

Prospects and Problems in Health Services Research

DAVID MECHANIC

University of Wisconsin-Madison

GIVEN THE ENORMOUS GROWTH of the health services field and the difficult problems associated with cost containment, regulation, quality assurance, and improvement of health behavior of the population, it might have been anticipated that health services research would be a growing and vigorous activity. Instead, the health services research field faces considerable skepticism among public officials and a significant erosion of its research and training support (National Research Council, 1977). Links between health services research and policy formulation and implementation are commonly challenged, and many leaders in government and the health care field are confused about the role and work of the health services research sector (Lewis, 1977). Improved understanding of the nature of health services research and its special problems will assist in developing realistic and appropriate criteria for public policies.

The health services research field focuses on the production, organization, distribution, and impact of services on health status, illness, and disability. Although the field shares certain concerns with behavioral studies, such as the determinants of health status, reactions to illness, health promotive behavior, and factors affecting adherence to medical advice, it concentrates attention on improving the distribution, quality, effectiveness, and efficiency of medical care. Because health services research is also often associated with

demonstration projects and problems of technology transfer, these relationships require consideration despite the different emphases in demonstration and research programs.

Health services research involves activities similar in many respects to those carried out in the evaluation of educational, legal, or social welfare services. None of these other sectors, however, has expanded so rapidly or involves such complex forms of technology or social organization. Research workers in the health services field come from a wider range of professional disciplines and educational backgrounds than researchers on education, law, or welfare, making interdisciplinary research and communication among research personnel more difficult. In short, although health services research is not a unique research field, it has special problems.

Vulnerability of the Health Services Research Sector

The health services research field is relatively young, having received major research support only in the last two decades (The President's Science Advisory Committee, 1972), and thus it is extremely vulnerable to instability in financing and uninformed criticism. Most other scientific activity is organized around disciplines with distinctive perspectives and professional organizations that serve as a basis for identification and effective lobbying. In contrast, health services research is carried out by members of a variety of disciplines such as physicians, sociologists, epidemiologists, biostatisticians, economists, or operations researchers. Although shared research concerns bring these professionals together, they have no clear organizational affiliation or professional identification around the health services research area. Most such researchers identify with their primary discipline, making it difficult to measure the research manpower available or even the boundaries of the field (National Research Council, 1977). Moreover, unlike the various interest groups representing the study of such diseases as cancer, heart disease, and mental illness, or highly organized disciplinary groups, such as biochemists or psychologists who maintain staff to promote their disciplinary involvements, health services research has no organized constituency to promote it. Because health services research lacks the emotional appeal of categorical disease problems or the professional organization of traditional disciplines, support for the field must rest solely on its merits and potential. In this

respect, the field continues to be handicapped by unrealistic expectations, inflated demands, and erratic modifications of its research agendas by funding agencies.

Although most basic research fields are oriented toward a particular community of scholars who share many assumptions, perspectives, and methodologies, health services research speaks more directly to policy makers and administrators who typically face pressing practical problems. Not only must health services research achieve a level of scientific rigor satisfactory to other professionals who scrutinize its theories and research efforts, but it must also pose issues in ways that appear reasonable to decision makers. Demands for scientific rigor from one's colleagues often interfere with meeting the expectations of simplicity, comprehensibility, and need from the policy makers. One never hears complaints from administrators or legislators that research in immunology is worthless because they cannot understand it, but one frequently hears that health services research funding is being wasted on "incomprehensible regression equations." Thus, health services research faces not only the usual needs of a research discipline, but also the additional expectation of suitable translation.

Role of Health Services Research

The health services research effort is miniscule relative to the magnitude of the industry it scrutinizes, the intellectual scope of the problems it deals with, and the social and political context in which it must operate. Such research commonly deals with problems that involve strong ideologies, competing perspectives, and contending interests. Often the solutions desired are not simply technical and scientific but also decisions about values, and yet health services researchers are frequently admonished because they do not state clearly and unequivocally what should be done. Although administrators are not so naive as to anticipate that health services research can resolve political disputes, some administrators find health services research a convenient scapegoat when they feel frustrated by the difficulties of modifying the health care arena in any fundamental way.

The most serious problem affecting the future of health services research is the expectation that a modest research investment will provide solutions to the political dilemmas of health care. It is both

demonstration projects and problems of technology transfer, these relationships require consideration despite the different emphases in demonstration and research programs.

Health services research involves activities similar in many respects to those carried out in the evaluation of educational, legal, or social welfare services. None of these other sectors, however, has expanded so rapidly or involves such complex forms of technology or social organization. Research workers in the health services field come from a wider range of professional disciplines and educational backgrounds than researchers on education, law, or welfare, making interdisciplinary research and communication among research personnel more difficult. In short, although health services research is not a unique research field, it has special problems.

Vulnerability of the Health Services Research Sector

The health services research field is relatively young, having received major research support only in the last two decades (The President's Science Advisory Committee, 1972), and thus it is extremely vulnerable to instability in financing and uninformed criticism. Most other scientific activity is organized around disciplines with distinctive perspectives and professional organizations that serve as a basis for identification and effective lobbying. In contrast, health services research is carried out by members of a variety of disciplines such as physicians, sociologists, epidemiologists, biostatisticians, economists, or operations researchers. Although shared research concerns bring these professionals together, they have no clear organizational affiliation or professional identification around the health services research area. Most such researchers identify with their primary discipline, making it difficult to measure the research manpower available or even the boundaries of the field (National Research Council, 1977). Moreover, unlike the various interest groups representing the study of such diseases as cancer, heart disease, and mental illness, or highly organized disciplinary groups, such as biochemists or psychologists who maintain staff to promote their disciplinary involvements, health services research has no organized constituency to promote it. Because health services research lacks the emotional appeal of categorical disease problems or the professional organization of traditional disciplines, support for the field must rest solely on its merits and potential. In this

respect, the field continues to be handicapped by unrealistic expectations, inflated demands, and erratic modifications of its research agendas by funding agencies.

Although most basic research fields are oriented toward a particular community of scholars who share many assumptions, perspectives, and methodologies, health services research speaks more directly to policy makers and administrators who typically face pressing practical problems. Not only must health services research achieve a level of scientific rigor satisfactory to other professionals who scrutinize its theories and research efforts, but it must also pose issues in ways that appear reasonable to decision makers. Demands for scientific rigor from one's colleagues often interfere with meeting the expectations of simplicity, comprehensibility, and need from the policy makers. One never hears complaints from administrators or legislators that research in immunology is worthless because they cannot understand it, but one frequently hears that health services research funding is being wasted on "incomprehensible regression equations." Thus, health services research faces not only the usual needs of a research discipline, but also the additional expectation of suitable translation.

Role of Health Services Research

The health services research effort is miniscule relative to the magnitude of the industry it scrutinizes, the intellectual scope of the problems it deals with, and the social and political context in which it must operate. Such research commonly deals with problems that involve strong ideologies, competing perspectives, and contending interests. Often the solutions desired are not simply technical and scientific but also decisions about values, and yet health services researchers are frequently admonished because they do not state clearly and unequivocally what should be done. Although administrators are not so naive as to anticipate that health services research can resolve political disputes, some administrators find health services research a convenient scapegoat when they feel frustrated by the difficulties of modifying the health care arena in any fundamental way.

The most serious problem affecting the future of health services research is the expectation that a modest research investment will provide solutions to the political dilemmas of health care. It is both

naive and counterproductive to anticipate any direct relationship between such research and policy implementation. The demand that health services research questions be formulated in terms of immediate political issues, moreover, debases the processes of problem formulation, compromises adequate data acquisition, and inevitably leads to disappointment and frustration. To the extent that policy decisions are important, highly visible, and affect important contending interests, they depend more on political compromise than on particular research projects, although research results may help indirectly to inform the debate and shape the outcome. Although legislators may ask what research project ever led to a specific policy decision, the implication being that such research is of little value and unworthy of support, the fact is that the question is itself based on false and unrealistic premises. Health services research will (and, indeed, should) always be in the background in the formulation of important policy decisions unless the decisions are purely technical ones. But few important health services issues are simply matters of knowledge or technical expertise.

Health services research cannot solve the big policy issues, but it can perform a wide variety of functions including acquisition of descriptive information on the performance of the health services, analytic research and hypothesis testing on microissues, such as the effects of cost sharing on consumers or variations in remuneration on professionals, and evaluation of large sociomedical programs. It also is allied closely with demonstration programs in which the emphasis is less on theory and more on the practical issues of implementation and the diffusion of innovations. The major role of health services research is to inform the policy makers and implementers, but not determine their decisions or actions, although there are occasional exceptions on largely technical or apolitical matters. Through various kinds of health services research, issues are raised, observations made, and perspectives developed that over the long term affect the way administrators and politicians see problems, formulate options and approaches, and implement decisions. To the extent that health services research is done well, it contributes immensely to intelligent policy consideration and more than repays its relatively small investment. Unless we take a fairly long-range perspective, we may readily miss the extent to which our conceptions of health care problems have changed in the past decade or two, in large part because of health services research.

Although 20 years ago most observers had implicit faith that greater investments in health services would significantly improve the health of the nation, they now have much greater skepticism that larger health care investments bring commensurate results (Knowles, 1977). We are much more aware that the health status of the nation depends on environmental conditions and patterns of behavior outside the health care delivery system. We increasingly realize that the resources available, such as hospital beds, surgical specialists, and primary care physicians, affect the magnitude of demand and utilization and that there is an uncertain relationship between the use of more services and health status (Fuchs, 1974). We have learned to see that providing physician and other services is not simply an issue of numbers but also of distribution, and we are targeting our policies more specifically on the basis of such knowledge (Lewis, Fein, and Mechanic, 1976). We have learned a great deal about the benefits and problems of Health Maintenance Organizations (HMOs) and the ways they compare with alternative delivery systems, and of new personnel and facilities, such as physician assistants, nurse practitioners, perinatal units, and surgicenters. We are better informed of the imperfections of the medical marketplace and ways to deal with them, and of the relationship between financing and the manner in which services are produced. Although this may seem to be the conventional wisdom of yesterday, much of the way we see and do things today is influenced by the results of health services research.

Unlike research in most other disciplines, successful health services research attracts critics. Although we all applaud research developments in cancer, schizophrenia, or kidney disease, research on the performance of the health sector is frequently politically costly to particular professional groups. Surgeons hardly like the suggestion that they perform unnecessary surgery; hospitals dislike the implication that they are inefficient and wasteful; physicians recoil at suggestions that they create their own demand, offer ineffective care, and maintain political control over the medical marketplace. One hardly expects these groups to serve as a constituency in support of health services research.

The fact is, however, that a well-structured health services research program is essential to future health care policy and to adequate monitoring of a massive national investment. Almost every recent major piece of health legislation poses requirements for data

acquisition, planning, and evaluation for which we lack the resources and often the theoretical and methodological sophistication as well. Questions posed quite glibly in political debate are often difficult to translate into scientific hypotheses that can be examined in any reasonable fashion. Although it is natural for those who want immediate answers to be impatient, many of the questions raised are complex and difficult, requiring long-term conceptual and empirical efforts. These considerations should make it clear that health services research is much more likely to contribute successfully if its concerns are more long term than short, and if its efforts can be separated from the immediate pressing needs of policy makers and administrators; health services research offers the guidance of informed persons who are unlikely to benefit in any immediate sense from health services research. With these considerations in mind, the functions of health services research are considered below, together with their relevance to research on other institutional sectors such as education, welfare, or law.

Information and Intelligence

One of the most acute needs of administrators is simply to know the facts: facts concerning gaps in the distribution of services; actual costs for medical and surgical procedures in varying localities; relationships between expenditures and changes in health status; rates of admission to hospitals and lengths of stay for varying procedures, and ways they are changing; costs of new technologies and how they affect physician behavior and medical outcomes; and many more. Moreover, administrators require some indication of impending problems both to formulate responses and to deal with possible political contingencies. Although we know a great deal about the performance of health services, we still lack many crucial facts despite their importance for future planning. Many such efforts to gather important facts routinely or on a periodic basis are made through the National Center for Health Statistics and a variety of special surveys carried out by health services researchers in universities. For example, the Center for Health Services Administration at the University of Chicago has carried out periodic surveys of national samples involving such issues as access to and expenditures

for medical care. These surveys have provided data on trends that allow assessment of the progress made in such areas as extending access. University researchers carry out survey studies on such varied issues as health and illness behavior, utilization of care, physician attitudes, adjustment of the handicapped, and the social needs of the aged.

Acquiring facts is not simple because they depend on concepts that may be unclear or difficult to measure. What is the meaning of a physician visit when the content of such visits varies widely from one context to another and includes office visits and phone visits? How does one estimate the prevalence of psychiatric disorder when experts disagree on appropriate definitions? How does one measure the impact of medical care on health status when we lack valid and reliable measures of the dependent variable? How do we estimate the total expenditures for physician services when some of these expenditures are included in hospital charges? Behind many simple facts are serious problems of concept and methodology that continue to require considerable developmental efforts if we are to generate reliable information for sound decision making.

In addition to routine monitoring through large-scale surveys and statistical reporting systems, we need more detailed information on how the epidemiology of disease is changing in the community; the types of case mix seen in varying types of facilities; the procedures and costs generated by varying types of medical encounters; and the impact of changing patterns of professional work, new technologies, and innovative facilities. What, for example, are the case-fatality rates for varying types of medical and surgical procedures in varying types of facilities? Are physicians typically doing more laboratory procedures in routine medical examinations and do they vary by type of specialty, organizational setting, or type of patient? What is the fate of patients released from institutions as part of the emphasis on deinstitutionalization programs? What services are they receiving, what problems are they having, and what is their level of functioning in varying types of community settings? Although it is difficult to anticipate which of the many descriptive questions concerning health services will become special agenda items for policy makers, continuing descriptive efforts both contribute to the anticipation of impending problems and provide a data base from which to begin to formulate political options.

Analytic Research and Hypothesis Testing

Health services research also includes more complex studies that may not have immediate relevance but contribute in a general way to informing policy makers. Such studies generally involve testing hypotheses about the impacts of various types of incentives and other interventions. Such studies might include hypotheses about the effects of coinsurance and deductibles on rates of utilization, on the impact of remunerating physicians by capitation or salary in contrast to fee for service, and on the performance of nurse practitioners as compared with physicians. Such studies also vary in their concerns and may reflect the state of current knowledge, the ingenuity of the investigator, the variations present in the health care system, the possibilities of initiating new programs and experiments, and the limits of research personnel and funding. Although in the long run many of these studies will not be particularly useful to the policy maker, they make up the intellectual resources of the health services field and serve as the basis for new ideas. Thus, investments in health services research must be seen in a probabilistic sense; it is essential to fund a broad range of studies to generate those that will be important in affecting thinking and future efforts. As with biomedical research, it is necessary to explore many paths, knowing that some will be *cul-de-sacs*.

Although administrators can define certain areas of present interest, there is no effective way of targeting such knowledge-building efforts. A modest but stable research program is needed to facilitate the work of academic researchers who generate ideas based on their own theories, observations, and experience. Certainly, a field as large as health services can afford this risk capital to insure that at least some segment of research goes beyond the current notions of what is relevant and practical.

Evaluation Research

Another health services research effort involves evaluation of new and ongoing programs. These studies are particularly difficult and frequently disappointing because many do not have clearly defined or agreed upon goals. Often, the coalition necessary to put a program together involves groups with varying goals and definitions,

yet maintaining a vague symbolic definition of the program's purpose serves important political needs. No one may really expect the program to have the impact suggested by political rhetoric, and it may be pointless to study whether it really does. Other barriers to evaluation include the reluctance of administrators to risk a negative assessment; the tendency to modify programs repeatedly before an evaluation is completed, thus complicating and undermining the evaluation; and a variety of methodological problems inherent in any complex evaluative effort.

To the extent that the evaluator views his task as comparable to a controlled clinical trial, he faces a high likelihood of failure. Most important evaluations performed from outside an ongoing system tend to get caught in a critical cross fire from those who have something to lose, and there are innumerable opportunities to sabotage any such data collection. Evaluations that are seen as attempts to improve practice through identifying problems and unexpected consequences — and that are organized in close cooperation with those who execute programs — have more potential. Most professionals are open to improving their practices if they are not threatened, and thus the challenge in evaluation is to provide productive feedback without arousing defensiveness.

Evaluations as experiments are more viable when there are no large organizational repercussions resulting from the outcome, when they are unlikely to identify particular organizations as having failed, and when they address relatively discrete analytical questions. Evaluations are usually poorly received when they involve one specific program or agency, when the goals of the program are relatively ambiguous, and when the organization is at political risk. Thus, large-scale experimental evaluations are more feasible for examining the impact of different insurance programs or the effect of providing income grants on willingness to work than they are in examining the effectiveness of community mental health centers or biomedical training programs.

In the health services field we need a great deal of formative evaluation that provides feedback to programmatic personnel as to the impact of their efforts, unexpected consequences, and the way administrative principles are being translated at the grass roots level. Thus, evaluation becomes part of an iterative process in which the evaluator becomes one more member of the program team rather than an outside observer grading its performance.

Policy Analysis

Policy analysis applies social and economic analytical techniques and existing data for the purpose of suggesting the costs and benefits of particular policy initiatives. Such analysis involves understanding not only the substance of the problem to be attacked but also the policy-making process and the realistic possibilities and constraints of government. Because policy analysis is so closely allied with the political process, much of it must be performed within the context of an ongoing governmental process. Although an outside policy analyst might suggest new policy options or provide useful technical advice, all policy suggestions go through a continuous process of review and modification before being used, and only by close contact is it possible to perform an effective role in implementation.

Government administrators, however, must react to continuing demands of an immediate nature. Thus, their focus is relatively short range, and their energies and attentions tend to be devoted to the issues of the moment. Long-range analysis is needed, however, to examine policy questions thoroughly, compare alternative options and their costs and benefits, and consider the processes of implementation and the ways they might be achieved under existing restraints. Such activity requires a certain separation from the day-to-day efforts of government but with enough communication to insure consistency with political and administrative realities.

Demonstration and Diffusion

Tasks of demonstration and technology transfer are quite different from those of health services research, but such efforts can gain from health services research as well as providing a laboratory in which to study difficult problems of implementation and diffusion of new knowledge and techniques. The health system is characterized by considerable diversity and diffusion of responsibility and decision making. There is a complex—and often circuitous—path between demonstrating that something can work and making it work in varied settings that may lack the leadership, motivation, momentum, or supervision that existed at the demonstration site. Every new demonstration, like the introduction of new drugs, may have an impact associated with the expectations and enthusiasm it generates. If a new technology or organizational arrangement is to be effective,

however, it must work in the ordinary situation and maintain its impact over time. Problems of the transfer of knowledge, technology, and social organization include problems of leadership, motivation, incentives, skills, and attitudes, and intimately involve the culture of institutions. They constitute perhaps the most difficult and problematic area in the entire health services arena.

The transfer of health services organizational arrangements, as in the development of HMOs, has many of the same problems as the transfer of biomedical knowledge and technology, but it is infinitely more complex in a political and sociological sense. In the case of the transfer of biomedical technologies, such as new drugs or CAT scanners, there may be no major organizational changes required, and the adoption of the innovation may be consistent with existing ideological and economic interests. There still remains the problem, however, of teaching large dispersed populations of physicians to use the technology wisely and when indicated. Although new technologies may be adopted quickly, they may be used inappropriately, as in the prescription of antibiotics. However, when organizational innovations are at issue, they more commonly require fundamental modifications in professional alignments and routines, and may threaten the roles, statuses, and economic security of particular individuals or groups. Thus, it is much easier for physicians to accept a new drug or a new diagnostic practice than to introduce a nurse practitioner into their practice or a change in any fundamental way in which they relate to patients. The fact that Kaiser can organize HMOs that perform reasonably well is no assurance that other organizations lacking similar histories, ideological commitments, leadership, and experience can achieve the same outcomes.

The problems associated with transfer of innovations define a large agenda of needed health services research. Because conditions vary from one setting to another, it is essential to replicate and monitor innovations in a variety of settings to identify the extent to which they differ in performance. Such replications are also necessary to reassure new adopters that the success of the innovation was not dependent solely on the special skills of those who initiated it, but that the idea is adaptable to settings like their own. Repeated studies of nurse practitioner deployment, for example, build a momentum that breaks down barriers to the use of such personnel among physicians who come to feel more secure in trying new approaches once they see others successfully doing so.

We need improved understanding of how to support innovations that tend to be fragile and easily undermined. The bind of traditional practice is very strong, and most organizational innovations either fail or take on more conventional coloration. Also, we need a better grasp of the factors that explain why some innovations diffuse rapidly while others that are successfully executed are never repeated. Although stable funding that allows an innovation to develop is a crucial factor, we need a more precise delineation of the incentives, cultural conditions, and technical support required to encourage more rapid deployment of useful innovations.

Conclusions

Administrators and policy makers are frequently impatient with health services research if it is not immediately relevant and practical. They question the value of research that does not directly result in policy implementation and that deals with more abstract theoretical and methodological issues. Health services research, however, has affected the climate of policy making, and its options are considered to a much larger degree than is generally recognized; health services research has achieved this more through long-range efforts and basic studies than through an emphasis on immediate practicality.

The fact is that the same basic issues and dilemmas in health care have persisted for years, suggesting that this is not due to a failure to focus on the practical but more to economic, political, ideological, and conceptual dilemmas that make it so difficult to reach an effective consensus. Although at any given point in time the administrator's options are limited, understanding problems in the long term sharpens policy thinking and contributes to successful policy formulation. Fundamental examination of questions dealing with cost containment, professional behavior, forces affecting health, consumer attitudes, and response within a broad context will suggest perspectives and options likely to inform the climate of future action. The health industry is enormous in size and complex in organization and increasingly faces difficult social, economic, and

ethical dilemmas. Health services research is a tiny but valuable endeavor that provides a basic understanding of the way the health sector functions and its impact on the population. Maintaining and further developing such research activity are investments worthy of our attention and support.

References

1. National Research Council. 1977. *Personnel Needs and Training for Biomedical and Behavioral Research*. Volume 1, pp. 128-149. Washington, D.C.: National Academy of Sciences.
2. Lewis, C.E. 1977. Health-Services Research and Innovations in Health-Care Delivery: Does Research Make a Difference? *The New England Journal of Medicine* 297: 423-427.
3. The President's Science Advisory Committee. 1972. Improving Health Care Through Research and Development. *Report of the Panel on Health Services Research and Development*. Washington, D.C.: Executive Office of the President.
4. Knowles, J. (ed). 1977. Doing Better and Feeling Worse: Health in the United States. *Daedalus* 106 (winter): entire issue.
5. Fuchs, V.R. 1974. *Who Shall Live? Health, Economics, and Social Choice*. New York: Basic Books.
6. Lewis, C.E., Fein, R., and Mechanic, D. 1976. *A Right to Health: The Problem of Access to Primary Medical Care*. New York: Wiley-Interscience.

This paper was prepared with the support of a John Simon Guggenheim Foundation Fellowship and, in part, the Robert Wood Johnson Foundation. Full rights reserved by the author.

Address correspondence to: David Mechanic, Ph.D., Director, Center for Medical Sociology and Health Services Research, University of Wisconsin-Madison, Madison, Wisconsin 53706.