The past 24 years have witnessed the greatest emphasis on biomedical research recorded in history. Following World War II both lay and governmental funds became available, and we witnessed the tremendous development of the National Institutes of Health as well as research programs in all medical schools and many independent institutions. In some quarters the belief was held that with enough money we could solve all the unsolved problems and develop cures for the hitherto incurable diseases. More sophisticated physicians and scientists were, however, justifiably skeptical of the “crash program” approach, but most felt that the concentration on research could not help but be of significant value in terms of increased knowledge. It was pointed out that discoveries which apparently had no relation to medical care had, on numerous occasions, later been of the greatest importance in the treatment of a wide spectrum of specific diseases. Striking examples were sulfa compounds, which remained on the shelves unused for more than two decades, and penicillin from a contaminant—history well known to this audience.

The future looked bright for the continuation of this favorable environment, but beginning about seven years ago some small clouds appeared on the horizon. The public, from whom these large funds originated, began to ask some searching questions. Where were the promised cures for cancer and heart disease? Was the artificial heart really going to become available in this decade? Were all the workers in the great new laboratories really productive investigators or were many of them merely seeking a sinecure for their careers which saved them from the military service and the more arduous life of the practice of medicine? Was there unnecessary waste in manpower, facilities and equipment? Was the emphasis in the medical schools turning in too large a degree to research rather than to the teaching of medicine at the undergraduate level? Were all the new discoveries of potential value being made rapidly available to the public? The questions were many. Frequently they were politically motivated. These doubts, nevertheless, reflected a change in public and political attitude—a swing of the pendulum which is so characteristic of American popular and political history. The answers were embarrassing in some quarters. In balance the movement had been monumental; the contributions in both new knowledge and training were undoubtedly great. It was generally acknowledged, however, that there was too often an unjustified time lag between discovery and application, the delivery of the product to the patient. As James Perkins has noted, “We had not yet learned that the improvement of institutional and individual performance takes much effort over a considerable time. Demands for instant performance that ignore the time scale required lead to false judgements about our moral purpose and our social concern,” and, I might add, our ultimate technical capacity. That was what the President's Commission on Heart Disease, Cancer and Stroke was largely concerned with. President Johnson was unduly optimistic about the capacity of such a commission to resolve the problems of these major diseases within a few years, but he did provide a medium for future planning. Among the tasks to be faced was the need for the
planning of new hospitals, clinics and medical care in such a way that a sound distribution of service will ultimately be developed. This resulted in the Regional Medical Programs (RMP) which have achieved varied degrees of success. This movement is still in its early phases and the principles will, without doubt, be more widely applied in the future. Shortly thereafter the swing of the pendulum in its descending arc reached the area of finance and, operating with a false conception of economy for the public good, the grants for research and training have been progressively curtailed. Money for application and medical service was favored. Both are, of course, essential—research and training for the long-term future, application for the present and immediate future. The financing of the Vietnam war has, unfortunately, played a major role in this reexamination of the federal budget.

It soon became evident that there was a real hiatus in our communication technique which interfered with the application of already existing knowledge. The medical literature was full of new information dealing with the specific treatment of a sick patient. In addition, investigators had great funds of knowledge stored away in their heads and their files which they had never published. What was lacking was an adequate blueprint or a set of guidelines which could be used by all concerned with the care of patients at any level, including practicing and full-time physicians, nurses, public health workers, hospital and medical school administrators, trustees of these institutions and governmental agencies, federal, state and local. Why was this? As John Gardner has well stated in broad terms, “One of the reasons is the people interested in improving our society never quite come to grips with the complex processes by which it functions.” In medicine we tend to be interested in our particular research or phase of care.

The guidelines we need should succinctly present the best and most recent of information—but emphasize optimal and optional plans for its utilization at all levels. Funded under the Regional Medical Program but operating independently and not as governmental agencies, three commissions have been established in an effort to meet this need. A commission on cancer was established by the American College of Surgeons and headed by Dr. Warren Cole, distinguished surgeon; this commission has been engaged in preparing its report for two years.

The commission which I serve as national chairman is known as the Inter-Society Commission on Heart Disease (ICHD) Resources. The funding has been from the RMP to the American Heart Association which, in turn, acts as the fiscal agent. Twenty-nine leading medical societies and examining boards seriously involved in the problems of heart disease were invited to nominate candidates for membership in the advisory council, and 100% responded. Beginning in September 1968 we rented quarters, bought furnishings, secured staff and planned our program. The first meeting of the council was held January 16, 1969. It was recognized that our problem was extremely broad in terms of both disciplines and facilities but that the detailed work required the intense concentration of special study groups. These were then appointed using appropriate members of the council and additional special talent as needed. The following categorical study groups were formed: coronary; rheumatic; pulmonary; hypertensive; congenital; peripheral vascular disease; atherosclerosis; and thromboembolism, with general study groups for surgery, radiology, rehabilitation and epidemiology. (The latter service the categorical study groups as needed—and across the board.) These all range in size from 8 to 12 individuals with special knowledge in the field of the study groups to which they are assigned.

These study groups have been meeting at the headquarters of the ICHD rotating by schedule. When indicated, meetings or special site visits are held elsewhere. We have averaged one or two meetings a week in a very active program. Dr. Donald T. Fredrickson is the project director of this commission and has contributed greatly to its activities. I will not belabor you with the details of the work—suffice to say the members of the commission are the very best we could select. More than 100 of the leaders in the various disciplines are now involved. Ninety-five percent of those invited to serve have accepted, and they are giving most generously of their thoughts and effort. It is clear from the titles of the study groups that their functions will differ
but, in general, we are planning reports serially on primary prevention, the treatment of the acute attack, continuing care and secondary prevention of recurrences and complications, and long-term care and rehabilitation. I am glad to report that the first drafts of the sections on prevention were all prepared by the deadline of September 15th and are in the re-editing phase at this time. Plans for their publication are well along.

Each of these sections will include consideration of the size and make-up of the community and the size and facilities of all health units existing or needed there. Options for the handling of patients with varying degrees of illness will be presented—ranging from the screening of children for congenital and rheumatic heart disease to what type of hospital in what location and with what resources should reasonably consider becoming involved in open heart surgery. We do not seek to prepare a textbook on heart disease detailing differential diagnosis and treatment but rather to provide guidelines as to what facilities, staff and resources are necessary, and how a community or a hospital can perform an exercise in self-evaluation in terms of its potential as compared with the experience of other communities and the know-how of the members of this commission.

The need for reorientation of thinking on the part of all involved has become apparent. Most physician-teachers and researchers are deeply committed to their own projects and organizations. Family physicians are committed to the detailed care of their patients, nurses to their own assignments, and public health authorities to very broad concepts if they are modern, outdated infectious disease problems if they are not. Very few have ever given serious thought to the combination of the specific application and the broad concept which we are trying to accomplish. Physicians tend to prepare material which details what we know and what should be done by the physician—served up à la medical textbook—but when we think of a community or a nation we must ask for specifics (with options) as follows.

How is this to be done? Who takes the leadership in a community? Who actually does the work? Physicians, nurses, paramedical personnel, voluntary agencies, regional medical programs, public health officials? All will be involved but how is the labor to be distributed and coordinated? What tools are required? What facilities? How are these to be developed? What are the responsibility and the role of the medical educators in preparing the physicians, nurses and paramedical personnel of the future? What standards of optimal care are desirable, feasible, and within reach of our present and future civilization? Should our recommendations extend to economics and such problems as changing the national diet pattern? In this question we encounter such diverse considerations as the need for the farmer and the packer to raise leaner cattle and hogs, for cattle to produce low-fat milk instead of high-fat milk—processing changes and a wide variety of governmental laws and actions—including the program which results in the surplus butter fats being distributed to the school food programs and the food stamp programs, the legislative use of butter in restaurants, and the almost universal use of butter instead of margarine in hospitals.

These are the kinds of questions we are asking ourselves and endeavoring to answer. Socrates taught that the solutions could only come if we asked the right questions. If you think they are difficult—they are—but progress is being made and all who have participated in this exercise have been changed somewhat by it.

It has been an exciting and, for all of us, a highly educational experience. We have tried to extract all available and applicable knowledge from the literature and, in addition, squeeze from the brains of our members the enormous amount of information stored away and never before published. Some of them have expressed surprise at what they knew but did not know they knew.

I often recall an event which occurred 17 years ago during my first trip to South America. In Santiago, Chile, they had me scheduled from 8 A.M. until late evening with teaching, rounds, CPC's, conferences, etc. After four days I uttered a mild protest, whereupon Professor Hernan Alessandri replied, "You see, Dr. Wright, you are like zee orange—we squeeze you to the last drop!" That is what we are trying to do with the members of the commission, and the final goal should be solid, pragmatic, applicable information which we hope will be useful throughout this country and perhaps in other countries. To
quote John Gardner once more: "To redesign our society there is heavy work ahead—we have plenty of debators, plenty of blamers, plenty of provocateurs, plenty of people who treat public affairs as an opportunity for personal catharsis or glorification. We don't have plenty of problem solvers." Our commission is composed of dedicated problem solvers.

Now Dr. Adolph Sahs and Dr. Warren Huber are embarking on a similar program dealing with strokes. While it would seem that this field should be somewhat less complex than that covering cardiovascular diseases, it is nevertheless of great importance and I hope that the workers in this field will give them the kind of support we have enjoyed.
Research to Application—Shall We Accept the Gauntlet?

IRVING S. WRIGHT

Stroke. 1970;1:3-6
doi: 10.1161/01.STR.1.1.3

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