

Health Services Research In A Market-Oriented Health Care System

The administrator of the AHCPR outlines the contributions of his discipline to a changing health care sphere.

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ABSTRACT: A fundamental premise of market-based changes in health care delivery is that consumers will choose from among the options available in accord with their expectations concerning cost, outcomes, and quality. These choices assume that accurate information is available about health care services and that providers and plans are accountable for the services they deliver. Health services research can provide information about what works, when, and at what cost, to guide decisions about clinical services and the organization and financing of health care.

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**HEALTH
SERVICES
RESEARCH**

THE RECENT RAPID PACE OF CHANGE in American health care has been motivated by faith that market forces will connect purchasers' desires for reduced costs and high quality with providers' attempts to meet these demands. Both private and public purchasers have stimulated reforms in medical care through the power of their considerable purses. They have exercised their ability to choose among plans, providers, and services, and they often have transferred these choices to their clients.

Market-based reforms rest on the conventional economic assumption that purchasers—whether organizational units or individual consumers—will make decisions based on valid information. The premise of this assumption is that consumers (patients, potential patients, and their agents) will choose from the array of available options with knowledge of the relevant information and with the wisdom to optimize their outcomes. This information is the bedrock of the movement to consumer-oriented, market-based health care reform.

In his poem "The Rock," T.S. Eliot wrote, "Where is the wisdom

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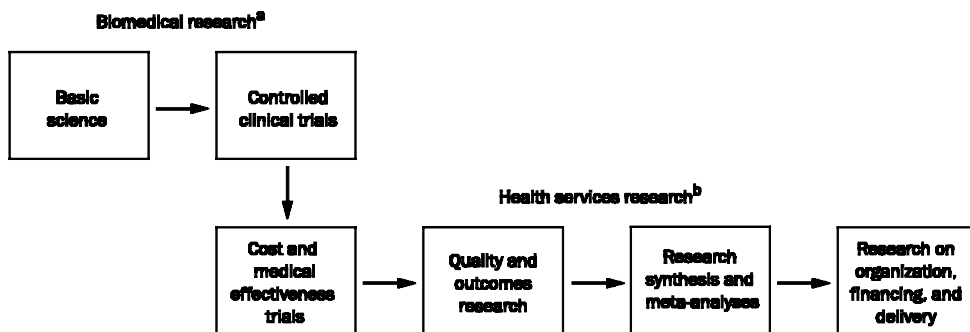
we have lost in knowledge? Where is the knowledge we have lost in information?"¹ The same theme challenges health policy experts and health services researchers: to assure Americans that the information needed for decision making will be available; that it will be translated into knowledge about health care outcomes, effectiveness, efficiency, and quality; and that it will be used wisely to enhance the health of the public.

Much of the response to this challenge has been and will continue to be derived from health services research. This field has the potential to provide the tools, methods, and information that allow users of the health care system to measure, explain, and improve the delivery of health care. The field faces challenges not only in its funding, but also in translating its findings to usable information, tools, and products for policymakers in clinical, health care system, and public policy settings. This paper emphasizes some of the achievements of health services research in informing health care decisionmakers, as well as its challenges, focusing especially on the role of the Agency for Health Care Policy and Research (AHCPR).

The Health Research Continuum

Health services research is a part of the broader continuum of health-related research that informs us about fundamental mechanisms of health and disease; about ways of preventing, diagnosing, and treating disease; and about evaluating both health care services and the health care system in which they are delivered (Exhibit 1). The boundaries between biomedical and health services research are not sharp ones, nor should they be. Domains along this continuum

EXHIBIT 1 Continuum Of Health-Related Research



SOURCE: Author's synthesis.

^a Addresses the questions, what causes diseases, and how can they be prevented or treated?

^b Addresses the questions, what works, what does it cost, and how do we close the gap between what we know and what we do?

will overlap. If they did not, we would risk gaps between basic science, clinical, public health, and health services research.

Health services research is particularly concerned with issues of organization, delivery, financing, utilization, patient and provider behavior, quality, outcomes, effectiveness, and cost. It evaluates both clinical services and the system in which these services are provided. It provides information about the cost of care, as well as its effectiveness, outcomes, efficiency, and quality. It includes studies of the structure, process, and effects of health services for individuals and populations. It addresses both basic and applied research questions, including fundamental aspects of both individual and system behavior and the application of interventions in practice settings. It allows the choices made by consumers, and by those who make decisions for consumers, to be based on evidence.

Several examples demonstrate the continuum further. Health services researchers have developed measures of health status, such as the RAND Short Form 36 (SF-36), and measures of severity of illness, such as the Injury Severity Score (ISS) and the Acute Physiology and Chronic Health Evaluation (APACHE).² All of these widely used measurement tools were developed or improved with funding from the AHCPR and its predecessor agency, the National Center for Health Services Research (NCHSR).

At the interface between clinical and health care delivery and financing, health services researchers have developed the diagnosis-related groups (DRGs) and the resource-based relative value scale (RBRVS) upon which Medicare reform, and later private-sector payment reform, have been based.³ The early work sponsored by the NCHSR on experimental medical care review organizations (EMCROs) a quarter-century ago laid the foundation for professional standards review organizations (PSROs) and peer review organizations (PROs), the current framework for peer and quality review of the nation's health care providers.⁴

Recent federal legislation also demonstrates the contribution of health services research to the nation's effort to use its limited health care dollars efficiently. More than a decade ago David Eddy studied the effectiveness of different frequencies of screening for cervical cancer in reducing the incidence of invasive cancer. He found that screening every three years instead of every year retains 97 percent of the test's effectiveness.⁵ The Omnibus Budget Reconciliation Act of 1989 (OBRA) mandated coverage for Pap smears every three years; more recently, the Balanced Budget Act of 1997 encouraged cervical cancer screening further by removing the Part B deductible for Pap smears.

Three Levels Of Health Policy

Although the term *policymaker* usually conjures up images of congressional debates, expert commission reports, or executive-branch declarations, policies are made every day at every level of health care. The more that policymakers base their decisions on evidence, the more likely it is that desired outcomes can be expected and that costs can be anticipated and, consequently, that wiser decisions will be made.

A useful way to understand the relationship of research to policy is to consider three levels at which health policy is made.

■ **Public policy.** Public policy includes federal, state, and local initiatives that affect the entire population or certain segments of the public. In health care, public policy includes decisions about levels of benefits, coverage, payment levels, and the health care workforce. The decisions by Congress to adopt and apply the DRG and RBRVS payment systems in Medicare were based upon carefully conducted research and translation of research findings by expert advisory bodies: the Prospective Payment Assessment Commission (ProPAC) and the Physician Payment Review Commission (PPRC). My own experience as a member of the PPRC was an encouraging exercise in congressional decision making based on careful analysis and consideration of the research-based evidence underlying public policy.

State health policy also has been influenced by the results of health services research. For example, certificate-of-need (CON) programs were streamlined or repealed after health services research showed that they were not successful in reducing costs.⁶

■ **Health care system policy.** Health policy also is made by health care systems. In the past, health care was appropriately described as a “cottage industry.” More than 7,000 hospitals, most of which were small and independent, and more than a half-million doctors, mostly self-employed or working in small group practices, made decisions about how they would manage their enterprises. Today physicians are increasingly employed, as nurses traditionally have been, by organizations that own and operate networks of hospitals, nursing homes, and home health programs. In 1996, 768 hospitals announced mergers.⁷ The proportion of physicians who worked in groups of five or more increased from 18 percent in 1983 to 32 percent in 1995.⁸ As health care delivery becomes more consolidated and organized into integrated systems, decisions will less often be local and more often be corporate.

Although major policy decisions in health care systems are further removed from the clinical workplace, most of the organizations

that make these decisions have the resources to base their decisions on careful analysis and review of the evidence. These decisions may be made at the level of practices, clinics, hospitals, networks, or entire plans. Examples of system-level policy making guided by health services research include decisions about staffing, personnel, selection of hospitals and clinicians, mergers and purchases, payment incentives, management strategies, and coverage.

Investigators who have studied the organization and financing of health care have demonstrated the effects and side effects of policy decisions that in turn can guide subsequent decisions. To discriminate between those innovations that work and those that are hype, health services researchers have applied the rigorous methods of evaluation science to measure the outcomes of organizational and financing changes, just as clinical researchers measure the effects and side effects of a new drug. It is not enough to know that clinical services are safe, effective, and appropriate if the structure for delivering that care is shaky.

One well-known example of research that informs policy making by systems of care is the RAND Health Insurance Experiment, the results of which influenced the use of deductibles and coinsurance nationwide.⁹ Joseph Newhouse has pointed out the early results from this experiment and the corresponding growth of deductibles and coinsurance.¹⁰

■ **Clinical policy.** Every day clinicians and their patients make scores of decisions that establish policies affecting the care that patients receive. Clinical policy includes decision making about screening and diagnostic tests, when and for whom to provide therapeutic procedures, when to hospitalize, when to refer, which drugs to prescribe and when, and self-care. Many of these decisions are guided by pooled information such as recommendations from professional societies and expert groups—information based on carefully conducted health services and clinical research.

One example of clinical policy informed by health services research is the development of clinical practice guidelines. Physicians who recall their days as house officers carrying manuals of patient care in the bulging pockets of their white coats know that guidelines are neither new nor threatening. What is new is the insistence that these guidelines be based on rigorously analyzed evidence and critical appraisal of the literature.

Of course, practice guidelines do not represent the whole picture of how clinical health policy is translated into improved clinical practice. Other methods of improving practice through information, such as continuing education and continuous quality improvement, are used to establish and communicate the best way to deliver serv-

ices, and their impact on practices should be evaluated more carefully. Simply promulgating a clinical policy and expecting practice to change is insufficient.¹¹

Health Services Research Informing The Market

Policymakers at each level are accountable for the impact of their decisions on the cost and quality of health care, and on access to it. The challenge for health services research is to make needed information available and to make this accountability possible. Such research can identify what works in clinical practice, in the organization of services, and in the financing of health care. Policymakers then can make decisions based on evidence rather than on strongly held but unsupported views.

For example, a recent study found that expanded use of anti-coagulants in patients with atrial fibrillation could reduce the number of strokes occurring in the United States by 40,000 each year.¹² Although anticoagulant therapy has been recognized as effective, it has not been used as the clinical evidence would suggest. To improve outcomes, barriers to appropriate care have been identified, including problems with dissemination of information and organizational aspects of medical practice.¹³

■ **Research and managed care.** The organization of medical care presents similar policy challenges. Experienced policymakers understand that managed care is not a simple recipe to be applied without modification in all circumstances. They understand that managed care uses an array of approaches to contain or reduce costs and to enhance quality. It is essential to understand which managed care interventions work best and when. Researchers have examined how managed care approaches such as demand and supply management affect quality, outcomes, and costs. For example, one study found that stroke patients in Medicare managed care plans were significantly less likely to be discharged to a rehabilitation hospital or unit than were similarly diagnosed Medicare patients in traditional indemnity plans.¹⁴ Another found that women enrolled in health maintenance organizations (HMOs) were more likely to use preventive health services (Pap smears, breast exams, and mammograms) than were those in fee-for-service plans, even after adjustments for self-selection.¹⁵

In market-oriented health care, the preferences and values of patients, combined with information about how they can fulfill their preferences, will drive decision making by patients and those acting on their behalf. But preferences and values vary in a heterogeneous society, and the nation's pluralism is expressed in the choices that patients make when presented with the same information. Two

patients might have the same facts about risks and benefits and about the likelihood of favorable and adverse outcomes but reach different conclusions about the care they prefer. Health services researchers have attempted to understand these different perceptions of risk and outcomes and of health care quality and have developed measures and tools that allow for assessment of diverse values and preferences. Much work remains to be done in this critical area.

■ **Quality of care.** Health services research also can help decisionmakers to sort out the effects of various factors on outcomes so that quality improvement measures can be more effectively targeted. One study examined the publication of hospital mortality data for coronary artery bypass graft (CABG) in New York State and found a 41 percent decrease in risk-adjusted CABG mortality between 1987 and 1993.¹⁶ The study's authors linked this decrease in mortality with the publication of the mortality rates. However, another study noted a similar decrease in Massachusetts, which did not have a statewide program for reporting CABG mortality rates.¹⁷ Although the initial results supported the publication of hospital mortality data and quality improvement, the recent study points to the need for continual evaluation of interventions. In studies such as these, in which quality is measured on the basis of outcomes, it will be important for researchers to continue to improve measures of case-mix and severity of disease to avoid the appearance of lower-quality care provided by those who treat the sickest patients.

Building Blocks Of Health Services Research

The continued vitality of health services research depends on its ability to translate findings into tools that can be used to improve health care, to invest in its own future by training and sustaining the best talent that can be recruited to address the challenges of improving health care through research, and to assemble teams of these investigators at centers of health services research excellence. These are the keys to the future of the field.

■ **Tools.** Databases and measures allow researchers to examine and explain changes in the health care system. In addition to tools such as APACHE and the ISS and outcomes measures such as the SF-36, a number of tools have been developed for measuring quality of care, quality of life, health outcomes, and costs. Patient Outcomes Research Teams (PORTs), funded by the AHCPR, have developed both general and disease-specific health status measures. One such tool is the VF-14, an index of functional impairment in patients with cataracts.¹⁸ Work from the PORT on cataracts showed that the VF-14 is a stronger predictor of self-reported satisfaction than is

visual acuity or general health status score.

Tools to measure consumer satisfaction, health outcomes and cost-effectiveness, and performance also are important in informing policy decisionmakers at all three levels. Because of the variety of outcomes and quality measures that are becoming available, it is also important to build a toolbox from which decisionmakers can select the appropriate measures for the questions facing them. One early example of such a toolbox is the AHCPR's CONQUEST database.

Databases that allow researchers to measure the cost and use of services, such as the AHCPR's Medical Expenditure Panel Survey (MEPS), also will be increasingly important. These data tools help to determine the impact of managed care, changes in health insurance, the impact of federal and state health policies, and potential changes in access to care and its cost.

■ **Talent.** The need for new measures, new tools, and new knowledge about health care requires new investigators. In addition to federal support for research targeted to the nation's priorities, some private-sector organizations are supporting researchers to apply these methods to topics such as the cost-effectiveness of new drugs or analysis of costs incurred by health plans or providers. The demand for these researchers remains high.

In addition to these "doers" of health services research, there is an increasing need for persons who can adopt and apply this research. These are the "users" of health services research. Just as clinicians need to know the language of clinical research and how to use it critically, so does the nation need persons with the knowledge and skills to be critical consumers of the published health services literature, presentations, and less well founded claims of effectiveness, efficiency, and quality. These persons may work at any of the three levels of health policy.

The Institute of Medicine (IOM) reported in 1995 that there were 5,000 health services researchers in the United States but that researchers with practical experience in health care organizations and in managing research units were in short supply.¹⁹ Because of the large number of current and future questions and methodologic challenges in the organization and financing of health care services, access to health care services, quality of care, provider and consumer behavior, informatics, and clinical decision making, the IOM committee concluded that there will be an increased demand for well-trained health services researchers. An informed and accountable health care system needs to encourage the training of health services researchers in a wide array of disciplines, including epidemiology, biostatistics, sociology, psychology, economics, medicine, and public health.

“New organizational and financing arrangements should be subjected to the same unbiased scrutiny to which we subject clinical innovations.”

■ **Teams.** The nature of our health care system, the complexity of its processes and information, and the need to reach across boundaries within the system necessitate that we promote the development of teams to carry out high-quality research. Some research challenges can be tackled only by promoting synergy among researchers, gathering a critical mass of colleagues, and encouraging the organizational and financial infrastructure to sustain the enterprise in an environment of competitive funding. An additional value of these “centers of excellence” is that they train and nurture future researchers, who will develop new methods of inquiry and apply them to important and relevant questions. The AHCPR expects that its recently designated Evidence-Based Practice Centers will be centers of excellence in evaluating the available research on the effectiveness and outcomes of medical care.

Partnerships among providers, employers, researchers, and plans also are necessary to gather the information that is needed to perform research that reflects current market conditions. Partnerships and teams promote the development of the skills of both users and doers of health services research. The AHCPR is developing partnerships to foster these teams. The recently announced partnership with the American Association of Health Plans (AAHP) Foundation will fund a coordinated network of teams evaluating the impact of various managed care characteristics on the care of patients with chronic illness.

Evidence To Action, Research To Policy

Since the establishment of the AHCPR’s predecessor agency, the NCHSR, a quarter-century ago, a number of the advances in health services research have become part of the common wisdom of health care policymakers, managers, and practitioners. Some findings were surprising to many at the time the research was performed, but they are now even taken for granted—such as the wide variations among regions in health care utilization or the sizable portion of services that are unnecessary.

Even so, just describing these phenomena will not be sufficient. To use observations of outcomes, utilization, and cost to drive policy making requires two additional steps. First, researchers should investigate the reasons for these observations, much as a biomedical investigator would study the mechanisms of a newly observed dis-

ease and their impact. For example, should policy aim to eliminate practice variations as a manifestation of inequality or ill-informed decisions, or should they be celebrated as a reflection of health care's responding to individual preferences and values? Second, researchers should determine what can be done with these observations to improve the quality of care and health outcomes. How can consumer protection and quality of care be assured by information about the delivery of services, their effectiveness and outcomes, and the environment in which they are provided? New organizational and financing arrangements should be subjected to the same unbiased scrutiny of safety, cost, and effectiveness to which we subject clinical innovations.

In a nutshell, health services research must continue to respond to the challenge offered in a description of the journal *Evidence Based Medicine*: to continue to focus on research that is "most likely to be both true and useful."²⁰ The field of health services research has a tradition—albeit brief by the standards of biomedical research—of which it is proud and a future about which it is enthusiastic.

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NOTES

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