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STRATEGIES FOR EXPANDING AND STRENGTHENING  
THE COVERAGE OF HEALTH SERVICES

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# Strategies For Expanding And Strengthening The Coverage Of Health Services

## Introduction

The topic of development and extension of health services is an extremely broad one, but it is focused for us here. We are meeting as a committee on research, and the relevant question for us is, How can research in the health services, as one of many resources, assist us in the great work of improving the health of our populations?

It is difficult enough to answer this question when answers to the health problems of concern are locked only in our understanding of nature or in our ability to change and build structures and organizations to carry out modalities of care known to be effective when applied. Determining the role for research, as for any other participant, becomes exceedingly difficult in those health programs that require for success not only complex organization of services, but also the active involvement of the people whose health is at stake. It is the nature of things that as the externally imposed threats to health are brought under control new problems emerge as critical, problems of chronic disease and population dynamics, problems in which the consumer of service and the provider must share the responsibility for outcome. Just as the improvement of outcomes of health services increasingly requires cooperation of all levels of social organization, so must research in health services examine the needs, incentives and the behavior of many participants in the system.

As the fields of statistics, operational research, systems analysis and planning have accumulated experience a number of

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useful strategies have been developed for conducting research and integrating it with the efforts of others. To set the stage for a discussion of such approaches, I would like to describe briefly a case history of research and planning the extension of health services in a rural community in Maryland(1). A few major points of general strategy emerge from the experience.

First, it was necessary to build upon the resources and potentials already present.

Second, the conception and execution of the research and the implementation of the results required the willing involvement of many levels of society, from the Governor's office to the individual citizen. It was like a chain, depending upon each link for its strength.

Third, the information which was the product of research was basically of two types, quantitative - measures of the number of people and services - and qualitative - expressions of beliefs, hopes and expectations of those whose lives were involved. In retrospect it appears that the qualitative information had the greatest effect on the substance of the services created. It is true that our quantitative research was used to determine the capacities and locations of new services, but the nature of those services, their design and implementation, was influenced strongly by the statement of wants and needs of the people and by their involvement in making the plans become reality.

### The Ocean City Area Health Care Study

In May of 1977, the Isle of Wight Medical Center was dedicated by the citizens of Worcester County, Maryland, and opened to give a wide range of medical services to the Ocean City Area. The event completed the implementation of a plan adopted five years earlier to expand the health services of the region to meet a growing resident population and an exploding number of vacationers and summer workers. The town, on the seacoast, is forty miles from the community hospital in Salisbury, and 140 miles from the tertiary care medical centers in Baltimore. As is the case in rural areas the world over, there were few physicians in the region. Here the few were dedicated but overburdened, with several nearing retirement, and a sense of impending shortage of health care resources was widely felt.

In 1971, the community created a Committee on Health Care, made up of civic leaders and health professionals. The committee asked the help of the Regional Planning Office, which in turn asked assistance of the State Comprehensive Health Planning Agency. This agency called upon the specialists in health planning of the Johns Hopkins University, and a team was assembled representing all the groups. The organization aspects are interesting, for as it turned out the leadership for implementing the resulting plan and for subsequent regional health planning came from the team. The strategy of widespread involvement of official agencies was extended in the study to include health care providers and citizens in a variety of ways.

Six major studies were carried out:

1. Demographic Characteristics - the ebb and flow of population from its 2,000 year-around residents to over 100,000 in the summer months.
2. Morbidity Characteristics - the injuries and illnesses of the summer visitor population, and their care seeking behavior.
3. Health Status and Needs of the Resident Population - the patterns of illness and disability of residents, with an opportunity for their expression of opinions, hopes, fears and wants for better health services.
4. Health problems of the Temporary Worker Population.
5. Utilization of Existing Health Services
6. Projections of Future Land Use, Population Growth - factors affecting future health service needs.

The response and participation of the citizens in these studies was gratifying, especially that of the permanent residents in telling us what they thought was wrong and what was needed. From their statements came a picture of hopes and fears. A few typical responses are given below:

Resident No. 1

"During the summer unless your awfully ill, you may wait as long as three or four hours to see a doctor. During the winter you may wait two or three hours providing a doctor is in! Last winter I had to drive to Salisbury several times to have my children treated for various problems because our local doctors were out of town or such.

In reality, it's actually quicker to get medical attention by going straight to the hospital than to Ocean City.

Voice of experience! Honest!!

P.S. I still appreciate the services we have in O.C."

Resident No. 2

"We need a hospital within ten miles of Ocean City."

Resident No. 3

"I think the City should have a nurse (or one that is available to the area)."

There are sick people at home, at times, who need special attention, that the average person can't do. We need a nurse that would help in keeping a lot of people out of the Hospital."

Resident No. 4

"To have a place where people could get help twenty-four hours a day. A Dr. that would come to the house when a person is so sick they can't get to the office."

Resident No. 5

"Dear Sir:

I feel that Ocean City should have a Health Center for Ocean City does not have enough Doctor's here to take care of all of the winter people that stay here year round and in the summer. It is so many out of town people, they can't take care of all of them. It is so many that have to go to the hospital in Salisbury and if we had a Health Center, that would take a lot off of the hospital if Ocean City had a way to take care of a lot of minor accidents right here in Ocean City.

Thank You"

Resident No. 6

It is extremely difficult to get a doctor if you get sick at night. There is no need to waste time, so P.G.H. emergency room is the first thought. There should be closer facilities with twenty-four hour service of some type.

The comments are filled with expressions of wish for continuity of availability care - 24 hours a day - seven days a week - a hospital - the ability to see one's own doctor. In the end, a plan was put forth at an open meeting of the City Council, to increase and distribute facilities for life saving first aid and disaster care, and in addition to create a diagnostic and treatment center continuously open and affiliated with the nearest community hospital. It has taken nearly five years to bring all these services into being, using federal, state and private funding. There have been many times when it appeared that the plan would fail, but on each occasion someone - a citizen, a politician, a bureaucrat, a physician, a planner - came to the rescue. I am convinced that the service we now see at work would not have come to pass had there not been such widespread involvement of so many people - particularly those who are the ultimate users of the system.

I have cited this example for two reasons. It illustrates the strategic use of research to bring together people and organizations who might not otherwise have a basis for communication.

Furthermore, it brings them together in an effort of fact finding and analysis, an opportunity to clear away misconceptions and to resolve conflicts.

The example also illustrates the tactical application of health services research, for the six studies performed were special cases of some general models which can be applied in other ways and other circumstances. For the analysis of human service systems there are three basic models: models of population flow, models of resource allocation to objectives, and models of information flow. Each of these models can play a strategic role in the development and extension of health services.

#### Population Flow Models

Health services may be characterized by the flow, the movement, the transition, of people from one state of health to another, one form of service to another, one stage of life to another. Such flow may be long-term in nature - from birth to death, or it may be short-term - the arrival into a clinic, with a number of services completed the same day. The term "population flow model," as used here, embraces many analytical techniques: demography, stochastic processes, queuing theory, and engineering methods of work study and functional analysis. The basic models were discussed at the tenth meeting of the Pan American Health Organization (PAHO) Advisory Committee on Medical Research (3) and we have seen applications to forecasting of populations and their morbidity (4) as well as to the organization of clinical services.(5)

Population flow models are descriptive in nature - predictions of what may happen under varying assumptions. Another class of models is prescriptive in nature, aimed at choice of action or allocation of resources to achieve goals.

#### Resource Allocation Models

Health services may be characterized also by the flow of resources: money, workers, facilities, materials, and technologies into purposeful activities. The activities, or processes, have outcomes of more or less value, and an important set of analytical studies are those devoted to finding the best configuration of resources to achieve health goals. The term "resource allocation models" embraces the ideas of benefit and cost-effectiveness analysis, and of program evaluation and planning. While economics is an important discipline here, so are the behavioral sciences for the outcome variables of interest are value laden in more than an economic sense. This has been portrayed in several models showing the relationship between controllable and uncontrollable variables and the outcomes they influence (6) (7). The flows of population and resources in health services are accompanied by - or controlled by - flows of information, and here too a body of technique and technology is emerging.

#### Information Flow Models

More than in most fields of endeavor, medical care is characterized by the high proportion of its human energy input devoted to the processing of information. Screening, diagnosis, history taking, care planning, record keeping, are all terms that involve observation, analysis and decision.

A basic cybernetic model has been presented at an earlier meeting of the Committee (3) along with examples of vs. quantitative applications in medical decisions. The term "information flow model" embraces the esoteric fields of decision theory and computer science but includes also the traditional areas of accounting and record keeping. While one associates computers in medicine with large medical teaching centers, we are seeing developments in the use of advanced communication technology in remote areas where there is a strong dependence on indigenous health workers(8).

#### Conclusions

In the foregoing sections I have attempted to show briefly the kinds of analytical techniques that have been developed in the Americas in recent years. There have been enough applications to demonstrate the potentials of research. But our case history has illustrated that this potential can only be realized when the quantitative analytic efforts are an integral part of a strategy for change, a strategy that involves individuals, organizations and society in all their complex relationships. The results of research may be illuminating, may help to resolve conflicts, may facilitate change, but they need leadership, organization and energy to achieve the goal of expanding health services.

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