to achieve and document EBP performance in practice. This is a pilot study of this methodology before implementing the course at the national level, ultimately as an experimental study of practice training.

Aims: To evaluate the feasibility of a new course in EBP for hospital physicians and to evaluate its' impact on EBP performance.

Methods: In May 2007, we invited all hospital physicians in a health trust with 8 rural hospitals to participate in a new EBP-course consisting of 3 parts. Part 1 consisted of a 3 day workshop with problem-based learning on EBP-steps (asking, assessing, appraising and applying evidence). Part 2 consisted of practice training during 3 months with each participant solving 3 current clinical scenarios by EBP-steps. Methodological support was offered by a physician trained in EBP and librarians trained in searching. Participants documented steps in an electronic portfolio. Part 3 consisted of a 1 day follow up seminar in October 2007 with emphasis of assessment and evaluation (fifth EBP step). Regarding outcome measures, we used a 20 item web-based test to assess EBM-knowledge and we have developed the electronic portfolio to evaluate EBP practice performance including skills, attitudes and behaviour. In addition, we aim to determine the proportion of scenarios resulting in a clinically useful answer and the actions taken regarding patient management.

Results: 20 physicians of 8 different medical specialties participated. We will present results from the EBP-knowledge tests and selected portfolios. We wish to discuss methodological issues related to design and assessment of relevant outcome measures on EBP performance.

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28. WRITING A NATIONAL CURRICULUM IN EVIDENCE BASED PRACTICE FOR THE TRAINING AND RECERTIFICATION OF UK GENERAL PRACTITIONERS, TRIAL BY COMMITTEE

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In 2004 the RCGP was asked to develop a curriculum for GPs in training, in conjunction with all of the other medical specialties as part of the Modernisation of Medical Careers program initiated by the Chief Medical Officer in the UK. The Membership of the Royal College of GPs had long had a critical appraisal paper, and the new curriculum statement seemed a good opportunity to revisit the concepts behind evidence based practice.

From 2007 all GP trainees will be expected to take the “new” examination of the Royal College of General Practitioners the nMRCGP, after a minimum of 4 years post graduate training in approved training posts within Primary and Secondary care.

The process involved the appointment of a guardian and several other co-authors who were deliberately chosen for having differing views on the principles behind evidence based practice. The resulting document is an amalgamation of the reviewers and is due for formal review in 2008. It has been updated in 2006 to include the “Sicily Statement” and the name has been changed from EBHC to EBP. The curriculum statement on EBP now forms the core knowledge expected of GP’s in training and forms the basis of the knowledge based examination (20% of which is on EBP and management). Future development include an e learning resource for GP trainees, their trainers and all other doctors, as the curriculum statement will be central to the requirements made for recertification in the UK

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Posters

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30. **Al-Ansary Lubna**. The attitudes, awareness, and practice of Evidence-based Health Care (EBHC) among faculty at the College of Medicine, King Saud University, Saudi Arabia
31. **Barghouti Farihan Fakhri**. Awareness, attitude, and knowledge of Evidence-based Medicine among Jordanian family physicians
32. **Chiari Paolo**. A new method to present the association measure explanation
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40. **Hadley Julie**. European Union Evidence-Based Medicine Unity Project (EU-EBM Unity). A questionnaire survey of existing post-graduate EBM training in Europe
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29. EVIDENCE BASED ACTIVITIES. AN EXPERIENCE FROM THE PRIVATE ORGANIZATION

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Background: EBM is an international Practice and Education tool recognized worldwide nowadays, the benefit out of its application in medical practice is undoubtedly. The private health care delivery service is not aware –especially in our area- by its benefit and how it will improve the Business side of the Coin. SGH took the lead since two years to educate and try to implement this marvelous tool in all medical practice.

Aim: To develop an evidence-based practice among all the Health Care Professionals working in SGH Group through continuing professional development programs in an academic environment that encourages life long learning, and caring for out patients and society.

Methods: Up till now, we conducted three unique Critical Appraisal workshops for 4 days each& we distributed a pretest questionnaire and the same paper was distributed at the end of the workshop just to assess the bulk of knowledge added, the difference in attitude and the perception for their need for the EBM.
We targeted physicians, nurses and technicians and we can claim that it was a sample that nearly represents most of the concerned hospital departments.

Results: We found that there is a fairly significant difference in the bulk of their knowledge while the attitude difference and the needs perception were totally positively shifted.

Conclusion: Persistent hammering for the concept and its integration within the daily practice of the people is the only way to practice EBM efficiently and smoothly.

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30. THE ATTITUDES, AWARENESS, AND PRACTICE OF EVIDENCE-BASED HEALTH CARE (EBHC) AMONG FACULTY AT THE COLLEGE OF MEDICINE, KING SAUD UNIVERSITY, SAUDI ARABIA

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Dept of Family and Community Medicine, College of Medicine, King Saud University

Background: Leaders in medical education have included EBHC in the set of competencies needed to prepare future physicians for their roles in a complex and changing health care environment.

Aims: To explore the awareness, attitude, readiness and percieved barriers of the faculty and teaching staff at the College of Medicine, King Saud University in Saudi Arabia towards the current promotion EBHC and, henceforth, determine their related educational needs.

Methods: A questionnaire survey of a sample of the faculty and teaching staff. The questionnaires were distributed between March and May 2006. Various reminders were used to improve the response rate (RR).

Results: The total RR was 55% (201/366) but it ranged widely among specialties being 80% and above for pediatrics, dermatology, family medicine and basic sciences and 25% or below for psychiatry, surgery and radiology. Only 40% of them have ever attended an EBHC event. The respondents have welcomed EBHC and the majority thought that it is important for them in their specialties and to their CME although its adoption would place a demand on them. Lack of time was rated as the major obstacle (79.4%), followed by lack of facilities (58.2%) and skills (54.4%). Awareness of extracting journals and review publications and databases was low; only 38.1%, 36.6%, 36,6%, 31.2% have ever used Up-To-Date, the Cochrane Library, Clinical Evidence and the EBM journal respectively. Fourt-five percent thought that the best method to move from opinion-based to EBHC should be by learning all the skills of EBHC (the doer mode) and 37.4% thought that using EB-clinical practice guidelines was the most suitable. They showed partial understanding of technical terms commonly used in EBHC.

Conclusions: Efforts towards improving access to evidence based guidelines and summaries are urgently needed. Teaching all the staff literature searching and critical appraisal skills by feasible and friendly methods should be considered.

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31. AWARENESS , ATTITUDE, AND KNOWLEDGE OF EVIDENCE BASED MEDICINE AMONG JORDANIAN FAMILY PHYSICIANS

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Background: EBM is the integration of clinical expertise , patients values ,and the best evidence into the decision making process for patient care. It remains a hot topic among health care providers. Utilizing EBM by physicians in their practices is widely variable.

Aims:
1) To assess attitudes and awareness of Family Practitioners toward EBM.
2) To evaluate their accessibility to the website of EBM and their understanding of technical terms.
3) To determine their educational needs of EBM.

Methods: This is a cross –sectional study conducted through January- March 2007 , using a McCall Questionnaire distributed to all Family Physicians in Jordan (200).

Results: The response rate was 70.5 %. Of these 56.7% were females.
42.6 % were between the ages of 40-49.
More than 50% of the respondants were wokring in a mixed type of practice. (rural and urban)
Attitudes:
The majority of the respondents had a positive attitude towards EBM.
63.5% were welcoming the concept of EBM. 40% of them were using EBM in their practice. 90% agreed that practicing EBM improves patient care.
42.6% thought that the best way to move from opinion based medicine to EBM was through learning the skills of EBM.
50% of the respondents had access to the Medline , while less than 20% of them received formal training in research and critical appraisal.
Lack of personal time was the main perceived barrier to practicing EBM.
Participants reported a low level of awareness to some of the technical terms.

Conclusions: Jordanian Family physicians showed eagerness to learn and implement EBM in daily practice. Nevertheless, they need more guidance and training to ensure correct application of EBM ideals in their practices.

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32. A NEW METHOD TO PRESENT THE ASSOCIATION MEASURE EXPLANATION

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Background: understanding association measures is a very important step in study critical appraisal. Frequently this is very difficult for practitioners who are not very confident with statistic knowledge, especially when they have to extend the results to the target population.

Aims: the aim of this poster is to suggest a new method to present the association measure and study results graphically, using symbols or images.

Methods: the association measure explanation, both for dichotomic or continuous variables, is done using symbols or images (☺😐☹) representing people with or without the condition under study. The measures illustrated are RR, ARR, NNT or NNH, means difference, sensibility and specificity etc.

Results: we have used the association measure and study results illustrations in some EBN training courses. Teachers found them very useful to explain the meaning of association measures and study results. Learner found them very helpful to understand the finding and their implication for the clinical practice.

Conclusions: study results illustration is very helpful for teachers to enhance the explanation of the people outcome resulting from the studies. Moreover the illustrations help learners to understand how the sample study finding can be applied to the target population.

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33. IMPROVEMENT OF NURSES AND ALLIED HEALTH PROFESSIONALS ABILITIES IN RESEARCH UTILIZATION AFTER EBP COURSES

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Background: we provided several evidence-based practice (EBP) courses like EBP-training, practice development learning group, journal-club, statistics for critical appraisal, SPSS®-Workshop, English for reading research articles to support nurses and allied health professionals in evidence-based practice at the University Hospital of Berne.

Aims: To adapt the courses and to evaluate the increase of knowledge, attitudes and practices of research utilization.

Methods: Pre-post design. Self-report questionnaires including demographic characteristics, knowledge, attitudes and practices in research utilization activities were filled in by participants immediately before and 3 months after the courses.
Statistical analysis included descriptive statistics and the marginal homogeneity test to test the improvement of the total sum score and three subscores (identifying clinical problems, establishing current best practice and implementing research into practice). We used SPSS® for analysis and considered $p<.05$ as significant.

Results: Overall 246 nurses and allied health professionals took part in courses. Twenty-six participants of 101 responded twice (26%). We found an overall improvement in the practices of research utilization ($p=0.01$). The knowledge ($p=0.059$) reached nearly significance and the attitudes being generally high did not improve further ($p=0.59$). As several health professionals took part in different courses we got the feedback that they were not motivated to fill in the same questionnaire several times. We also learned that sending the questionnaire before the course to the participants decreased the response rate compared to let them fill in the questions at the start of the course.

Conclusion: We identified gaps in knowledge and capabilities to develop new courses and reached our goals in the participants who were responding the intended effect of learning EBP skills. We have to consider, as the response rate was limited for both measurement, that maybe only the especially motivated participants answered twice. We consider different strategies to improve the response rate and are adapting the evaluation accordingly.

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34. PAN-CANADIAN CAPACITY-BUILDING FOR APPLIED HEALTH SERVICES RESEARCH: MID-TERM RESULTS AND LESSONS

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Background: In the mid-90s a critical shortage of applied health services research capacity in Canada was identified. The Capacity for Applied and Developmental Research and Evaluation (CADRE) program was created in 1999 to address this deficiency. CADRE is a partnership between the Canadian Health Services Research Foundation and the Canadian Institutes for Health Research.

Aims: The Regional Training Centres (RTCs) comprise one of four CADRE programs which is specifically designed to build consortia among post-secondary institutions to offer applied training. The program requirements included: multidisciplinary coursework that is sensitive to health system decision-makers' concerns, trainee placement at a decision-maker organization, and a knowledge transfer course.

Methods: A formative evaluation of the RTC program consisted of an in-depth review process undertaken by independent, three member panels who examined data from different sources: review of documents; analysis of a self-assessment tool completed by each RTC; site visit including face to face interviews with key stakeholders; and electronic surveys of trainee, faculty, and decision-maker perspectives.

Results:
• Each RTC is one of a kind – this pedagogic distinctiveness evolved in response to identified regional training gaps.
• Each region adopted a different approach to create a multi-site centre which built upon existing academic resources to design their unique delivery model and curricula.
• The 10-year funding commitment resulted in the creation of training infrastructure in particular, within some rural regions, that may not have otherwise developed.
• As of December 2005, 221 trainees had received funding of which 61 (28%) have completed a program.
• The distinct pedagogical approaches* will be described, highlighting observations about the implications of each for advancing evidence-informed healthcare decision- making.

Conclusions: The RTCs are meeting the program objectives of establishing cross-university (and in most cases, inter-provincial) training that provides students them with invaluable experience working with healthcare decision-makers.

* Please note that a companion abstract submitted by Peyton from the ARTC is one example; we propose to also discuss at least two additional training centre models originating in Ontario and Quebec.

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35. INTERDISCIPLINARY COLLABORATION TO INTEGRATE EVIDENCE-BASED PRACTICE IN NURSING AND HEALTH PROFESSIONS

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Background: There has been great emphasis placed upon the need for evidence based practice within current health settings, yet little discussion of the role of evidence based learning across disciplines is available. In order to prepare new healthcare providers for a rapidly changing information environment, a cross disciplinary collaboration was established.

Aims: In order to foster a culture of evidence based practice (EBP), an EBP Working Group was launched. This cross-disciplinary group of nursing and health professions' faculty and librarians have collaborated to update faculty and revise curricula.

Methods: The EBP Group exchanges ideas and information with the goal of developing an integrated program of EBP principles and concepts throughout the various disciplines' graduate and undergraduate curricula. The project management plan included an assessment of EBP across the curriculum, education of faculty to design and use an EBP curriculum, and assessment of the new EBP curricula at the graduate and undergraduate levels. This effort contributed to incorporating EBP principals into existing courses and advancing collaborative efforts aimed at developing programmatic approaches to integrating research methods and resources in the Schools of Nursing and Health Professions.

Results: The Evidence Based Practice (EBP) Group has been responsible for:
• Developing guidelines and student competencies for EBP across the Health Professions curriculum.
• Educating faculty in basic concepts and skills to integrate EBP within their curricula
• Improved leverage of critical library resources
• Evaluation of the EBP program to meet stated learning objectives & accreditation standards (in process).

Conclusions: The EBP working group has taken the approach that EB practice is a way of thinking, not a science, and thus the best approach was to form a common culture of understanding and practice. Collaboration among academic faculty, clinical faculty and librarians is essential in advancing this common culture of best practice.

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36. BEGINNING WITH A CLINICAL QUESTION

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Background: In the 90 credits nurse anesthesia program the students learn to give anaesthetic care to all categories of patients in a complex, unpredictable and rapidly changing workday. Students attending this program have different skill levels in performing data searches and in research understanding.
Evidence based practice is an important tool for integrating research knowledge as a natural resources in clinical decision making at Bergen University College and Haukeland University Hospital where our students are educated. From 2004 teachers at Bergen University College has been specially trained to meet this demand.

Aims: To educate students to gain, assess, apply and integrate new knowledge and have the ability to adapt to changing circumstances throughout their professional life.
To emphasise knowledge, skills and attitude in such a way that the graduate should be able to perform the professional skills properly.

Methods:
• Let the students formulate a clinical question based on previous clinical experience as a nurse.
• Reformulate the clinical question into Population-Intervention-Comparison-Outcome carry out a PICO data search together with a librarian.
• Lectures and workshops in study design.
• Workshops in critically appraising research articles by using manuals developed by Norwegian Knowledge Centre for the Health Services
• Write an individual research proposal based on a relevant clinical question
• Write an article based on the clinical question and the literature review in the research proposal
• Students present their work for the nurse anesthetist at the Haukeland University Hospital

Conclusion: Starting the teaching process with a relevant clinical question early shows the relevance of evidence based practice.
Inviting the clinic to raise the clinical question and to attend to the presentation, motivates the students, bridging the gap between theory and practice, and gives an ability to promote better health care.

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37. DISSEMINATING EVIDENCE-BASED PRACTICE IN WORK REHABILITATION: THE EXPERIENCE OF THE QUEBEC NETWORK CREATION

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Background: In 2000, the Québec workers' compensation board (WCB) funded the creation of a provincial public work rehabilitation consortium. This consortium, known as the Réseau en réadaptation au travail du Québec (RRTQ), consisted of a partnership of 11 work rehabilitation institutions in the province of Québec (Canada). The aim of the RRTQ was to implement evidence-based prevention and work rehabilitation programs.

Aims: The aim of this paper is to present a model of implementation used to disseminate evidence in this network and the results obtained.

Methods: A thirty-month pilot study was held in four rehabilitation institutions disseminated throughout the province of Québec to implement an evidence-based program in work rehabilitation. Interdisciplinary team was set up in each institution. Each clinical team received theoretical and practical training on the program and on the latest evidence in work rehabilitation. Training was reinforced with visits by the director, training seminars, and a skill-upgrading workshop that brought together stakeholders from each institution.

Results: The program implementation progressed well within the rehabilitation institutions. Interdisciplinary work rehabilitation teams were put in place, as planned, and expertise was developed and shared. The model of coaching and mentoring used was successful in achieving the aim of the program, which was returning injured workers to their workplace. While this pilot implementation was generally successful, funding for the network was not renewed because significant opposition from the WCB front line practitioners arose.

Conclusions: This study demonstrated that close mentoring and coaching strategies may be effective to implement complex intervention. However, the implementation focused primarily on the clinical team training and no coaching was done with stakeholders such as the WCB practitioners. This highlighs the crucial importance of involving all stakeholders throughout the knowledge translation process.

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38. TEACHING EBM SKILLS AT A UNIVERSITY HOSPITAL: TURKISH EXPERIENCE EVIDENCE BASED MEDICINE COMMITTEE MEMBERS

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Background: EBM committee was formed in our medical school by the administration in 2001. The group consisted of 10-12 volunteering members among the faculty who were from various backgrounds whose common interest was to shift the medical practice from experience to evidence. For this purpose we started to develop a course program.

Aims: The aim of the course was to create awareness on the EBM concept and learn the skills to be able to apply EBM in the practice of physicians.

Methods: We have designed an interactive course which defines the steps of EBM and teaches the application of these steps with lectures, computer sessions and small group discussions. We organized courses which were either mainly focusing on treatment issues or diagnostic problems (2 days) or both (3 days). The courses were offered to faculty members and to residents of the medical school. At the end, there was an evaluation by the participants. The responses were recorded on a five point scale, five being the most positive.

Results: We have feedback from seven courses and 120 participants of whom 34 were faculty and 86 were residents. These courses were offered between 2003 and 2006. The proportion of combined score of 4 and 5 were, 90% for the aims being clearly defined, 87% for the presentations being clear and understandable, 90% for the efficient use of training material, 93% for chance of active participation, 83% for reaching the aims, 97% for the necessity of the information provided for medical practice.

Conclusions: The short courses for promoting EBM was beneficial to create an awareness among the faculty and residents, however we need to develop methods for understanding long term effects of learning and its role in implementing what is learned into practice.

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39. IMPLEMENTING AND DISSEMINATING EVIDENCE-BASED MEDICINE WITH A SECONDARY PUBLICATION. "EVIDENCE IN PEDIATRICS: MAKING WELL-INFORMED DECISIONS BASED ON THE CURRENT BEST SCIENTIFIC EVIDENCE"

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Background: In order to give the best care to patients and families, health professionals need to integrate the highest quality scientific evidence with clinical expertise and the opinions of the family. However they have to deal with a huge amount of publications. "Evidence in Pediatrics" (EeP) is a three-monthly secondary journal in Spanish language, integrated in the Evidence-Based Pediatrics Working Group (GT-PBE). In EeP, the critical appraisal has been already done, allowing clinicians to access a reliable source of information with a wide coverage of pediatric topics.

Aims: To describe the sections and methodology of EeP.

Methods: Description of the main sections of EeP (Editorials, Critically-Appraised articles, Basis of Evidence Based Medicine, From the article to the patient, Translation of Documents into Spanish) and bibliometric analysis of the six issues published until May 2007. EeP reviews 37 primary journals (of pediatrics and general medicine) and applies a strict flow chart for making a structured abstract with an expert commentary, including the sections of justification, validity, clinical relevance and applicability in clinical practice. The assessing process includes looking over the articles and rating them on four scales: for relevance to pediatrics, newsworthiness, impact in the media, and methodological quality.

Results: Ninety-seven critically appraised articles have been published, mainly derived from Arch Dis Child (16), NEJM (12), J Pediatr (8); Pediatrics (7), Pediatr Infect Dis J (7), BMJ (7), Arch Pediatr Adolesc Med (5) among others. The profile of articles was mainly about treatment/prevention (51%), etiology/prognosis (30%) and diagnosis (14%). Only half of them support the efficacy of the therapeutic or diagnosis intervention evaluated.

Conclusions: Secondary publications are a useful tool in EBM clinical practice. There are few of them in the pediatric field, and EeP is the first publication in Spanish language, with the perspective of being also translated into English.

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40. EUROPEAN UNION EVIDENCE BASED MEDICINE UNITY PROJECT (EU-EBM UNITY). A QUESTIONNAIRE SURVEY OF EXISTING POST-GRADUATE EBM TRAINING IN EUROPE

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Background: Evidence-based Medicine (EBM) has become an impetus for incorporating critical appraisal of research evidence alongside routine clinical practice. Increasingly, acquisition of knowledge and skills for EBM is becoming a core competence to be acquired by all doctors. However, there is uncertainty about the frequency, type and kind of training in EBM available as part of postgraduate medical education throughout Europe.
The European Union Evidence based Medicine Unity (EU EBM Unity) project funded by the EU Leonardo da Vinci programme have undertaken a questionnaire survey of existing post-graduate training in EBM in each of the partner countries. The project has partners from nine different European countries which includes; Austria, Germany, Hungary, Italy, Netherlands, Poland, Spain, Switzerland and UK.

Aims: To develop relevant teaching and learning opportunities for medical doctors, it is essential that a needs analysis exercise is undertaken, particularly because EBM is not uniformly taught in undergraduate education. The findings of such an exercise can provide critical evidence for development and tailoring of EBM curricula improving the effectiveness of teaching.

Methods: During 2006-07 we undertook a questionnaire survey of postgraduate training opportunities for medical doctors in each of our partner countries. We assessed the following areas: Organisational aspects; format and teaching methods; target groups and content covered during the training; connection to clinical work; assessment and its format; general interest in an opportunity to learn EBM as integrated part of patient care across Europe. The survey was administered by post, email and on-line via our website. The study was planned prospectively using recommended methods for questionnaire surveys.

Results: the survey closed recently and the results will be presented at the conference.

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41. INSTITUTING THE USE OF PDA'S FOR BSN STUDENTS: LESSONS LEARNED THE HARD WAY

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Background: Health care practitioners utilize PDAs (personal digital assistants) to access a significant amount of their information needs. The School of Nursing at Northern Arizona University wants to provide students with an option to access information at the point of care as part of an initiative to integrate evidence-based practice principles and skills across the nursing curriculum. Multiple programs and databases are available for use in the medical community, but locating and incorporating nursing evidence into small, hand-held electronic devices has proved more challenging than anticipated.

Aims: Discuss the implementation of a pilot project using PDA's as a means to access information at a point of need across an accelerated BSN program. Specifically, we will present the process and discuss the challenges of selecting relevant resources to provide students with broadest availability of evidence at the point of care in their clinical rotations.

Methods: Formative evaluation of this pilot study will include feedback from students and faculty. Also included will be observation of PDA use in clinical rotations and classroom settings.

Results: Early feedback from students and instructors is very positive. Faculty members need additional development in the use of the technology and its integration into traditional classroom and clinical teaching. Students are readily incorporating PDA use into their first courses, but require much more direction and refinement of skills and understanding.

Conclusions: The utilization of PDA's provides for new methods of access to information for students and moves the access of information from a building- or pc-based format to an adaptive model providing access to necessary information at the bedside or point of need. This learning-centered model is specific to the needs of the School of Nursing but also has potential application in other programs. The use of PDAs can be a model for utilizing technology that will assist students throughout their educational and professional careers.

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42. THE EXPERIENCE OF THE ORGANIZATION AND PROVIDING OF TRAINING ON EVIDENCE BASED MEDICINE FOR STANDARDS OF DIAGNOSTICS AND TREATMENT DEVELOPERS

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The Department of EBM development of The Institute of Health Care Development ÌoH RÊ is created and successfully applied in practice the educational cycle of seminars “the introduction to EBM for periodic reports (standards) of diagnostics and treatment developers” which including modules: “Research of the medical information in databases and resources the Internet“, “The Critical appraisal of the medical information”, “Methodology of drawing up of reviews, standards and reports of clinical practice”.

The module is designed at 144 hours and represents a complex of lecture and practical seminars. Students of a rate were trained in principles of EBM, have got acquainted with methodology of an estimation of reliability of clinical researches. The first part was distance part. We used Polycom system in lectures and Internet 9e-mail and forum) for that part. Polycom system was selected because it’s very convenient form for Kazakhstan region conditions - the big area at small population density.

At sessions sources (basically Internets - resources), publishing a trustworthy information were considered in the field of EBM, successful clinical practice, etc. The Special emphasis has been made on questions: Terminology and toolkit of EBM; Kinds of interventions; Kinds of researches; hierarchy of the scientific data on a degree of evidence; the Formulation of a clinical problem; the Meta-analysis; Stages of carrying out of the regular review; Development of the clinical guidelines based on EBM; the Estimation of ready clinical guidelines. Also to student’s advantages program maintenance for the analysis and data processing have been shown.
The practical part is based on work with individual projects. During individual work students chose a problem, formulated a clinical question, carried out independent search and an estimation of the literature of Internets - resources.
Modern circuits of interactive training (brain storm, discussion, work in small groups, etc.) have been used. Employment were carried out with application of the modern technical equipment (multimedia, the Internet, etc.). Now we are testing the distance form of this seminar.
The estimation of the module is carried out by a method of anonymous questioning. In questionnaires the high degree of necessity, utility of the given module is marked. Themes to which it is necessary to expand, add have been specified.
Thus, positive experience of carrying out of the given trainings which purpose, introduction of methodology of demonstrative medicine as the tool of the best clinical practice of the doctors are received.

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43. MANAGEMENT OF NURSING STUDENTS' PRACTICAL TRAINING

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A nurse is a speciality in the field of health care. Practical training comprises a big percentage of the total volume of study programme and has a great importance of becoming a nurse. Some authors underline a disruption between theory and practical training ((Dix & Hughes 2004; Fealy 2001; Fulbrook jt 2000; Hinchliff 2005; Huber 2006; Jerlock jt 2003; Lambert & Glacken 2004; Morton-Cooper & Palmer 2005; Neary 2001; Perry & Peterson 2005; Raudionis & Acton 1997; Vuorinen 2005). There is a need to develop the best opportunities for a student to integrate theory and practice. Resulting from that the problem has been presented as a question of the research: how is it possible to improve the integration of theory and practice during practical training by organization and management of practical training?

The theme is current because there are more requirements for a nurse who has to meet the labour market needs. To improve a nurse`s professional skills, it is necessary to provide a nurse with the high level of education including practical training.

The aim of the research is to analyse the organization and management of nursing students` practical training, underline the problems and make proposals for solving them. The topic has been studied in the world before, but not in Estonia.

To solve the problem, the sources have been analysed and the qualitative research has been carried out. The author has focused on developing a plan, supervising and assessing practical training in the theoretical analyses. The half-structured target group`s interviews have been used as a method of the empirical research. Students, nursing and clinical teachers as the parties of practical training have been interviewed.

Connecting and reflecting the different aspects of the theoretical and empirical parts of the research, the important results have been obtained. They show that in planning of practical training allowing the integration of theory and practice, a good occupational environment, a competent clinical teacher and documentation developed together with the parties must be provided. Student`s individual and professional supervision by the clinical and nursing teachers appeared to be a very important bridge in the integration. The assessment and feedback has a big importance in guaranteeing the integration of theory and practice.

The results of the empirical part of the research confirmed the theoretical opinions that it is important to develop opportunities for a student to integrate theory and practice. There are some problems in the management of practical training: the requirements to a clinical teacher and a base institution haven`t been set up, the parties have different opinions of the aims of the documentation, the state regulation of practical training is declarative and without a clear vision. The teamwork of the parties isn`t sufficient.

Due to the results of the research the following proposals are made by the author:

- to convene a working group to specify the requirements to clinical teachers and the criteria to base institutions;
- to involve students, nursing and clinical teachers in elaborating the documentation for practical training;
- to develop the study programme of a supervisor;
- to organize systematic elementary and continuing training to them;
- to pay more attention to passing information on the parties.

The results of the research have a great importance from the point of developing the curriculum of a nurse. A future nurse`s professional skills will be improved if the quality of practical training becomes better, and a student`s opportunities to integrate theory and practice are developed. According to that the quality of nursing care will be improved and the health of population will become better.

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44. EVIDENCE THAT INFORMS, OUTCOMES THAT MATTER. GRADE EVALUATION OF HETEROGENEOUS CLINICAL EVIDENCE

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BMJ Clinical Evidence

Background: BMJ Clinical Evidence performs systematic reviews that summarise heterogeneous evidence on interventions in order to inform evidence based practice. We have started to find ways to use the GRADE evidence profile, which evaluates the quality of evidence for a specific treatment comparison and clinical outcome, on our content.

Aims: To improve the content and usefulness of BMJ Clinical Evidence by using the principles of GRADE to evaluate the quality of evidence underlying our treatment recommendations, and to determine which outcomes should be used as the basis of a GRADE evaluation.

Methods A program began in May 2007 to assess the quality of the underlying evidence within BMJ Clinical Evidence systematic reviews using the GRADE evidence profile, modified to allow evaluation of evidence that was not necessarily combined by meta-analysis into one effect size. We contacted our expert contributors to determine which outcomes they considered were the most clinically important and should therefore be used as the basis of a GRADE evaluation. We rewrote the statements summarising the evidence for each intervention to reflect the strength of the evidence for these key clinical outcomes and treatment comparisons, rather than the previous study by study format.

Results: The problems associated with using GRADE to evaluate heterogeneous data, and how they were overcome, will be presented. We will also present data on which study outcomes for over 250 conditions were considered by our expert contributors to be the most important for GRADE evaluation.

Conclusions: Attendees will able to use our results to inform their own evidence evaluation processes and their selection of research outcomes.

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45. INTRODUCTION OF EBM PRINCIPLES INTO UNDERGRADUATE MEDICAL CURRICULA: PRELIMINARY RESULTS OF AN ESF PROJECT

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Background: EBM provides clinicians with skills to find best evidence to maximize the quality of medical decision making. It has evolved to a sophisticated strategy being incorporated into medical curricula.

Aims: To present preliminary results of a 2-year ESF project „Introduction of EBM Principles into Graduate Medical Curricula“ run by Palacky University Faculty of Medicine & Dentistry“ (Olomouc, Czech Republic) in cooperation with University of Ostrava.

Methods: EBM concepts are being introduced selectively to preclinical and clinical years. Students are trained how to translate patient health-related problems into a PICO question, how to search for best research evidence, and apply fundamentals of critical appraisal to understand different study designs. Medical library staff is responsible for clinical information retrieval training. The last step taught is the art of integration of clinical expertise, patient characteristics, values, and context with best research evidence using case scenarios.

Results: Case Studies
„Microbiology“ (3rd Year)
Microbiology courses were „spiced“ with current knowledge retrieval to supplement standard textbook data concerning management of (1) clostridial infection-caused gas gangrene, (2) Lyme disease, and (3) malaria prophylaxis.
“Dentistry” (3rd Year)
The curriculum was modified to reflect contemporary trends in evidence-based dentistry (EBD). A new course includes 2 lectures about dental information resources and EBD principles +12 hours of interactive training.
„Paediatrics“ (5th Year)
Pediatric courses offer lectures on disease symptoms and management including searching databases for best evidence. Students used newly acquired skills to solve individual clinical scenarios that were part of the paediatric curriculum.

Conclusions: First results show that (1) most students are able to distinguish between background vs. foreground questions, and (2) understand a long-life importance to find best evidence for patient care. Student evaluations confirmed favourable benefits on future medical graduate profile in terms of continuing healthcare quality enhancement. Immediate clinical deployment of theoretical knowledge was appreciated.

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46. THE EVALUATION OF A POSTGRADUATE PROGRAMME IN EVIDENCE BASED PRACTICE FOR LIBRARIANS

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Background: The librarian's role in evidence based practice (EBP) ranges from supporting other professionals in finding and using research to helping librarians themselves to become evidence based practitioners. In either case, librarians need a range of skills not necessarily obtained through traditional library education. In Norway, a one-semester accredited postgraduate programme in EBP for librarians was launched during spring 2007. Preparations, attendance on two teaching sessions (3 + 4 days) and a final examination paper constitute 15 ECTS credits. There are few evaluations of such courses for librarians. Generally, educational courses in EBP are typically evaluated by assessing knowledge or attitudes; very few are assessed in terms of using skills in practice (1, 2).

Aims: To describe the evaluation of a postgraduate programme in EBP aimed at Norwegian health and social science librarians.

Methods: A mixed-methods design will be used to evaluate the programme. To assess course content, format and relevancy, evaluation forms were distributed to participants immediately after each teaching session. On the last day of teaching participants were asked to state two action goals which detailed how they would use the knowledge and skills gained from the course in practice. In-depth interviews will be undertaken between June and October 2007 to assess if attendants were able to fulfil their goals and to identify potential barriers preventing them from incorporating the course content into practice. Additionally, knowledge and skills will be assessed by investigating participants' assignments.

Results and Conclusions: Of a total of eighteen attending librarians, thirteen agreed to participate in the evaluation. Preliminary findings from the qualitative evaluation will be presented along with findings from the evaluation forms and participants' assignments. Findings will be analysed to see if attendants can use their skills to support other evidence based practitioners and whether they can use evidence based skills in their daily work.

1.bBradley P, Nordheim L, De La Harpe D et al. A systematic review of qualitative literature on educational interventions for evidence-based practice. Learning in Health and Social Care, 2005; 4(2): 89-109.
2. Hopayian K, Harris J, Nabulsi M et al. The effectiveness of education in Evidence-Based Health Care: the current state of outcome assessments and a framework for future evaluations [accepted for publication in International Journal of Evidence Based Health Care].

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47. HOW TO DESIGN CLINICAL PLACEMENT ASSIGNMENTS THAT FACILITATE EVIDENCE-BASED PRACTICE AMONG UNDERGRADUATE PHYSIOTHERAPY STUDENTS

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Background: It was recently recommended that the teaching of evidence-based practice (EBP) should be integrated into the clinical setting (Dawes et al. 2005). One way to achieve this might be by designing clinical placement assignments which require students to apply the principles of EBP.

Methods and Aims: EBP was implemented across the curriculum in 2005 at the Department of Physiotherapy, Bergen University College. As part of this process teachers changed the clinical placement assignments to facilitate EBP, initially among first and third year students. First year students had to: 1) describe experiences related to health services, other professions, patients, assessments and interventions, and 2) formulate answerable clinical questions related to real clinical scenarios and discuss the questions using different knowledge sources, including research evidence, books, practice-based knowledge, user preferences and values and contextual factors. Students in the third year had to describe how the patients were treated at the hospital and discuss the interventions they had chosen, using updated relevant literature.

Students are able to apply skills in EBP, including formulating answerable questions, finding and critically appraising research evidence. However, students struggle to apply the knowledge sources in their discussion, and the questions they ask are often too complex to answer, especially for first year students.

The Departments' aim is now to further develop the clinical placement assignments in order 1) to facilitate the use of EBP in relation to real clinical scenarios for first, second and third year students, and 2) to match the student's level of skills in EBP. These assignments will be implemented throughout the bachelor programme, beginning from the academic year 2007.

Results: The content of the clinical placement assignments will be presented. Furthermore, the educational rationale for using clinical placement assignments to facilitate EBP, and the process and challenges of designing and using the assignments will be discussed.

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48. ATLANTIC REGIONAL TRAINING CENTRE: A COLLABORATIVE VENTURE

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Atlantic Regional Training Centre

Background and Aims: Atlantic Regional Training Centre (ARTC).
The ARTC is one four Pan Canadian training centres. The Centre is a collaborative venture among four Atlantic Canada universities. These are comprehensive institutions with broad based scholarly capacity which constitute the largest and most influential research settings. Through the sharing of resources, and building upon complementary strengths, our goal is to produce highly trained interdisciplinary investigators.

Methods: The ARTC works closely with decision-makers in the health-care field in order to provide students with experiential learning experiences of translating research into policy and practice. Decision-makers are involved through residency placements, advisory board participation, lecturing at workshops, and as mentors and advisors.

Students learn to address health service issues from several vantage points, including economic, political, social, cultural, and administrative perspectives, providing a basis for effectively grasping the real complexity of these problems. In a similar vein, the ARTC welcomes students from a broad range of disciplinary backgrounds, to broaden the interdisciplinary reach of the program.

The Centre also provides opportunities for Ph.D. studies. The doctoral program offers a flexible structure tailored to the specialized needs of trainees within the health services research and policy context.

The curriculum of study for both programs uses a variety of pedagogical methods such as: web-based courses; rotating theme-based workshops as forums for interchanges among decision makers, students, and faculty; a residency placement where students apply theory and concepts within a decision-making organization; the involvement of health decision makers in thesis work; and dissemination of research results to decision makers parallel to traditional academic requirements.

Results: The ARTC offers a two years Master's Degree in Applied Health Services Research which prepares graduates with the necessary compentencies to consider complex health policy issues facing Atlantic Canada. Through the training of these students, the ARTC is building local research capacity to generate policy relevent research.

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49. EFFECTS OF EVIDENCE-BASED NURSING PRACTICE IN CLINICAL LEARNING ON NURSING PRACTICES' ABILITY AND ATTITUDES IN NURSING STUDENTS OF BOROMARAJONANI COLLEGE OF NURSING, THAILAND

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Because of evidenced-based nursing (EBN) is one of crucial characteristics of ideal graduated nurse in Boromarajonani College of Nursing (BCN), Saraburi. Thus, nursing ability and nursing attitudes were the majority characteristics that should be improved.
This research was a quasi-experimental study: one group, pre-post test design. This study aimed to compare nursing ability and nursing attitudes during clinical learning through EBN in junior nursing students in BCN, Saraburi.

The targeted population was all the nursing students from the third year. The sample was made up of 53 junior students, enrolled between second and third semester in academic year 2005. The clinical learning included Adult Nursing Practicum and Maternal and child Practicum. During practicing those subjects, each study reported the EBN at least one application in form of journal writing. The students were pre-tested before EBN application and post-tested after EBN application by 2 questionnaires including nursing practice abilities and attitudes towards EBN application. The test abilities were: 1) Identify patient's problem; 2) Answerable questions; 3) Search for research evidence; 4) Critical appraisal of the research; 5) Utilization of research findings in nursing practice ;and 6) Evaluation. Data were analyzed by mean, standard deviation, and pair t-test.

The results showed that student learning clinical practice through EBN had moderate level of nursing practice ability, and had positive attitude toward EBN in these subjects. When compared nursing student's ability and attitude by pair t-test, both were significantly increased ($p<.01$). The 3 major abilities development through EBN were: reading Thai research paper, research findings applied in nursing practice, and nursing diagnosis identification were rated with the highest mean score (mean=4.02, 3.92, and 3.88). Whereas, reading English research paper was rated with the lowest mean score (mean=3.22). For this reason nursing college should integrate EBN in to clinical practice to enhance nursing ability.

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50. EXISTENTIALISM IN EVIDENCE-BASED PRACTICE: HOW CONSIDERATION AND INCLUSION OF THE INTER-PROFESSIONAL WORKFORCE CAN IMPROVE THE TEACHING & IMPLEMENTATION OF EVIDENCE-BASED PRACTICE

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Background: November 17th 2006, saw the 1st UK conference for teachers & developers of Evidence-based Healthcare. Representative professions attended from a full range of clinical and academic backgrounds, to discuss the provision and implementation of evidence-based practice (EBP). A common goal, was to avoid the marginalisation of EBP, and yet the teaching of its related disciplines, often acts as a 'turn-off' to those we try to engage. In addition, there is a large professional populace that fails to actively participate in research, and the pursuit of EBP.

The Sicily statement on evidence-based practice (2005), acknowledges that EBM is expanding into a 'larger phenomenon', as a wider spectrum of disciplines recognise the importance of evidence, to underpin healthcare decisions. However EBP is still focused upon a proportionately small sector of the overall healthcare employment sector. Given that both human resources and educational finances are limited in regard to the expansion of formal training within the area; it may be prudent to consider the broader workforce that delivers / implements the directives of EBM, and to adjust the manner in which EBP is represented, so as to engage the maximum number of those involved, at a level that can be both used and understood.

Aims:

- To illustrate the healthcare workforce dynamic (as related to the UK National Health Service) and the importance of inter-professional working.
- To reiterate the common goal of all those involved in healthcare – the fulfillment of the health needs of society.
- To encourage a wider communication, that serves to both empower and engage, those at all levels of healthcare delivery.

Conclusions: The factual 'existence' of EBP is implemented within the qualitative 'essence' of EBHC. As such, careful consideration must be given to the practical implications of EBP, when applying its methodologies and results in the workplace.

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51. DEVELOPMENT OF AN EDUCATIONAL EFFECTIVENESS REVIEW PROCESS FOR EVIDENCE-BASED PRACTICE ACROSS HEALTH PROFESSIONS

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Western University of Health Sciences

Western University of Health Sciences (WUHS) is a dedicated health professions institution with five colleges and eight health professions degree programs. All of our professional programs are currently accredited by national professional organizations.

Additionally, WUHS maintains institutional accreditation through the Western Association of Schools and Colleges (WASC). This voluntary non-governmental accreditation process aids institutions in developing and sustaining effective educational programs and assures the educational community, the general public, and other organizations that an accredited institution has met high standards of quality and effectiveness.

As part of WUHS's central mission to expand biomedical knowledge and enhance quality of life in our communities, we want to produce health care practitioners, regardless of discipline, who can provide the best possible quality of health care.

As such, we have identified evidence-based practice (EBP) as one of the key "themes" in our current theme-based WASC accreditation review of outcomes of student learning and the educational effectiveness of programs. To succeed with EBP, student practitioners must critically evaluate new emerging treatments and diagnostic tools found in both basic science and clinical science research literature, and apply new knowledge appropriately to patient and animal care. To do this, our students must become lifelong learners and actively engage in 'bench to bedside' approaches to health care.

The university is aware of how well students attain outcomes related to professional cognitive knowledge using data from professional licensing exams. What still needs further development is knowing how effectively our programs integrate health care research and how effectively our curriculum promotes the application of evidence and research into health care practice as a student learning outcome. With the diversity of health professional programs on campus, WUHS is in the unique position to develop EBP student learning outcomes within and across multiple health professions disciplines.

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52. STEP 4 OF THE SICILY STATEMENT ON EVIDENCE-BASED PRACTICE. A NEGLECTED AREA IN TEACHING PROGRAMS?

Sestini P

University of Siena

Evidenced-based practice (EBP) involves conscientious, explicit and judicious integration of (a) clinical expertise with (b) the best available external evidence from systematic research and with (c) the values and expectations of patients in making clinical choices (Sackett DL et al. BMJ 1996;312:71).

The practice and teaching of EBP, according to the Sicily statement on EBP (Dawes M et al. BMC Med Educ 2005;5:1) involves 5 steps: 1) Formulate the clinical question(s); 2) Search available information; 3) Critically appraise retrieved information; 4) Apply the evidence; 5) Evaluate performance.

Although the third fundamental pillar of EBP (i.e. integration of patients preferences and values) is clearly implicit in step iv of the Sicily statement, it is less clear how this step should be practiced and even less clear how it should be taught or learnt. I performed in May 2007 a systematic search of the available literature using a search strategy recently used to survey the effectiveness of EBP education (Hopayian K et al. Int J Evid Based Healthc, in press).

The search yielded 318 papers, including 6 systematic reviews, 3 randomized clinical trials and 6 before-after studies that included evaluation on the effectiveness of an intervention of EBP education. However, none of the studies included an evaluation of the students knowledge, skills, attitude of behavior to integrate patient values and expectations in clinical choices. The ones which came closer, were a study including teaching communication of evidence-based information to patients and one on educating health professionals to meet the needs of patients from ethnic minority groups.

Thus, information on teaching integration of patients preferences, values and expectations in clinical practice is currently scarce, and there is a need for performing more research in this area.

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53. USE OF MOODLE, A FREE, OPEN SOURCE COURSE MANAGEMENT SYSTEM, TO SUPPORT LEARNING OF EVIDENCE BASED PRACTICE

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Evidence-based practice requires computer and Internet skills. Accordingly, a web environment appears to be welll suited to support the learning of EBP skills.

At the University of Siena we selected Moodle (http://www.moodle.org/), a free, open source course management system (CMS) designed to help educators create effective online learning communities. Moodle is completely based on free components available for most operating systems (MS, Mac, *nix), requires limites hardware resources and requires limited computer experience on the side of teachers and learners. In addition to easy ways to setup a course and of providing students with reference materials and exercises in a variety of digital formats, including the possibility of importing standard SCORM modules, moodle includes the ability of providing a variety of interactive activities, such as dedicated forums, chats, log-journals, messaging, online and offline assignments, wikis (collaborative pages). It also allows separate group activities, recording of attendance to lessons and meetings, and flexible scales for evaluation.

Used and supported by a large and friendly community of more than 200.000 registered websites, moodle can be used either as a completely virtual e-learning environment or as a support for conventional classroom courses. We found it particularly suited to support our relatively large small-group problem-based learning course (with 140 students in 12-14 groups for each of 3 years and a community of about 30 tutors), providing an effective way of communication both for students and among teachers.

Students use it to be informed on the course activities, to retrieve study materials, to communicate with tutors and pairs, to perform the final exam (in a common computer room), to get information on their evaluation.

Teachers use it for discussions, organization, recording of students attendence and online evaluation. Both students and tutors appears to be satisfied and its use appears to be increasing over the years.

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54. CONSENSUS ON WORKFORCE PREPARATION FOR EVIDENCE-BASED QUALITY IMPROVEMENT

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Background: Educators hold strategic positions to address key challenges in today's health care: to prepare a workforce engaged in evidence-based quality improvement. The call for the largest healthcare workforce, nurses to provide evidence-based, patient-centered, and systems-oriented care (IOM, 2001) demands new competencies among the workforce and curriculum revision in education. Until recently, no consensus on EBP competencies was articulated and few guides were generated to steer curriculum revision.

Aims: This three-year project established national consensus on essential competencies for EBP to guide inclusion of EBP in health professions education programs.

Methods: Multiple approaches were used to establish consensus. Stages included survey of nurses, content analysis, generation of competency statements, grounding of statements in national recommendations, and establishment of national consensus. A national panel of EBP experts laid groundwork for competency development: socio-political impetus; national trends in healthcare quality; general EBP competencies and recommendations for discipline-specific competencies; and the ACE Star Model (Stevens, 2004). Following a face-to-face meeting, the panel responded to written survey that elicited agreement on each statement, comprehensiveness of the statements, essentialness of each statement, appropriate level of education, and comments on duplication and terminology. Competency statements were revised to establish minimum level of consensus across all statements of at least 90 percent agreement. Three reviewers scrutinized the document for editorial issues and clarity, ensuring that elements were clear and comprehensive.

Results: Resulting EBP competency statements are presented at a detailed level to specifically guide curriculum revisions. High consensus established 20 undergraduate, 32 master's, and 31 doctoral competency statements.

Conclusions: The statements provide a common understanding of the specific competencies necessary in employing EBP, thereby guiding curriculum revision. The EBP competencies are also being used to develop clinical performance competencies and measurement strategies.

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55. IMPLEMENTATION OF FURTHER TRAINING IN A SCIENTIFIC INSTITUTE – RESULTS OF A SURVEY ON EDUCATIONAL NEEDS

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Background: The Institute for Quality and Efficiency in Health Care (IQWiG) is an independent scientific institute that evaluates the quality and efficiency of health care.
Supported by IQWiG's representatives for further training, an internal educational curriculum on evidence-based medicine (EBM) was introduced to ensure the EBM competence of scientific staff members. On the basis of this curriculum, a survey on educational needs was performed.

Aims: To identify educational needs of scientific staff members and subsequently to modify or implement further training measures.

Methods: A questionnaire was sent to all 45 scientific staff members by e-mail. The questionnaire covered the educational objectives outlined in the EBM curriculum (e.g. information management, statistics, study types, systematic reviews, medical writing, and computer skills). Participants were asked to report educational needs that could be suitable for group training, to report individual needs, and to propose new learning methods. On the basis of the survey's results, existing further training measures (presentations, workshops, and journal clubs) were to be modified, and new measures implemented.

Results: The response rate was 42.2%. The most common educational needs were reported in the field of medical writing (37.8%). Furthermore, most participants expressed great educational needs in the areas of diagnostic studies (31.1%) and systematic reviews (28.9%). Regarding new learning methods, the establishment of learning groups including 4-6 participants was proposed.
For systematic reviews and diagnostic studies, internal training is already offered and will now be expanded. For medical writing, new training courses (workshops and supervised learning groups) will be implemented within the next year. Staff members who expressed individual educational needs have been offered consultation and additional measures have been initiated.

Conclusions: A survey on educational needs is a useful instrument to further qualify scientific staff. On the basis of the results, target-orientated training tailored to specific needs can be implemented.

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56. THE KOLB LEARNING CYCLE AND EVIDENCE BASED HEALTH CARE: A CASE STUDY

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Kolb's experiential learning theory sets out four distinct learning styles or preferences, which are based on a four-stage learning cycle. The Kolb Learning Cycle proposes knowledge is created through a cycle of experiencing, reflecting, thinking, and acting. The 'immediate or concrete experiences' provide a basis for 'observations and reflections', that are then assimilated into abstract concepts with implications for action, which the person can actively test and experiment with, and in turn enable the creation of new experiences. The Kolb Learning Cycle offers both a way to understand the individual's different learning styles and an explanation of a cycle of experiential learning that may be applied to curriculum development.

At the University of Alberta medical school, evidence based health care (EBHC) is taught using Sackett's five step process model: develop the question; search for evidence; appraise the evidence critically; apply the evidence; review the outcome. Incorporation of the Kolb Learning Cycle into the teaching of EBHC could have a positive impact on the teaching and learning of EBHC.

The objective is to determine how the Kolb Learning Cycle framework can work together with the undergraduate teaching of Sackett's five step EBHC model. We will use the Kolb Learning Cycle as a framework on which to map the undergraduate EBHC curriculum. This will allow us to investigate the relationship between the Kolb Learning Cycle and the Sackett EBHC process, and propose further innovations in the undergraduate EBHC curriculum to develop the most effective EBHC instruction.

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57. LEARNING NEEDS ANALYSIS OF GENERAL PRACTICE TRAINERS IN THE WEST MIDLANDS; A REVIEW OF THE KNOWLEDGE AND BELIEFS ABOUT EVIDENCE BASED PRACTICE

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Background: Medical training has undergone a significant revolution in the UK .The Reorganization of all medical training has led to the development of specific curricular by the bodies accrediting the post graduate medical assessment and training. The Royal College of General Practitioners in the UK has now published its curriculum guidance and set the details on the methods of assessment. Evidence Based practice (Curriculum statement 3.5) has replace the traditional critical reading and EBP, together with healthcare management now forms 20% of the weighting in the written part of the assessment. This study aimed to look at the learning needs of the trainers.

Methods: In During 2006, all trainers in the West Midlands Deanery in the UK (475) were sent a questionnaire. The questionnaire was developed using the main principles of EBP and previously validated questionnaires. Knowledge of literature searching behavior as well as self perceived knowledge was questioned using a 6 point LIKERT scale and some free text. Data returned was entered onto SPSS and analyzed.

Results: 65% of the questionnaires were returned. The study showed that there was more confidence and perceived knowledge in those trainers that had been qualified the least time, had obtained a higher research degree or had been personally involved in any research. There was not always a positive response to the principle of EBM with some GPs writing that the evidence rarely seemed to equate to the patients in front of them. There was a strong need identified for further training.

Conclusions: Despite Evidence Based Practice having a more prominent role, older GP trainers in particular did not perceive that they had the necessary skills to help their GP trainees (registrars). A learning need was identified in this group particularly with qualitative information indicating that there was still a degree of skepticism about EBP within the GP trainers.

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