



Web Review

Top Choices for Evidence-based Web Sites

By Mike Moralis

Evidence-based decision-making has become a catch phrase for efforts to make medicine a more exact science. It is also used to describe efforts to link policy decisions to research regarding health economics, effectiveness, efficacy and efficiency.

A key driver pushing evidence-based decision-making to the forefront is the explosion of information, and the reaction of practitioners who historically want to make the best decisions about care. An indication of the extent to which information is proliferating and evidence is constantly changing is the British Medical Association's estimate that two million medical articles are published annually.

Another key driver has been rising healthcare costs, and efforts to manage that spending, whether at the level of the United Kingdom's National Health Service, a United States health plan, or a Canadian province. There is widespread conviction that science (particularly epidemiology and biostatistics), economics and management can work hand-in-hand to improve management of disease, facilitated by information technology that improves access to information.

The convergence of efforts to contain healthcare spending, effectively manage healthcare delivery, improved access to information for both practitioners and patients, and a growing focus on chronic conditions, has resulted in the development of a case management or disease management approach.

Consumers can empower themselves as partners in their care by accessing the wealth of information ranging from traditional sources such as the Merck manual to web sites that deliver free information about managing health or disease. The public also has access to more specialized sites geared to practitioners.

For the physician, the development and maintenance of clinical practice guidelines (CPGs) based on scientific evidence – mainly randomized clinical or controlled trials (RCTs) – is a key to managing the deluge of information about diseases and appropriate interventions.

In 1971, British epidemiologist Archie Cochrane delivered a speech entitled *Effectiveness and Efficiency: Random Reflections on Health Services*, which was published the following year as a book. He focused on the need for RCTs to establish effectiveness and efficiency of treatments.

In 1979, Cochrane wrote:

"It is surely a great criticism of our profession that we have not organized a critical summary, by specialty or subspecialty, of all relevant randomized controlled trials."

SITES TO SEE

1. PRINCETON UNIVERSITY

<http://www.wws.princeton.edu/~ota/disk3/1983/8310.html>

A 1983 background paper on the impact of randomized clinical trials on health policy and the practice of medicine, by the U.S. Congress Office of Technology

Assessment, offers an excellent background on observation as a tool of medicine, and the development of RCTs. The 100-plus page document is available through Princeton University at: <http://www.wws.princeton.edu/~ota/disk3/1983/8310.html>.

2. INTERNATIONAL COCHRANE COLLABORATION

<http://hiru.mcmaster.ca/cochrane/centres/Canadian/default.htm>

The International Cochrane Collaboration, named for Cochrane, was launched in 1992 as the definitive repository for reviews of RCTs. Based at Cambridge University, it consists of more than a dozen centres around the world collaborating in the creation, maintenance and dissemination of systematic reviews of RCTs. The Canadian Cochrane Centre is based at Hamilton Ontario's McMaster University: <http://hiru.mcmaster.ca/cochrane/centres/Canadian/default.htm>.

3. McMASTER'S HEALTH INFORMATION RESEARCH UNIT

<http://hiru.hirunet.mcmaster.ca/ebm/home.htm>

McMaster's Health Information Research Unit also has a web site devoted to its Evidence-based Medicine Informatics Project, which outlines the new paradigm for "teaching the practice of medicine" that has contributed to the university's ranking, in the April 1998 issue of US News and World Report, as one of the top medical schools in North America: <http://hiru.hirunet.mcmaster.ca/ebm/home.htm>.

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4. NHS RESEARCH AND DEVELOPMENT DIRECTORATE

<http://cebm.jr2.ox.ac.uk>

The United Kingdom's NHS Research and Development Directorate includes the Centre for Evidence-Based Medicine in Oxford: <http://cebm.jr2.ox.ac.uk>. Dr. David Sackett, founder of McMaster's Department of Clinical Epidemiology and Biostatistics, has been at the Oxford centre and the Nuffield Department of Medicine since 1994. The web site includes a toolbox on evidence-based medicine, a glossary, and a guide to searching for "best evidence" in clinical journals.

The site also has information (including how to order it) about *How to Practice and Teach Evidence-Based Medicine*, a book that Sackett co-authored with Dr. Brian Haynes of McMaster and others in the mid-1990s. Their definition of evidence-based medicine is "the conscientious, explicit and judicious use of current best

evidence in making decisions about the care of individual patients." There are also links to the journals Evidence-Based Medicine and Evidence-Based Nursing.

5. AGENCY FOR HEALTHCARE POLICY AND RESEARCH

<http://www.ahcpr.gov>

The U.S. Agency for Healthcare Policy and Research (AHCPR), has focused increasingly in the past few years on becoming more evidence-based. The agency hosted a conference in 1997 that focused on "translating evidence into practice," highlighting the Canadian Task Force on Periodic Health Exams in the 1970s as an example of an effort to assess the evidence in support of preventive health services. The AHCPR now has a national clearinghouse of practice guidelines, and is creating national Evidence-Based Practice Centres. The web site is <http://www.ahcpr.gov>.

6.-7. G7 INFORMATION SOCIETY

<http://www.g7.fed.us>

<http://www.medlib.com>

Practice guidelines develop along disease-specific lines. Among the telematics themes of the G7 Information Society is Subproject 7 of the Healthcare Applications, which is exploring the delivery of practice guidelines and the capture of new evidence. A pilot project, entitled "Stroke Guidance System – Effects of an Evidence-based Information Tool on Management of Stroke," is linked to Canada's HEALNet and hospitals in Alberta and Ontario. Related web sites are: <http://www.g7.fed.us>, and Alberta's Synapse Publishing Inc. at <http://www.medlib.com>. The Stroke Guidance System (SGS) published by Synapse has been implemented at several sites in Europe, and is due to be installed at the Yale New Haven and Danbury Community Hospitals in Connecticut this fall.

In his 1972 book *Effectiveness and Efficiency*, British epidemiologist Dr. A.L. (Archie) Cochrane argued that finite resources should be devoted to the provision of services which have demonstrated effectiveness.

Cochrane's thesis was that: "If we are ever going to get the 'optimum' results from our national expenditure on the NHS we must finally be able to express the benefits and the cost to the population of a particular type of activity, and the increased benefit that could be obtained if more money were made available."

He became a champion for the use of randomized clinical trials and the enhancement of applied medical research to assess effectiveness and efficiency of diagnostic and treatment methods. He anticipated that this would result in the development

of evidence-based indications for disease management.

Cochrane predicted that as a result of evidence-based decision-making, regional hospitals "will either become smaller or there will be fewer of them." He also anticipated a decline in the number of acute-care hospital beds, although more intensive treatment would be needed. "Lengths of stay will be very much shorter, partly due to earlier discharge to community hospitals." He foresaw hospitals being places for definitive assessments, but responsibility for more actual care moved out to general practitioners and health centres.

"The GP of the future, with adequate auxiliaries and working closely with the social services, should have a wonderful chance to organize the complete care of the community," Cochrane wrote.

A sharp focus on effectiveness and efficiency would result in "a marked reduction in the use of ineffective remedies and of effective remedies used inefficiently. The cost of diagnostic tests will be much reduced partly by automation and partly by concentrating on tests that lead through diagnosis to effective action. This will all lead to very considerable savings, but the main savings in both capital and running costs will undoubtedly come from the marked reduction in hospital beds..."

Cochrane warned that the main savings would come from providing treatment while avoiding hospital admission. However, he added, until there was evidence of which diseases could be treated as effectively at home as in hospital, "estimates of possible savings are clearly subject to enormous error."

8. UNIVERSITY OF ALBERTA

<http://www.med.ualberta.ca/ebm>

A related site is the University of Alberta's Evidence-Based Medicine Tool Kit, at <http://www.med.ualberta.ca/ebm>. It contains an introduction to informatics and evidence-based medicine, with worksheets and guides to the use of articles and CPGs.

9. NATIONAL FORUM ON HEALTH

<http://www.nfh.hwc.ca>

The National Forum on Health (<http://www.nfh.hwc.ca>) produced a synthesis report in 1997 that said: "one of the key goals of the health sector in the 21st century should be the establishment of a culture of evidence-based decision making." A working group commissioned research to examine what that means. It defined evidence-based decision making as "getting the best information in place so that people can make the best decision which is consistent with their values and principles."

Evidence-based decision-making "must be universally and consistently adopted by providers, administrators, policy makers, patients and the public at large," the report observed, adding that

while there are huge areas where more evidence about clinical practice, administration and funding is required, there is also an "overwhelming amount" of information that is not used.

To support a culture of decision-making based on evidence, state-of-the-art technology and information systems will be necessary to ensure access to the exploding body of knowledge, the report said.

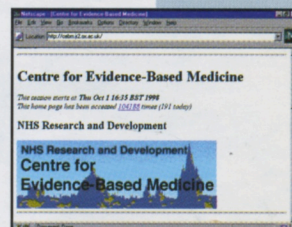
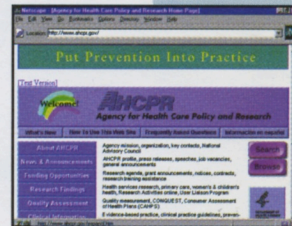
10. WORLD HEALTH ORGANIZATION

<http://www.who.int/hlt/countrysup/liaison/liai497e.htm>

The World Health Organization (WHO) offers an insight-filled perspective on evidence-based medicine in a newsletter aimed at medical librarians. It stresses the importance of research synthesis in an environment where it now takes only 19 years for the biomedical knowledge base to double. The April 1997 issue of Liaison can be found on the WHO web site at: <http://www.who.int/hlt/countrysup/liaison/liai497e.htm>.

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