Newsletter of the International Society for Evidence-Based Health Care
Newsletter 3, April 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

Chiropractors, Evidence-Based Health Care, and the McMaster Workshop

Jason Busse, Gordon Guyatt

McMaster's "How to teach evidence-based health care" workshop is the grand-daddy of Evidence-Based Medicine (EBM) workshops, running now for over 25 years. McMaster established the essential elements of the small group, interactive format using role play for participants to try out their teaching approaches in settings that simulate their home environments.

Initially, the target group of interest for the McMaster workshop was physicians - and the workshop was labelled "How to Teach Evidence-Based Medicine. The McMaster workshop has, however, evolved over its more than two decade history. Innovations have included adopting innovative approaches to large group sessions, experimenting with a mix of structured and less structured feedback, and placing increasing emphasis on outpatient and on-the-ward teaching opportunities (in contrast to morning report/journal club/tutorial sessions). We now encourage participants to try out the 30 second to 10 minute - or if extremely fortunate, 20 minute - educational opportunities that are the bread and butter of clinical EBM teaching.

A key innovation was the expansion of the workshop's target audience, and the corresponding change in the name to from EBM to evidence-based clinical practice (EBCP). The evolution of McMaster's target audience began with an expansion of the physician audience. For many years, internal medicine participants dominated the workshop. Family medicine has played an important but more limited role. For close to 20 years, the workshop has attracted at least one pediatric group, and pediatrics has grown and remained vibrant. Over a decade ago, there was a surge of interest in emergency medicine EBCP teaching from which the workshop benefited.

Also for over 10 years, the workshop has seen a variety of non-physician groups manifest interest in teaching evidence-based care, including dentists and nurses. Nursing has been a success - nurses now run their own separate workshop. The workshop has seen, from year to year, intermittent participation from physiotherapists and occupational therapists, podiatrists, and naturopathic medicine practitioners.

In 2011workshop enrollees include a cadre of - so far - 11 chiropractors. Chiropractic is the 3rd largest regulated healthcare profession in North America (behind medicine and dentistry). The volume of research conducted within chiropractic institutions has, however, been limited. Reasons for the low volume of research include sparse sources of research funding for chiropractic institutions, and historical tensions between medicine and chiropractic. Because of these tensions, many mainstream journals were previously hesitant to publish research by chiropractors or research findings that were favourable to chiropractic.

As a result of limited research efforts chiropractors in general have not received training within research-intensive environments. However, with funding opportunities increasing, including the recent creation within the National Institutes of Health of the National Center for Complementary and Alternative Medicine (NCCAM), chiropractic institutions have been increasingly encouraging the training of clinician scientists. In addition, mainstream journals have now largely embraced the opportunity to publish high quality research on CAM, including chiropractic, and many journals now include chiropractors on their editorial boards.

As research continues to have an increasing impact on chiropractic, interest in EBCP has grown. The result is reflected, in part, by growing participation in the McMaster EBM Workshop. Increased interest in teaching and applying evidence-based practices bodes well for development of the chiropractic profession, improved interprofessional communication and improved care of shared patients.

The 2011 workshop will, as usual, be blessed with the participation of leading EBM educators from around the world. Registration remains open - to chiropractors and others! - and we continue to welcome participants from each and every health care profession.

Disparities in Evidence

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The National Heart, Lung and Blood institute is in the process of developing clinical practice guidelines to improve the care of patients with sickle cell disease. In support of this initiative, methodologists from the Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group are assisting in conducting over 20 systematic reviews to summarize the evidence and help facilitate the development of evidence-based guidelines. This process has uncovered a disheartening disparity.

Sickle cell disease is not common among Caucasians or in high income countries (80,000 patients in the United States) but is very common in Africa: 10-40% of the population in Equatorial Africa are carriers of the gene and 200,000 are born annually with the disease. The disease burden on individuals and societies is immense including poor quality of life, recurrent pain, chronic multisystem complications requiring repeated hospitalizations and blood transfusions, and reduced life span.

Despite the societal and personal burden, and the fact that 2011 marks the centurial anniversary of describing the phenotype and clinical presentation of the disease, the quality and quantity of evidence in this field remains minimal compared to diseases of similar burden and prevalence in Caucasians or high income countries. There has been only one disease-modifying agent discovered (hydroxyurea) for the treatment of sickle cell disease. This agent has been tested in only two randomized trials that have a total sample size of 324 patients; both trials were unblinded, and one was stopped early for benefit (i.e., likely to overestimate the treatment effect). Clearly a disparity exists in the quality and quantity of evidence and the disease burden.[1,2]

In comparison, cystic fibrosis has enjoyed greater governmental and philanthropic support despite sickle cell disease being 2.5 times more common.[3] Cystic fibrosis is a genetic disease of whites. Furthermore, there have been tens of thousands of interventional trials conducted on diabetes, hypertension and hyperlipidemia which, although more common, have markedly less burden of illness on each patient, but a larger market share for tests, drugs and devices.

What does this obvious disparity in the availability of high quality evidence about sickle cell disease, related likely to where and who it affects, mean to us as teachers of evidence-based medicine (EBM)? What do we teach clinicians who care for sickle cell disease patients about implementing evidence-based care?

The uncertainty related to this paucity of high quality evidence requires that clinicians use lower levels of evidence — including unsystematic clinical observations — to guide clinical management. It also requires that clinicians face this uncertainty (e.g., should pregnant patients with sickle cell disease receive hydroxyurea at the end of the first trimester?) and share it in a caring way with patients. In this context, patients' values and preferences become essential drivers of clinical decision making.

Although the pressure and incentives to develop new treatments remains low, stakeholders should advocate on two fronts. First, for the development of new treatments and their formal evaluation in multicenter collaborative studies of high rigor: there is no room for wasted trials designed without appropriate methodological safeguards against bias. Second, for high quality healthcare delivery to patients with sickle cell disease (in other words, although only one drug is available, we need to make sure that it is utilized by those who are candidates for it). Unfortunately, many sickle cell patients who would benefit from hydroxyurea, don't receive this drug.

We look forward to input from others about ideas that can help guide learners of EBM to deal with situations in which disparities in the evidence lead to intolerably unfair practice disparities.

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2. Ferster A, Vermylen C, Cornu G, et al. Hydroxyurea for treatment of severe sickle cell anemia: a pediatric clinical trial. *Blood.* Sep 15 1996;88(6):1960-1964.
3. Smith LA, Oyeku SO, Homer C, Zuckerman B. Sickle cell disease: a question of equity and quality. *Pediatrics.* May 2006;117(5):1763-1770.

When is a Treatment Effect Too Big to be Believed?

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[3] **Dept of Medicine**

Some have advised practitioners to doubt claims of large treatment effects in clinical trials – say >20% relative risk reduction (RRR). It is true that only large treatment effects will reach statistical significance in small trials. But here, the issue is different: it is the view that because a treatment effect is large, it should not be believed. Yet examples exist of large trials or meta-analyses that reliably show very large treatment effects – eg the North American Symptomatic Carotid Endarterectomy Trial among patients with high-grade carotid stenosis, RRR of 81% for major or fatal ipsilateral strokes (1); a meta-analysis of 5 trials of post-partum anti-Rh immunoglobulin for prevention of Rh immunisation in Rh-negative mothers delivered of an Rh-positive fetus, RRR of 96% for maternal immunisation 6 months after delivery (2).

What determines the plausible size of treatment effect in a clinical trial? Recently, we took a fresh look at this (3). We examined the relevance and importance of the proportion of target outcome events attributable to the specific cause to which the intervention is targeted (the "attributable fraction" in the trial population, AFp). We also examined the role of the efficacy of the intervention being tested among trial participants at risk for target outcome events from that specific cause, and not from other causes (relative risk reduction among those at risk for an attributable target event, RRRat risk). Using these variables, we described a model that accounts for the size of treatment effect in a clinical trial: RRRtrial = (AFp) (RRRat risk).

The increase in RRRtrial which results from raising AFp exceeds that possible under the traditional high risk/high response approach to trial design, and operates at any overall control event rate. AFp can be estimated from studies of causation that determine both overall risk and attributable risk due to specific causes.

Attributable fraction, applied to target outcome events in a clinical trial population, highlights the importance of a prior estimate of attributable risk in setting the hypothesized size of effect at the trial planning stage. That estimate is most reliably supplied by systematic reviews of cohort and case-control studies that determine attributable risk. Attributable fraction may be relevant also in judging the credibility of reported treatment effects, particularly large treatment effects, when deciding whether to apply the results in patient care.

We think that the concept of population attributable fraction applied to a clinical trial will suggest an area of common interest to observationalists and experimentalists in the Evidence-based Medicine (EBM) community: those who study etiology and causation, and those who determine treatment effects in clinical trials. As well, we anticipate an impact on the teaching of EBM. We welcome comments, criticisms, and suggestions for future exploration of the applicability of this concept to the practice and teaching of EBM.

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1. North American Symptomatic Carotid Endarterectomy Trial Collaborators. Beneficial effect of carotid endarterectomy in symptomatic patients with high-grade stenosis. N Engl J Med 1991;325:445-53.
2. Crowther CA, Middleton P. Anti-D administration after childbirth for preventing Rhesus alloimmunisation. Cochrane Database Syst Rev.
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Teaching & Practice Tips

Making Evidence-Based Medicine Happen: Innovations and Interventions in Shared Decision Making

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The second principle of evidence-based health care requires that research evidence be considered in the context of patient circumstances, values, and preferences. This is not an easy task, particularly insofar as engaging patients and sharing evidence with them so their choices and behaviours are informed by the best available research. Decision aids are tools that can help clinicians and patients share in the decision-making process, especially when these tools are used during the clinical encounter.

Mayo Clinic is a patient-centred organization with internal resources in practice, education, and research aligned to promote best practices for shared decision making through patient education, clinician communication training, social media, innovation, health policy, and patient and family advisory groups. The Shared Decision Making National Resource Center is a new initiative at Mayo Clinic, spearheaded by the Wiser Choices Program at the Knowledge and Evaluation Research Unit and the Mayo Clinic Healthcare Delivery Research Program. The objective of the Center is to advance patient-centred medical care by promoting shared decision making through the development, implementation, and assessment of patient decision aids and shared decision making interventions, particularly for patients with chronic conditions and cardiovascular diseases. The Center also contributes to statewide implementation efforts through the Minnesota Collaborative on Shared Decision Making, in addition to setting international standards for patient decision aids and promoting national and international dialogue about patient-centred care.

The Wiser Choices Program has developed, or is in the process of developing, 13 decision aids for various contexts, populations, and settings, several of which have undergone or are undergoing evaluation in practical multicenter randomised trials. These decision aids have been used in over 50 sites, by more than 200 clinicians, and with more than 600 patients. They have been designed to facilitate conversation between healthcare professionals and patients and are intended for use during the clinical encounter. Additionally, some of the decision aids can be used as tools for patient-centred translation of comparative effectiveness research into routine practice. Overall, these tools have created conversations between patients and their clinicians, increased patient involvement and knowledge relevant to their choices, and had variable impact on choice and adherence.

Examples of our decision aids include the Diabetes Medication Choice Decision Aid, which helps patients compare and choose among available diabetes medicines using issue cards; and the Statin Choice Decision Aid, which uses pictographs to present individualised risk of coronary events with and without a Statin regimen. Our decision aids are available for public viewing and use through the Shared Decision Making National Resource Center (http://shareddecisions.mayoclinic.org/), the Knowledge and Evaluation Unit webpage (http://kerunit.e-bm.org), or directly by accessing http://kercards.e-bm.info.

SOURCE Evidence-Based Surgery Program Update

Achilleas Thoma, Teegan Ignacy

The Surgical Outcomes Research Centre (SOURCE, McMaster University) Evidence-based Surgery (EBS) Working group continues to develop its “Users’ Guides to the Surgical Literature” article series that is being published in the Canadian Journal of Surgery (CJS). Each article is prefaced with a surgical scenario, and the series is intended to educate surgeons and residents on how to find, assess and incorporate evidence from the surgical literature into their practices. Currently 13 articles in this series have been published in CJS and 2 have been submitted for publication (visit www.cma.ca/cjs to obtain a free article copy).

Recent series articles published:

1. Dijkman B, Kooistra B, Bhandari M. (2009) "Users' guide to the surgical literature: how to work with a subgroup analysis." Can J Surg 52(6): 515-22.

List of articles currently submitted to CJS for publication:

1. Thoma A, Farrokhyar F, Bhandari M, Goldsmith CH. Users' guide to the surgical literature: how to assess a survey in surgery.
2. Cadeddu M, Farrokhyar F, Levis C, Thoma A. Users' guide to the surgical literature: how to assess confidence intervals.

Watch for future articles addressing practice guidelines and continuing surgeon education.

EBS Workshops for McMaster Faculty
Hamilton, ON Canada
SOURCE has also developed an interactive EBS Workshop based on the article series. The workshop consists of small group tutorials led by trained surgeon tutors addressing the various topics covered in the EBS articles (tutors: Dr. Achilles Thoma, Dr. Charlie Goldsmith, Dr. Forough Farrokhyar, Dr. Mohit Bhandari). The group held EBS workshops for the Faculty in the Department of Surgery at McMaster University addressing the topics of randomized controlled trials in surgery (May 2007), health-related quality of life (Jan 2008), systematic reviews & meta-analyses (Feb 2009), power calculation & sample size (Feb 2010), and decision analysis (Feb 2011).

EBS Workshop for North American Plastic Surgeons
Hamilton, ON, Canada
This year SOURCE is holding its Second Annual EBS Workshop for Plastic Surgeons, November 3-4, 2011 in Hamilton, ON. Following a successful 1-day workshop last year, SOURCE is expanding to a 2-day workshop and inviting both American and Canadian plastic surgeons to attend. We hope to further encourage the incorporation of EBS into the field of plastic surgery using practical examples of relevance to plastic surgeons.

EBS Workshop for Practicing Surgeons
Jeddah, Saudi Arabia
This year SOURCE is holding an EBS workshop for surgeons of all specialties at King Faisal Hospital & Research Centre in Jeddah, Saudi Arabia. The workshop will be an extended 3-day event where the tutors will cover 6 articles, each tackling a particular topic in research methodology. Participants will include hospital staff and faculty as well as any international visiting fellows.

For more information about SOURCE and the EBS program, visit our website at www.fhs.mcmaster.ca/source/ or contact Teegan Ignacy, EBS Program Manager at ignacyta@mcmaster.ca, 905-522-1155 x 35874.

Special thanks to Dr. Charlie Goldsmith, Dr. Roman Jaeschke and Dr. Gordon Guyatt for lending their editorial expertise to our series articles.

Teaching Public Health Decision Makers How to Conduct an Efficient Search: The 6S Pyramid of Pre-processed Evidence

Maureen Dobbins

When asked where they search for evidence, public health decision makers endorse use of the online search engine Google. They also describe the process of searching for relevant literature as overwhelming, frustrating and not at all satisfying. The 6S model (systems, summaries, synopses of syntheses, syntheses, synopses of single studies, and single studies) provides the opportunity to apply a rational and logical process to searching the literature that results in more efficient identification of relevant and high quality evidence. The 6S pyramid ranks levels of evidence according to degree of synthesis achieved, with the top level of the pyramid corresponding to systems-level evidence followed by summaries (guidelines) and the bottom of the pyramid featuring the least-synthesized evidence in the form of primary studies.

Systems

There is currently no systems-level evidence for public health.

Summaries

The summary level of the pyramid is for guidelines, and we have created a table of recommended public health relevant guideline sites:
http://health-evidence.ca/tools/show/12.

Synopses of Syntheses

Decision makers are generally less familiar with synopses of syntheses. Synopses highlight key findings from syntheses and provide context, making it easier to determine relevance without reading the full review. The table linked above also provides a listing of sources that provide synopses of syntheses.

Syntheses

Synopses of syntheses don't exist for all questions, but individual syntheses (i.e. systematic reviews) still save time, eliminating the need to critically appraise and synthesize individual studies. There are many sources of public health reviews addressing the effectiveness of interventions, including the National Institute for Health and Clinical Excellence (NICE), the Centers for Disease Control Task Force on Preventive Services, Center for Reviews and Dissemination, and Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre). Health-evidence.ca is a registry of review-level effectiveness evidence that includes all published reviews since 1985 which are then screened and critically appraised. Health-evidence.ca is updated on a quarterly basis.

Synopses of Single Studies

Synopses offer a summary or overview of a primary study, sometimes with an accompanying appraisal (as in Evidence-Based Nursing and Public Health +) and implications for practice/policy. We review these sources in order to help decision makers become aware of these resources.

Single Studies

Lastly, we draw attention to the numbers next to the search results at the bottom of the pyramid, and compare to the numbers of results further up. By working our way through the 6S pyramid it is clear to see how starting at the top of the pyramid can save significant time and effort, rather than starting at the bottom with single studies.

References:

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2. Robeson P, Dobbins M, DeCorby K, Tirilis D. Facilitating access to pre-processed research evidence in public health. BMC Public Health 2010;10(95).

Handbook "Measurement in Medicine"

Authored by: Henrica C.W. de Vet, Caroline B. Terwee, Lidwine B. Mokkink and Dirk L. Knol.
Issued by: Cambridge University Press
Date of appearance: August 2011

It is a pleasure to announce a new book entitled "Measurement in Medicine". It is issued by Cambridge University Press in the series Practical Guides to Biostatistics and Epidemiology.

You might be interested in this book as researcher or as teacher in the field of measurement instruments and the quality of measurements. The terminology and definitions in the book of the measurement properties are based on the COSMIN study. The book provides a theoretical background combined with many examples. Moreover, there are assignments at the end of each chapter, with solutions and data-bases for practice at a special website. This is a perfect course book for students and a perfect companion for professionals/researchers in the medical and health sciences who care about the quality and meaning of the measurements they perform.

More information on the book can be found at the website of Cambridge University Press http://www.cambridge.org/gb/knowledge/isbn/item6439316/?site_locale=en_GB

If you have any questions, please let us know!

Henrica C.W. de Vet
Caroline B. Terwee
Lidwine B. Mokkink
Dirk L. Knol

Research & Reviews

The FLOW* effect – the first 100…

*Fluid Lavage of Open Wounds (FLOW): An International Multicenter RCT Comparing Alternative Irrigating Solutions and Pressures in Patients with Open Fractures

Susan Liew, Philip Chan, Zoe Murdoch, Claire Sage

The Alfred, Australia

Wow! CA$200 per patient enrolled and we receive about 150 open fractures per year at our Level 1 Trauma Center. We enrolled our first patient in September 2009 and in March 2011 we recruited our 100th patient.

What did we find?

Our patients are comprised of 73 males (mean age 39 years) and 27 females (mean age 46 years) with 67 being involved in a motor vehicle accident. Our first 100 patients recruited for the definitive trial in comparison to the original pilot patients are very similar in fracture site and grading and randomization has been successful in equally allocating patients among our 6 treatment arms.

How did we do it?

Passion is worth more than money
Our site investigators became champions of the study and were prepared to do some of the leg-work themselves because the limited reimbursement for recruited patients did not allow for a research assistant. Our site investigators were a surgeon and a post-doc research fellow. It helped that the clinician was the Head of the Trauma Unit.

Just do it!
It also helped that the research fellow was already familiar with the process for Ethics approval at our institution. Once you have Ethics approval there is no better test of your theoretical process set-up than to start recruiting. It's a steep learning curve – but relish the learning and be prepared to troubleshoot and improve your processes QUICKLY (the study won't wait for you once you start recruiting).

Teamwork
It is important to have regular research staff meetings to discuss progress with enrollment and brainstorm solutions to problems. Communication with clinical staff is important for keeping track of recruited in-patients, keeping patients in their correct randomized treatment group for subsequent operations, and for maintaining proper documentation. Practical study aids we have instituted include a whiteboard listing all current trial patients which is briefly referred to every day at the clinical handover meeting and delegating specific responsibilities (e.g. one person to follow all re-operations with the Plastics Unit). Keep everyone engaged in the study by giving them information! Research personnel need to orientate, educate, and remind clinical staff of the purpose and process with passion and OFTEN! Lastly, someone on the research team was always available to answer questions.

Reduce barriers to study participation
Our junior medical staff took on most of the study processing duties as we had no research assistant. Processes were RAPIDLY fine-tuned along ways to support these doctors who had to take on extra paperwork. Listen to your staff about how things can work better – it may be as simple as where the forms are available. We have found that incorporating information, links, and printable forms on a departmental webpage has been very helpful.

Stay on top of things
Don't get behind with data collection! It gets harder, more time-consuming, and very discouraging to play catch up. If you do get behind, consider stopping recruitment for a while – be honest and don't let it get to the stage where the trial organizers are (embarrassingly) starting to make those suggestions to you. If you don't have enough staff, you can roll up those sleeves yourself - problem identification suddenly becomes quicker if you experience these things first hand!

Use all the resources available to you
Use or at least try (before you decide they won't be suited to your particular institution/practice!) all the tools the study organizers have given to you. We found the Excel patient tracker provided by the study to be just what we needed.

Perseverance
We continue to submit grants to try to fund a research assistant and have recently received a modest grant to fund a part-time research assistant. We are in the process of re-submitting (this will be the third year) an application to Australia's most important medical research granting body (the NHMRC) and we hope that this may be "our" year!

The turning point for us came one year (Sept 2010) after we started recruitment. I began to take my own advice and we got extra help! During our 18 months of recruitment we have improved recruitment, decreased protocol deviations, and are cleaning up our data. In the first 12 months, which included a 2 month non-enrolment period, we only recruited 58 patients. In the last 6 months, incorporating the aforementioned tactics, we recruited 42 patients.

And the effect? Well, we all look forward to the outcome of the trial - but for us, it has improved the academic standing of our Unit. We have learned a lot and established that our Unit can support and contribute to good research, and uphold the principles of evidence-based healthcare – even in orthopaedic surgery!

Increasing Student Engagement with an Evidence-Based Medicine Assignment by Simulating Continuing Medical Education

Brettany Johnson, Dale Storie, Sandy Campbell, Robert Hayward

At the University of Alberta, undergraduate medical students are introduced to evidence-based medicine (EBM) concepts and skills at several key stages in the first two years of their program. Medical librarians from the John W. Scott Health Sciences Library play a significant role in supporting the development of students' searching and appraisal skills. One avenue of instruction has focused on practicing these skills during the transitional course that bridges students' pre-clinical and clinical experiences. In the past, students have completed a paper-based "seeking evidence" assignment, but course feedback indicated that the assignment was perceived as being useful but slightly repetitive and not very interesting. In the fall of 2010, the library partnered with the Centre for Health Evidence to develop and pilot an interactive online version of this assignment. The project focused on increasing student engagement by simulating a continuing medical education (CME) experience that many students will encounter in their future medical careers.

What was done?

The Centre for Health Evidence (CHE) is a not for profit organization that provides a range of information and communication services to support the learning, teaching and practice of evidence-based health care. CHE has collaborated with the College of Family Physicians of Canada to develop the ePearl, an online self-directed learning activity that supports the Pearls continuing medical education program, used widely by practicing family physicians. This model was adapted for use as a student assignment and was termed a Personal Evidence Project (PEP).

Like the ePearl, the PEP was designed around the information cycle popularized by the Users' Guides to the Medical Literature:

- Assessing an initially disorganized information mix in order to recognize and detect important patient problems;
- Asking relevant questions that suggest an appropriate source of information and are specific enough to facilitate an efficient search for evidence;
- Acquiring the most important evidence from an ever-expanding health literature;
- Appraising the best information to expose overt bias and variability; and
- Applying useful, valid and important evidence while monitoring health outcomes to see whether the patient or population goals are achieved.

Students completed the online assignment in a computer lab during dedicated class time. Upon beginning the activity, the student was prompted to identify a clinical problem, after which he or she was guided through the evidence-based decision making process. As learners progressed, they were linked to question-specific resources and tools that assisted in completing each stage of decision making. Responses at each stage were stored used to generate a final Personal Evidence Project report suitable for submission.

How was the project assessed?

All of the students had completed a similar paper based assignment earlier in their program. At the end of the lab session, students were asked to complete an online survey which was designed to measure their preference for the paper or online delivery of the assignment; the ease of use of the paper assignment compared to the online assignment; and the extent to which they found completing the assignment in a simulated continuing medical education format engaging. Additional questions collected information on the students' perceptions of their personal information competency prior to entering their clinical clerkship years, as well as their needs and preferences with respect to library instruction.

What were the results?

42 of the 155 students who complete the PEP assignment also completed part or all of the online survey, for a response rate of 27%. A majority (86%) of the respondents indicated that they preferred completing

the online assignment. The majority (81%) also believed that completing the assignment online was easier than the paper format. Furthermore, most respondents found the introduction to the CME environment helpful (86%). Three key themes emerged in response to an open-ended question that asked students to comment on what they liked about the assignment. In terms of the design of the assignment, students valued its clinical relevance and the opportunity to immediately apply what they had learned. They also appreciated the structured step-by-step format. Finally, students believed that the assignment provided them with an opportunity to learn to use medical information resources effectively given the time constraints of clinical practice. Still, in response to an open-ended question that asked how the assignment could be improved, students also reported that they would have benefited from having more time for completion. Overall, the new assignment was very well-received.

What is the impact of the project?

Our results suggest that the online assignment was successful in increasing student engagement with evidence literacy. The assignment was more relevant to students because it was designed to simulate an activity that they will undertake as a practicing physician. It also allowed students to immediately practice what they had learned. Finally, this project also improved the assessment workflow for instructors by integrating the assignment with the program's learning community management system. Based on these results, the Library and CHE will collaborate to deliver subsequent evidence seeking instruction using the online PEP format. The assignment will also be integrated as part of a longitudinal evidence literacy curriculum that is being piloted with first and second year students this year. Next steps for this project also focus on providing students with the option to add their completed assignment to an integrated online learning portfolio.

A Systematic Review on the Negative versus Positive Framing of Health Information Messages

Elie A. Akl, Holger J. Schünemann

Various theories exist that suggest that certain health care messages (e.g. prevention, screening and therapeutic messages) are more or less prone to framing effects. The objective of this systematic review was to evaluate the effect of negative versus positive framing of the same health information (e.g. 20% chance of dying vs. 80% chance of surviving) on understanding, perception, persuasiveness, and behavior.

We followed standard Cochrane methods. We conducted an electronic search of MEDLINE, EMBASE, PsycINFO (using OVID platform) and CENTRAL from inception of each database until October 2007. We included studies with health professionals and consumers evaluating one of two types of framing: attribute framing (positive or negative encoding of a specific attribute of a single item) and goal framing (positive or negative framing of the consequences of performing or not performing an act). We used the Grading of Recommendations Assessment, Development and Evaluation(GRADE) approach for assessing the quality of evidence by outcome. We stratified the analysis by the type of framing (attribute, goal). Attribute framing is the description of a specific attribute of a single item or a state positively versus negatively (e.g., " the chance of survival with breast cancer is 2/3 " versus " the chance of mortality with breast cancer is 1/3 "). Goal framing is the depiction of the consequences of performing or not performing an act as a gain versus a loss (e.g., " if you undergo surgery for breast cancer, your survival will be prolonged " versus " if you don't undergo surgery for breast cancer, your survival will be shortened "). We conducted pre-planned subgroup analyses by the type of message (screening, prevention, and treatment).

Of 23,493 citations retrieved in our search, we included 35 eligible studies reporting 51 comparisons. With attribute framing, participants understood the message better when it was framed negatively than when it was framed positively (SMD -0.58 (-0.94 to -0.22); moderate effect size; moderate quality evidence). Although positively framed messages may have been better perceived than negatively framed messages (SMD 0.36 (-0.13 to 0.85); small effect size; low quality evidence), there was little or no difference in persuasiveness (SMD 0.07 (-0.23 to 0.37);low quality evidence) and behavior (SMD 0.09 (-0.14 to 0.31);moderate quality evidence). With goal framing, participants perceived loss messages as more effective than gain messages for screening topics (SMD -0.30 (-0.49 to -0.10); small effect size; moderate quality evidence) and loss messages may have been more persuasive for treatment topics (SMD -0.50 (-1.04 to 0.04); moderate effect size; very low quality evidence). There was little or no difference in behavior (SMD -0.06 (-0.15, 0.03); low quality evidence).

In summary, and contrary to commonly held beliefs, the available low to moderate quality evidence suggests that framing may have little if any effect on behavior. These results do not support framing effect theories in relation to health messages.

Reference:

Akl EA, Oxman AD, Herrin J, Vist GE, Terrenato I, Sperati F, Costiniuk C, Blank D, Schünemann H.Negative versus positive framing of health information messages. Cochrane Database Syst Rev.

A Systematic Review on Using Alternative Statistical Formats for Presenting Risks and Risk Reductions

Elie A. Akl, Holger J. Schünemann

Clear and effective communication of statistical information is essential for the successful implementation of evidence-based practice. The objective of this systematic review was to evaluate the effects of using alternative statistical presentations of the same risks and risk reductions on understanding, perception, persuasiveness and behaviour of health professionals, policy makers, and consumers.

We conducted a comprehensive search of the following electronic databases, from inception of the database until October 2007: Ovid MEDLINE, EMBASE, PsycLIT, and the Cochrane Central Register of Controlled Trials. The first comparison of interest was the presentation of a risk as frequencies versus probabilities. The second comparison of interest was the presentation of a risk reduction as relative risk reduction (RRR) versus absolute risk reduction (ARR) versus number needed to treat (NNT). Two reviewers, independently and in duplicate, screened studies, extracted data, and assessed risk of bias. We contacted investigators to obtain missing information. We used the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach for assessing the quality of evidence by outcome.

Of 23,493 citations retrieved in our search, we included 35 studies reporting 83 comparisons. None of the comparisons recruited policy makers or assessed behaviour. Participants understood natural frequencies better than probabilities. Compared with ARR, RRR had little or no difference in understanding but was perceived to be larger and more persuasive. Compared with NNT, RRR was better understood, was perceived to be larger and was more persuasive. Compared with NNT, ARR was better understood and perceived to be larger. There was little or no difference for persuasiveness between AAR and NNT, which were perceived as equally persuasive. Overall there were no differences between health professionals and consumers. The overall quality of evidence was rated down to moderate because of heterogeneity and/or the use of surrogate outcomes.

In summary, for the presentation of risks, natural frequencies are probably better understood than probabilities. For the presentation of risk reductions, RRR may be perceived to be larger and is more likely to persuasive compared with ARR and the number needed to treat NNT. However, it is uncertain whether presenting RRR is likely to change behaviour.

Reference:

Akl EA, Oxman AD, Herrin J, Vist GE, Terrenato I, Sperati F, Costiniuk C, Blank D, Schünemann H.Using alternative statistical formats for presenting risks and risk reductions.Cochrane Database Syst Rev. 2011 Mar 16;3:CD006776.

JOB OPPORTUNITY

A major medical publisher in Philadelphia is seeking a full-time physician editor to help further develop a respected evidence-based, electronic, point-of-care medical knowledge resource. The candidate should have extensive training and background in evidence-based medicine and guideline development as well as broad clinical experience, a comprehensive knowledge of medicine and excellent writing and editing skills. More is available by telephoning David Goldmann, MD, Editor-in-Chief, at 215-239-3770.

Regional Reports

The Adaptation and Adoption of Evidence-Based Practice Guidelines in Kazakhstan

Eddy Lang, Jessie McGowan, Vicki Foerster, David Montoya

In an initiative co-financed by the Republic of Kazakhstan and the World Bank, and directed through the Canadian Society for International Health, the Republic of Kazakhstan is engaging in a large-scale reform of its health care system guided by the principles of Evidence-Based Medicine. Specific initiatives consist of developing capacity for the creation of Clinical Practice Guidelines (CPGs) to improve quality and efficiency of medical care and adaptation / adoption of high-quality existing CPGs. Guidelines that are developed will use the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system for rating overall quality of evidence. A Russian translation of the Appraisal of Guidelines for Research & Evaluation (AGREE) instrument is being used to identify CPGs for consideration of inclusion in the Kazakh healthcare system. Post-partum hemorrhage, a major cause of maternal mortality in the Republic of Kazakhstan is thought to have diminished considerably since the implementation of World Health Organization guidelines addressing the topic. The adoption evidence-based CPGs is hoped to result in similar benefits in other clinical situations.

The project for adaptation of existing CPGs was piloted on a recent mission to the capital Astana where a group of leaders in Obstetrics and Gynecology from across the country were gathered for training in the CAN-IMPLEMENT© guideline adaptation and implementation planning resource and AGREE instrument. Under the guidance of 'train the trainer' faculty, attendees evaluated translated CPGs from the Canadian Society for Obstetrics and Gynecology addressing preterm membrane rupture and antibiotics, management of post-date pregnancies and breech deliveries.

The CPGs were reviewed on a recommendation by recommendation basis and either adopted, rejected or modified using consensus principles. The workshop participants also engaged in a rigorous priority setting exercise that defined which areas of maternal/child health are most urgently in need of guidelines. The pilot participants further relayed that the process of moving to evidence-based CPGs to guide clinical decision-making represents a desirable change to their current approaches for defining optimal clinical practice. Additional workshops involving clinician leaders from other health fields in the Republic of Kazakhstan are currently in the planning phase.

RESOURCES & REVIEWS

New Evidence- Based Behavioral Practice Modules in Development

Molly Ferguson, Bonnie Spring

The Evidence-Based Behavioral Practice (EBBP) project is in the process of creating two new online learning modules that will be available at www.ebbp.org in Fall 2011:

Stakeholder Dialogue about Evidence-Based Practice

The aim of this module is to educate practitioners and researchers about each others' perspectives on research and evidence-based practice. To gather content, we interviewed diverse stakeholders - clinicians, community health workers, administrators, patients, and community members from urban and rural settings. They generously shared with us their views about research: what it is, why it is done, what it contributes versus the effort and resources required, what kinds of questions are important to ask, who should be involved in formulating the research questions(s), where research funds should be allocated, optimal conduct for studies, models of successful partnership between academic researchers and real world practitioners, and how best to facilitate evidence-based practice. The finished module will include didactic content on community-campus partnerships and practice-based research, enlivened by illustrative video clips involving stakeholders.

Implementation of Evidence-Based Practices

This module will address the challenges of implementing and sustaining evidence-based practices into real world settings. We begin with an introduction to the theory and practice of implementation science. Learners will then encounter several case scenarios that enable them to try out implementing what they have learned. The cases, drawn from real life examples, illustrate challenges and decisions involved in implementing evidence-based practices or programs at the individual and community levels.

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*. All training resources from the EBBP Project are available free of charge at www.ebbp.org/training.html. 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.

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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!

NAME: _____

ADDRESS: _____

_____

CITY: _____

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POSTAL CODE: _____

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TELEPHONE: _____

FAX: _____

E-MAIL: _____

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!

NAME: _____

ADDRESS: _____

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CITY: _____

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TELEPHONE: _____

FAX: _____

E-MAIL: _____

RECOMMENDED BY: _____

HOW TO TEACH EVIDENCE-BASED CLINICAL PRACTICE
Sunday, June 5th to Friday, June 10th, 2011

REGISTRATION BEGINS September 20, 2010

Come to McMaster, the birthplace of evidence-based health-care, to join other clinician educators interested in communicating the concepts of evidence-based clinical decision-making to their clinician learners. The workshop accepts clinicians from a wide variety of backgrounds; there are typically groups in internal medicine, pediatrics, emergency medicine, surgery, family medicine, gastroenterology, a Spanish group and a French group. This international workshop caters to all those interested in medical education, and may be of particular interest to program directors, chief residents, hospitalists, and educators with a focus on continuous quality improvement/quality assurance.

The EBHC workshop is aimed at clinicians, physicians, nurses, pharmacists, occupational and physiotherapists, dentists, chiropractors and other health-care professionals - who wish to go beyond simply learning evidence-based clinical practice (EBCP) and advance their skills in communicating EBCP concepts. The workshop uses small-group formats for participants to practice their skills. Participants should be prepared to practice their own teaching in the small group format.

What is Evidence-Based Clinical Practice / Evidence-Based Medicine?
Evidence-based clinical practice 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?
Daily, clinicians confront 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 costs and clinical consequences of many other decisions. Both clinicians and policy makers need to know whether the conclusions of a systematic review are valid, and whether recommendations in practice guidelines are sound.
The tradeoffs between risks and benefits are often finely balanced. Patients with differing values and preference will make different choices.
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
- To help participants advance their critical appraisal skills, and their skills in acknowledging and incorporating values and preferences in clinical decision making
- To help participants learn how to teach EBCP using a variety of educational models

Workshop Format
The workshop is offered as a one-week intensive course. Participants will be learning in 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 Participants
Some course participants will come with a basic understanding of the principles of EBCP. These individuals will be as interested in deepening their understanding of these principles as they are in learning new teaching strategies. Other participants will have extensive experience and a deep understanding of the principles, and will be coming to advance their teaching skills. Still others will have intermediate skills. To accommodate everyone's needs, we will try to create a number of groups with different emphases.

Workshop Materials
Prior to the workshop, participants will have access on-line to educational materials that include literature on teaching critical appraisal and EBCP, the small group learning format, and a set of clinical problems. We expect participants to familiarize themselves with this material in advance of the workshop and to arrive prepared to role-play teaching settings that they have encountered and in which they wish to improve their performance.

Tutorial Group Selection Syllabus
The following will help you select the appropriate level of tutorial group for you:

Category A
You feel there are important gaps in your understanding of the principles of critical appraisal. You often feel uncertain of yourself when teaching, and wonder whether you've got it right when you critically appraise an article or whether you've missed something important. You are looking for a tutorial group in which a substantial amount of the time is spent on understanding critical appraisal.

Category B
You are comfortable with critical appraisal issues, but don't consider yourself expert. You have done a fair bit of teaching in the area, and are looking for a tutorial in which some time will be spent on content issues, but the majority of the time will be spent on evidence-based teaching techniques.

Category C
You have lots of experience and expertise, perhaps with formal training in clinical epidemiology or a related field. You are looking for a tutorial in which the overwhelming proportion of the time is spent on teaching evidence-based clinical practice.

Travel, Facilities and Accommodation
The workshop will be held in McMaster University's Health Sciences Centre. Upon confirmation of a definite placement in the workshop, you will receive a formal letter, access to the website and email copies of the Planning and Logistics Guides 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.

Cancellation Policy
A refund will be returned, minus $100.00 administrative fees for a cancellation up to May 5th, 2011. There will be **NO** accepted refunds after May 5th, 2011 (one month prior to the workshop).

Registration Fees

	Cdn $*	US $*
One member from institution	$3000	$2900
Two members from institution	$2500 each	$2420 each
Three or more members from institution	$2000 each	$1935 each

*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.

- Acceptance in the workshop will be **confirmed by letter**. If you have not heard about your placement by February 1st, 2011, please contact our office.
- Deadline for registration is May 16, 2011.

Please return the completed application form and registration fee (North American registrants please send cheque or money order; non-North American registrants please send international money order drawn on a USA or Canadian bank).

PLEASE MAKE THE REGISTRATION FEE PAYABLE TO McMASTER UNIVERSITY, and send to:

Deborah Maddock, EBCP Workshop Coordinator
McMaster University Health Sciences Centre
Clinical Epidemiology & Biostatistics, Room 2C9
1280 Main Street West
Hamilton, ON
Canada L8S 4K1
Telephone: (905) 525-9140 ext 22900
Fax: (905) 524-3841
E-mail: maddock@mcmaster.ca

Registration can be done on-line at:
http://ebm.mcmaster.ca/online_registration.html

PLEASE PRINT CLEARLY

⦶ DR ⦶ MS ⦶ MR
Name: _____

Current Position: _____

Institution: _____

CLINICAL FIELD (please check):

- ❑ Emergency Medicine
- ❑ Family Medicine
- ❑ French-Speaking
- ❑ Internal Medicine
- ❑ Pediatrics
- ❑ Spanish-Speaking
- ❑ Surgery

Address: _____

_____

City: _____

Province: _____

State: _____

Postal Code: _____

Country: _____

Telephone: _____

Fax: _____

Email: _____

Please fill in the following essential information!

Which Tutorial Group Would Best Meet Your Needs?

- ❑ **Category A:** A group focusing primarily on principles of critical appraisal and EBCP.
- ❑ **Category B:** A group focusing more or less equally on principles of critical appraisal and on teaching EBCP.
- ❑ **Category C:** A group focusing primarily on teaching EBCP.

Language Comprehension: In an effort to optimize your participation in the workshop, we would appreciate your response to the following questions. Please mark the paragraph that best applies to you.

- ❑ **Highly fluent in English.** Can follow and participate fully in a conversation with many people when they are speaking quickly and interrupting one another.
- ❑ **Fluent in comprehension and speech in English.** Can understand fully and speak fluently, but have some difficulty in a group when people are speaking quickly and interrupting one another.
- ❑ **Fluent in comprehension in English**, except in groups when people are speaking quickly and interrupting one another. Some hesitation in expression, as English vocabulary is limited.
- ❑ **Not completely fluent** in either comprehension or speaking in English

17th OXFORD WORKSHOP
TEACHING EVIDENCE-BASED PRACTICE
University of Oxford, UK
5th—9th September 2011

The workshop is intended to serve as an introduction to evidence-based practice. It is aimed at clinicians and other health care professionals (including those involved in the field of mental health) and who wish to gain knowledge of critical appraisal and experience in the *practice* of evidence-based health care.

Chaired by : Dr. Carl Heneghan
Director, Centre for Evidence-Based Medicine, Oxford

Apply on line or download an application form and further details from: *www.cebm.net*

Or contact *Olive Goddard, Centre for Evidence-Based Medicine, Department of Primary Health Care, Oxford OX3 7LF, UK*

Email: olive.goddard@dphpc.ox.ac.uk

❑