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EVALUATION VIEWED AS AN OBJECTIVE OF HEALTH SERVICES RESEARCH

- THE PROBLEM OF IMPACT -

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# EVALUATION VIEWED AS AN OBJECTIVE OF HEALTH SERVICES RESEARCH

- THE PROBLEM OF IMPACT - \*

## A. INTRODUCTION

The purpose of this paper is threefold :-

1. To present a conceptual framework for evaluating the allocation and optimization of health services research resources.
2. To present a categorization of health care system levels in order to examine the impact of health services research on the delivery of health services.
3. To serve as a guide for the evaluation of the Section B part of the Seventeenth Meeting of the PAHO Advisory Committee on Medical Research entitled "Selected Experiences in the Americas" and for the assessment of the impact of these selected research experiences.

(These research experiences will be used during the presentation as illustrative examples of the concepts explained in this paper).

The author accepts and supports the premise that evaluation must be an integral built-in component of health services research and that every research endeavour in health services must include an evaluation component as part of the research design.

## B. EVALUATION OF HEALTH SERVICES RESEARCH

Health Services Research is a program of activities which needs to be managed on the basis of results similar to the management of other health and social services. It competes for resources with other programs and resources are allocated which must be optimized. The decision process to allocate and optimize research funds involves the managerial functions of planning and evaluation.

The research decision process must be evaluated from three distinct perspectives :-

1. Relevancy of health services research issues.
2. Methodological adequacy of health services research studies.
3. Utilization of health services research results.

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## 1. Relevancy of Health Services Research Issues

- a) Generation of issues for study, i.e. research needs, based on demands and needs of the population to whom health services are provided.
- b) Selection of socially relevant issues for study out of the pool of identified research needs, i.e. prioritizing and ranking of issues.
- c) Determination of the time frame of the needed solutions to the selected issues for the development or modification of health services.

## 2. Methodological Adequacy of Health Services Research Studies

Methodology, as it applies to health services research studies, refers to the sets of procedures, techniques and tools used by competent investigators in the process of seeking answers to relevant research questions.

Adequacy includes acceptable quality of workmanship and the proper application of contemporary norms and standards to the research questions.

Methodological adequacy is a process variable and not an outcome measure of research. It is a means and it should not be viewed as an end in itself. The ultimate test of health services research studies is their utility or impact and not their purity. Therefore, methodological adequacy is not a sufficient condition of scientific merit, but it is a necessary condition to consider in the implementation and utilization of findings. Policy utility of health services research is limited by weaknesses in the methodological adequacy of research and conversely is strengthened by methodologically acceptable procedures and findings based on demonstrated knowledge.<sup>1</sup>

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(1) The issue of methodological adequacy is described in more detail in a paper presented by the author at the American Society for Public Administration 1976 National Conference in Joint Session with the Operations Research Society of America. "Methodological Adequacy of Research and Evaluation Studies : How can it be determined ?" by W. De Geyndt, April 21, 1976, Washington D.C.

### 3. Utilization of Health Services Research Results

The usual meaning of utilization of research involves the application or implementation of research results after successful diffusion of research findings via several dissemination routes. This is a simple linear model which implies (1) the definition of a social need, (2) the identification of the missing knowledge to solve the need, (3) the acquisition of the missing knowledge, and (4) the reaching of a solution followed by (5) direct and immediate implementation of the solution.

Thus research provides empirical evidence to solve a problem.

This is an oversimplified meaning of research utilization which - from a social scientist's point of view - is a rather complicated phenomenon.<sup>2</sup>

Policy decisions are usually not only based on research results. Other sources of information and advice compete with research findings in the decision-making process which attempts to solve social needs. Health services research is one of several determinants in the development or modification of health services delivery.

The issues of relevancy, methodological adequacy and utilization must be examined in the evaluation of health services research. If it is unwise to disseminate and implement health services research findings which are questionable in terms of their validity, reliability and methodological adequacy in general, it is equally unwise to evaluate the methodological adequacy of health services research studies whose results will not impact on social problems, i.e., the issues selected for study lack relevancy. High technical quality in the performance of research on non-relevant issues is no better than research based on questionable methodology, and relevant issues treated with adequate methodology are not helpful if the research results cannot be used and therefore, cannot impact on the delivery of health services. The three aspects of the research process are clearly intertwined and interdependent.

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(2) See "The Meaning of Research Utilization" by Carol H. Weiss, Bureau of Applied Social Research, Columbia University, Mimeographed Paper, 1976.

C. IMPACT OF HEALTH SERVICES RESEARCH

The ultimate test of research studies is their utility or impact. In general, the impact of health services research on health services is often manifest, but difficult to document. This is so because research is usually not the only determinant in the decision-making process to solve health and social problems. Other compelling concerns may be present (financial limitations, political factors, cultural barriers, personal advantages) and the degree of impact of health services research on social problems may vary widely depending on the strength and multiplicity of these other concerns.

It is easier to document the impact of health services research at certain levels of a health care system than at others. A categorization of different levels will facilitate the task of examining the impact of health services research.

1. Impact on National Health Policies

Health policies at the national level are usually not formulated as a result of research findings, but a number of national health policies have been influenced by research. The Flexner report led to profound changes in medical education in the United States. Published in 1910 it altered the educational basis for training physicians and redefined their qualifications. Recent research studies will affect the distribution and supply of physicians. A second report with equally farreaching effects and impact on policy was published in 1932 by the Committee on the Costs of Medical Care and dealt with health services organization and financing issues. A third example of national health policy is the Hill-Burton Act of 1947 which was influenced by research reports on hospital needs provided by the Commission on Hospital Care. These landmark policies partially based on research findings have had a profound impact on health care delivery in the United States.

2. Impact on Health Care Systems

The development, the organization and the operation of health services take place at a subnational level. The term health care system is used here in its broad sense and refers to any type and scope of service area (regional, community, city, village). Impact of health services research at this level is more difficult to document. Research studies have dealt with a number of issues, interalia.

- o availability, accessibility and acceptability of health services
- o utilization of services and its determinants
- o cost and quality of health care
- o population coverage
- o improvement of health services networks
- o regionalization of health services
- o optimization and use of resources
- o primary health care programs
- o interdependence between health and other social services.

Policy decisions are not normally based on one single study, but on a group of related studies. Research findings are partially derived from "soft data" and partially from "hard facts". The softness of data encourages the decision maker to invoke other concerns which are not the result of research and thereby reinforces a strong predisposition to make decisions on non-research factors. Witness the availability of a large number of research studies on the issues mentioned above and the lack of implementation of the research results.

### 3. Impact on Hospitals

The results of health services research affect the clinical and operational aspects of the individual hospital. "Techniques used in business, management sciences, and operations research lend themselves to application in a specified range of situations that encompass different institutional settings".<sup>3</sup> Research findings documented and tested in other fields are transferred, adapted, refined and applied in a hospital setting.

Hospitals are a favorite research environment for social scientists (a structured complex institution, well defined roles, a captive easily definable population, high degree of specialization and of routine functions, etc.). It is difficult to document the impact of sociological research on, e.g. differentiation, integration, organizational strains, organizational adaptation, as it relates to effectiveness and efficiency of the provision of medical care in a hospital.

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(3) American Hospital Association Policy Statement on Health Services

Operations research applies specific analytic methods and their impact can be assessed more readily than the impact of academic discipline based research such as sociology or political science.

#### 4. Impact on Health Status

In the three previous sections, we examined briefly the impact of health services research on national health policies, on health care systems and on the hospital as the most important component (rightly or wrongly) of a health care delivery system. The ultimate test of the efficiency and the effectiveness of health services research is its impact on the health status of the patient or of the community. When health services are viewed from the perspective of the health status of the patient or of a collectivity of persons served, then the outputs or impacts of health services research discussed so far become inputs into the health care delivery which focuses on the recipient of health services. If we label the previously discussed impacts as inputs and if we experienced difficulty documenting these "inputs" then it is easily understood that documenting the ultimate impacts, i.e. on the patient or on the individual in a community, becomes quite complicated.

In effect, a large number of conceptual frameworks, models and flow charts attempting to deal with health services systems and its outcomes exists. Outcome has been described in terms of "longevity, activity, comfort, satisfaction, disease, achievement and resilience".<sup>4</sup> The impact of health services research on improving health services outcomes cannot be easily demonstrated. Conceptual and methodological difficulties exist to perform the research and even more so to evaluate the impact of the research. The problem areas are not specific to health services research but to social science research in general (issues of internal and external validity, of reliability, of generalizability). Laboratory research can control its inputs. Outcomes of health services are subject to numerous variables. Research on the effectiveness of health care using outcomes as dependent variables not only suffers from the difficulty of defining and measuring these dependent variables ("comfort", "achievement", "quality of life"), but also from problems in the specification and definition of all relevant independent and

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(4) B. Starfield "Health Services Research : A Working Model".

The New England Journal of Medicine, July 19, 1973, pp. 132-136.

intervening variables. Variations in findings cannot be easily explained or cannot be traced to specific variables. Therefore, research results tend to confuse the decision maker and consequently limit the impact of health services research. Increased conceptual clarity and improved methodology in health services research will contribute to the impact of health services research on the delivery of health services.

D. CONCLUSION

Evaluation must be an integral part of health services research and a research design should include an evaluation component. Research evaluation must take into account the relevancy of the research issues, the adequacy of the methodology used in performing the research, and the actual or potential utilization of the research findings. These three criteria must be met in order for health services research to have a potential impact on the development or modification of health services delivery.

Non-research criteria compete with research findings in the planning, organization and operation of health services. The degree of impact of health services research on the solution of health and social problems varies according to the multiplicity and strength of competing concerns. Therefore, the impact of health services research can be rarely clearly documented. Its impact on national health policies, on health care systems and on hospitals is relatively less difficult to document than its impact on the health status of the community or of the individual recipient of health services. This is a reflection of the state of the art of social service research in general. Difficulty in defining, measuring and controlling dependent, independent and intervening variables limit the impact of health services research on the delivery of health services. The unwillingness or inability of decision makers to understand and utilize research findings further limits health services research impact. The problem of health services research impact must be placed in a broader context which includes political, financial and social as well as research considerations.