Newsletter of the International Society for Evidence-Based Health Care
Newsletter 5, November 2011

Mission

The mission of the International Society for Evidence-Based Health Care is to develop and encourage research in evidence-based health care and to promote and provide professional and public education in the field.

Vision

The society is inspired by a vision to be a world-wide platform for interaction and collaboration among practitioners, teachers, researchers and the public to promote EBHC. The intent is to provide support to frontline clinicians making day-to-day decisions, and to those who have to develop curricula and teach EBHC.

Key objectives of the Society

- To develop and promote professional and public education regarding EBHC
- To develop, promote, and coordinate international programs through national/international collaboration
- To develop educational materials for facilitating workshops to promote EBHC
- To assist with and encourage EBHC-related programs when requested by an individual national/regional organization
- To advise and guide on fundraising skills in order that national foundations and societies are enabled to finance a greater level and range of activities
- To participate in, and promote programs for national, regional and international workshops regarding EBCP
- To foster the development of an international communications system for individuals and organizations working in EBHC-related areas
- To improve the evidence systems within which health care workers practice.

Evidence-Based Clinical Practice Office
McMaster University, Canada

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Editorials

McMaster workshop adds an "essentials" stream

Gordon Guyatt

The McMaster evidence-based practice workshop - started approximately 25 years ago as "How to Teach Critical Appraisal" - is the grand-parent of a worldwide blossoming of workshops that have followed the McMaster model. Evolving through "How to Teach Evidence-based Medicine (EBM)" and now "How to Teach Evidence-based Health Practice (EBHP)" its target audience has always been those with a solid grounding in EBHP principles who are taking on the challenges of teaching those principles to other learners.

Each year, daring learners whose grasp of the basic concepts was more tenuous, have found their way to the McMaster workshop. While such learners typically benefited from a very steep learning curve during the workshop, and typically enjoyed the experience a great deal, the situation was not always ideal. Sometimes, the less experienced learners were left behind in more sophisticated discussions, or felt their time was not optimally spent in extended discussions of teaching issues. Instead, they expressed interest in learning key underlying concepts of clinical epidemiology (e.g. interpreting hazard ratios, confidence intervals, learning how to critically evaluate a meta-analysis, etc.).

Accordingly, this year, we have decided to address the needs of those interested in learning how EBHP and can facilitate making better patient care decisions- rather than learning to teach it to others - who would like to visit the Mecca of EBM/EBHP. For the first time, in 2012, the workshop will offer an "EBHP for Improving Clinical Practice" stream. The structure will be identical to the traditional workshop – that is, a focus on small group inter-active learning sessions complemented by large group experiences. One difference from the "How to Teach" stream is that the “Improving Clinical Practice” stream will increase the ratio of teaching done by tutors and tutor trainees versus the participants. Nevertheless, believing that explaining is the best way of testing and consolidating knowledge, we'll still encourage Improving Practice participants to try their hand at demonstrating their understanding to their colleagues. A second difference between the two streams will be the extent to which discussion will be devoted to teaching issues (heavy in the Teaching stream, negligible in the Improving Clinical Practice stream).

Those interested in further details should visit the McMaster website at
http://ebm.mcmaster.ca/index.html

Evidence v. judgment: is there a case to decide?

Hertzel C. Gerstein

The paradigm that is “evidence-based medicine” undisputedly represents one of the most important advances in clinical medicine in the last 50 years. At its core this paradigm mandates that clinical decision-making for a particular patient be based on research that is designed to minimize the likelihood of bias and erroneous results and maximize relevance to that particular patient. The paradigm has driven ever-increasing numbers of epidemiologic analyses, randomized controlled trials, carefully done meta-analyses and clinical practice guidelines and has underpinned the whole global approach to drug approval, good clinical practice and clinical development of new drugs and devices. These outputs have all provided a solid empirical basis for optimizing our patients’ health.

But these products of the evidence-based medicine paradigm can be misconstrued, over-interpreted, and inappropriately applied in such as way as to hinder rather than help clinical management. These hazards can be easily mitigated by adhering to a set of simple principles – principles that have

always been an implicit part of the paradigm but that are seldom explicitly articulated. They include the following:

1. Evidence from the "best" research increases our database or inventory of knowledge pertaining to biology, pathophysiology, diagnosis, prognosis and therapy.
2. Even evidence generated by the “best” research has limitations related to the population from which it was generated, the time in history when it was generated, random effects, and the specific design of the research.
3. Evidence can inform but cannot dictate the clinical decisions that are made regarding a particular patient. This is because that patient: a) is always part of a subgroup that may or may not have been studied; b) has his or her own unique medical, social, economic, psychological and personal concerns; c) has his or her own unique valuation of all risks/costs and benefits; d) may respond differently than the “average” participant used to generate the evidence.
4. Evidence can suggest what is and is not relevant for the "average patient", but any individual patient is never an "average patient". Much judgment is required to assess the relevance of evidence to any one individual patient.
5. Clinical decision-making for a particular patient is optimally based on judgment that is informed by the best evidence.

The evidence-based medicine paradigm has clearly increased the rational basis of clinical medicine; but it cannot replace clinical judgment. Applying either evidence without judgment or judgment without knowledge and consideration of the evidence may lead to considerable harm and suffering. Evidence without judgment can be applied by a technician or computer program; judgment without evidence can be applied by a friend. Conversely, only a well-trained, caring and experienced doctor can integrate both evidence and clinical judgment in the best interests of any one particular patient.

Teaching & Practice Tips

Implementing healthcare reform through developing evidence-based shared decision making tools

Kasey Boehmer, Kari Ruud, Victor Montori and Annie LeBlanc

One way to implement evidence-based medicine into practice is through shared decision making; a process that is encouraged by the Patient Protection and Affordable Care Act[(1)]. Mayo Clinic’s Shared Decision Making National Resource Center (http://dev.shareddecisions.mayoclinic.org/) has been working toward many of the legislation’s objectives, primarily by developing, testing, and implementing decision aids.[(2)] Decision aids are tools that present evidence on the risks and benefits of available options to patients, so they can make informed decisions about their medical care in collaboration with their clinicians.

We have found three key challenges in implementing decision aids in clinical practice. Identifying opportunities to use decision aids is not always straightforward: consider predicting when a patient with newly diagnosed depression will be able to discuss the choice of an antidepressant with their clinician. Our team works closely with practices to identify ideal patient candidates and visits in which these discussions could take place. Examples of solutions include flagging the appointment schedule when patients give an eligible reason as they request an appointment with participating clinicians; and intensive manual scanning of the electronic medical record to identify potentially eligible patients prior to their next appointment. Clinic-wide implementation simplifies this process, leaving the identification of eligible patients to clinic staff, but complicates study procedures (e.g., informed consent process, video recording of visits). Another challenge is the manner in which clinicians use decision aids. We design our decision aids to be intuitive in their use with minimal training; however, video recording of

clinical encounters revealed wide variations in use of our tools and enforced the need for brief clinician training. To date, our training includes a storyboard, a video demonstration, and specific feedback based on the video. While we have noticed a learning curve, our trials provide limited evidence about its slope and duration (i.e., how many encounters with the decision aids are needed for competency and mastery). In these trials, few clinicians had the opportunity to use the decision aids more than once. This video-supported assessment of fidelity in the use of decision aids has also resulted in an ever-growing video library of encounters ripe for secondary exploration.

Finally, we have encountered challenges with recruitment into our efficacy trials. Sites and clinicians have declined participation based on the perception that decision aids would add too much time to the clinic visit and disrupt workflow. However, we have estimated that, on average, about two to four minutes are added to an encounter in which a decision aid is used (mean primary care visit duration was 24 minutes). Furthermore, many clinicians have reported positive experiences with decision aids and continue to use them after trial completion. Some have anecdotally reported improved efficiencies within and after the visits in which they used decision aids. Longitudinal studies are required to assess the impact of decision aids on practice efficiency.

Our experience designing and implementing decision aids in practice has taught us much about these and other challenges in conducting trials in particular and in translating evidence into practice in general. Based on this experience, we are contributing to regional and national policy with information on the feasibility of incorporating decision aids into clinical practice. There is much to learn about how to do this well, a message that is tempering the initial enthusiasm to legislatively mandate and broadly implement shared decision making. While very promising, the journey to implement decision aids in practice as a method to facilitate evidence-based medicine happen is just beginning.

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Teaching the contrasting paradigms of evidence-based medicine and quality improvement in residency

Mohammed Nabhan, Tarig Elraiyah and M. Hassan Murad

It has become clear that residents need to learn the basic principles of evidence-based medicine (EBM); to find the best available evidence and apply it to patient care. In addition, even when high quality evidence is available to optimize healthcare decisions, only a small proportion of patients receive this evidence-based care. This suggests that residents would also benefit from learning the principles of quality improvement (QI) to improve the care received by their patients. In recognition of this, the accrediting bodies of residency programs in the United States have now advised that graduating residents and fellows should have a certain (undefined) level of competency in both approaches, QI and EBM. The Accreditation Council for Graduate Medical Education (ACGME) places both types of skills under the same core competency (Practice based learning and improvement, or PBLI). Nevertheless, there are inherent differences between the two fields that present residents with mixed messages.

While EBM focuses on applying external research evidence to patients with emphasis on evaluating internal and external validity; QI derives its interventions from existing local processes, intuition and anecdotes of what worked well in similar

settings.[1,2] Further, promoters of QI often distance themselves from key features of methodologically rigorous research by endorsing rapid cycles of changing protocols, small sample sizes, emphasis on using process measures and surrogate outcomes and placing lower emphasis on bias protection measures such as randomization and blinding. Even Institutional Board Review (IRB) approval has been loosely mandated in many QI studies. Furthermore, the quality of underlying evidence supporting a QI intervention is often not explicitly described in these projects. An example would be QI interventions aimed at increasing the proportion of patients with type 2 diabetes who achieve tight glycemic control; an intervention that is not necessarily associated with improved outcomes. The end result is that many QI interventions have had limited applicability and variable buy-in by clinicians.

A potential approach to overcome some of these challenges has been implemented in the Preventive Medicine Residency at the Mayo Clinic through the incorporation of a 3-week rotation in PBLI [3]. The rotation blends EBM and QI and utilizes experiential learning methodology that incorporates didactic, web based and case based learning components. The rotation culminates with learners designing, implementing and evaluating an intervention that incorporates both EBM and QI. Residents learn the principals of EBM through 5 modules guided by a patient scenario, from forming a search question to appraising several studies with varying designs to applying results to patients via role playing or simulation. Then, residents proceed with a QI project starting with a needs assessment, project charter development, benchmarking, process mapping, root cause analysis, affinity analysis, Plan-do-study-act cycles, and pre and post intervention testing. Two of the projects conducted by our residents over the last 5 years have been published in peer reviewed journals. [4,5]

Although 'marrying EBM and QI' has been advocated, [1] combining EBM and QI learning in a seamless fashion is fairly innovative and, to our knowledge, not very common. We present our experiences in this area to aid those of us who are involved in residency curricula and are interested in improving learners' competency in PBLI. We are willing to share additional details of our model, and we further encourage other programs that have developed similar learning activities to disseminate details to help educators face the challenge of teaching the concepts of both EBM and QI.

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Research & Reviews

Depression and obesity will be the inaugural topics of the APA clinical treatment guidelines

Bonnie Spring and Steve Hollon

The topics of the first two clinical treatment guidelines to be developed by the American Psychological Association will focus on management of depressive disorders and obesity.

The committee concluded that these guidelines should consider recommendations suitable for all ages (including children and older adults), as well as age-specific treatment recommendations.

The committee arrived at its decision following a lengthy review process. After examining various disorders and conditions as potential guideline topics over the preceding months, the committee narrowed the focus to four: depressive disorders, obesity, oppositional-defiant disorder, and post-traumatic stress disorder. The committee organized assessments and discussion of each of these topics around six criteria:

1) Relevance of each topic for clinical psychologists
2) Importance of each topic (including such factors as prevalence, symptom severity, and socioeconomic burden)
3) Perceived need for a treatment guideline for each topic
4) Perceived value of a treatment guideline for each topic (such as the impact the guideline would have beyond other available materials on the topic)
5) Quantity of evidence that would support a treatment guideline for each topic
6) Feasibility of developing a treatment guideline for each topic

In the end, the committee decided unanimously that all four topics were worthy of guideline development but that depressive disorders and obesity ranked somewhat higher because of the large number of people they affect.

The next step will be the establishment of guideline development panels for each topic. These panels will work with the steering committee to formulate questions that will drive systematic reviews of the research literature and will take the lead roles in producing guidelines on the basis of these systematic reviews. At its next meeting, the steering committee will weigh the options for how the systematic reviews should be conducted and what specific format the treatment guidelines will take. The Institute of Medicine's recent standards for systematic reviews and guidelines will shape the committee's approach.

New evidence-based behavioral practice modules launched

Molly Ferguson and Bonnie Spring

The Evidence-Based Behavioral Practice (EBBP) project has launched two new modules. These modules are available free of charge at www.ebbp.org/training.html.

Stakeholder Dialogue about Evidence-Based Practice

The module on Stakeholder Dialogue about Evidence-Based Practice was authored by Bonnie Spring, PhD, Molly Jean Ferguson, MPH, Elena Carbone, DrPH, RD, LDN, and Elizabeth Ryan, EdD, and launched in September 2011. The module provides learners with didactic content and examples of practice-based research, community-based research, and community-based participatory research. The module also includes 60-90 second video clips that present interviews with various community, practitioner, and academic stakeholders' opinions on barriers and facilitators to conducting research and implementing evidence-based practices in practice and community settings.

Implementation of Evidence-Based Practices

The Implementation of Evidence-Based Practices module was authored by Bonnie Spring, PhD, Molly Ferguson, MPH, Debra Pender, PhD, LCPC, NCC, ACS, and Amy Starin, PhD, MSW, officially launched in September 2011. The module provides learners with the information to understand the process of implementing evidence-based practices and applying knowledge to better navigate challenges in real-life scenarios. Learners are provided didactic content on implementation science, and are then able to practice their implementation skills with two case examples derived from actual implementation efforts.

Seven additional modules are currently available on our website: *The EBBP Process*, *Searching for Evidence*, *Introduction to Systematic Reviews*,

Critical Appraisal, *Randomized Controlled Trials (RCTs)*, *Shared Decision-Making with Individual Clients*, and *Collaborative Decision-Making with Communities*. Select modules are available for continuing education credit for physicians, nurses, psychologists, and social workers.

For more information about the EBBP Project, visit the project's main website at www.ebbp.org. Please contact Molly Ferguson, the EBBP Program Manager, at m-ferguson@northwestern.edu with any questions/comments.

Revolutionizing patient control of health information

David Chan, Michelle Howard, Lisa Dolovich and Gillian Bartlett

In a traditional health care interaction, clinicians are the holders of patient's medical information. In recent years, patient information is increasingly likely to be in a structured electronic health record (EHR) which is held in the physician's office. The general argument for EHRs is that they can improve quality of patient care by better coordination of information among patient's healthcare providers – the province of Ontario is investing enormous resources to "provide a single, harmonized and coherent eHealth Strategy for Ontario that supports the government's health agenda' by 2015" (http://www.ehealthontario.on.ca/about/index.asp). The U.S. has a more aggressive plan to ensure wide implementation of EHRs by 2014 as part of their economic stimulus plan.

In addition to better information coordination by clinicians, there are many reasons why providing patients with their health information may be beneficial. The role of the clinician as the 'protector' of patients' health information is being questioned as an increasing number of patients are taking advantage of Personal Health Records (PHR) or Patient Controlled Health Records PCHR) that are available online to collect, manage and control their own health information.

A PCHR is different from a PHR in that it is designed, with user input, to give patients a life-long, standard-based EHR that is under their control. A PCHR may gather information from other EHR sources but it also contains information generated by the patient as well as by health applications which the patient chooses to participate in. Important applications (or "Apps") include secure messaging, online booking, specific disease self-management, and others that are designed to promote health and wellness. Patients obtain copies of their record either by requesting it from their health providers, or by "subscribing" to EHR sources which provide this service.

Since 2002, the Department of Family Medicine, McMaster University, has been developing MyOSCAR (My Open Source Clinical Application Resource; www.MyOSCAR.org), a web-based PCHR. Patients with a MyOSCAR account can decide on their own data sharing policy. There are default sharing policies the patient can use, for example, parents or Power of Attorney may read and write the entire record, a public health nurse may read and write only to the immunization folder, and a friend may only read and write to the secure messages. Patients may choose to enable the "glass-breaking" option which gives permission to health care professionals to read certain areas of his/her record, such as drug allergies, medication list, and list of medical health conditions, if the patient's doctor is one of the 1500 physicians (covering about 2.5 million patients) across Canada currently using the EHR OSCAR (Open Source Clinical Application Resource) system. Every access to a patient's record is tracked and recorded with an audit trail. The patient may choose to be notified when his/her record has been accessed. The ability to receive information or documents from the EHR requires confirmation of the patient's identity (known as authentication) and a signed consent for appropriate use.

MyOSCAR is based on Free/Open Source Software (FOSS) which means that the software source code is open for peer review and customization. FOSS has been shown to foster community support and involvement. FOSS allows

for development and contributions from users internationally, and is freely distributed.

The implementation of evidence-based quality care depends on successful interaction with patients and access to appropriate information on patients' disease status. It has been proposed that PCHRs may provide more and better health information for clinical decision-making, improve efficiency, increase patients' involvement in their own care, improve their health outcomes, and enhance patient-clinician interactions and relationships. MyOSCAR currently supports information such as patient-reported symptoms and monitoring of drug safety and effectiveness. MyOSCAR allows patients to access test results from their family practice at specialist appointments, track blood pressure measurements taken at a pharmacy, and their medication use, including over-the-counter.

There is tremendous interest by many academic groups and funders who are undertaking and supporting research and evaluation projects of different potential uses of MyOSCAR. A growing network of researchers from across Canada and elsewhere is developing as a larger collaborative. Several small pilot tests have been completed in the Department of Family Medicine, McMaster University. Examples include use of MyOSCAR for pregnancy care, hypertension management and medication management. The randomized controlled trial for pregnancy care provided woman in the intervention group with specific information from their health record related to evidence-based personal pregnancy care needs at appropriate times. There was six-fold difference in the use of the PCHR by women in the personalized information group compared to the group receiving only general pregnancy information. The MyBP study was a pilot randomized controlled trial investigating MyOSCAR for patient self-management of hypertension (versus a control group on a waiting list). Patients entered blood pressure readings and shared these with health professionals at their convenience and received recommendations on management, in addition to education on lifestyle and risk factors. MyOSCAR produced graphs of blood pressure readings indicating whether readings were in the controlled range. Nearly all (93%) patients in the intervention group entered at least one BP reading into their MyOSCAR record and 80% of patients using MyOSCAR had created a personal action plan. The MyMEDs study was a small pilot examining the feasibility of MyOSCAR to capture information on drug safety and effectiveness by capturing symptom information before and after receiving a new medication. Using patient completed tools on symptoms, MyOSCAR was able to identify medications with common adverse effects and monitor symptom changes over time.

Other ongoing research studies, funded by the Canadian Institutes for Health Research, include the electronic Asthma Action Plan System (eAAPS), and an in-depth exploration of users' perceptions of various features of MyOSCAR.

We are now (October 2011) embarking on the largest roll-out of MyOSCAR to date, to the family medicine population of 3 large teaching practices in Hamilton and Kingston Ontario, to examine implementation issues. The practices of 10 physicians will participate in the pilot, and approximately 10,000 patients will receive an invitation letter and a MyOCSAR account. The uptake of PCHRs has been slow in Canada and elsewhere. There are concerns by health care providers about increased workload, liability of electronic communications, accuracy of patient inputted information, and patient privacy. PCHRs with EHRs have the potential to contribute to higher quality care and improved efficiencies which are desperately needed in order to sustain health care systems through better coordination of clinical information, improved patient-provider relationships, and the ability for some patient groups to have more control over their health. Much more research is needed on how to overcome the logistic challenges of design, implementation and sustainability, the impact on clinical practice processes and patient behaviour, and the impact of PCHRs on health outcomes and cost-effectiveness.

For more information on MyOSCAR contact David Chan (dchan@mcmaster.ca) and for information on MyOSCAR research contact Lisa Dolovich (ldolovic@mcmaster.ca).

Evaluation of medical residents' ability to perform critical appraisal of evidence and its application in decision-making

Arial Izcovich, Martin Díaz, Carlos Gonzalez Malla, Matias Manzotti, and Hugo Catalano

The appropriate use of high-quality evidence to inform medical decisions is a skill that develops and improves with proper training. Medical schools in Argentina do not usually teach this skill as part of the curriculum.

We conducted two observational studies to evaluate the ability of resident physicians at the German Hospital of Buenos to perform critical appraisal of the evidence and to identify barriers faced by physicians in training regarding use of the best high-quality evidence for decision and recommendation making: Rate of Evidence Round (RER) and Challenge Round (CHR)

The **RER** study entailed critical appraisal of the evidence used to answer questions generated from weekly medical seminars over a 6-month period by both six Internal Medicine residents and a physician with advanced training in Evidence-based Medicine (EBM) expert physician.

Participating physicians completed an online form and rated evidence as high, moderate, low or very low quality, and justified their rating. The online form was based on the five criteria proposed by GRADE to rate the quality of evidence: directness, study limitations, imprecision, inconsistency and publication bias. We calculated the inter-rater agreement between the residents and the EBM expert with the kappa coefficient (k). We compared the critical appraisal ability of less versus more experienced physicians in training (residents in 1st and 2nd year, R1 and R2, versus residents in the 3rd and 4th year, R3 and R4).

The **CHR** trial involved weekly meetings, over a 5 month period, in which medical residents competed against two experts in EBM. In each meeting, a clinical scenario was presented which competitors resolved over the next week based on the best quality-evidence they could locate. After one week, each competitor completed an online form that included the following items: PICOT (population / intervention / comparison / outcome / type of question) question, details about their literature search (keywords, site of search and articles retrieved by the search), selected articles to inform their recommendation, their solution to the clinical scenario, strength and justification of their recommendation (weak or strong). A third physician with expertise in EBM who did not participate in the Challenge Round analyzed the recommendations performed by the resident groups and compared them to those done by the group of EBM experts. The recommendations made by residents were deemed "adequate" or "inadequate" relative to their match or mismatch with those performed by experts.

The results in the **RER** study found the following levels of agreement for rating evidence between residents from each year and an expert in EBM: R1: -0.4 (95%CI -0.8 to 0), R2: -0.4 (95%CI -0.9 to 0), R3: 0.1 (95%CI -0.5 to 0.7), R4 0.8 (95%CI 0.3 to 1). The most frequent areas of disagreement were identification of bias: R1: 37.5% disagreed with the expert in EBM, R2: 60%, R3: 55%, and R4: 11%, and in identification of imprecision: R1: 69% disagreed with the expert in EBM, R2: 40%, R3: 33%, and R4: 0%. We observed that residents with less training (R1 and R2) were more likely to disagree with the expert in EBM when rating the quality of evidence RR: 3.3 (95%CI 1.1 to 19.2), evaluating risk of bias RR: 4.3 (95%CI 0.8 to 4.3) and assessing for imprecision RR: 5.4 (95%CI 1.07 to 10.8) compared with more experienced residents.

Fourteen questions were generated from the clinical scenarios presented in the **CHR** study that led to 4 strong and 10 weak recommendations made by residents. The physician with expertise in EBM that evaluated recommendations felt that 42% (CI 95% 26 to 58%) of medical residents**'** recommendations were adequate, and that 80% (95%CI 59 to 100%) of these were correctly justified. The adjudicating physician concluded that the causes of an inadequate recommendation were: mistakes formulating the clinical question (62%; CI 95% 41 to 83%), inadequate searching for the evidence (48%; CI 95% 26 to 69%),

misinterpretation of the evidence (54%; CI 95% 37 to 70%) and mistakes in using the evidence to develop a recommendation (14%; CI 95% 4 to 40%). A univariate model analysis showed that both, mistakes made while constructing the question (RR: 2 CI 95% 1.05 to 3) and misinterpretation of the obtained data (critical appraisal and results analysis, RR: 5.7 CI 95% 1.7 to 30) increased the risk of making an inadequate recommendation.

The results of these experiences suggest an increased proficiency in critical appraisal skills as internal medicine residents, whose residency program includes daily EBM activities, progress in their training. Obstacles for optimal use of the best evidence for decision making may include:
1) proper formulation of clinical questions,
2) interpretation of the evidence, and
3) difficulties in performing critical appraisal of the literature.

While larger studies are required, ideally with use of a more rigorous process for adjudication, the information from our preliminary work may be helpful for informing teaching strategies to improve the way in which evidence is used to formulate recommendations and make clinical decisions.

Realist and meta-narrative syntheses: evolving standards (RAMESES)

Trisha Greenhalgh and Geoff Wong

The RAMESES project is an international collaboration between academics and policymakers to develop methodological guidance, publication standards and teaching resources for realist and meta-narrative evidence syntheses.

Complex social interventions present a challenge for the systematic reviewer. Policymakers need to know not merely whether a complex intervention works, but how and why it works. Two promising methods are realist review (which asks "what works, for whom, in what circumstances and why?"); and meta-narrative review (which asks "how have researchers conceptualised, theorised and empirically studied this complex topic?").
This project is funded by the UK's NIHR Service Delivery and Organisation (SDO) Programme. The RAMESES project will: (1) study examples of both 'exemplary' and 'problematic' reviews in the literature; (2) provide support for a sample of ongoing reviews and a discussion forum for practitioners; (3) run an online Delphi panel of experts; (4) produce and iteratively revise quality and reporting standards; and (5) pilot training resources

The RAMESES project is led by Professor Trisha Greenhalgh and Dr Geoff Wong from Barts and the London School of Medicine and Dentistry (UK) and Professor Ray Pawson from the University of Leeds (UK). Collaborating partners in the RAMESES project include representatives from 6 countries and 25 organisations.

If you would like to find out more about and/or join the RAMESES project please email Geoff Wong (grckwong@gmail.com) or visit our online discussion list at: www.jiscmail.ac.uk/rameses.

Resources & Reviews

Developing a curriculum for the international society evidence-based health care (ISEHC)

Craig M. Mellis

The mission of the newly created International Society Evidence-based Health Care (ISEHC) is to "foster & promote Evidence-based Health Care (EBHC) globally" (Prasad, 2010), and one of the initial aims is to develop a universal, clinically integrated EBHC curriculum, appropriate for both

medical schools and residency programs. The overarching intent of such an ISEHC curriculum is to provide an explicit, minimum skill set to enable all health care professionals to practice life-long EBHC.

Curriculum development is a complex process, and involves many discrete steps, apart from curriculum content (Coppus, 2007; McKimm, 2007). These include: Identifying the needs of the learners; agreeing on the aims, objectives, and learning outcomes of the curriculum; organization of the curriculum content (eg, discrete modules, recommended sequence); identifying and training clinical tutors to champion integrated EBHC; collating existing, and creating new learning resources, including e-learning modules, EBHC teaching videos, and published articles, such as "EBM Teaching Tips"; agreeing on a teaching strategy; providing an optimal educational environment . Of primary importance is that the teaching and learning is seamlessly integrated into day-to-day clinical care, such as morning report, ward rounds, outpatient clinics, morbidity and mortality meetings, and Journal Club.

The desired outcome from this proposed curriculum is that all clinicians will have a clear understanding of the principles of both EBHC, and Information Management (Slawson, 2005). Further, that with repeated clinical application of EBHC junior doctors will develop a life-long habit of EBHC. Because practicing clinicians have neither the time nor expertise to critically appraise original (primary) research papers, they are increasingly relying on pre-processed ('filtered') information to address their specific clinical questions. Nevertheless, clinicians must be aware of the classical steps in EBHC. Namely, acknowledging knowledge gaps, framing individual patients' clinical questions, finding the best available evidence, appraisal of that evidence, and determining whether the evidence is valid, important, and applicable to their patient. Clinicians must also be proficient in communicating the results of published evidence clearly to their patients, as well as determining their patients' values and preferences regarding the implications of these findings.

Although infrequent, clinicians will sometimes need to spend the time required to critically appraise an original article. To do this, they must have sufficient skill to know *which* article to choose. As a minimum, clinicians need to be aware of the major threats to validity in articles on therapy (both individual RCTs and systematic reviews), evaluation of diagnostic tests, and observational studies (relating to questions of either harm or prognosis). For example, in a therapy article; was there random allocation of subjects and was randomization concealed?; what proportion of subjects were lost to follow-up?; and was the outcome measure important to the patient? For a systematic review: was there likely to be publication bias?; was there substantial heterogeneity between primary studies?; and can you effectively interpret forest plots?

Thus, clinicians must know where to find appraisal checklists, such as the 'JAMA User's Guides' (Guyatt, 2008), and be aware that different checklists are required for different question types. As well as these checklists, clinicians must also be made aware of the risks of being misled by 'spin' in the published literature (Montori, 2004). This includes simple advice, such as confining their reading of original articles to methods and results. Further, to beware of being potentially mislead by early stopping of trials for benefit; trials with low event rates; implausibly large treatment effects; small, but statistically significant treatment effects; faulty comparators; composite end-points; subgroup analyses; and claims of non-inferiority ('equivalence').

Many different statistics are used to describe treatment effect, and clinicians must be able to interpret both absolute measures (Absolute Risk Difference and Number Needed to Treat for Benefit), and ratios (Risk Ratios, Odds Ratios, Hazard Ratios, and Relative Risk Reduction). They must also be able to distinguish statistical significance from clinical relevance; to be cautious interpreting surrogate outcome measures; to appreciate the power of a study; to understand the role of chance, and how this is assessed; plus the ability to interpret the information contained within reported 95% Confidence Intervals.

A major emphasis of the teaching and learning of EBHC should be on Information Management (Slawson, 2005), and specifically how to find and

use high quality, secondary ('filtered' or pre-processed) information sources. These include abstracts in the journal Evidence-based Medicine (& ACP Journal Club), Cochrane reviews, systematic reviews, and electronic textbooks (eg, "Up-to-Date" and "ClinicalEvidence") – all of which are specifically designed to enable clinicians to obtain rapid answers to their clinical questions. In an effort to keep pace with important clinical advances, learners should also be aware of the valuable role of high quality 'alert systems', such as "EvidenceUpdates" (BMJ Group, 2011).

This discussion paper is a brief overview of the issues to be considered in developing a generic ISEHC curriculum, and should be viewed simply as the starting point towards the eventual development of a universal, clinically integrated EBHC curriculum. On behalf of the curriculum committee of the ISEHC, we welcome feedback and suggestions from the EBHC community regarding all aspects of the process and content of this proposed EBHC curriculum.

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A medical literature rating tool for emergency physicians

Andrew Worster and Brian Haynes

Emergency medicine (EM) practice is influenced by studies published in non-EM journals but because emergency physicians (EPs) are unlikely to read most of these journals, there is delayed uptake of this information. To address this issue we developed the ''Best Evidence in Emergency Medicine'' (BEEM) rater scale to search for, identify, appraise, and translate potentially practice-changing studies for EPs. The BEEM rater scale is a medical literature-rating tool for EPs to collectively evaluate the relative clinical relevance of EM-related studies found in any medical journal based only on an article's title and conclusion in the Abstract. The scale serves as a clinical relevance filter to identify those studies with the greatest potential to affect EM practice such that only those studies identified by BEEM raters as having the highest clinical relevance are selected for the subsequent critical appraisal process and, if found methodologically sound, are identified as important sources of EM information. A prospective randomized study (currently in press) shows the BEEM rater scale to be a highly reliable (0.92 [95% CI = 0.89 to 0.94]) single-question tool for a minimum of 12 EPs to collectively rate the relative clinical EM relevance of any published study from a variety of medical journals without reading the study. Our next challenge is to validate the BEEM rater scale.

Workshops & Conferences

The TEACH (teaching evidence assimilation for collaborative healthcare) program

Louise Falzon

TEACH, which began in 2009, is an innovative annual 3 day workshop run by the New York Academy of Medicine Section on Evidence-based Health Care. The 3 track workshop links attendance to facilitated evidence-based quality improvement projects in participating centers and addresses 3 dimensions of evidence-based care:

- Guidelines
- Implementation
- Delivery to individual patients

The TEACH design emerged from collaborations between evidence-based medicine educators and pioneers in knowledge translation and comparative effectiveness research. [1] The conferences and workshops combine plenary sessions delivered by internationally recognized experts in the three track areas with interactive learning modalities centered around track-specific small group sessions. Attendees of the conferences include institutional delegations belonging to the same hospital, department, professional organization or research network. The delegations divide themselves across the different conference tracks, and, with the ongoing support of the TEACH faculty, return to their home centers to develop evidence-based care pathways linked to educational initiatives. Facilitation includes ongoing consultation with project leaders and special on-site workshops made possible through funding support by the US Agency for Healthcare Research and Quality.

TEACH is international, multidisciplinary and interspecialty, thus engaging a broad spectrum of professions, experience levels, and interests. Faculty are drawn from medical professionals, researchers, educators, nursing, and library sciences. Faculty and participants are largely from North America but also include representation from Europe, Asia and South America. Small groups are assigned at least one experienced faculty member, one tutor trainee and one librarian tutor.

Participants in all three tracks have access to an interactive website for online learning prior to and during the workshop. Attendees from participating care centers retain ongoing access to the website, and to applications that facilitate the development of on-site care and training initiatives. Preliminary experience suggests that the perspectives of individuals engaged in clinical policy development, implementation of care pathways on a systems level, and decision making for individual patients are likely to be both different and exclusive of each other. Hence, guideline developers frequently resist the necessity of engaging the issues pertaining to rendering their products actionable and adaptable, while those responsible for implementing improvement policies and guidelines in specific care settings may be equally resistant to the need to critically engage the process of evidence retrieval and review. The TEACH conference uses an evolving model that both expands the domain of evidence-based care and subordinates it to a well defined approach to problem definition and delineation. [2] Use of the instructional website and other innovative aspects of the conference design seek to address both the cognitive and attitudinal aspects of this challenge.

The 2011 TEACH Program will be held in New York City from August 10-12. For further information, log onto our website at: www.ebmny.org. Please feel free to send any questions to: ebmny@nyam.org.

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First Announcement

International Conference on Evidence-Based Healthcare

Inaugural Conference of the International Society for Evidence-Based Healthcare

http://isehc.blogspot.com/

Dates: **October 2012**

Venue: **India Habitat Centre, New Delhi, India**

For more information, please contact:

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IMPROVING YOUR PRACTICE / TEACHING THROUGH EVIDENCE-BASED CLINICAL PRACTICE
Monday, June 4th to Friday, June 8th, 2012

Come to McMaster, **the birthplace of evidence-based health-care**, to join in one of two closely related workshops. The first caters to clinicians who wish to **improve their clinical practice** through enhanced skills in reading, interpreting, and applying the medical literature. The second is designed for clinician educators interested in **enhancing their skills for teaching** the principles of evidence-based practice to others. Both workshops are tailored to faculty and community internists, hospitalists, and senior

What is Evidence-Based Clinical Practice / Evidence-Based Medicine?
Evidence-based clinical practice (EBCP) is an approach to health-care practice that explicitly acknowledges the evidence that bears on each patient management decision, the strength of that evidence, the benefits and risk of alternative management strategies, and the role of patients' values and preferences in trading off those benefits and risks.

Why Are Evidence and Values or Preferences Important?
Clinicians are confronted daily with questions about the interpretation of diagnostic tests, the harm associated with exposure to an agent, the prognosis of a disease in a specific patient, the effectiveness of a preventive or therapeutic intervention, and the relative costs and benefits associated with these decisions. Both clinicians and policy makers need to know whether the conclusions of a primary study or a systematic review are valid, and whether recommendations in clinical practice guidelines are sound.
Members of the Department of Clinical Epidemiology and Biostatistics at McMaster University, in collaboration with other colleagues trained in both medicine and in clinical epidemiology, have developed a set of **common sense strategies to assist in the critical appraisal of evidence**. They have also developed approaches to explicitly considering values and preferences in clinical decision-making, thereby encouraging the practice of EBCP.

Workshop Objectives

- Both streams: To help participants **advance their skills in critically appraising the literature**, and their skills in acknowledging and incorporating values and preferences in clinical decision making
- Fundamentals of EBCP stream: To acquire an understanding of common epidemiological concepts (e.g. interpreting hazard ratios, confidence intervals, critical appraisal of a systematic review) and advance their skills in using the literature for **quality assurance, improving practice, and judging comparative effectiveness** of health care interventions.
- Teaching EBCP stream: To help participants learn how to teach EBCP using a variety of educational models in different settings, with different types of learners.

Workshop Format
The workshop is offered as a one-week intensive course. Participants will be learning in **interactive small groups** led by clinical epidemiologists and practitioners from McMaster and other institutions. The workshop will consist of small and large group sessions, individual study time and opportunities for workshop participants to lead teaching sessions using their own ideas, materials, and reflecting their own experiences.

Workshop Materials
Prior to and during the workshop, participants will have on-line access to educational materials that include literature on critical appraisal and EBCP, the small group learning format, a set of clinical problems, JAMA evidence, and a variety of other EBCP aids.

Why Come to McMaster University?
McMaster University is not only the birthplace of evidence-based medicine, and has produced the definitive evidence-based health care texts. We also continue to lead the world in innovation and advances in EBHC practice and teaching. McMaster's workshop, running for more than 25 years, has provided the model for EBHC workshops throughout the world. Over this time, we have developed a cadre of the best EBHC educators in North America who return to the workshop year after year because of the intensely stimulating and educational environment. Come to experience the best in EBHC education!

Travel, Facilities and Accommodation
The workshop will be held at McMaster University. Upon confirmation of a definite placement in the workshop, you will receive a formal letter, access to the website and background and introductory materials will be provided with general information regarding specifics of the workshop, accommodation and travel. **TRAVEL AND ACCOMMODATION ARRANGEMENTS ARE THE RESPONSIBILITY OF THE REGISTRANT**. Modest accommodation is available on campus. Other accommodations are available in city hotels, 10-30 minutes away by foot, bus or car.

Registration Fees

	Cdn $*
One member from an institution	$2800
Two members from an institution	$2500 each
Three or more members from an institution	$2200 each
Registration before December 31: $200 fee reduction	

*Includes 13% Harmonized Sales Tax (HST # R119-035-988). Tuition includes all workshop materials, photocopying services, access to computer literature searching and dinner on the first and last evenings.

Please direct any inquiries to:
Deborah Maddock, EBCP Workshop Coordinator
Telephone: (905) 525-9140 ext 22900
Fax: (905) 524-3841
E-mail: maddock@mcmaster.ca

Register on-line at:
http://ebm.mcmaster.ca/online_registration.html

MAILING LIST

We would like to keep our mailing list as up to date as possible. If you are planning to move, have moved, or know someone who once received the newsletter who has moved, please e-mail maddock@mcmaster.ca or write your new address here and send to Deborah Maddock, CE&B, HSC 2C12, McMaster University Health Sciences Centre, 1280 Main Street West, Hamilton, ON L8S 4K1, Canada. Thank you!

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SIGN UP A COLLEAGUE!

If you would like to encourage a colleague to attend the workshop next year, please e-mail maddock@mcmaster.ca or write the address here and send to Deborah Maddock, CE&B, HSC 2C12, McMaster University Health Sciences Centre, 1280 Main Street West, Hamilton, ON L8S 4K1, Canada. Thank you!

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