SURVEY RESEARCH AND MEDICAL CARE: STRATEGY AND TACTICS OF A RESEARCH PROGRAM

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I. Background

Without the development of survey research methodology over the past 20 years, the research program of Health Information Foundation would not have been possible. It is the use of survey research methods in the Foundation's research program which may be of interest to the members of the American Statistical Association. In fact, unless survey research methodology had been relatively well developed when the Foundation was established in 1950 it is unlikely that the Foundation could have gotten off the ground. This paper is devoted to a description of survey research in medical care and how it was used in the strategy and tactics of the development of a research program in the social and economic aspects of personal health services directed to current problems and issues in the health field.

In 1948 several leaders in some of the large pharmaceutical, drug, and chemical firms were considering how the industry could best be of assistance to the private or non-governmental sector of paying for and providing personal health services in this country. There had been a great deal of ferment in the health field -- and this is continuing -- little of which was understood by the consumer, the insurance agencies, or the providers of service.

In due course, the industry decided that the public interest could best be served with simultaneous creation of goodwill for the industry by establishing a research foundation chartered as a non-profit, tax-exempt research agency which may not engage in propaganda nor influence legislation. This was done in 1949. In 1950 a nucleus staff was in operation which was trying to determine research policy and course of action. During the first two years three community studies were launched to determine how local areas went about surveying their health problems and solving them, or as the case may be, not solving them.1/ It was hoped that "successful" communities could be used as models of self-determination by other communities wishing to do the same. Useful as these community studies were, they could not yield definitive data or information on social process and they contributed to research on communities in a long-term sense, but not to research for immediate application. It was at this point late in 1952 that I became research director and was charged with developing a research program. There was no tangible research policy and no staff, but there was money for research and a real desire to have a program developed which would be in the public interest.

By 1952 various forms of voluntary health insurance had reached a point where over 50 per cent of the population of the country was covered by some type of health insurance. In its rapid growth since the late Thirties it has become the dominant force to help families pay for personal health services, particularly hospital care and surgery. It caused and continues to cause endless discussion and debate regarding problems of enrolling more and more people and expanding the range of benefits covered to include services provided outside of the hospital, particularly physicians' home and office calls. In 1952 no systematic review had been made of the extent of voluntary health insurance -- only gross figures by state were known -- and what such insurance was doing to help families pay for costs of personal health services of all types. The consumer side of the costs of personal health services and the extent to which prevailing benefit patterns of insurance help families pay for services then became the focal point for the Foundation's research policy, and one which the sponsors could support in the public interest and in the framework of their general social philosophy. No other agency, governmental or private, was at that time (or since) sponsoring research of any magnitude or depth directed at the forces which would help to shape the financing and eventually the organization of our personal health services for years to come. I will give the rationale for choice of research problems, and explain the methods by which they were formulated in the execution of a research program in the sections to follow.

II. Defining the Dimensions

The decision to focus on the financing and organization of personal health services and more specifically prevailing voluntary health insurance provided a point of reference for planning the other necessary aspects of the operation of the Foundation. Since the Foundation was completely new, dependent for funds from its business sponsors on an annual basis and without an endowment, and entering an area of great importance to public policy formulation, it was necessary -- as with any new organization in society -- to work toward the creation of a public image. The image desired was that of an independent research agency, selecting problems of research directly relevant to current problems and issues in the financing of personal health services, publishing and disseminating the research findings freely through reputable publishing houses and setting high standards of methodology and interpretation of data.

The voluntary health insurance field appeared to have developed to a point where there was enough consensus among contending parties that insurance was here to stay -- so the question was how to evaluate it and continue to make it work and expand. At this stage there was a favorable climate for research in which to flourish to help determine the scope and components of the problems and provide a basis of facts for intelligent policy formulation. Such I believe was the intuitive timing of the Foundation. The next step was to take advantage of this timing so that research could influence and move in the midstream of continuing developments. The creation of an image -- unlike that of creating the image for a certain product or service -- was not difficult. No publicity as such was necessary. What was necessary was the formulation of a research program based on the criteria mentioned earlier and gradually let the results and the record speak for themselves.

From the first we became an "operating" rather than a "granting" Foundation, i.e., the research program was formulated by the staff and ways were sought to carry it out in terms of projects. In instances where the Foundation did not carry out its project directly with my own staff, grants were made to research agencies for specific purposes agreed on between the Foundation and the research agency. Eventually, three ways of carrying out research evolved, all three flowing from policy formulated by the Foundation staff. They are: (1) a project could be carried out under me with a project director on the staff and conducted from the Foundation office; (2) a grant could be made to a research person or research agency interested in the problems the Foundation was committed to, the Foundation, in effect, buying a manuscript, but the manuscript always being under the control of the agency conducting the project; or (3) the Foundation would work cooperatively and jointly with a research agency right through publication. The three methods described permit great flexibility in operation and entail only a small core staff at the Foundation headquarters. My main responsibility is then that of selecting research problems, outlining general context, and working with people qualified to carry out the technical and methodological requirements. Occasionally a member of my staff or I also write up the results, but such a decision is made beforehand depending on the arrangement.

Within the framework of our sponsors' intent as articulated by the staff, the Foundation conducts research mainly within the prevailing structure of personal health services and is so far engaged in describing and evaluating the problems in voluntary health insurance from the standpoint of the consumer. Thus our emphasis to date has been mainly on the consumer problems of paying for and using health services so that voluntary health insurance has more benchmarks by which to judge its efforts in helping families pay for personal health services. Almost automatically our research projects have implications for public policy formulation and are selected with that purpose in mind.

The very immediacy of the problems and issues we wish to cast more light on dictates that we engage in short-term projects of two years duration or so, although we can plan long-term policy. This again necessitates our drawing largely on relatively well-tested and perfected social research and statistical techniques and methods which can be brought to bear on an applied field like the social and economic aspects of personal health services. In view of the Foundation's focus on consumer problems, survey research methods provide an ideal tool for large-scale household surveys on various problems to be described later.

Seemingly out of nowhere several things converged -- sponsors representing an important and relatively neutral part of the health field wishing to finance a research foundation in the public interest, the emergence of voluntary health insurance as a problem of prime importance in public policy and debate, the concurrent perfection of adequate social research methodology which is directly applicable to household surveys, and a climate conducive to research in that contending parties had reached a consensus that health insurance was here to stay and we now needed more information on how to apply it effectively.

III. Development of the Research Program

With the financing and organization of personal health services as the general area for research it was decided that in 1953 the most important area for public policy at that time was a comprehension of the distribution of costs of personal health services among families throughout the country, the extent of health insurance, and the degree to which such insurance was helping families to pay for services. The costs of personal health services among families had been done before but not since health insurance had become an important method of paying for services. The research was planned to examine at least two aspects: (1) the extent to which insurance paid for covered services, mainly hospital care and surgery, and (2) the extent to which the costs of other services outside of the hospital, such as home and office calls, drugs, and dental care, not usually covered, were difficult for families to meet without some insurance mechanism. These were crucial questions, answers to which were not known. Some basic data would immediately provide benchmarks of accomplishments and expose problems still in need of solutions.

This study entailed a survey of a sample of households in the United States and represented a formidable undertaking. In view of survey experience in medical care going back to the Thirties and further development and refinement of survey research since World War II, a survey of this nature was entirely feasible. Sampling science had been refined to a point where a relatively small sample of households was necessary to provide estimates within narrow margins of error. This, of course, reduced the cost and made surveys much more feasible financially than even a decade earlier.

The survey research agency which the Foundation worked with on this survey was the National Opinion Research Center. In formulating the design it was decided that a sufficiently large sample would be about 3,000 households comprising 9,000 individuals. The interviews were conducted in the households and there was only one interview. Costs and utilization of services were recalled for 12 months prior to the interview. There was concern with respondents' ability to remember adequately for our purposes the costs and utilization of services for a 12 month period. Pretests were made in several areas of the country to compare people's responses with what was recorded in physicians' offices with sufficiently high congruence to go ahead on a one-interview basis. For hospital care, hospital records were examined in the actual survey to compare respondents' statements with the hospital records. The congruence in this survey was extremely good. It should be remembered that we were after nationwide estimates for costs and utilization by age, sex, residence, and insurance status to show the general patterns.

Highlights of data are of interest both for their implications for public policy and for their influence on plans for future research. As was to be expected, we found that some families incurred no costs for services and a small minority incurred extremely high costs.2/ Again, as was to be expected, families which carried some type of health insurance were likely to live in cities, be employed in large industries, and have relatively good incomes. We also showed -- to no one's surprise -- that individuals with insurance used more hospital and surgical services (the prevailing benefit pattern) and incurred higher costs than families without insurance. At this point we left generally anticipated results and produced data which were more or less novel. We showed precisely what portion of all costs of personal health services for insured families health insurance was paying at the time, namely, 19 per cent; and the proportions of costs for hospital care and surgery were medians of 89 per cent and 76 per cent respectively.

Concurrent surveys but in a separate project were conducted in Birmingham, Alabama, and Boston, Massachusetts, of subscriber-households in Blue Cross-Blue Shield plans in these two cities and employed groups covered by Aetna Life Insurance Co. in Boston. This project was supplementary to the nationwide survey in order to pinpoint what prevailing benefit patterns as represented by the plans mentioned did to help families pay for personal health services. It was felt that in the nationwide survey individual insurance companies and Blue Cross-Blue Shield plans could not see themselves, although the figures given above showed in general what the prevailing pattern of insurance benefits did for families. By selecting specific insurance plans and relating a definite known benefit pattern to the subscriber-households total costs of services in a year, such a survey of households would seem more real to people who were actively concerned with health insurance problems. This project could also serve as a model for plans that wished to test the adequacy of their benefits.

Samples of subscribers were drawn from the files of persons currently insured by the agencies studied for both group and individual contracts. The contracts must have been in effect for one year in order to provide retrospective costs and utilization for that period. The size of samples in each of the three plans rounded are: Birmingham, 950 families, 2,900 individuals; Boston 1,200 families, 3,900 individuals; and Aetna 350 families, 975 individuals.3/ Except for changes necessitated by local conditions the questionnaires were the same as for the nationwide survey. Comparability was then assured.

This survey showed what plans that might be called "typical" did to help families pay for costs of personal health services. They certainly represented the prevailing benefit pattern of voluntary health insurance in the country, i.e., hospital care and physicians' services in the hospital. The results were not grossly different from the nationwide survey, although the three plans were in general better than seemed to be true for the national picture. In both surveys -- the nationwide and the two cities -- it was clearly brought out that even including insured services the patient pays from 70 to 80 per cent of the total charges and the costs of services outside of the hospital are also of financial consequence to families. Prevailing insurance benefit patterns had been formulated on the assumption that hospital care and physicians' services in the hospital were the services that had the greatest impact on families. In these surveys it was shown that over a year just as many families incurred high costs for home and office calls as for hospital care, for example, and some families incurred higher costs for home and office calls than for surgery. A reorientation of current insurance thinking was then indicated.

The nationwide survey brought out another fact of importance to a consideration of the influence of insurance on the level of utilization. It had been known in hospital care, for example, that when a group of people acquired hospital insurance the hospital utilization rate generally increased compared to the time when the same people had no hospital insurance. The reduction or elimination of the financial barrier presumably made it less burdensome for people to be hospitalized. In comparing insured and uninsured individuals nationally it was found that 14 per cent of the insured individuals were hospitalized in a year compared with 9 per cent for uninsured individuals. Similarly it was found that 9 per cent of the insured individuals had a surgical operation as compared with 5 per cent of the uninsured individuals. Concurrently, however, it was found that insured individuals were much more likely to use services like dental care, home and office calls, and drugs which are normally not covered than uninsured individuals. This indicated that a simple explanation of the presence of insurance influencing hospital care or surgery was not an adequate one. In addition, there were data on utilization and costs by family income which could not be explained by economics alone. There were attitudinal factors involved, perceptions of health services and health; life values which dictated priorities in a prosperous economy like ours.

On the basis of the nationwide and two city surveys three problems were defined which called for further research and projects were planned accordingly. First, having shown that physicians' costs outside of the hospital are of financial consequence to families, compared with hospital care and surgery, the Foundation needed to study methods of providing all physicians' services under prepayment insurance and assist in the expansion of the range of benefits. Second, having shown that insured individuals use more of all kinds of personal health services, whether or not they were covered by insurance, the Foundation saw the value of making a study of adults in the general population, both insured and uninsured, to learn if there was a difference between them in how they perceived and appreciated health services, their concept of health, their images of the doctor, hospital, dentist and so on, and general level of health knowledge. Third, since a large portion of the uninsured population were not in employed groups, the usual mechanism of insurance enrollment, what was the problem of enrolling the so-called non-group portion of the population and what methods were in use at that time.

In due course projects directed to these three problems were set up, one outside the Foundation with the University of Michigan and University of Washington, one jointly with the National Opinion Research Center, and one under my immediate direction and supervision. The problem studied by research teams at the University of Michigan and the University of Washington related to insuring the full range of physicians' services, including home and office calls. Physicians' service plans operating in Windsor, Ontario, and the State of Washington sponsored and controlled by county medical societies in the two areas had for 20 years or more provided comprehensive physicians' services within the traditional and desired structure of private practice, fee-for-service and physicians practicing in their own offices. The medical profession was generally fearful of expanding in-hospital physicians' service plans to home and office calls because of expectations of ever-rising utilization and costs eventually entailing a reorganization of medical practice along lines that were resisted. Examples are the group practice closed panel salaried plans in several parts of the country.

The Foundation felt that an intensive examination of the plans as described in Windsor and Washington would be useful as an answer to the possible expansion of the range of physicians' services in insurance which would still be within the traditional structure of medical practice. Accordingly in both areas samples of subscriber-households (and in Windsor households without insurance as well) were drawn to learn how the plans were used, the attitudes toward the doctors, costs incurred out-of-pocket, stability of the physician-patient relationship and other matters. Heads of households were interviewed in their homes. Representative samples were selected of participating physicians and interviewed (300 out of 900 in Seattle, and virtually the total universe of 216 in Windsor) to learn physicians' reactions to medical insurance effect on their incomes, patient load and patient pressures, and so on. In addition some analysis was made of internal operation regarding costs of administration. Time and space do not permit even highlights of these two studies. One has just been published, and the other is being prepared for publication.4/

The second problem, public attitudes and perceptions, was carried out by the National Opinion Research Center on an area probability sample of 2,600 adults 21 years of age and over. An intensive and structured interview was carried out on a one-interview basis. Samples were also drawn of about 500 physicians the public mentioned as having attended them or to whom they would go if needed and 500 pharmacists who had filled prescriptions for them the previous year. Thus there were interlocking samples of the public, physicians, and pharmacists. The physicians were queried as to their attitudes towards patients, insurance, hospitals, and similar matters. Parallel questions were put to pharmacists in retail pharmacies. The manuscript for this study is in preparation, but several short reports have been published treating topics more intensively than will be true in the main report.5/

The third problem, non-group enrollment, was carried out by a staff member working in close cooperation with all the 88 Blue Cross hospital plans in the country. In addition, further case studies were made of five plans which had attempted various methods of enrolling individuals outside the normal mechanism of employed groups. Because of the great interest shown by the Blue Cross executive director and enrollment directors and certain personal relationships in the field, a long mailed questionnaire yielded a return of 100 per cent.6/

Studies of voluntary health insurance led to the consideration of another problem area undergoing intensive discussion today -- the people 65 years of age and over. The Foundation felt that there was no perspective on the components of this area since problems of the aged were defined mainly by physicians, social workers, hospital administrators and others who saw the segment of this population group with acute problems. Accordingly the Foundation again worked with the National Opinion Research Center to formulate a household survey of people 65 years of age and over (later reduced to 60 years of age and over) to learn directly from the older persons themselves how they viewed their life situations and problems with particular reference to health and health services. In addition, a sample of people mentioned by the older persons as being next in line of responsibility if something should happen to them was interviewed. This enabled us to get some idea of the sense of mutual responsibility in American families today. Further, a relatively small sample of the general adult population was interviewed to learn their attitude toward the aged and aging and what preparation was being made in middle life for retirement, decrease in activity and related matters. The manuscript for this survey is in preparation.7/

Another survey research project which can be mentioned deals with an emerging problem in the health insurance field. Since the development of voluntary health insurance in this country two general types of arrangements have existed simultaneously characterized by those which are payment mechanisms grafted on, as it were, to the existing structure of medical practice and those which set up group practice panel plans with physicians usually on a salary and providing the full range of physicians' services. The first type potentially permitted choice of any physician in the community and the group practice panel type restricted choice to physicians on the panel. Labor unions had been and are quite active in supporting the group practice type, but during the last few years in both New York and California individual members wished to select a so-called free-choice fee-for-service type of plan or a group practice panel type. This resulted in the procedure known as dual-choice in which members of a labor union could select one type or the other within the same union.

In New York several local labor unions voted whether to join Group Health Insurance (G.H.I.), the free-choice fee-for-service type of plan, or Health Insurance Plan of Greater New York (H.I.P.), a group practice panel type. G.H.I. and H.I.P. asked the Foundation if it would finance and conduct an opinion survey of several unions to determine why union members chose one plan or the other within the same union. This involved perceptions of change and choice of doctor, attitudes toward health and insurance, and so on. The Foundation was interested providing the survey could include a study of the extent to which these two plans helped subscriber-families pay for costs of personal health services. It will be recalled that both G.H.I. and H.I.P. offer the full range of physicians' services in different settings. Also, both have arrangements with the Blue Cross hospital plan in New York for the same hospital benefits.

This survey presented involved relationships and a complicated sampling problem. Three local unions were selected as the survey units and the leadership in each union had to be seen personally and the objective of the survey explained. Eventually letters expressing support were obtained. In the formulation and final design of the project it was necessary to keep both G.H.I. and H.I.P. informed. The sampling problem then involved three unions and matching samples within each union to reflect G.H.I. and H.I.P. members and the total of the two parts in each union to be strictly comparable as to the usual demographic characteristics. About 450 households were drawn for each group. Our problem was to compare the experience of union members enrolled in G.H.I. and H.I.P. necessitating matched samples which, naturally, did not represent the G.H.I. and H.I.P. enrollees in the unions. This survey is now being written up.8/

IV. The Planning and Staging of Research and Dissemination of Results.

I have been giving you the general rationale for selecting research projects -- timeliness, relevance, and so on -- and the more obvious mechanics of operation. There are other projects but time does not permit describing them. Obviously, in order to promote and stage research touching on matters of public policy in the health field it is simple common sense to stage the projects so that they will have maximum acceptance and impact when results are publicized.

Our first nationwide family survey carried out in 1953 and described earlier was a large undertaking implicating many interests -- medicine, hospitals, dentistry, drug industry and pharmacists, Blue Cross and Blue Shield plans, and insurance companies. Each of these was briefed as to our intentions and a broad advisory committee was set up as a sounding board and sanctioning group for the project. Each interviewer from NORC was armed with letters from the American Medical Association, the American Hospital Association, and the Blue Cross and Blue Shield Commissions, as well as a letter from the Foundation President. As for myself, more directly, I had the services of three personal consultants whom I selected as my technical sounding board, as it were.

After the research findings were available, a press conference was held aimed at Sunday release. Our press coverage was exceedingly good. This signalized that the Foundation was on its way and now began the image of the Foundation -- area of research, scope, objectivity, and complete publication of results -- which was desired.

After this large initial venture the staging of our activities has been much less formal, because relationships outside and inside the Foundation have become stabilized as all parties have become familiar with our objectives and methods of operating. This means, of course, that the staff assumes and is given considerable responsibility and the staff must maintain good and continuous relationships with the Foundation Board and the many interests and agencies in the field that are implicated by our research. This is done on appropriate levels by the President of the Foundation, myself and other staff members. Since we are a relatively small organization -- 15 people with 8 in research -- it is necessary to personalize the Foundation systematically and constantly in our dealings with research agencies and other agencies mentioned. This requires travel and personal contacts in establishing the Foundation and stabilizing its desired role.

Considering the fact that we are an operating research foundation directing our research primarily to current problems and issues as described and desiring it to have continuous and regular impact on the health field, to this end we have three chief methods of disseminating information. One is the intermittent publication of the findings of major studies in book form and through our research series in pamphlet form when projects are completed. A second is a regular monthly bulletin 10 months a year called Progress in Health Services, each issue standing on its own right as a research document. In our monthly bulletin we wish to give the health field factual data on many topics relevant to an evaluation of the field and at the same time provide for the Foundation a monthly medium by which to sustain on a regular basis the image it is creating. The books and research series are sporadic and intermittent and offer no apparent continuity to those outside the Foundation. The Foundation staff collects and organizes a great deal of data from vital statistics reports and financial reports, issued by public and private agencies, which usually do not see the light of day in a form readily comprehended. We also present highlights of some of our research findings before publication in full-scale reports. Some examples of the monthly bulletin are:

Declining Crude Mortality in the United States: 1900-1954.

Changes in the Leading Causes of Death.

What Americans Spend for Personal Health Services.

The Growth of American Hospital Facilities.

Health Insurance Benefits and the American Family.

Control of the Communicable Diseases.

Accidents in the United States.

The Increased Use of Medical Care.

Our monthly mailing list is in excess of 60,000 and the bulletin goes to over 3,000 newspapers and magazines, members of boards of trustees of voluntary hospitals, legislators, public health departments, medical societies, hospital associations, dental associations, medical schools, and many related agencies and individuals. You can see we are aiming at audiences which shape the scope, content, and direction of our health services.

The third method is an annual inventory of research in progress in the social and economic aspects of the health field by means of a questionnaire to agencies that normally are carrying on research in this area. This provides the staff and me with rather detailed knowledge of what is going on to help the Foundation in its planning, as well as to give research people interested in this field a systematic source book. The audience for the annual inventory is research personnel and it is hoped that the inventory will diminish duplication of projects and stimulate investigation in new areas or add to research already in progress. The 1958 survey just published contains almost 800 projects.

V. Conclusion

We are now probably at a point where there will be less emphasis on the consumer's problems, as such, because the broad and in many ways the detailed dimensions of their problems are being spelled out. The next line of development will be directed at the problems of applying the principle of insurance, which leads us into studies of how hospitals are used, methods and problems of administration, measurement of need and demand, and many others. Survey methodology is being more and more perfected and adapted to particular purposes. Although the Foundation draws on relatively well tested and perfected survey research methods to apply to health problems, it is certain that the research we have sponsored is feeding back into research methodology so that not only are we building a body of knowledge in the health field but we are also helping to improve methodology.

This is then a case presentation of the establishment of a research foundation in the public interest and the development of a research program and methods of dissemination of information. The image desired was that of an independent research agency, selecting problems of research directly relevant to current problems and issues in the financing and providing of personal health services, publishing and disseminating without fear or favor research findings through reputable publishing houses, and following the highest accepted standards of methodology and interpretation of data.

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