

Health Services Research: New Directions*

JOHN HOEY

*Chief, Department of Community Health, Montreal General Hospital
and Associate Professor, Epidemiology and Medicine, McGill University*

SUZANNE COUËT

*Senior Research Associate, Centre de Coordination des Ressources
de Santé, Department of Community Health, Montreal General Hospital*

Health Services Research: A Framework

“The field of health services research is concerned with the application of bio-medical knowledge to prevent, treat, control and eliminate disease, to restore function and minimize disability”.¹

To understand this statement it is necessary to define the various factors which determine health. In 1974, the Department of National Health and Welfare released a report which has subsequently become known as the Lalonde Report after the then minister of the department.² The document has served as the touchstone for subsequent federal policy in the health care field. It puts forth a model that presupposes four major areas relating to sickness and death. These are: human biology, environment, lifestyle and personal health services.

It is evident that until very recently most of our efforts have gone into the last area — personal health services. The introduction of universal hospital insurance and, later, of universal health insurance by the federal government were clear policy changes which resulted in public financing of almost all personal health services. Relatively little attention was given to the other important determinants of health: human biology, the environment, and lifestyle. A further narrowing of focus comes from the fact that most research resources are devoted to biomedical research.

To clarify these various areas, and their interrelations, researchers such as Barbara Starfield¹ have outlined four determinants of health. Against the background of genetic make up (genotype) are: behaviour of “patients”, the social and physical environments and medical practice. Her model suggests that this last has an impact on patients and, through its public health component, an overlap with the physical and social environments. It is also evident that the behaviour of “patients” converges with medical practice and is influenced by, and has an impact on, the social and physical environments. Although these ideas are not new, the model does make the relationships explicit and suggests that efforts to reduce disease and suffering by primarily funding the medical practice area (the current practice) will not be as successful as a more balanced approach to what are demonstrably, complicated interrelationships.

* Note: This article has been developed from a paper presented by Dr. Hoey at the Second Grantors' Conference of The Canadian Centre for Philanthropy.

The model also presents medical practice as having three components: structure, process and outcome. This framework has proved very useful to health services research directed towards examination of various aspects of the practice of medicine.³ Structure refers to such things as the building in which the physician works (cleanliness, laboratory facilities and other elements such as the amount and type of training of the physician, the legal factors governing the practice of medicine, and the system for the organization and financing of medical care). Process is what the physician does to, and for, the patient. In the Starfield model this area overlaps with “patient behaviour” because the patient must allow physicians to have this interaction and must subsequently follow their instructions. Lastly, “outcome” refers to the change in physical and mental health resulting from the physician/patient contact. Health services research enquires into the various components of medical practice, attempts to determine the factors which are important to patient health, and to determine the efficacy of the health care system.

The very complexity of these relationships provides a partial explanation for the relative lack of success arising from the application of proven biomedical developments. For example, we have good biomedical and epidemiological evidence that hypertension is a major cause of disability and equally good biomedical evidence to show that an effective treatment exists.⁴ We also have good evidence to show that strokes and heart disease continue to be major problems in large measure because “patients” do not comply with the process of care outlined by their physicians. In part this is because of quirks of human behaviour and in part because of physical and environmental factors (drug costs, unemployment, etc.).

Health services research can thus be defined as “inquiry to produce knowledge about the process, structure, or effects of personal health services”.⁵ It is distinct from research on behaviour although it may use tools borrowed from behavioural fields (sociology, psychology) and from research into the social and physical environment (engineering, political science and related disciplines).

Health Services Research: Importance

The importance of this area of scientific enquiry is in part due to the relative failure of the purely biomedical initiative to solve the major questions relating to sickness and death. We do not imply here that efforts in biomedical research have been without successful effects. Indeed, anyone who has suffered from crippling angina which has been relieved by effective medication or surgery, or anyone who has had an arthritic hip pinned and has walked the next day, or been able to read again after having a cataract removed can attest to the successes.

However, there remain important and fundamental questions about the effectiveness of personal health services, in part due to the enormous costs of the biomedical approach. The gains which now result from new biomedical discoveries appear to be more and more marginal.

Data collected in England in 1066 provided McKeown with an opportunity to examine the relationship between modern biomedical advances and the growth of the population of England and Wales.⁶ It is known from these records that the population of England did not change from 1066 until about 1800 when it began to

increase markedly. Beginning shortly after 1800, all births and deaths were recorded. Those records show that the population increase was solely, or at least mainly due to a marked and steady decline in the death rate since during this time the birth rate also fell. Why did this happen? McKeown has studied this question extensively and concludes that as the major advances in medical care did not occur until after 1900, the decline in the death rate was most probably due to changes in individual behaviour or in the social and physical environment. The example he cites for deaths from respiratory tuberculosis is widely quoted. The steady decline in this death rate occurred well before the introduction of antituberculosis therapy in 1945. B.C.G. vaccination was not available until the mid 1950's yet the death rate for this disease had already fallen from 3000 per million population in 1850 to less than 500 in 1950. Thus, although B.C.G., and chemotherapy are efficacious, the benefits from their introduction are seen to be marginal.

Resources for health care in Canada are allocated mainly to personal medical services. Of the \$688 per person spent on health care in Canada in 1978, \$366 (53 per cent) was spent in hospitals and \$256 on non-hospital personal health care, for a total of 90 per cent. The remainder (9 per cent) was spent in various areas such as administration, public health and research.⁷ Although it is clear that government policy in this area is attempting to alter the disequilibrium between spending on personal health care and spending on lifestyle, environment, and human biology interventions, this process will be a slow one and most of the health care dollar will undoubtedly continue to be spent in the area of personal health and hospital services.

Health services research attempts to understand the complex interactions of the system of medical care and its interactions with individuals and the social and physical environment. In a time of economic restraint, health services research has an important role to play in guiding public care policy.

Governments are making important reductions in the resources they make available in the areas of health resources manpower, hospital bed supply, and the funding of personal health services. Changes are also coming which will reduce the federal contribution to provincial universal health insurance plans. It is important that we attempt to develop a better understanding of how the health care system functions as a guide for the difficult choices which must be made.

Health Services Research: Underfunded

There are two ways to summarize research expenditures: 1) by disease or health problem; and 2) by type of inquiry. In an unpublished paper, G. Picard⁸ has studied the distribution of research dollars for some classes of health problems in Quebec, Ontario and the United States. Although marked differences among the provinces and differences with the United States are of interest it is more important to note the general distribution. For example, in Ontario only 1.6 per cent of funds is spent on the fourth leading cause of death — accidents. Because accidents affect the young to a greater extent than the old, they are the leading cause of “years of life lost” in Canada.

Picard also studied the distribution of research expenses by field of inquiry or

research objective. His data refer to Quebec, however they are similar to data from the United States and from other Canadian provinces. As was the case in the general distribution of health care dollars, most of the research dollar is devoted to the biomedical sector (over 75 per cent). Only 4.6 per cent of funds spent on research is devoted to inquiry into an understanding of the structure, process and effects of personal health services.

Health services research is markedly underfunded for the task which lies ahead. Although the proportion of the research dollar devoted to health services research in the United States and Canada is similar, the greater total of dollars available in the United States has permitted substantial advances. In Canada there is a need for continued and more extensive funding of existing centres for health services research and for more centres to be established.

Conclusions

We should be aware of the change which is occurring in government priorities for health care expenditures. Although the emphasis will shift towards efforts to modify the lifestyles and the environment, most health care dollars are spent, and will continue to be spent, on personal health services. As this has been seen to be successful, these will, and should, continue to receive appropriate support. However, it would be wise to increase funding for research into the structure, process and outcome of these services. Health services research will allow us to develop a better understanding of how and why the dollars are being spent, and the results of our spending so that we can make informed contributions to the coming debate on policy.

FOOTNOTES

1. Starfield, B., "Health services research: A working model", *New England Journal of Medicine*, 1973: 289; 132-136.
2. *A New Perspective on the Health of Canadians*, Ministry of National Health and Welfare, Ottawa, Canada, 1974.
3. Donabedian, A., "Evaluating the Quality of Medical Care", *Milbank Memorial Fund Quarterly*, 1966(i) 44(3): 166-206.
4. "Effects of treatment on morbidity in hypertension. Results in patients with diastolic blood pressures averaging 115 through 129 mmHg", *Journal of the American Medical Association*, 1967, 202:116-122.
5. *Health Services Research*, Institute of Medicine, National Academy of Sciences, Washington, D.C., 1979.
6. McKeown, T., and Lowe, C., editors, *An Introduction of Social Medicine*, F.A. Davis Company, Philadelphia, 1966.
7. *Annuaire du Canada*, Government of Canada, Ottawa, 1979.
8. Picard, G., *Aperçu sommaire des thèmes, des objectifs et des types de recherche en cours dans le secteur de la santé*, unpublished, March, 1981.