



MANAGEMENT BRIEF

Number 5

February 1997

Evidence-based Medicine: Making a Difference in Veterans' Health Care

"Evidence-based medicine, a new priority for an old paradigm, can make a critical difference in veterans health care access, delivery and practice. Now, more than ever, high quality research should provide evidence to inform health care decision making. Our professional responsibility compels us to develop scientifically credible evidence to guide our clinical decisions."

John R. Feussner, M.D., Chief Research & Development Officer, VHA

What is Evidence-based Medicine?

Evidence-based medicine (EBM) is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. Evidence-based medicine promotes the collection, interpretation, and integration of valid, important and applicable patient-reported, clinician-observed, and research derived evidence. The best available evidence, moderated by patient circumstances and preferences, is applied to improve the quality of clinical judgments. Broadly, evidence-based medicine prescribes that clinical decisions concerning diagnostic testing and therapeutic choices are based on scientific evidence demonstrating effectiveness (1,2,3).

There is a paradigm shift from "Doing what seems best," relying on clinical experience, and knowledge of pathophysiology, to "knowing what is best." That is, basing decisions and actions on appropriate evidence from health care research. Physicians of this new paradigm integrate clinical findings with knowledge of the rules of evidence, and the ability to access, select, and interpret useful references from the medical literature (4,5). The evidence comes from randomized controlled studies, as well as from study results combined in order to draw conclusions that could not be drawn solely on the basis of a single study. These secondary syntheses, technology assessments and systematic reviews, are core activities of evidence-based medicine (see the glossary for definitions). Often, evidence conflicts or is difficult to interpret, which is why syntheses of evidence are important to both clinicians and managers.

Why is Evidence-based Medicine important to VHA managers?

By more carefully understanding and applying the evidence, "what works" in the veteran patient population, VHA managers can better frame policy and resource allocation or purchasing decisions. For example, a recent systematic review of ways to change physician performance found that widely used continuing medical education (CME) methods such as conferences have little

direct impact on professional practice, and that more effective methods are under utilized (6). Evidence about the effectiveness of clinical interventions can be applied by managers as well as clinicians.

Dissemination is key!

VHA and other health care systems face a unique challenge to improve their current apparatus for transferring research evidence to clinical practice. The clinical practice change and health policy development processes are enhanced and informed through energetic dissemination of research evidence. Streptokinase is an example of the formerly slow pace of clinical practice change based on research evidence. Streptokinase was shown to be effective in treating myocardial infarction in 1959. Convincing evidence mounted in the seventies. The first multi-trial meta-analysis (see the glossary) demonstrating its efficacy was published in the early eighties. Formal advice that streptokinase was useful in the routine treatment of myocardial infarction came in the late eighties—a full 13 years after close examination of the literature would have indicated the treatment's value. (7,8,9).

EBM— RESEARCH IN VA

Terazosin — effective therapy for BPH

Benign prostatic hyperplasia (BPH), prostate gland enlargement, occurs in a quarter of the male veteran population causing a range of distressing symptoms. This VA Cooperative Study tested terazosin and finasteride for safety and efficacy as single drug and combination drug therapies in 1229 veterans across the country. VA researchers found terazosin effective therapy, while finasteride either alone or in combination was found no more effective than the placebo — surprising results, as there had been studies reporting finasteride to be effective. The editorial accompanying the report describes why the study design and patient criteria were critical to these results. (Lepor H, Williford WO, Barry MJ, et al. *The efficacy of terazosin, finasteride, or both in benign prostatic hyperplasia. NEJM 335:533-539, (editorial page 586), Aug 22, 1996.*)

Routine screening for HIV - when is it cost-effective?

Routine screening for HIV is often recommended for patients and suggested for physicians, yet it can be quite expensive. Two studies at the Palo Alto VAMC explored the benefits versus the cost of screening. They looked at two populations: patients and surgeons, and found strong evidence for screening patients when the local population has a seroprevalence of HIV infection of 1% or more. Yet, for surgeons, evidence from a cost-effectiveness analysis showed the opposite. Screening surgeons for HIV to prevent HIV transmission to patients requires expenditures per year of life saved considerably in excess of those of most accepted health interventions. (Owens DK, Nease RF, and Harris RA. *Cost-effectiveness of HIV screening in acute care settings. Archives of Internal Medicine* 156:394-404, February 26, 1996. Owens DK, Harris RA, Scott PM, Nease RF. *Screening surgeons for HIV infection. JAMA* 122:641-652, May 1, 1995.)

Routine lab tests increase only costs NOT benefits.

Routine testing of severely impaired nursing home residents is a common practice to detect illnesses that may be masked by the patients' often severe existing impairments. In this Bedford HSR&D study the usefulness of this practice was assessed. Evidence showed little value in the use of routine lab assessments. The results suggest that selective use of the routine tests could minimize costs without patient harm. (Kim DE, Berlowitz DR. *The limited value of routine laboratory assessments in severely impaired nursing home residents. JAMA* 272: 1447-1452, Nov 9, 1994.)

VA AND AHCPR SUPPORT DEVELOPMENT OF EVIDENCE-BASED PRACTICE CENTERS.

On December 23, 1996, the Agency for Health Care Policy and Research began soliciting proposals to fund

Evidence-Based Practice Centers. These centers will produce evidence reports and technology assessments for use in developing clinical guidelines, clinical quality improvement tools, and for making decisions related to the effectiveness or appropriateness of specific health care technologies. FAX: 301-443-7523 to get a copy of the RFP. Send name, affiliation, address, phone and FAX numbers. Proposals are due March 24, 1997.

The MDRC Technology Assessment Information Service

The Technology Assessment Information Service (FTS 700-839-4469 and COM 617-278-4469) provides syntheses of evidence to senior managers and clinicians who need to make decisions regarding provision of specific health care services or purchasing. The Program also has an extensive collection of evidence reports and technology assessments from the literature and from other agencies. Finally, the Program has prepared evidence based documents that are of interest to managers such as the recent Transferring managed care principles to VHA (August 1996 MTA-96-023-01). A similar review of the effects of integrating health care systems is currently in preparation.

NEXT MANAGEMENT BRIEF:

Positron Emission Tomography - How useful is it?

The MDRC Technology Assessment Program is just releasing an evidence-based assessment of Positron Emission Tomography. The PET report, summarized in the next Management Brief, includes systematic reviews of the evidence for PET's usefulness in diagnosing Alzheimer's disease and cancer.

REFERENCES:

1. Sackett DL, Rosenberg WM, Gray JA, Haynes RB, Richardson WS. Evidence-based medicine: what it is and what it isn't. *BMJ* 1996; 312(7023):71-2.
2. Feussner JR. Evidence-based medicine - new priority for an old paradigm. *Journal Of Bone And Mineral Research* 1996; 11(7):877-882.
3. Evidence-based Medicine Working Group. Evidence-based medicine, a new approach to teaching the practice of medicine. *JAMA* 1992; 268(17):2420-2425.
4. McKibbon KA, Wilczynski N, Hayward RS, Walkerdiks CJ, Haynes RB. The medical literature as a resource for health care practice. *Journal Of The American Society For Information Science* 1995; 46(10).
5. Johnston ME, Langton KB, Haynes RB, Mathieu A. Effects of computer-based decision support systems on clinician performance and patient outcome. A critical appraisal of research. *Annals of Internal Medicine* 1994;120(2):135-142.
6. Davis DA, Thomson MA, Oxman AD, Haynes RB. Changing physician performance. A systematic review of the effect of continuing medical education strategies. *JAMA* 1995; 274(9): 700-705.
7. Mulrow CD. Rationale for systematic reviews. *BMJ* 1994; 309(6954): 597-9.
8. Antman EM, Lau J, Kupelnick B, Mosteller F, Chalmers TC. A comparison of results of meta-analyses of randomized control trials and recommendations of clinical experts. Treatments for myocardial infarction. *JAMA* 1992; 268(2): 240-8.
9. Heathfield HA, Wyatt J. Medical informatics: hiding our light under a bushel, or the Emperor's new clothes? [letter]. *Methods of Information in Medicine* 1993; 32(2): 181-2.

This is our fifth MANAGEMENT BRIEF. Please give us your suggestions:
Topics for future Briefs:

Comments on the MANAGEMENT BRIEF:

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Please send me the MANAGEMENT BRIEF by: E-mail _____ or FAX _____

The Management Brief is produced by the Management Decision and Research Center, a program within the VA's Office of Research & Development, Health Services Research and Development Service. The purpose of the Management Brief is to provide VA senior managers with a concise and timely overview of a specific health care topic that includes topic definition, benefits, VA activities, and resources for further information.

Please send comments to Gerry McGlynn, MDRC 152-M, 150 South Huntington Avenue, Boston, MA, 02130. Or, by phone at, FTS 700-839-4433 or COM 617-278-4433 FAX: 617-278-4438.



Evidence-Based Medicine Resource List

Evidence-based medicine and evidence-based health are information intensive, engendering a substantial body of information resources. To assist your investigation of the principles and practice of evidence based research and practice, we have compiled the following lists of resources. This list does not attempt comprehensiveness, but rather an overview of the rich E.B.M. resources available.

ADDITIONAL JOURNAL ARTICLES:

Ham C, Hunter DJ, Robinson R. Evidence-based policy making. *BMJ* 1995; 310: 71-72.

Haines A, Jones R. Implementing findings of research. *BMJ* 1994; 308: 88-92.

Users' guides to the medical literature. I - XI. *JAMA* 1993-1996. Excellent series by the Evidence-based medicine working group.

- I. How to get started. 1993;270:2093-7
- II. How to use an article about therapy or prevention.
 - A. Are the results valid? 1993;270:2598-2601.
 - B. What were the results and will they help me in caring for my patients? 1994;271:59-63.
- III. How to use an article about a diagnostic test.
 - A. Are the results of the study valid? 1994;271:389-91.
 - B. What are the results and will they help me in caring for my patients? 1994;271:703-7.
- IV. How to use an article about harm. 1994;271:1615-9.
- V. How to use an article about prognosis. 1994;272:234-7.
- VI. How to use an overview. 1994;272:1367-71.
- VII. How to use a clinical decision analysis.
 - A. Are the results of the study valid? 1995;273:1292-5
 - B. What are the results and will they help me in caring for my patients? 1995;273:1610-3.
- VIII. How to use clinical practice guidelines.
 - A. Are the recommendations valid? 1995;274:570-4.
 - B. What are the recommendations and will they help you in caring for your patients. 1995;274:1630-2.
- IX. A method for grading health care recommendations. 1995;274(22):1800-4.
- X. How to use an article reporting variations in the outcomes of health services. 1996;275(7):554-8.
- XI. How to use an article about a clinical utilization review. 1996;275(18):1435-9.

BOOKS

Evidence-based health care: how to make health policy and management decisions. Muir Gray. London: Churchill Livingstone. 1996. Pages 175. ISBN: 0-443-05721-4.

Evidence-based medicine: how to practice and teach EBM. David L. Sackett, W. Scott Richardson, William Rosenberg,

R. Brian Haynes. London: Churchill Livingstone. 1996. Pages 250. ISBN: 0-443-05686-2.

PRINT & WWW ACCESSIBLE JOURNALS

ACP Journal Club & Annals of Internal Medicine

Published bi-monthly by the American College of Physicians. Contact: The American College of Physicians 800-523-1546 or FAX: 215-351-2799. On the WWW: <http://www.acponline.org/journals/acpjc/jcmenu.htm>

Annals of Internal Medicine:

<http://www.acponline.org/journals/annals/annaltoc.htm>

Archives of Internal Medicine Journal Club

Published by the AMA provides a critical discussion of research articles & topics. On the WWW: <http://www.ama-assn.org/public/journals/pubhome.htm>

Bandolier

Concise reviews of clinical topics and practice guidelines from the Center for Evidence-based Medicine at Oxford University. On the WWW:

<http://www.jr2.ox.ac.uk:80/Bandolier>

Evidence Based Medicine

A bi-monthly journal jointly published by the American College of Physicians and the BMJ Publishing Group. Contact: American College of Physicians at 800-523-1546 or ebm@acp.mhs.compuserve.com

On the WWW:

<http://www.acponline.org/journals/ebm/ebmmenu.html>

Journal Watch

A monthly, critical, review of the evidence reported in newly published randomized controlled trials. Contact: Massachusetts Medical Society 1-800-843-6356.

New England Journal of Medicine

Also published by the Massachusetts Medical Society, NEJM includes research articles, editorials, clinico-pathologic conferences, and comments. On the WWW: <http://www.nejm.org/>

International Journal of Technology Assessment in Health Care

Official journal of the International Society for Health Care Technology Assessment. Cambridge University Press, New York, NY.

Web Sites

The world wide web or WWW is a complex information resource, found on the Internet, incorporating text and images. Each web site has a unique address known as a URL. One reaches a web site by pointing your web browser, also called a client (Netscape or Explorer) to this URL address. For additional information, assistance, or training, check with your local Library Service.

WEB SITE NAME	URL - UNIFORM RESOURCE LOCATOR	NOTES
Evidence Based Purchasing	http://www.epi.bris.ac.uk/rd/publicat/ebpurch/index.htm	For purchasers of health care products & services uses EBM to guide purchasing decisions.
Coordinating Center for Health Technology Assessment of the National Health Service	http://www.wiphm.soton.ac.uk/hta	Very new site. Information about UK NHS technology assessment programme. Lists ongoing projects and topics under way.
Center for Reviews & Dissemination	http://www.york.ac.uk/inst/crd/welcome.htm	Reviews of the efficacy & cost effectiveness of healthcare interventions.
Center for Evidence Based Medicine	http://www.cebm.jr2.ox.ac.uk/	Provides support & resources promoting evidence-based health care.
Ohio State University Medical Informatics	http://ohsu.edu/bicc-informatics/ebm/ebm_topics.htm	Evidence-based topics & links to many EBM web sites
McMaster University Health Information Research Unit, Canada	http://HIRU.MCMASTER.CA/ebm/default.htm	The premier EBM web site. A wealth of resources on EBM & the Cochrane Collaboration
NICHSR National Information Center on Health Services Research and Health Care Technology	http://www.nlm.nih.gov/nichsr.dir/nichsr.html	Part of the US National Library of Medicine providing information & links to other sites

LIST SERV Discussion Lists

LISTSERV lists are electronic discussion lists that distribute messages/discussions via E-Mail to large numbers of users who have an interest in a particular topic i.e., Evidence-based medicine. To subscribe to a particular listserv, send an E-mail message with the subject blank and the body containing only: **subscribe lastname your firstname lastname**. For example: **Subscribe CPAE Joanne Smith**

LISTSERV NAME	TOPIC	SEND SUBSCRIBE MESSAGE TO:
EVIDENCE-BASED HEALTH	Evidence-based medicine and health	mailbase@mailbase.ac.uk
BIOMED-L	Biomedical Ethics	listserv@vm1.nodak.edu
CPAE	Center for Professional & Applied Ethics	listserv@catfish.valdosta.peachnet.edu
HEALTH-TECH	Health Technology	majordomo@csn.net
Related Lists:		
HEALTH MGMT	Health Care Management	listproc@ursus.jun.alaska.edu
QP-HEALTH	Quality issues in health care	majordomo@quality.org

Glossary

TERMS	DEFINITIONS
Clinical guidelines	Also called clinical practice guidelines, they are systematically developed statements designed to assist practitioners and patients in making decisions about appropriate health care for specific clinical circumstances.
Decision analysis tools	A systematic approach for weighing the relative value of one or more different decision options, using the best available evidence. Decision models often are shown in the form of decision trees with decision points, branching steps, outcomes and values associated with those outcomes. These tools are used to predict outcomes and develop clinical guidelines.
Effectiveness	The extent to which a treatment or technology produces favorable outcomes under usual or everyday conditions. This measure answers the question: does it do more good than harm?
Efficacy	A measure of the benefit of using a technology to address a particular problem under ideal conditions (e.g., within the protocol of a carefully managed randomized trial, involving patients meeting narrowly defined criteria).
Evidence-based medicine	The practice of medicine that is guided by or based on scientific fact. The judicious use of best evidence in making decisions about the care of patients. The practice of evidence-based medicine integrates individual clinical expertise with the best available external clinical evidence from systematic research.
Meta-analysis	A series of methods for systematically combining information from more than one study in order to draw a conclusion which could not be drawn solely on the basis of the single study.
Randomized Controlled Trial	A carefully controlled study/experiment in which participants are randomly allocated to receive or not receive an experimental preventive, therapeutic, or diagnostic procedure and are then followed to determine the effect of the intervention.
Registries (databases)	A variety of repositories, often computerized, for observations and related information about a group of patients, a disease, an intervention, or other events or characteristics. These can be useful sources for evidence about the natural history of a disease, how it is managed, and the outcomes of treatment. VHA has several, such as the Spinal Cord Dysfunction Registry, Vietnam Era Twin Registry, and the National Registry of Women Veterans.

Want to Stay in touch with Evidence-Based Medicine?

Coming soon— a monthly E.B.M. bibliography. This bibliography includes articles about evidence-based medicine as a subject, practice, and process, along with meta-analyses, guidelines, and systematic reviews on clinical topics.

For more information on how to get this bibliography, send an email to:
g.mdrc-idp@forum.va.gov

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Health Services Research and Development Service.

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