The International Society for Evidence-Based Health Care
Newsletter 4, July 2011

www.isehc.blogspot.com

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.

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Editorials

News, Views and this issue

Paul Glasziou

Evidence based medicine (EBM) is in it's final teenage years and preparing to enter adulthood. The term EBM was coined in 1992 by Gordon Guyatt for the introduction of the JAMA Users Guide Series, and rapidly spread globally. In 2009 a poll of BMJ readers ranked evidence based medicine among the 10 most important medical advances since the journal was first published.

The ideas of EBM were first embraced by iconoclasts and independent thinkers, so it's little surprise that there has been little global organization. But approaching it's adulthood, that is now changing. A number of national networks have formed - for example, the German EBM network is one of the longest established, and their report in this issue would serve as a good model to others. Newcomers to EBM can find it's concepts difficult and the relationship with allied areas, such as shared decision making and health technology assessment, confusing. Amy Price's editorial "Let the Evidence Speak" sets out her reflections on this process as she joined in the lively discussions on the EBHC email list.

In the two decades since the term EBM was coined our knowledge and teaching methods have developed enormously, and continue to do so. Badenoch and de Brun have provided a fantastic overview of the research relevant to the first two steps of EBM: asking questions and searching for answers. Though somewhat depressing reading, the findings are also important in informing our teaching and promotion of EBM. For the third step - critical appraisal - we now have the GRADE working group which has been synthesizing our new understanding to provide a more refined approach to grading evidence and strengths of recommendations, and the new series JCE is a must-read.

Better methods to teach EBM are also evolving. The 4th edition of the Sackett EBM red book has emerged - in yet another colour. And Rod Jackson has been slowly developing the unified field theory of critical appraisal - the Generalized Appraisal Tool for Epidemiology (GATE) which melts all the user guides into one sheet with a triangle circle and square.

Happy reading, and please submit your articles and ideas to the editors.

ISEHC Curriculum Committee
Craig Mellis is setting up an ISEHC committee to make recommendations about the content and structure of EBHC curricula internationally, and is drafting some recommendations. If you are interested in helping out please contact Craig: craig.mellis@sydney.edu.au.

(Drawing by Hilda Bastian**)**

Let the Evidence Speak

Amy Price

A year ago I was not aware that Evidence Based Medicine existed as a formal discipline. My experience consisted of seeing the term used loosely as a marketing tool much like offers of 'scientifically' validated face cream. I largely ignored it. Decades of working at the borders of science and medicine brought with it the understanding that putting real evidence into practice was critical for patient welfare and physician success.

Meanwhile I searched to find logical and objective ways to catalogue the mountains of research I had amassed and to find a system that was flexible enough to encompass both qualitative and quantitative data. This journey led me to the Centre for Evidence Based Medicine (CEBM). I applied to Evidence Based Health Care and was advised by staff at Oxford University to subscribe to the list serve Evidenced Based Health. There my education began in earnest. At my interview application I was asked why I didn't apply sooner. I

answered truthfully. "I didn't know this field existed but I believe even an old dog can learn new tricks!"

Joining the Evidence Based Health list serve involved me taking part in a series of lively and informative discussions. By using a paraphrased fly on the wall approach I will share some of the insights I gleaned. The paper "*From Efficacy to Effectiveness in the Face of Uncertainty*: *Indication Creep and Prevention Creep"* *(*Djulbegovic, & Paul, 2011) triggered an animated discussion.   Brezis (2011) opened the discussion by asking " *In the face of insolvable uncertainty, don't you think that shared decision making might be one potential solution to reduce overuse (as shown by empiric evidence – see recent BMJ discussion (Marshall & Bibby, 2011)* http://www.bmj.com/content/342/bmj.d2117.full*) while respecting individual's anxious request for more – also in a more just distribution of care?"*

It is important to note that having people decide even with all available information (either at the policy level or at the individual level) is **not** *shared decision.* An open and honest exchange between the physician and patient (at the individual level) to negotiate a best option under the circumstances is productive shared decision making. This has many implications for improving quality of care, not the least being reduction of unnecessary procedures, and most importantly, managing uncertainty by a realistic sharing of risk. This activity requires skill and time which is presently not remunerated and consequentially is too seldom practiced (Brezis, 2011). Patient participation in the selection of effective medical interventions and joint decision making on the basis of the best available evidence was discussed.

"*The evidence never makes a decision, people do*" (Maskrey, 2011). Choices are based on understanding of evidence and how it is intertwined with needs, financial constraints, policy, and culture. Maskrey shared with us that the problem is complex rather than complicated and helpfully points out that complicated problems can be distilled into stages where each element can be tackled whereas a complex problem is infiltrated by external cultural influences. "*Attempting to fix complex problems with an approach suited to complicated problems leads to frustration,*" Maskrey, Underhill, Hutchinson, Shaughnessy& Slawson, (2009). Complex problems are compared to the art of bringing up children and how the intervention used for one child can produce different results in another, suggesting cultural change can improve complex problems over time. Education and communication combined with tools to build decision making skills are suggested as the first line of defence.

Biswas (2011) urged all to see health care as an ecosystem where all are stakeholders. Medical students are taught to practice EBM as undergraduates and have medical knowledge reinforced by practical clinical care. He advocates open access and evidence based training and decision making for each segment of the eco-system tailored to their ability to understand. The slogan adopted by NHS reform mirrors this ideal for patient based compassion and care stating, "*Nothing about me, without me*" (Rees, 2011)

Paul, (2011) warns that health care resources are finite. Irresponsible decision making could lead to care being rationed by bureaucrats to preserve the population which can be at the expense of the individual. He cautioned a use now, pay later approach and a system focused on wants rather than population based need drives up expenses. He cites recent conflicts where biased market driven information is dispersed to patients under even the umbrella of national charities.

How can patients, with limited medical and statistical training, be expected to distinguish truth from skilful marketing when even skilled professionals are not immune from this influence? Patient's rights movements are aided, abetted, and sometimes formed by disreputable medical interests who seek to use patients as human shields in their conflicts with regulatory organisations such as the FDA. YouTube patient testimonials are aired for dubious and sometimes dangerous unapproved treatments without even one clinical trial to determine efficacy.

Lillis (2011) highlighted the tensions between the imperatives of personal health care and those of population based health care stating that contrary to the wants of the patient some treatments will not be offered. His concern was that shared decision making and full access to clinical information would not represent reasonable solutions.

Others urge cutting waste, increasing efficiency targets and reducing appointment times. In the Evidence Based Health discussion this was seen as putting unwarranted stress on medical professionals and their relationships with patients as medical professionals were striving to deliver quality service with reduced manpower and unreasonable target expectations. "*Ultimately, the question falls back on the importance of understanding of implications of human judgements (decisions made under uncertainty) for health policies"* (Djulbegovic, 2011).   Evidence based medicine (EBM) is an exponentially growing field. In 1992 only a solitary Medline citation existed for EBM, but in 2011 a total of 70,342 EBM citations were found (Pub Med). However even with the best evidence fully available, practice is incomplete.

Above all good healthcare for all is a work in progress. Like a marriage it will be sustained if, instead of both parties deciding to give their 50%, all of us will do our 100% part to educate, advocate, and practice kindness and responsible ethics to meet the challenge. Join your peers at Evidence Based Health list serve to become a dynamic force to negotiate solutions in the face of insolvable certainty.

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This article was born in the EBHC email list.

To join the Evidence Based Health Care email discussion list:

http://www.jiscmail.ac.uk/lists/EVIDENCE-BASED-HEALTH.html

Its free and anyone can join. There are over 1,500 members and usually several emails a week.

What's in the Medical Journals?
By Richard Lehmann
(The following is an extract from Richard Lehmann's weekly summary of the major general medical journals. To sign up for this either join the EBHC email list or go to www.cebm.net and go to the JournalWatch section)

BMJ 30 July 2011 Vol 343
Here is the seventh meta-analysis to show that intensive glucose reduction in type 2 diabetes is generally pointless and can be harmful. Three years after ACCORD and ADVANCE, I think it is time we now moved into a post-Copernican view of T2DM: the sun does not revolve around blood sugar levels, and the popes of diabetology who have declared otherwise should withdraw their bull. Or should that be bulls? Something like that, anyway. We now know some useful things about older white people with T2DM but our ignorance about the rest is immense. Is there anyone out there who might want to set a new research agenda around Patient-Centred Care for Type 2 Diabetes? Beginning with an open-access text summing up current knowledge from the perspective of individual patients – say a Bangladeshi woman of 39 with five children, or a Chinese man of 58 who has just had an MI, or an otherwise healthy Italian of 73: does one size fit all? If a project like this interests you, I'd love to hear from you at richard.lehman@yale.edu.
http://www.bmj.com/content/343/bmj.d4169.full

Teaching & Practice Tips

Making appraisal easier to learn: the GATE tool kit

Rod Jackson, Paul Glasziou

The GATE (Graphical Appraisal Tool for Epidemiology) has evolved over 20 years, and simplifies the approach to teaching critical appraisal. The experience of those who teach this is that the GATE tool is easier and faster to teach, and is retained better. But that is anecdotal evidence only currently – research is needed, which we would encourage. GATE comes in two flavours: standard and "lite".

The GATE-lite forms are one-page rapid critical appraisal tools that have been derived from the more comprehensive CATs. GATE-lite forms are designed to be paper-based rather than electronic. GATE-lite forms (page 1) include a glossary (page 2) and a second 'very-lite' version of the forms (last page) that have the detailed appraisal questions removed. The 'GATE-very LITE' forms provide less direction but more space to write comments. The GATE-lite tool for RCTs can be used to appraise intervention, risk, prognostic and cross-sectional studies (February 2011). The pdf is downloadable from the EPIQ website: www.epiq.co.nz
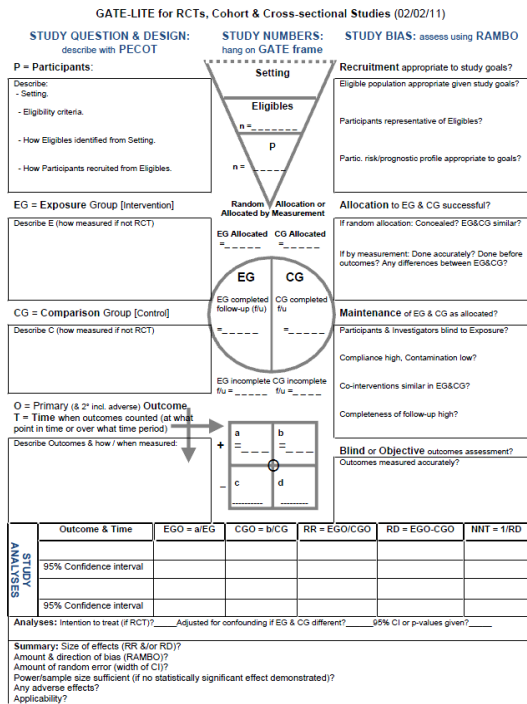

Figure 1. *The GATE-lite paper based tool for appraisal.* The standard GATE tools are electronic, and go through all the EBM steps including question, search, appraisal

and are designed to produce CATs (critically appraised topics). These are provided as Excel forms: if you key the main study numbers into the GATE frame, it automatically calculates risk, risk ratios, risk differences and NNTs, as well as 95% confidence intervals for all estimates (note: the systematic review checklist does not include a calculator). The EPIQ website provides a series of CAT checklists that have been developed by Rod Jackson, Shanthi Ameratunga, Adam Briggs, Joanna Broad, Jennie Connor, Anne Lethaby, Gill Robb and Sue Wells. The Systematic Review CAT was changed significantly in 2010 and 2011.

Each CAT produced has four pages and is designed to model the five steps of evidence-based practice. CATs can be printed back-to-back on A3 paper to produce a booklet.

Page 1 documents the clinical /practice scenario, the question (Step 1) asked & the search strategy & search results (Step 2);

Page 2 documents the first part of critical appraisal (Step 3a) which involves hanging the study on the GATE frame.

Page 3 documents the second part of critical appraisal (Step 3b) which is to assess the quality of the study (internal & external validity, precision and power).

Page 4 documents the integration and application of evidence (Step 4) and personal and clinical audit (Step 5). For the calculator on page 2 of the checklists to work, macros security settings may need to be set to medium before downloading.

Figure 2. *Page 2 (appraisal) of Excel GATE form (our thanks to Christiane Muth for the example).*

Research & Reviews

GRADE series in the Journal of Clinical Epidemiology

Gordon Guyatt, Jason Busse

GRADE is a system that provides guidance for authors of systematic reviews and guideline developers focused specifically on rating confidence in estimates of effect (quality of evidence), grading strength of recommendations, and presenting structured evidence summaries. The approach has seen impressive uptake since it was originally published in 2004[1], and has been adopted by over 50 organizations, including some prestigious groups: the American Thoracic Society, the American College of Physicians, the Scottish Intercollegiate Guideline Network, the Cochrane Collaboration, the World Health Organization, and UpToDate.

Up until recently, GRADE publications (notably the publication that introduced the GRADE approach[1], and a subsequent six part series in the British Medical Journal[2-7]) have been directed to the audience of GRADE consumers (i.e. readers of systematic reviews and clinical practice guidelines). Therefore, although the articles provided the basic structure for systematic review authors and guideline developers, they provided little specific guidance.

A new series of articles in the Journal of Clinical Epidemiology is remedying that deficiency. This target audience for this series is systematic review and health technology assessment authors, and clinical practice guideline developers. The series, currently planned to include 20 papers[8], will address all aspects of GRADE methodology, provide guidance for its application, and also deal with practical aspects of GRADE implementation. Publications thus far include an introductory article that contextualizes the GRADE approach[9], an articles describing GRADE's approach to question formulation[10], an article providing an overview of GRADE's approach to confidence in estimates of effect (quality of evidence)[11], and an article focusing on one of the reasons for rating down quality of evidence, risk of bias[12].

The next set of five articles is likely to appear before the end of 2012. We plan to announce the articles in the ISEHC newsletter as they are published. GRADE users are likely to find the discussions in this series invaluable.

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Where's the evidence for evidence? Review of abstracts of studies of clinicians' information seeking behaviour

Douglas Badenoch and Caroline De Brún

Abstract
We searched the literature on 2nd July 2011 for evidence about how often clinicians need evidence in practice, whether they find it and whether it benefits them. We reviewed the abstracts of retrieved bibliographic records and categorised their reported findings.

Background
This review was first undertaken in Spring 2009. At that time, we were engaged in several projects aiming to improve clinicians' access to the evidence[1]. We perceived considerable uncertainty as to the best way to do this. How often do clinicians need evidence in clinical practice? Are Evidence-Based Summaries (EBS) better than databases and journals? And what evidence is there to show that better access to evidence actually improves health care?

Contemporary web projects typically rely on simple metrics such as hit counts and usage statistics to demonstrate value. However, these are surrogate outcomes that in no way address whether the information has a positive impact on people's health. We were struck by the contrast with the cost-effectiveness criteria applied to other health care interventions. Health providers usually require convincing evidence of efficacy before spending money on a new drug treatment or diagnostic test. Why don't we apply this requirement to sources of evidence?

Of course, there are many challenging issues in this line of enquiry. Therefore, we decided to carry out this "quick and dirty" review to get an idea of what research had been carried out recently and what it had found. We repeated the search with slightly expanded inclusion criteria in July 2011.

Clinical question
"In clinical practice:
1. how often do health professionals search for clinical evidence?
2. for what reasons do health professionals search for clinical evidence?
3. what resources or strategies are most effective in helping health professionals find clinical evidence that improves their practice?"

[1] When we say "evidence", we mean "best available evidence from systematic research".

Profession	Resource	Activity	Output
physicians	information	information	Answer
primary	source	storage and	research
health care	electronic	retrieval	clinical question
hospital	resource	search skills	evidence
medical staff	Internet	information	online clinical
medical staff	search engine	seeking	evidence
family	Google	information	query
practice	online evidence	literacy	information need
internal	system	health literacy	clinical
medicine	bibliographic	information	information
internship	databases	access	synthesis/zed
and	clinical	knowledge	evidence
residency	database	based method	evidence
	online systems	physicians	synthesis
	PubMed	practice	levels of
	CINAHL	patterns	evidence
	Embase	needs	research
	TRIP	assessment	utilisation
	LILACS		clinical problem
	biomedical		solving
	literature		clinical decision
	periodicals		question
	books		
	colleague		
	peer		
	professional		
	advice		

Search
The literature search was carried out by CDB on 2nd July 2011, via Ovid Medline, using the search concepts listed below. The search strategy was:
Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) 1948 to Present (2nd July 2011)
(Search Strategy available from authors on request)
The search was limited to English language only, and 493 results were retrieved. From these results a quick and dirty review of recent evidence has been prepared.

Data extraction
Abstracts were reviewed by DB for relevance to the clinical questions above. They were included if they were primary studies of evidence use in clinical practice. The reported findings of abstracts were extracted and categorised according to emergent themes.

Results
How often do clinicians ask clinical questions?
Observational studies vary widely in how many clinical questions are generated in practice. The range spans:
- Fewer than three times per month for GPs [Magrabi 2008], physicians [Abu-Auda 2008] and junior doctors [Shirkhedkar 2008]
- Five per half-day session [Ely 2007]
- One question for every five patients [González-González 2007]
- Two unanswered questions per patient [Hersh 1998]

- Five per patient in clinical teaching [Osheroff 1991].

There is also a great deal of individual variation in how often clinicians search the literature [Andrews 2005, Bryant 2005].
Worryingly, most clinicians don't track the accuracy of their decisions [Hay et al, 2008]. Medication-related errors are common [McCord et al, 2007] and what the evidence says is only one of many factors that influences clinician behaviour [Sood 2007].
These findings are in part dependent on the method of recording "questions". Some studies recorded any observed need for information whilst others only reported self-identified needs that were carried through to a literature search. That said, we should not be surprised to find that studies relying on clinicians self-reporting find a far lower rate of question-asking than studies that use an independent observer to identify information needs.

When they do search, what sorts of things are they looking for?
The main clinical topic areas for searching are [Cheng 2004, Cogdill 2003, Gonzales-Gonzales 2007, Rasch 1999, McCaughan 2005]:
1. Treatment
2. Diagnosis

Doctors and nurses seek information for similar reasons [Younger 2010]. Most of these needs are related to individual patient problems. In addition, health care professionals carry out searches for their own personal development and research [Bryant 2004].

How do they go about searching?
There is a lot of inconsistency in how clinicians search for answers to clinical questions and which sources they use. Not surprisingly, individual clinicians are "biased" towards particular sources in a number of ways [Lau 2007].
Expertise and opinion from colleagues remains the most popular resource in practice [Phua 2007, Hay 2008, McCord 2007, McCaughan 2006, Bryant 2004]. Books and periodicals are still heavily used in some surveys [Abou-Auda 2008]. Others are now finding that electronic sources are used more than paper, especially amongst younger people [Chiu 2009], and some trainees use electronic Evidence-Based Summaries (EBS) as their most commonly accessed resource [Leff 2006]. One study found that print and human resources were the most popular, followed by EBS, then individual articles [Phua 2007]. Personal Digital Assistants and other hand-held devices are widely used [McCord 2007].

For background questions, the internet is a good source. Google was better than an online Q&A system, which in turn was better than PubMed [Yu 2007].

In searching Evidence-Based Summaries, clinicians prefer simple searches and most often use single terms describing the patient or population, less often the intervention or outcome [Meats 2007].

How often do they find answers?
Over a fifth and a half of the questions identified are pursued. Of those that are pursued, about three-quarters are answered (about half when electronic resources are consulted). Users' expectations of getting an answer are a crucial part of the decision to look for one [Cheng 2004, Coumou 2006, Ely 2005, Rasch 1999].

EBS can provide good coverage for clinical questions. In one study, practice guidelines covered two-thirds of the clinical questions generated by a group of clinicians whereas an EBS resource covered 77% [Fenton 2007].

In a general hospital medicine study, EBS were significantly more likely to turn up the answer to a question than PubMed [Hoogendam 2008b]. They are also more time-efficient [D'Alessandro 2004].

By this reasoning, we might estimate that between 58% and 87% of clinical questions are currently going unanswered.

Proportion that lead to a question being pursued.	0.2-0.5 [Coumou 2006, Ely 2005, Rasch 1999]
Proportion that are answered.	0.67-0.83 [Fenton 2007, Hoogendam 2008b]
We will generously assume that all of the answers found are correct.	1.0
Therefore, an estimate of the overall proportion of evidence needs that are met might be:	= (0.2*0.67) to (0.5*0.83) = 0.13-0.42 **= 13% to 42% answered (87% to 58% unanswered)**

Are the answers any good?
Colleagues' advice remains the destination of choice, but this advice is often wrong, especially when it does not explicitly cite the evidence [Schaafsma 2005]. One systematic review found an association between multiple professionals being involved in decision-making and increased adverse drug events, possibly due to poor communication between professionals [Green 2007],

although this may be because people are more likely to consult colleagues in difficult cases.

Individual variations (in search strategy and sources) mean that different clinicians might come up with different answers to the same question [Yu 2007]. Those who have had training are much better at searching for information [King et al]. However, there is some evidence that clinicians are subject to ordering effects, anchoring effects, exposure effects and reinforcement effects in how they use information from EBS [Lau 2007].

What does a good evidence source look like?
In one study, access to an electronic information resource increased the accuracy of junior doctors' knowledge from 29% to 50% [Westbrook 2005]. Another study saw that evidence-based summaries can even be used in the consultation to positively influence proceedings about half of the time [Fleisher et al. 2008]. It seems that this is only happens where the sources are full-text, evidence-based, user-friendly summaries [Ely 2005, Hoogendam 2008b, Ely 2007]. Direct comparisons with bibliographic databases and search engines also suggest that evidence-based, question-oriented resources perform better [Yu 2007]. Further studies have looked in more detail at how people search different types of resource. Users tend to make better use of their limited search time when sources use a task-oriented information architecture [Lau 2007, Yu 2007]. This can be achieved by taking a user-centred approach to their design [Fleisher 2008]. Clinicians are more likely to use something that improves their practice [Magrabi 2007]. However, they need the time, trust and training to be able to use them properly [Hains 2009].

What is wrong with what we've got?
An analysis of over 3,200 clinical queries found that clinicians are missing important evidence when they search on PubMed due to poor searching skills [Hoogendam 2008a]. EBS are better, but have problems of their own. Many sources of Evidence-Based Summaries have weaknesses in how they report their content production procedures [Banzi 2010]. If we cannot trust these sources, or if they cannot be more transparent about their limitations, they may not be used.

Accessibility issues
Inaccessibility of the evidence remains a major barrier to evidence-based practice. Simply making information available increases clinicians' use of it [Van Duppen 2007]. Providing full-text resources on a USB stick encouraged trainees to make more use of evidence [Chahla 2010]. There is some evidence to suggest that publications that are available full text online has more impact on clinical practice than those that are not [Murali 2004].

Time and availability are the main barriers to using print resources [Mazloomdoost 2007]. Additional perceived barriers to use of electronic resources are cost and centralised access.

User skills
However, providing access is not enough in and of itself [Ousley et al 2010]. User skills are important (but not dominant). It is possible to improve users' skills without making them any better at finding the evidence they need. Any resources must therefore be user-friendly [Stark 2007].

Fortunately, there is evidence that training *can* be effective. A broad review of regional information skills training in the UK found that training does make health care professionals better at finding useful clinical information [Trinder 2007]. There is also evidence to show that people with better searching skills find better answers from clinical databases [Schaafsma 2007]. However, clinicians only have a very short time in which to find an answer (under 5 minutes [Hoogendam 2008b]). If the system is not user-friendly, its users won't have the time to use it, no matter how well-trained they are.

Discussion
It would seem that we are still not getting the evidence to where it's needed, but that when we do, it has a positive impact upon practice. When clinicians do find answers from electronic systems, the answers change practice decisions and reduce clinical errors.

These findings seem to be consistent across health professions, with important variations amongst different professional groups in terms of the number of questions generated.

However, there is a huge amount of heterogeneity amongst studies of this question. It is striking, for example, how much variation there is in estimates of how often clinicians need "evidence" in practice. For this reason, we need research that is clearly focused on understanding these needs.

In spite of the pervasiveness of the internet, search engines and mobile devices, accessibility remains the key barrier to use of the evidence in practice. However, we can now see that it's not enough just to give people access: they need access to user-friendly, evidence-based resources that are structured around their clinical questions and supported with relevant training.

Perhaps one reason why people don't search for evidence much is because they have no expectation of finding it. There are some signs in these papers of people changing the way they use evidence as a result of changes in the ways they can get at it. This raises the

possibility of a "virtuous circle": if we can deliver better evidence sources, people *will* make better use of them. Clinicians are far more likely to make use of evidence if it is usable. To be usable, these resources need to involve clinicians in their design. Clinicians also need training in how to use them and they need to have trust in the methods by which they were created.

The current evidence suggests that there is an opportunity to improve clinical practice with the adoption of usable and reliable Evidence-Based Summaries. The benefits of EBS may be reduced error, more effective use of tests and treatments and greater transparency. This is a very exciting prospect and underlines the importance of developing a solid methodological basis upon which to develop and evaluate new resources. EBSes are subject to biases of their own, and must be carefully designed and written.

Recommendations for future research

This limited review needs to be repeated using more robust methods to be sure of the results. However, this issue is too important *not* to be addressed.

A good first step would be proper systematic reviews of the key issues around user needs and evaluation of impact on health care.

Considerably more data on user needs could be extracted from the full text of these papers. Such a review should include study of the granularity of information needs such as foreground vs background questions, the type of information needed and its specificity to a particular individual patient.

We also need better ways of measuring the impact of the information gained. Here, we can learn much from the disciplines of software engineering and interface design, where this issue has long been centre stage. However, micromanagement of the user experience should not come at the expense of losing sight of the objective of improved patient care.

Douglas Badenoch, Caroline De Brún, July 2011.

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Case-based training of evidence-based clinical practice in primary care and decreased mortality in patients with coronary heart disease.

Kiessling A, Lewitt M, Henriksson P.

ABSTRACT

Carl Heneghan, director of the CEBM in Oxford, posted the abstract below to the EBHC email list recently which evoked a lot of discussion. One person commented "Wow! NNT of 5 for death at 10yrs. What else is as powerful as that?" But is that believable and what is the intervention here? Pierre La Rochelle has written a commentary.

PURPOSE: We investigated the 10-year mortality rates in a trial that tested a case-based intervention in primary care aimed at reducing the gap between evidence-based goals and clinical practice in patients with coronary heart disease (CHD).
METHODS: A prospective randomized controlled pragmatic trial was undertaken in a primary care setting. New evidence-based guidelines, with intensified lipid-lowering recommendations in CHD, were mailed to all general practitioners in the region and presented at a lecture in 1995. General practitioners (n = 54) and patients with CHD (n = 88) were assigned according to their primary health care center to 2 balanced groups and randomly allocated to usual care as a control or to an active intervention. General practitioners in the intervention group participated in repeated case-based training during a 2-year period. Patients whose CHD was treated by specialists (n = 167) served as an internal specialist comparison group. Altogether, 255 consecutive patients were included. Cox regression analysis was used to detect any survival benefit of the intervention.
RESULTS: At 10 years, 22% of the patients in the intervention group had died as compared with 44% in the control group (P = .02), with a hazard ratio of 0.45 (95% confidence interval, 0.20-0.95). This difference was mainly due to reduced cardiovascular mortality in the intervention group (P = .01). In addition, the mortality rate of 22% in the intervention group was comparable to the rate of 23% seen in patients treated by a specialist.
CONCLUSIONS: Use of case-based training to implement evidence-based practice in primary care was associated with decreased mortality at 10 years in patients with CHD.
Note: the full text article is available free at
www.annfammed.org/cgi/content/full/9/3/211

COMMENTARY - Pierre La Rochelle (pierre.la.rochelle@videotron.ca)
The trial of cased-based training of evidence-based clinical practice [1] recently published, is an important one in several aspects: this is a real practice study, follow-up cover a substantial period - 10 years - and the endpoint, overall mortality, is a high quality one. This trial took place in the wake of the pivotal 4S cholesterol lowering trial [2], which showed the benefits of simvastatin for secondary coronary artery disease prevention. These results set the goal of the intervention. The intervention format selected was a case-based training in a primary care setting, which has been little studied.
The randomized study design used is generally robust but has some limitations. The randomisation allocated two pre-balanced groups on a single occasion. Despite careful attention to matching groups according to general practitioner characteristic and according to patient's health status, the small number of practices leaves the study prone to residual confounding.
The result's impressive magnitude - an NNT of 5 at 10 years requires exploration. Based on the SSSS trial, these results can't be explained by the original goal intervention on lipid lowering alone. In 4S, the LDL reduction was 1.7 mmol/L leading to a gain of 1 live saved for each 29 patients treated at 5.4 years compared to the Kiessling trial with a reduction of only 0,5 mmol/L[3] led to gain of one live saved for each 5 patients treated at 10 years. These discordant results suggest interference: was this a more complex intervention - more than lipid lowering, or confounding or the effect of chance? Other co-interventions could be monitored explicitly: optimal dosing of cardiovascular drugs, awareness to other cardiovascular risk factors such as tobacco use, sedentary, etc Confirming these results on larger scale and with a more detailed intervention is important before concluding of the efficacy of the intervention.

1. *Anna Kiessling, Moira Lewitt, Peter Henriksson,* Case-Based Training of Evidence-Based Clinical Practice in Primary Care and Decreased Mortality in Patients With Coronary Heart Disease *Ann Fam Med* 2011; 9: 211-218
2. Randomised trial of cholesterol lowering in 4444 patients coronary heart disease. The Scandinavian Simvastatin Survivial Study (4S) Lancet 1994; 344: 1384-9
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Regional Reports

Editor's Note: The report below is from the longest established national EBM network outlining their activities and structures. If other national networks would like to submit a report we would be interested in hearing from you.

The German Network for Evidence based Medicine (DNEbM) 2011 Report

Günter Ollenschlager

Founded in 1998 and established in 2000 as a not-for-profit organisation, based in Berlin, the German Network for Evidence based Medicine DNEbM is an association of individuals and institutions promoting the quality of patient care and disease prevention by applying the principles of evidence based healthcare (EbHC) / evidence based Medicine (EbM) / evidence based Nursing (EbN), Eb Dentistry/ Eb Physiotherapy and so forth in the countries of German language. Being a multiprofessional community, DNEbM provides an interdisciplinary discussion and communication forum for health care providers, patients and consumers, health care scientists, managers and political decision makers on all aspects of EbM&N/EbHC.

Aims and Goals
The Network's aims and goals are to
- promote the translation of EbM&N/EbHC concepts, methods and processes into every day life – especially in clinical practice;
- inform its membership about state of the art and ongoing development in the field of EbM&N/EbHC;
- promote the scientific discussion and dissemination by organising and endorsing working groups as well as scientific and educational meetings, and by entertaining a peer reviewed journal;
- advance professional development in these fields, e.g. by means of offering 'Train-the-Trainer' courses;
- facilitate the further development, dissemination and application of EbM&N/EbHC principles, concepts, methods, techniques.

Activities
Since the Network's foundation, DNEbM members, working in organisations and committees being responsible for defining health care benefits as well as for patient safety programmes, have been promoting EbHC. Furthermore, the Networks discussion, training,

and information programmes were helpful in disseminating EbHC ideas in Germany and Austria. Over a decade methods, challenges and barriers of EbHC tools such as systematic reviews, guidelines have been discussed within DNEbM.
Members of the Network edited the first German language textbooks on EbM/EbN. A national EbM curriculum for medical postgraduate education and professional development is another of the deliveries, developed within the DNEbM framework.

Recent activities focus on the topics "conflict of interest", "individualised medicine", "implementation of clinical practice guidelines".

Scientific Exchange, Information Service & Knowledge Transfer
DNEbM's annual scientific congresses have been the key event for individuals and organisations interested in EbHC/EbM&N science and education.
Every second March, the congress is organised in Berlin by the DNBEbM Secretariat at AEZQ/AQUMED. The other years, local or regional German or Austrian organisations host the conference. Oral or poster presentations are peer reviewed, and – if accepted – published in the bi-lingual open access journal eGMS (http://www.egms.de/dynamic/en/meetings/ebm2011/index.htm).

The peer reviewed **German Journal for Evidence and Quality in Healthcare ZEFQ** (http://www.ncbi.nlm.nih.gov/nlmcatalog/101477604) founded in 1904 as Zeitschrift für ärztliche Fortbildung, is DNEbM's official organ. ZEFQ is also the German language organ of the Guidelines International Network G-I-N.

The main carrier for the network's every day knowledge management and information transfer is **DNEbM's Website www.dnebm.de**, offering news services as well as open access and members only information and supported by social networking facilities such as Facebook and Twitter.

Membership
DNEbM offers different types of membership, such as individual membership (n = 777, 12/2010) - organisational (sponsoring) membership (n = 569, 12/2010) – corresponding membership / partnership with other organisations (n=2, 12/2010), and honorary membership (n=2: one of them David Sackett, 3/2011). Lots of DNEbM's organisational members are well-connected on the international level, such as the German Cochrane Center, the Institute for Quality and Efficiency in Healthcare (IQWiG), or the G-I-N founding member Agency for Quality in Healthcare AEZQ/AQUMED. Since 2004, DNEbM is member of the

German Association of Scientific Medical Societies AWMF, umbrella organisation of the more than 150 German "learned societies".

DNEbM Awards

In 2008 DNEbM established the **"David Sackett Award"** with D.S.'s endorsement. The DSA is for ambitious and creative scientific EbHC / EbM / EbN projects that engage people with developments in that field on a regional, national or international scale. In 2009 the **DNEbM Journalist Prize** was added.

Organisational Framework

DNEbM is a Charity according to German law with a Board of Trustees, whose members are elected by the Annual General Meeting every second year. The Board's Executive Committee, comprising chair, 1st and 2nd vice-chair, treasurer, oversee the day to day activities, organised by the Berlin based secretariat (Executive Officer, Administrative Secretary, Webmaster).
The Network's products are developed in DNEbM Standing Committees or Working Groups, focussing on different aspects, such as "Evidence based Practice", "Education and Training"; "Medical Education and EbM"; Clinical Practice Guidelines", "Patient Information & Participation", "Health Technology Assessment (HTA)", "Principles and Practices of EbM", "EbM and Ethics", "EbM-Glossary", "Eb-Dentistry", Eb-Nursing", "Eb-Pharmacy" and so forth. All DNEbM products and activities have to be approved by the Board of Trustees before publication.

Leadership

In March 2011 the **Board of Trustee 2011/2013** was elected with the Executive Board as follows:
- Chairperson: Ms. Monika Lelgemann MD MSc. Head, EbM Department, Medical Review Board of the Statutory Health Insurance Funds (http://www.mds-ev.de).
- 1st Vice Chair: David Klemperer MD. Professor for Social Medicine and Public Health, University of Applied Sciences, Regensburg (http://www.davidklemperer.de/english/profession.html)
- 2nd Vice Chair: Ms. Gabriele Meyer RN, PhD, FEANS. Professor for Clinical Nursing Research, University of Witten/Herdecke (http://www.uni-wh.de/universitaet/personenverzeichnis/details/show/Employee/meyer/details/vita/)
- Secretary & Treasurer: Günter Ollenschläger MD, PharmD, PhD, FRCPE, FACP. Head, German Agency for Quality in Medicine AEZQ, Adj. Professor for Internal Medicine, University of Cologne (http://www.evimed.info/cv-g-o-english.html).

Past DNEbM Chairpersons: Heiner Raspe 2000-2001; Gerd Antes 2001-2003; Johannes Forster 2003-2005; Jürgen Windeler 2005-2007; Edmund Neugebauer 2007-2009; David Klemperer 2009-2011
Executive Officer: Ms. Karsta Sauder M Organ Psych, DNEbM Office c/o Agency for Quality in Medicine AEZQ. TiergartenTower 106-108. 10623 Berlin, Germany (http://www.ebm-netzwerk.de/english)

A number of other national EBM organisations have been created (a partial list is below), and we would like to know of others – please contact pglaszio@bond.edu.au if you wish to write a report or know of other national networks.

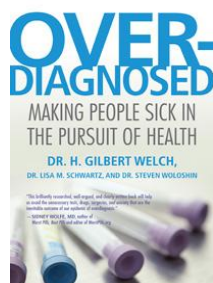Indonesia Clinical Epidemiology & Evidence-Based Medicine (ICE-EBM) Network
http://ice-ebm.org

Taiwan Evidence-based Medicine Association
www.tebma.org.tw

Resources & Reviews

Over-diagnosed: Making people sick in the pursuit of health

HG Welch, LM Schwartz and S Woloshin

What are the greatest threats to health for people living in the developed countries of the world? Both the medical journals and the popular press would have us believe that we are in the midst of a health care crisis, with rising tides of obesity, diabetes and other chronic diseases threatening to overwhelm the resources of our health care systems. This book argues that for many people the greatest threat to their health is not too little health care, but too much. The authors lay out how diagnosing diseases at earlier stages (such as screening programs), broadening the spectrum of disease to include lower thresholds (such as diabetes), labelling risk factors for disease as a diseases (such as hypertension) and the advent of new imaging and pathological techniques with increasing sensitivity have all combined to expose an increasing proportion of the population to over-diagnosis and subsequent medical treatment. Over-diagnosis results in increasing health care bills, clouds health care policy and funding, but worst of all it exposes "patients" to medical treatments from which they are unlikely to benefit and where there is a high risk of harm.

The authors of this book have done an impressive job in collating the data from a wide variety of diseases to support their arguments. Even better, it is a fascinating read. It is not easy to explain why prevention may not be better than cure or why earlier diagnosis may not result in better outcomes for the patient. The authors have not only made these complex issues understandable but also engaging.

Towards the end of the book, the authors explain how the interests of doctors trying to do their best for patients, the health care industry trying to sell more health care, the medical defence industry penalising doctors for missed diagnoses but not for over-diagnosis and a public which is increasingly anxious about illness converge to push the problems of over-diagnosis to ever greater levels. The authors offer some advice for individuals wishing to avoid the maelstrom of the modern health care system, but there is a telling anecdote at the end of the book which illustrates how difficult it is even for highly informed and educated patients to do this.

The few efforts to tackle the problem at a more system wide level have met with strong resistance. The book is primarily aimed at a lay audience. However, all health care professionals and policy makers need to read this book. In a world where we will be increasingly concerned about the distribution of health care resources, understanding and tackling the problem of over-diagnosis and the harm that it is doing to millions of people should be a high priority.
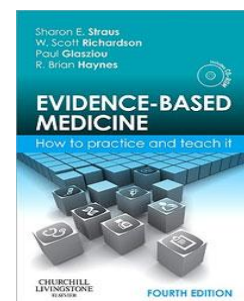
Prepared by: Dr Jenny Doust, Centre for Research in Evidence-Based Practice, Bond University, Australia.

July 10, 2011.

Evidence-Based Medicine: How to Practice and Teach it. 4th Ed Edinburgh: Churchill Livingstone Elsevier 2011

SE Straus,, P Glasziou, WS Richardson and RB Haynes

After waiting for 6 years, the 4th edition of "Evidence-Based Medicine: How to Practice and Teach it" came out. This book has always been a primer for learning and teaching evidence-based medicine (EBM). As the authors state in the introduction: *"the book is for clinicians at any stage of their training or career who want to learn how to practice and teach EBM. "* It is written by the same 4 eminent masters of the evidence-based approach in health care; namely, Sharon E Straus, Paul Glasziou, W. Scott Richardson and R. Brian Haynes. The order of the authorship changed slightly compared to the previous edition, most probably to reflect the amount of work done in this edition. As always, the book is dedicated to David Sackett which is an admirable token of appreciation from the authors to the first person who introduced this term to the medical literature. This edition is more slim realizing the authors' vision for this book to be short and practical. The cover has more lively and professional colours and the famous cube is replaced by a kind of jigsaw picture. You can tell by looking at the picture that the book focuses on those same elements that are important for the individual clinician. But these elements occupy only a small portion at the corner of the bigger jigsaw. How big is the jigsaw is not shown which indirectly tells the reader that there are many complementing aspects to EBM but are

beyond the focus of the book or that there is more to be revealed in the future.

It is interesting that the book kept its original title as Evidence-Based Medicine (EBM) where the emphasis now is on evidence-based clinical practice (EBCP) and evidence-based health care (EBHC). No explanation is provided in the preface or introduction but this could probably be because "EBM" is considered by the authors (and many others) as a the original brand or a generic term (or even a 'neck name') and changing it might somehow affects the book's identity.

The book falls in 293 pages and 9 chapters covering the 5 steps of the EBM approach. Chapter 1 (step 1) describes the rational, methods and evidence of effectiveness of properly **"A**sking answerable clinical questions." Chapter 2 (step 2) on **"A**cquiring the evidence" has been rewritten to encompass the plethora of pre-appraised sources of evidence that took place in the past few years. Chapter 3 (step 3 and 4) is a newly-introduced chapter that describes the general concept, areas of overlap among the different models of critical appraisal and clinical application of evidence. It highlights on how some models relate very much to the PICO structure (e.g. GATE). Chapters 4-7 describe the specifics of critical appraisal of studies and clinical application of valid results along different clinical domains, namely, therapy, diagnosis and screening, prognosis and harm. These chapteres were reordered putting therapy first and this probably reflects the importance that learners and teachers of EBM place therapy trials, systematic reviews and guidelines. Chapter 8 (step 5) is on evaluating our performance and seeking ways to improve it. Chapter 9 is on teaching EBM. It describes the modes of teaching, characteristics of success and failure, incorporating EBM teaching into clinical settings, existing educational sessions and undergraduate and postgraduate curricula.

The examples of this edition are new and more illustrative than the previously used. The book makes extensive referencing and referral to recent guides for reporting different study designs such as the CONSORT, PRISMA and the AGREE II instruments. Overall, the content of many chapters was reshuffled to place more emphasis on practical tips.

Given my humble awareness of some of the new publications/resources, the longer reference list of each chapter and knowing how meticulous these gurus of EBM are, I have every reason to "believe" that this edition is up-to-date. I also believe, however, that any reader would have been happier if a brief description of the updating process was included in the book. A short introduction or an updated preface delineating the most important changes in this edition would be stimulating for those who have read the previous editions to go eagerly through this one. The authors are inspired by David Sackett and I am convinced that we should not forget his last article on EBM*.

The accompanying CD has a nicely-organized and well-presented digital version of the book with advanced-search and history features. It also has a number of journal articles on the basics of EBM, PDA tools, and other supporting material such as the educational prescription, CAT maker, critical appraisal worksheets

and pocket cards. The CD provides a link to a list of useful EBM resources and updating services that they have selected based on rigorous criteria of transparency and authenticity. No Smartphone's applications are included in the CD. Besides, examples related to different disciplines that were available in the accompanying CD of the 3rd edition were removed. This might be probably because these examples are no longer up-to-date.

I bought this book from amazon.com with 47 USD (plus shipment); might be cheaper if you bought it directly from the publisher. And I will not hesitate to recommend it to all those who want to learn the basics of EBM and/or get more practical tips on how to perfect each of the 5 steps. The book is easy to read with joy as it encourages you to relate what you learn to what you do. In other words, this book is determined to prepare you systematically and steadily to be life-long evidence-based learner and practitioner.

One last personal bit, Sharon Straus is a great teacher and mentor. So I invited her to have a look at this review before I send it to the newsletter but she decided not to read it now in order not to bias the review. The authors will not be working on the fifth edition for a while but they are always interested in feedback from the readers. This is an invitation to take part in fine-tuning this indispensible resource.

*Sackett DL: The sins of expertness and a proposal for redemption. *BMJ* 2000;320: 1283.

Prepared by: Dr Lubna A. Al-Ansary, Dept of Family and Community Medicine and Shaikh Bahamdan's Research Chair for Evidence-Based Health Care and Knowledge Translation, King Saud University, Riyadh, Saudi Arabia.

July 15, 2011.

Editor's Note: Non-publication is a problem in every area of health care, but some are worse than others. A recent study (Tieman JJ, J Pall Care, 2010) showed that of 1338 conference abstracts identified only 16% were published (compared to an average in health of 45%). CareSearch has been working to make all palliative care research accessible, and may be a model to other areas.

Palliative Care Filter and PubMed Searches: Facilitating access to literature and evidence

Jennifer J Tieman

AIMS
Palliative care is an important part of health care provision as increasingly, people will die from serious chronic disease rather than from acute illness. Palliative care provides care that is active but not curative in intent, addressing physical symptoms as well as psychosocial needs, and supporting both the patient and the family. It is a referral-based field of clinical care not limited by the underlying disease. Further, many health professionals involved in providing palliative care do not work full time in specialist services. GPs, community nurses, aged care workers and those from allied fields such as oncology or cardiology may have a partial but ongoing, or intermittent, involvement with patients with palliative care needs.

Ensuring that relevant and trustworthy information is readily available to meet the needs of these different health professionals can be challenging. It can also be difficult to easily find the underlying evidence given the research and practice knowledge has arisen from, and been distributed across, many academic disciplines and medical specialties. Searching for such evidence can be time-consuming and requires a sophisticated understanding of journals, databases and thesauri in diverse fields such as general medicine, nursing, sociology and psychology. Further, comprehensive retrieval is made more difficult by the number of potentially relevant topics and areas of clinical practice. Effectively, this has led to a gap between the knowledge base for palliative care and its intended users and recipients.

Flinders University's Palliative and Supportive Services Discipline has developed a new approach to facilitate access to palliative care's literature and evidence base using search filters. Importantly, this research work has been made available to the health community through the CareSearch website available at www.caresearch.com.au. This approach to accessing literature and evidence could be used as a template for other fields of clinical practice.

METHODS AND QUALITY OF INFORMATION
The resources were developed using the Palliative Care Filter which is an experimentally developed and tested search strategy with a known level of effectiveness in retrieving relevant literature. Candidate searches using MeSH terms and textwords were assessed by the proportion of relevant articles they retrieved from a set of journal articles reviewed by clinicians and researchers for their relevance to palliative care.[1] The best performing search became the Palliative Care Filter.

Periodic reviews are undertaken to determine the filter's continuing effectiveness.
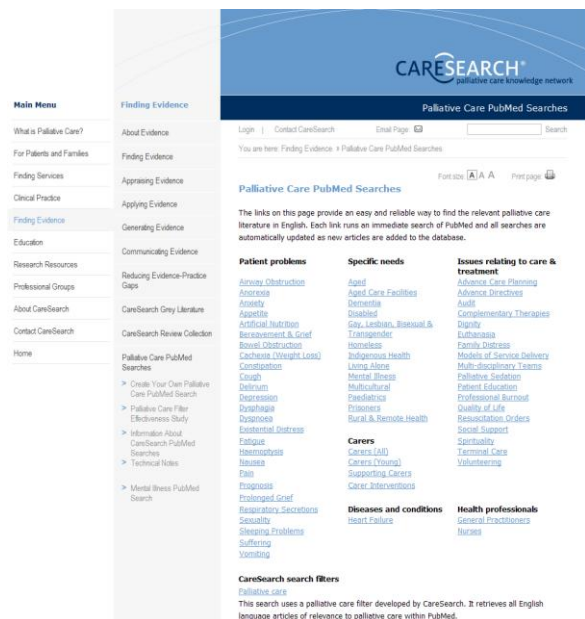

Figure: The CareSearch website is free to use.

While the filter was developed in the Ovid Medline platform, it was subsequently translated for use in the PubMed environment.[2] This enables open access to the world's largest biomedical citation database.

The Palliative Care Filter has been combined with expert searches on important clinical and care topics for palliative care such as dsypnoea, family distress or audit to create the Palliative Care PubMed searches. These searches have been linked to PubMed's methodological filters and full text limit, and stored as hyperlinks in the CareSearch website.

Once users have selected the topic of interest, they click on one of the following retrieval options:

- Free full text: Only items that can provide the entire article to the user without charge will be looked for. This may be particularly important for those who do not have registered user rights through hospitals or universities or who want to read relevant material immediately.
- All citations: This looks for everything on a selected topic not just full text articles.
- Strongest evidence (systematic reviews or randomised control trials)
- Past three months only

A study to develop a heart failure filter[3] has recently been completed and a set of Heart Failure PubMed Searches finalised.

Associated Resources

Filter based PubMed Searches are one of a suite of resources within CareSearch to encourage evidence based practice in palliative care. A Clinical Practice section provides summaries of the systematic review evidence for common clinical symptoms and care issues. The website also hosts the CareSearch Review Collection that collates systematic reviews and structured literature reviews relevant to palliative care and the CareSearch Grey Literature, a repository of unpublished or non-indexed Australian palliative care literature. A Research Data Management System supports health researchers undertaking clinical research or audit activities in palliative care. A section on Finding Evidence overviews issues relating to searching for literature, appraising and applying evidence, and issues associated with communicating and using evidence.

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