AHRQ Update

Evidence-based Health Care 2004: AHRQ Moves Research to Translation and Implementation

Carolyn M. Clancy, Jean R. Slutsky, and Larry T. Patton

“Given the ever-growing sophistication of our scientific knowledge and the additional new discoveries that are likely in the future, many of us harbor an uneasy, but quite realistic, suspicion that this gap between what we know about diseases and what we do to prevent and treat them will become ever wider. And it is not just recent research results that are not finding their way into clinical practice and public health behaviors; there is plenty of evidence that “old” research outcomes have been lost in translation as well.”

—Claude Lenfant, M.D.,
“Clinical Research to Clinical Practice—Lost in Translation?”
2003 Shattuck Lecture, Massachusetts Medical Society.

INTRODUCTION

Since its inception, the Agency for Healthcare Research and Quality (AHRQ) has worked to promote the use of state-of-the-science evidence to improve health care and decisionmaking.

Evidence-based health care has been variously defined. Sackett et al. (2000) defines it as “the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research.” Muir Gray (1997) goes further to say the practice of evidence-based health care “enables those managing health services to determine the mix of services and procedures that will give greatest benefit to the population served.” AHRQ extends its efforts and these definitions to promote the use of evidence to inform health care policymaking.

The role of evidence-based health care in promoting better health outcomes and more value in the care we purchase and provide is only beginning to be realized. Much of the focus over the last two decades has been on perfecting the techniques of evaluating and interpreting evidence through

rigorous systematic reviews and the development of guidelines and measures. Less attention has been paid to the usability of these products, although the difficulty in getting them used in practice has been well-documented (Grims-haw et al. 2004). Thus, it continues to be a challenge to get the best available evidence to decisionmakers at the point that they need it and in a form that is useful.

As a promoter and generator of evidence, AHRQ has seen its mission and role naturally evolve since it was created as the Agency for Health Care Policy and Research. AHCPR was established by Congress in 1989 “for the purpose of enhancing the quality, appropriateness, and effectiveness of health care services and access to care.” The U.S. Congress and other health care decisionmakers and policymakers, increasingly alarmed over the variation of health care practices across the United States, were looking for scientific evidence on which to base health care decisions (Wennberg 1984). Accordingly, AHCPR’s mission was “to support, conduct, and disseminate research that improves access to care and the outcomes, quality, cost, and utilization of health care services.” Over the last 12 years, AHRQ-sponsored research has helped build the foundation of evidence used by health care decisionmakers at all levels.

In 1999, Congress reauthorized the Agency and renamed it the Agency for Healthcare Research and Quality. The reauthorization legislation removed a mandate that AHRQ develop clinical practice guidelines and directed the Agency to be a “science partner” with public and private health care organizations. As a science partner, AHRQ would assist the health care system in translating evidence and research into improved practice and policy. Consequently, AHRQ’s new mission is “to improve the quality, safety, efficiency, and effectiveness of health care for all Americans.” The goal of this mission is to work with the public and private sector to translate scientific evidence into improved health care, outcomes, and policy. Details on AHRQ’s new mission can be found in the June 2004 issue of *HSR*.

A clear direction for AHRQ under the new mission is the explicit focus on moving beyond discovery to decisionmaking. While it is always important to make sure that the quality of scientific information is high, it is equally important to ensure that it is relevant and usable. There are numerous lost opportunities for evidence to inform decisionmaking, oftentimes because decisionmakers simply cannot access or use the information when and where they need it. A major component of AHRQ’s new mission is a concentration on increasing the visibility and usability of scientific findings for decisionmakers at all levels—clinical practice, health systems, and policy making. This

is a shift from a major focus on the generation of new knowledge to a focus on the production of information that is not only needed by decisionmakers but delivered in a format that is practical, accessible, and useful—actionable and solution oriented.

CURRENT PROGRAMS

AHRQ has a wide range of programs that are focused on developing, translating, and implementing state-of-the-science evidence into improved practice and policy. Among these programs are:

Evidence-based Practice Centers (EPCs). AHRQ supports 13 EPCs in North America that review relevant scientific literature on clinical and behavioral topics as well as organization and financing to produce evidence reports and technology assessments. The EPCs also conduct research on methodologies to interpret evidence, and they provide technical assistance in translating the reports and assessments into quality improvement tools and interpreting the reports for decisionmakers.

A core product of the EPCs is the systematic review, which forms the backbone of tools for decisionmakers, including clinical practice guidelines, practice policies, quality measures, and policy decisions. For example, evidence can help public policy decisionmakers answer the question: Do we fund bone marrow transplants for condition X? Systems policymakers would use the evidence to answer the question: Where do we “locate” bone marrow transplant services for condition X? And clinical policymakers can use evidence-based medicine to answer the question: What subset of patients would benefit from bone marrow transplant for condition X?

The EPC program is completely “user driven.” A review is undertaken when a clear need for the information has been identified by a user group in either the public or private sector; this increases the likelihood that the reports will be pushed into practice and used. Of note, in recent years purchasers in search of the best information on value-based purchasing and system leaders requesting information on strategies for effective organization of services have been among the users of EPC information. In short, topics addressed extend beyond issues of clinical effectiveness. The EPCs support the U.S. Preventive Services Task Force and Technology Assessment Program described below.

National Guideline Clearinghouse™. The National Guideline Clearinghouse™ is a unique database of evidence-based clinical practice guidelines and related documents available at www.guideline.gov. Its mission is to provide

decisionmakers with an accessible mechanism for obtaining objective, detailed information on clinical practice guidelines and to further their dissemination, implementation, and use. The database contains information on how each guideline is developed, implementation strategies for the guidelines, and an annotated bibliography that contains over 1,900 citations on implementing clinical practice guidelines.

Centers for Education and Research on Therapeutics. This program consists of seven centers and a coordinating center. It has three major aims: (1) to increase awareness of both the uses and risks of new drugs and drug combinations, biological products, and devices as well as of mechanisms to improve their safe and effective use; (2) to provide clinical information to patients and consumers; health care providers; pharmacists, pharmacy benefit managers, and purchasers; health maintenance organizations and health care delivery systems; insurers; and government agencies; and (3) to improve quality while reducing the cost of care by increasing the appropriate use of drugs, biological products, and devices and by preventing adverse effects and consequences of these effects (such as unnecessary hospitalizations).

U.S. Preventive Services Task Force. The U.S. Preventive Services Task Force, an independent panel of private-sector experts in primary care and prevention sponsored by AHRQ, systematically reviews the evidence of effectiveness of clinical preventive services, including screening tests, counseling, immunizations, and chemoprevention. The mission of the Task Force is to evaluate the benefits of individual services; to create age-, gender-, and risk-based recommendations about services that should routinely be incorporated into primary medical care; and to identify a research agenda for clinical preventive care.

Technology Assessments. AHRQ's Technology Assessment Program provides assessments for the Centers for Medicare & Medicaid Services (CMS) to inform its national coverage decisions for the Medicare program as well as provide information to Medicare carriers. AHRQ's technology assessment program uses state-of-the-art methodologies for assessing the clinical utility of medical interventions. Technology assessments are based on a systematic review of the literature, along with appropriate qualitative and quantitative methods of synthesizing data from multiple studies.

AHRQ-funded Research by HSR Readers. Nearly 80 percent of AHRQ's funding supports work conducted at academic and research institutions. This funding is awarded either through targeted announcements on a particular research area or in response to ideas generated by the best and brightest in health services research. The research sponsored by AHRQ—and conducted

by *HSR's* readers—tackles some of the most significant issues and questions facing the health care system.

Health services researchers have made important contributions through conducting systematic reviews, enhancing the science of performing systematic reviews, and conducting studies that contribute to the evidence base of a review (West et al. 2002). EPC derived systematic reviews are the foundation for the U.S. Preventive Services Task Force recommendations and reports provided to the Medical Coverage Advisory Committee to inform national coverage decisions at the CMS. Using evidence in decisionmaking is no longer expected only in clinical contexts; the program at AHRQ has expanded to encompass organizational and financial dimensions of health care (physician reimbursement, pay for performance, health information technology, health literacy, etc.).

EVIDENCE-BASED HEALTH CARE 2004

Over the last 15 years, AHRQ has become a recognized resource that health care decisionmakers at all levels can come to for unbiased evidence-based information. They use this information to develop the tools they need to provide, purchase or use high-quality health care services. Some examples follow:

- The National Asthma Education and Prevention Program used AHRQ's evidence report *Management of Chronic Asthma* to update a 1997 version of their asthma guidelines. The 2002 NAEPP clinical practice guideline is titled *NAEPP Expert Panel Report: Guidelines for the Diagnosis and Management of Asthma—Update on Selected Topics 2002 (EPR—Update 2002)*. NAEPP's review focused on seven key clinical questions that were explored in the AHRQ evidence review and incorporates both clinical and management strategies relative to treating patients with asthma. It also provides a comprehensive discussion of current medications and their appropriate use.
- CMS used an AHRQ Technology Assessment in its decision to cover pneumatic compression therapy for patients with chronic venous insufficiency only under certain circumstances. Patients with significant ulceration of the legs and edema will qualify for pneumatic compression therapy if, after a 6-month trial of standard therapies, they are not showing signs of improvement. Treatments considered

“standard” include compression garments or bandages, appropriate dressings for the wound, exercise, and elevation of the limb. The available data cannot be relied on to inform the optimal choice of compression therapy or optimal protocol for patients with chronic venous insufficiency or venous ulcers, according to the technology assessment.

- AHRQ-supported research influenced the Mississippi State Legislature to offer and enhance programs to attract health care professionals to medically underserved areas. When the initial scholarship program offered did not attract enough health care professionals, the legislature passed a loan repayment program and later lowered the years of service required for both programs. The research of Donald E. Pathman, M.D., M.P.H., Director of Research, University of North Carolina Department of Family Medicine, was used to demonstrate to State legislators that if they included a loan repayment program in the bill, they would be more successful in both service participation and completion rates. The bill that was passed and became law in 2001 included a loan repayment program for doctors, dentists, and nurse practitioners. Prior to that, the law covered only scholarships. In addition, in 2003, the requirement for years of service was lowered for each program to make them more in line with those offered in other States.
- As a result of AHRQ-funded research, Partners Community Healthcare, Inc. (PCHI) was able to save over \$5 million in pharmacy costs. PCHI, headquartered in Boston, Massachusetts, comprises 1,200 primary care physicians and 3,000 specialists serving approximately 1.5 million patients. Based on the AHRQ study findings of principal investigator Jerome L. Avorn, M.D., Associate Professor of Medicine at Brigham and Women’s Hospital in Boston, PCHI is using clinical pharmacists to work with physicians to help control drug costs using an educational program known as academic detailing (also referred to as counterdetailing), an educational technique adopted from the pharmaceutical industry’s practice of “detailing” physicians about new drugs. At PCHI, six clinical pharmacists meet with the group’s physicians on a regular basis to discuss therapeutic and other issues surrounding prescription drugs that might influence or change prescribing practices. Research has shown that academic detailing is one of the most successful methods for changing the prescribing practices of physicians.

MMA AND SEC 1013

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 offers the Department of Health and Human Services an exciting new opportunity to promote the use of evidence. Under Section 1013 of the Act, Congress directed the Secretary of HHS to ensure that AHRQ works with CMS to support research and syntheses to assess the comparative effectiveness of appropriate health care items and services, including prescription drugs as driven by the needs of the federal programs—Medicare, Medicaid and the State Children’s Health Insurance Program (MMA 2003).

Specifically, Section 1013 authorizes \$50 million to AHRQ in FY 2004 so we can conduct and support research with a focus on outcomes, comparative clinical effectiveness and appropriateness of health care items and services and pharmaceuticals, including strategies for how they are organized, managed and delivered.

The Act required the Secretary to establish an initial list of research priorities, including those related to prescription drugs. At the writing of this article, the initial list, which was developed with input from interested stakeholders in the form of testimony at a May 21, 2004, listening session and written comments, was being finalized for publication on the Medicare.gov Web site.

There are two additional milestones for the evidence gathered under Section 1013. By June 2005, the Section requires the HHS Secretary to identify options to disseminate in a timely fashion, outcomes, quality of patient care, clinical data and patient-reported outcomes, which could include voluntary collaboration with private and public entities. By no later than December 2005, AHRQ shall complete its evaluation and synthesis of available scientific evidence related to the initial list developed by the Secretary, which shall be made broadly available.

Specific dimensions of Section 1013 represent a critical evolution of evidence-based decisionmaking. Evidence and findings are required to be immediately policy relevant because they stem from research and syntheses explicitly framed by the needs of federal programs. The Act mandates that information and evidence be disseminated to consumers and the public in a format that is understandable and accessible, and it explicitly requires that the efficiency of programs be evaluated as part of the research. As a result, the legislation promotes the development and use of relevant and usable scientific information for all users in a way that has not happened before. While it is important to note that the Congress did not appropriate funds for the required research under Section 1013 in Fiscal Year 2004, the legislation signals a

renewed emphasis on linking users' needs to the generation and production of new knowledge.

The initial focus of the research highlighted under Section 1013 will be largely on identifying gaps in knowledge—which is a research agenda by any other name. The unique aspect of this work, however, will be the tight link to *knowledge needed to make informed and timely decisions*. These agendas will provide a clear roadmap for future research needs and opportunities for health services researchers to connect to decisionmakers in a way that has not been encouraged on this scale before. It will undoubtedly be a challenge for researchers, who must create new constructs for how to approach emergent knowledge needs of decisionmakers in ways they have not done before. In order to assure that evidence is turned into action, AHRQ is looking for ideas on how best to incorporate translation and use of evidence into training programs. Acknowledging that not all research should be translated and not all researchers are implementers, there is the exciting possibility of training a new cadre of researchers as knowledge brokers.

Equally exciting is a new series of evidence reports on best practices in many of the priority areas identified by the Institute of Medicine for transforming health care delivery. These reports will clarify where there is evidence of best practices, where it is lacking and where additional research is urgently needed to assure that our significant investments in health care result in clear value for purchasers and payers.

FUTURE DIRECTIONS

AHRQ is refocusing and refining our goal of providing the essential science to make informed decisions that will improve the quality of health care for all Americans. This means we will emphasize the needs of users in generating new knowledge and in the way that we communicate knowledge to decisionmakers so they can make the most informed decisions possible. Potential grantees should examine the context in which their research is important and develop those important links with potential users of their research, finding out what they need to know, and how they will use the information. Look for gaps in knowledge that have already been identified and how they can be filled creatively and usefully. Health services research is the linchpin to safe and effective health care for all Americans. The potential of evidence-based health care remains to be fulfilled and AHRQ is dedicated to making sure that it is not “lost in translation.”

REFERENCES

- Grimshaw, J. M., R. E. Thomas, G. MacLennan, C. Fraser, C. R. Ramsay, L. Vale, P. Whitty, M. P. Eccles, L. Matowe, L. Shirran, M. Wensing, R. Dijkstra, and C. Donaldson. 2004. "Effectiveness and efficiency of guideline dissemination and implementation strategies." *Health Technology Assessment* 8 (6): iii–iv, 1–72.
- Muir Gray, J. A. 1997. *Evidence-based healthcare: how to make health policy and management decisions*. London: Churchill Livingstone.
- Public Law 108–173: Medicare Prescription Drug, Improvement, and Modernization Act. 2003: Sed. 1013. Research on Outcomes of Health Care Items and Services.
- Sackett, D. L., S. E. Straus, W. S. Richardson, W. Rosenberg, and R. B. Haynes. 2000. *Evidence-based Medicine: How to Practice and Teach EBM*. Edinburgh: Churchill Livingstone.
- Wennberg, J. E. 1984. "Dealing with Medical Practice Variations: A Proposal for Action." *Health Affairs* 3 (2): 6–32.
- West, S., V. King, T. S. Carey, K. N. Lohr, N. McKoy, S. F. Sutton, and L. Lux. 2002. *Systems to rate the strength of scientific evidence*. AHRQ publication No 02-E016. Rockville, MD: Agency for Healthcare Research and Quality, 64–88.