



Evidence in Practice

BMJ Evidence Centre

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Updates in evidence-based medicine from the BMJ Evidence Centre



Evidence at the point of care

IN INTERVIEWS with Canadian physicians, Beresford identified three categories of uncertainty for the allocation of medical resources: technical uncertainty arising from inadequate scientific data, personal uncertainty resulting from not knowing patients' wishes, and conceptual uncertainty due to the problem of applying abstract criteria to concrete situations.¹

Given the inevitability of uncertainty at the point of care,² how does the BMJ Evidence Centre help health professionals build evidence into every-day clinical practice?

High-quality studies are published at an increasing speed in all clinical specialties, rendering any attempt at keeping up with the primary literature

difficult, if not impossible, for health professionals. Reliable and up-to-date knowledge resources that provide summaries and quality ratings of the evidence are key to modern evidence-based patient care. Some knowledge gaps may never be filled, for example in areas where sufficient research is ethically prohibitive, or unfeasible through the rarity of a condition. Even in these cases knowledge resources can help to identify the reasons behind the lack of evidence, discuss the limitations of the existing evidence base, and provide guidance for applying the conclusions of relevant studies from other areas. In instances where the absence of high-quality trials does not seem to be justified, it lies within the responsibility of knowledge providers to flag up and define future

research questions, and to feed these back to researchers and research funding communities.

The way in which physicians handle and disclose uncertainty has been shown to have a large impact on patient understanding and satisfaction.³⁻⁷ Hewson and colleagues published a series of nine points in an attempt to facilitate the expression of uncertainty.⁸ Among them are several that are just as relevant to the work of knowledge resource providers, such as reassuring patients that all their questions related to their health care will be discussed; recommending other information sources, such as high-quality patient websites; and explicitly informing patients of all alternatives.

In view of all these challenges, supporting clinicians using evidence and dealing with uncertainty remain valid goals for the BMJ Evidence Centre for many years to come. They motivate our team to fight technical uncertainty at its roots by evaluating, summarising and rating the growing evidence base, and flagging up inadequate scientific data and knowledge gaps. Furthermore, we work to reduce conceptual uncertainty by developing existing and new products to support clinicians in the application of the best and most up-to-date scientific evidence to their patient care, and with communicating unavoidable uncertainty in ways that improve patient understanding and satisfaction.

Dr Klara Brunnhuber
Clinical Editor
BMJ Evidence Centre

1. Beresford EB. Uncertainty and the shaping of medical decisions. *The Hastings Center Report* 1991;21(4):6-11.

2. Clatworthy P. Guest editorial: Certainty in decision making; are you sure? *Clinical Evidence* May 2009.

3. Parascandola M, Hawkins J, Danis M. Patient autonomy and the challenge of clinical uncertainty. *Kennedy Inst Ethics J* 2002;12:245-264.

4. Johnson CG, Levenkron JC, Suchmann AL, et al. Does physician uncertainty affect patient satisfaction? *J Gen Intern Med* 1988;3:144-149.

5. Gordon GH, Joos SK, Byrne J. Physicians' expressions of uncertainty during patient encounters. *Patient Educ Couns* 2000;40:59-65.

6. Ogden J, Kaz F, Gardner M, et al. Doctors' expressions of uncertainty and patient confidence. *Patient Educ Couns* 2002;48:171-176.

7. Witman AB, Park DM, Hardin SB. How do patients want physicians to handle mistakes? A survey of internal medicine patients in an academic setting. *Arch Int Medicine* 1996;156:2565-2569.

8. Hewson MG, Kindy PJ, Van Kirk J, et al. Strategies for managing uncertainty and complexity. *J Gen Intern Med* 1996;11:481-485.

Designed from the ground up for the real world of health care

Vital new medical information is published every day. Healthcare professionals need it to help them make the best possible clinical decisions in partnership with their patients. NHS policy and government initiatives are also increasingly focussed on the importance of clinical evidence in managing risk, increasing clinical effectiveness and supporting clinical audits. However, busy clinicians struggle to keep up to date and apply new research findings to their practice.

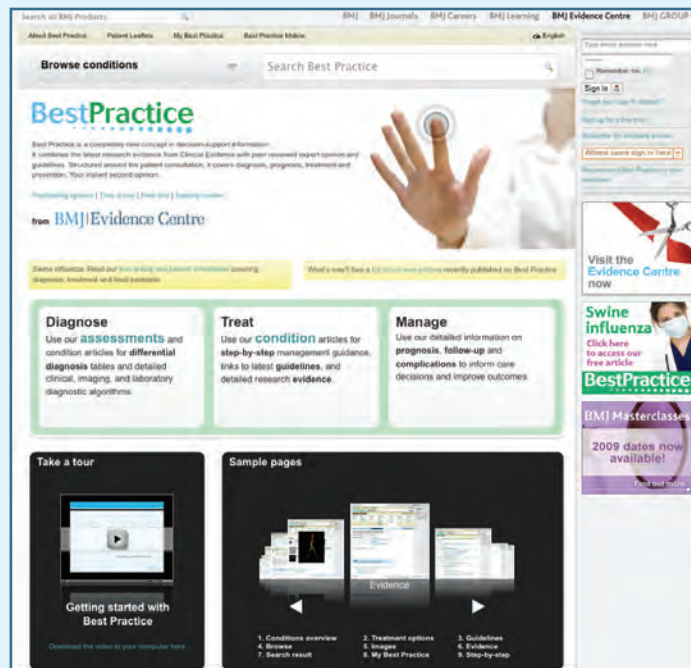
This is why the BMJ Evidence Centre has developed and launched *Best Practice*.

Best Practice has been designed from the ground up to fit information around the real, diverse and evolving medical information needs of UK healthcare practitioners. It brings together the latest research evidence, guidelines and expert opinion presented in a step-by-step approach, covering prevention, diagnosis, treatment and prognosis.

Editor in Chief Dr Charles Young explains how *Best Practice* is designed to work in the clinical environment:

"The entire process of developing the content and web interface of *Best Practice* was rooted in real clinical scenarios and tested by real healthcare practitioners. It anticipates clinical questions and provides quick, trustworthy answers in the short time that clinicians have to make diagnosis and treatment decisions. It also provides supporting information to help explain options and decisions to patients. Essentially, it provides a reliable second opinion in an instant."

A subscription to *Best Practice* acknowledges that not all clinicians have easy web access at work, so it includes full access to both the web product and the mobile edition. *Best Practice Mobile* has been optimised for fast access on any internet enabled mobile device.



Key features of *Best Practice* include:

- Action-orientated and structured around the patient consultation
- A standard structure for each condition including a summary and definition, aetiology, epidemiology, through key diagnostic steps and tests into treatment approaches with drugs, guidelines and evidence, finishing with recommendations and outlook for patient follow-up
- Clinical Evidence content integrated 'inside' brings together the best current evidence with expert guidance
- A seamlessly-linked drug formulary for quick checking of prescription guidance – BNF in the UK and Martindale internationally
- A gold standard editorial process including peer review and multiple sign-off
- Over 190 patient leaflets to support treatment options
- Institutions can upload local guidelines and links and make them available to their users
- Full reference links and colour images where available

Free trials of *Best Practice* are available now at <http://bestpractice.bmj.com>

What's new in *Clinical Evidence*?

Here are a few highlights from reviews we have added or updated since the last publication of the *Clinical Evidence handbook*. Please visit the *Clinical Evidence* Web site at clinicalevidence.bmj.com for in-depth summaries, background information, and reference lists.

1	MYOCARDIAL INFARCTION (ST-ELEVATION)	<p>New evidence suggests that, in the short-term, the beneficial and harmful effects of beta-blockers should be carefully considered post MI.</p> <ul style="list-style-type: none"> • Beta-blockers are commonly prescribed to people immediately following myocardial infarction. However, a new RCT reported that although beta-blockers reduced reinfarction compared with placebo at 28 days, they also caused an increase in heart failure (high-quality evidence). There was no significant difference in mortality between groups in the short term.
2	ACUTE CORONARY SYNDROME (NON ST-ELEVATION MI AND UNSTABLE ANGINA)	<p>Statins do not reduce the combined outcome of mortality or MI in the short term.</p> <ul style="list-style-type: none"> • Although there was no significant difference between statins and placebo at 16 weeks (moderate-quality evidence), in view of the strong evidence of benefit in the longer term and the low risk of serious adverse effects, consensus remains that it is reasonable to start treatment for secondary prevention promptly on admission to hospital.
3	VENOUS LEG ULCERS	<p>Compression bandages and stockings reduce recurrence of venous leg ulcers, and should ideally be worn for life.</p> <ul style="list-style-type: none"> • However, in people treated with compression, new evidence suggests that occlusive (hydrocolloid) dressings are no more effective than simple low-adherent dressings at improving rates of healing (high-quality evidence).
4	BRAIN METASTASES (NEW REVIEW)	<p>External beam radiotherapy may be effective in selected people with multiple brain metastases.</p> <ul style="list-style-type: none"> • However, adding radiation sensitisers to whole brain radiotherapy (WBRT) does not seem to be any more effective than WBRT alone at improving survival (moderate-quality evidence).
5	THROMBOEMBOLISM	<p>People with proximal deep vein thrombosis may be effectively treated at home.</p> <ul style="list-style-type: none"> • Initial home treatment with low molecular weight heparin may be more effective at reducing recurrence rates than initial treatment in hospital (low-quality evidence).
6	ALCOHOL MISUSE (NEW REVIEW)	<p>There is limited evidence that brief intervention sessions in primary care may reduce the proportion of people who remain hazardous drinkers at 6 to 12 months (very-low quality evidence).</p> <ul style="list-style-type: none"> • Without treatment, approximately 16% of hazardous or harmful alcohol users will progress to more dependent patterns of alcohol consumption.
7	NECK PAIN	<p>There is limited evidence that, in the short term, acupuncture may be more effective than sham treatments at reducing pain and improving quality of life (very low-quality evidence).</p> <ul style="list-style-type: none"> • However, we found no good evidence comparing the effectiveness of acupuncture with mobilisation or other physical treatments.
8	OPIOIDS IN CANCER PAIN (NEW REVIEW)	<p>Up to 80% of people with cancer experience pain at some time during their illness, and most will need opioid analgesics.</p> <ul style="list-style-type: none"> • Morphine remains the most tried-and-tested opioid for this indication. An increasing number of alternative opioids are now available (codeine, dihydrocodeine, fentanyl, hydromorphone, methadone, oxycodone, and tramadol) but there is insufficient evidence from RCTs to judge their effectiveness compared with morphine or versus each other.
9	BULIMIA NERVOSA	<p>Combining Cognitive Behavioural Therapy (CBT) with antidepressant medication may be no more effective than either treatment alone.</p> <ul style="list-style-type: none"> • Evidence from a new systematic review has led to a change in categorisation for combination treatment with CBT and antidepressant medication from "unknown effectiveness" to "unlikely to be beneficial".

BMJ Evidence Centre

The BMJ Evidence Centre is the new name for BMJ Knowledge. It is a division of the BMJ Group that aims to build evidence into practice, to support improvements in the consistency and quality of health care. We have chosen this new name to fully reflect the breadth of services and tools that we offer – from well-established products like *Clinical Evidence* to our new tools *Best Practice* and *Action Sets* (which we will be telling you more about in future issues), and our customised evidence consultancy. Find out more at <http://evidencecentre.bmj.com>

Evidence-based tropical medicine

Professor Paul Garner, an expert in infectious diseases on the Advisory Board for the BMJ Evidence Centre, shares his thoughts and experiences with Rebecca Coombs

MORE THAN 15 years ago when Professor Paul Garner started doing systematic reviews in infectious diseases related to the tropics, people thought it was just “bonkers”.

“They said there were not enough trials and too much variation between different places because of drug resistance. Some people were openly hostile to meta-analysis in infectious diseases,” he says.

Based at the Liverpool School of Tropical Medicine, Head of the International Health Group, Co-ordinating Editor of the Cochrane Infectious Diseases Group, and Section Advisor for Infectious Diseases for *Clinical Evidence*, Professor Garner has spent the rest of his career proving the doubters wrong.

“For the researchers objecting to meta-analysis, I say you can’t have it both ways. You can’t put your faith in randomised controlled trials (RCTs) and then say there is so much heterogeneity that you can’t do a systematic review! You must make sure the review takes into account drug resistance, but you still need synthesis research to get an idea of where we are going with a policy or a treatment regimen.”

Over the last 10 years, there has been an explosion of reliable research in malaria. There have been trials of bed nets impregnated with insecticide, and the meta-analysis of RCTs shows a consistent impact on mortality in children. The ACT [artemisinin-based combination therapies] drugs have been tested against monotherapy and clearly work, and are being rolled out. Professor Garner says that systematic reviews have been very important in getting ‘buy-in’ from policy makers and researchers that these things work in different places.

“It’s a great time to be enthusiastic



about progress in malaria because there are some great interventions around. People are getting really excited now about these compounds as they are having quite a dramatic effect on malaria. The ACTs work quickly, have few failures, and can help prevent transmission. There is emerging evidence that they have public health effects. On top of nets and ACT drugs, there are other efforts being directed at the malaria vector including residual spraying and fish that eat mosquito larvae. The possibility of eradicating malaria has come back again.”

TRICKY TIMES

“The good thing about research synthesis is that you are Mr Popular when it coincides with what policy makers want to say,” he remarks, adding that there are times when politics can sour your findings. “When what you find in a review is at variance with the current policies—it can be tricky.”

For example, the WHO is rolling out deworming programmes for school children in some African countries in a bid to improve nutrition.

“The Cochrane review found it is not quite as strong an intervention as we have been led to believe; this is not to say it doesn’t work, just sometimes it works, sometimes it doesn’t. When the RCT evidence is rather flimsy but it is WHO’s global policy, it becomes problematic.”

Professor Garner is just back from Kenya in his role as Director of a large consortium funded by the UK Department for International Development, committed to preparing and updating systematic reviews relevant to middle and low income countries, and using this research to promote evidence-based health policy and practice.

He says: “EBM has really taken off in the UK and other developed countries, where resources are more freely available. But the assumption by WHO in countries in Africa, for example, can be to get guidelines together and tell governments what to do. These guidelines don’t include a list of references, for example, which disempowers countries.” India has now taken out licence to the Cochrane Library, the Indian Medical Research Council is investing in research centres to do review, and South Africa has invested in staff to run a Cochrane Centre at the Medical Research Council, he adds. “People can understand the sense in working out what the best treatment is, best preventative interventions, the best vaccines. There is the beginning of a much stronger base of expertise in countries, to allow them to make their own decisions based on evidence, about what is best and makes sense locally.

That is really wonderful—it is part of what evidence-based medicine is all about!”

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