

# Government's Role in Meeting Physician Manpower Needs

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FOR A LONG TIME government has had a varied and far-reaching role in the training of physicians. It ranges from standard setting through the mechanism of State licensure boards to financial support of the schools and hospitals in which physicians are trained.

Three simple sets of data illustrate the extent of this government support of the medical schools themselves:

1. Of the 87 medical schools in the United States, 1 is owned and operated by a city and 40 by States.

2. Of the 30,000 medical students enrolled in the 1960-61 year, 14,500 were in these government-owned and -operated schools.

3. Of the total expenditures of all medical schools, public and private, a third is from Federal funds.

Not too many years ago the situation was somewhat different. In his study of medical education in the United States and Canada, published by the Carnegie Foundation in 1910, Abraham Flexner found that of the 155 medical schools then extant, 120-odd depended entirely on students' fees for their support. The others had a little State support or some help from universities and endowments, or some support from both types of sources.

"Many of the schools mentioned in the course of this recital are probably without redeeming features of any kind," Flexner wrote. "Their general squalor consorts well with their clinical

poverty: the classrooms are bare, save for chairs, a desk, and an occasional blackboard; the windows streaked with dust and soot. In wretched amphitheatres students wait in vain for 'professors,' tardy or absent. . . ."

The revolution in medical education that followed publication of the Flexner report brought with it not only philanthropic and university support for medical education but also State support for many of the schools and strict State licensure standards and enforcement.

## Beginnings of Federal Interest

Federal participation in support of medical education awaited what amounted to another revolution in medicine—the great acceleration of medical research that followed World War II. Most of the Federal support for medical schools has been in the form of grants for research. Other kinds of support include training grants to strengthen instruction in specified fields—cardiovascular disease, cancer diagnosis and therapy, and psychiatry—and funds for the construction of hospitals, research facilities, and student dormitories. There are also several medical research training grant programs.

Most of these programs are administered by the Public Health Service. They are intended, however, not as aids to medical education but as steps necessary to protect the health of the American people. The fact is, of course, that sometimes it is a bit difficult to separate the two. The situation is somewhat reminiscent of the situation in the early days of the Public Health Service.

The Public Health Service traces its beginnings to the Sick and Disabled Seamen's Act

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of 1798. Hospitals were established in main ports of the country for the medical care of merchant seamen. While support for this act of Congress came in large part from those who sought to protect the health of communities against sick and homeless seamen, to those who were actually doing the job it undoubtedly looked more like taking care of sick and injured seamen within the limits of the money available than protecting the community as a whole. This new organization did, however, provide the nucleus of a national service to the public health, and Congress has continued over the years to give it additional responsibilities. Among them is that of assessing the nation's health and health-related problems.

During World War II the problem of scarce manpower in the health occupations emerged and it stayed. It did not go away after the war as so many had hoped it would; nor could it be talked away. Within the Public Health Service the situation concerning physicians, dentists, and nurses was given primary attention among the various health occupations because these three are basic to all health care. The problems involved in training enough physicians and dentists are particularly thorny because of the time required for training and the heavy cost of both training and facilities for training. Fortunately, since these are old and well-organized health occupations, considerable data were available for analysis. This unfortunately is not true of the other health occupations.

By the mid-1950's, with the availability of newly projected population estimates, the evidence was unmistakable that the United States was heading for a decline in its physician-population ratio. The first report on these studies by the Public Health Service appeared in 1958 when Perrott and Pennell published projections of physician manpower.

### **Bane Report**

In the light of these findings on an impending decline in physician supply in relation to population, the Surgeon General in late 1958 appointed a consultant group on medical education under the chairmanship of Frank Bane to examine how the nation might be supplied with

adequate numbers of well-qualified physicians. The report of that group, "Physicians for a Growing America," published in late 1959, has become the standard reference and text on physician manpower in this country.

The Bane report makes 19 recommendations which it directs to the States, to the Federal Government, to foundations, individuals, industry, and voluntary, civic, and professional organizations, and to medical educators.

The program outlined by the Bane report has gained remarkably wide approval and support within the 2½ years since its publication. That is not a long time if one considers that the report calls for understanding and action on the part of many people, some of whom have not given much thought before to medical education. These things take time. But the grim fact is that even if all the recommendations of the Bane committee could be implemented in full within the next year, the chances of influencing the downward trend in our physician-population ratio before 1975 are practically nil.

Our most recent projections of physician manpower, to be published soon, show that by 1975 the United States will be somewhere between 9,500 and 11,000 physicians short of the number needed to maintain the present physician-population ratio. This calculation takes into account graduates from all of the new schools now proposed and also new licentiates from Canadian and foreign schools at an estimated rate of 1,200 a year.

It is frequently asked, Why can't we start new schools next year and do something about physician manpower before 1975?

The answer lies in the nature of a modern medical school. As far back as the time of Flexner's study it was recognized that a medical school should have a university setting. Such a setting is even more important today. But this is only one of the many considerations that must be taken into account in the preliminary planning. The school must have a hospital for clinical teaching, and the hospital must have patients. The school must have a faculty. It must be assured of continuing support for its operating expenses.

It is generally estimated that about 10 years elapse between the time planning begins for a new medical school and the time the school

graduates its first class. For this reason, only new schools that have already been proposed were included in our calculations for 1975. It is pretty certain that no others will be graduating classes before then.

The current activity in the States, in regional conferences, and in universities in exploring the possibilities for the establishment of new schools augurs well for the future. The length of the lead time that is required adds greatly to the extreme urgency of this work.

Similar timelags are to be expected in any expansion of existing medical schools. It may be possible that some small increase can be effected quickly, but most schools are already at optimal class levels. Any appreciable increase in enrollment in these schools would almost certainly compromise the quality of the academic program.

It seems to me that wide public awareness of the problems of expanding our output of physicians is of considerable importance. Without it, we may lack the sustained support we need for our education programs. There is some danger, for instance, that if proposed legislation to aid medical education is adopted, most people may believe that the problem is solved. The fact is that the situation will nevertheless worsen over the next decade or more, and we shall need public understanding and support for whatever measures we can find to deal with it.

In this whole problem of meeting physician manpower needs during the next decade as well as in the future, what is the role of government?

The role of the States will, of course, vary from State to State. The Bane committee recommended that States without a planning group on higher education develop such a group, with planning for medical education as one of its functions or with separate subgroups for medical education. It recommended that States develop interstate cooperation in planning for medical education and pointed out that for smaller States with limited clinical facilities and small tax bases, there are substantial advantages in developing regional rather than State medical schools. Other recommendations, addressed to individuals and to other groups as well as to States, urged that those interested in increasing the nation's supply of physicians see that such increases are made in a manner which protects

the quality of medical education; that greater attention be given to the problems of existing schools whose educational plants or programs are now inadequately financed; and that there be more generous public and private support for the basic operations of medical schools.

### **Public Health Service Activities**

The Public Health Service gives technical consultation to those who undertake to assess specific medical education situations, advising on the kinds of information needed and methods for gathering it. Decisions on whether to expand an existing facility or to build a new one, on where to locate a new facility, and the like must take into account a considerable body of data. Also, the Public Health Service will further develop and refine recently prepared materials on the type of facility that will best serve its academic mission.

In any attempt to increase professional manpower, the second matter to contend with, after the necessary physical plant, is the faculty for the institution. Obviously, a program aimed at increasing the number of schools and enlarging the capacity of existing schools will put stress on the available supply of teachers.

Fortunately, the Public Health Service has a program which, while designed for another purpose, will be of substantial assistance in increasing the number of people available to serve as faculty members of professional schools. The research training and fellowship program, administered by the National Institutes of Health of the Public Health Service, was designed to assure adequate numbers of qualified research bioscientists. In 1961 there were 16,257 persons receiving stipends under this program. They were at the postdoctoral, postgraduate, and graduate levels.

This program may well mean the difference between success and failure in increasing our professional training capacity. A recent survey of the new schools of medicine established during the 1950's found that deans, in recruiting new faculties, sought teacher-investigators who were oriented to research. The research training and fellowship program provides a pool in which such individuals may be found.

Another area of Public Health Service activ-

ity will be studying, in cooperation with others, the possibilities of enlarging the responsibility of certain technical and professional groups in the provision of health services.

In times ahead physicians will have to work even longer hours than they do now, and I am sure will do so willingly. But so far, no way has been found to have them in two places at once. Studies will have to be made to determine what can be done by trained people other than doctors and under what circumstances. If it is found that some responsibilities can be safely delegated by physicians, the laws and ethics of practice will have to be examined and, if necessary, amended to meet the new circumstances.

The extreme example of this delegation of responsibility by physicians is found in military and disaster medicine. Triage must be done by the physician, but substantial portions of aftercare are turned over to other professionals and technicians.

To be more specific, how much additional responsibility can the public health nurse assume for prenatal, postnatal, and child care services? How much of the burden of care for the long-term patient in restorative and supportive services can the public health nurse carry? Is there a place for the nurse-midwife in obstetrics? Can multiple screening by technicians speed up the handling of substantial numbers of diagnostic problems?

Any such moves must be taken with the greatest of care to insure that there is no jeopardy to the quality of our medical services. Also, any innovations should be made with an appreciation of the potential that the expanded capability of a professional category will have for enlarging the scope and quality of care in the future when more physician manpower is available.

Preventive medical services must be improved and extended. We cannot afford to continue to spend scarce professional time to take care of illnesses and their aftermath that could have been prevented, to say nothing of the unnecessary and sometimes tragic consequences of such illnesses to the patients themselves.

We all recognize that preventive medical services are not being pursued in the doctor's office or the public health department with the

energy and enthusiasm they deserve. Our failure in this regard was brought into sharp focus last February when the President said in his health message, "There is no longer any reason why American children should suffer from polio, diphtheria, whooping cough, or tetanus—diseases which can cause death or serious consequences throughout a lifetime, which can be prevented, but which still prevail in too many cases." The President proposed legislation that would establish a program of Federal assistance in meeting the cost of vaccination.

The Public Health Service, whose primary mission is the protection of the health of the nation, will continue to promote the widest possible application of the proven principles of preventive medicine. In my opinion it has no function that is of greater importance. I believe that preventive medicine holds the greatest hope for the relief of the burden of sickness borne by humanity. And I also believe that now, when the health professions are entering an extremely trying period of scientific and social adjustment, preventive medicine offers what is probably the most effective single instrument for coping with a major segment of its difficulties—the impending health manpower shortage.

Another drag on our resources is poor organization of services. We can ill afford ineffective operation at any time, but it is particularly vexatious in times of personnel shortage. We are all aware of the advantages of well-established routines. We are also aware of the serious trauma that can be inflicted by the mere suggestion that maybe some thought should be given to examining the possibility that some best-loved routines are out of date and in fact have become major obstacles.

The first session of the 87th Congress passed the Community Health Services and Facilities Act of 1961. Along with other provisions, this law authorizes a program of project grants to demonstrate new or improved methods for the organization and delivery of health services to the community. The focus is primarily on out-of-hospital services for the chronically ill and aged.

This is the first year of operation of the program, and it is therefore difficult to predict how it will evolve. But there can be little doubt

that it will develop much more efficient methods for the medical care of patients with chronic illness both in and out of hospitals. This, along with continued research in hospital patient management and distribution of facilities, will bring about not only a better quality of care but also more effective utilization of professional manpower.

As progress is made, as findings are tested and reported, the job will be to gain wide acceptance for them. Human beings sometimes resist change, even change for the better.

Still another area of Federal concern is biomedical continuing education. Because the technical development of means of transmitting information have progressed to such excellence, and because scientists are turning out findings on an astronomical scale, the problems of communication are receiving considerable attention. You will read and hear more and more about this in the future, I am sure.

To me this is only a symptom or a sign of a much greater problem—the translation of scientific discoveries into medical care. This implies that after basic science comes applied and developmental research, and then interpretation from scientist to scientist, from scientist to practitioner, and from practitioner to patient. The Public Health Service obviously is only one of many agencies with responsibility in this field. Professional societies, universities, and other groups must bear their share.

The Public Health Service does have one unique asset for serving some important aspects of the process of research, development, and communication and that is the National Library of Medicine. The National Library has the responsibility for acquiring, preserving, and organizing the literature of medicine and the related sciences and for making these materials available to the professions. The holdings of the library exceed 1 million pieces. Through its interlibrary loan program, a worldwide service, loans are made at the rate of about 100,000 a year. The *Index Medicus*, prepared by the library, is the world's most comprehensive index of medical and paramedical periodical literature. During 1961, about 140,000 articles from more than 5,000 journals were included.

The library puts on microfilm more than 2 million papers on medical and paramedical sub-

jects each year. Also, its translation and publication in English of foreign medical literature is being steadily expanded. In the planning stage for the fall of 1963 is the Medical Literature Analysis and Retrieval System, known by the engaging nickname of MEDLARS. This is an electronic data processing system for the rapid organization and retrieval of bibliographical citations.

The relationship of these activities to the enhancement of patient services through better trained and more up-to-date physicians is a pretty direct one. Only when scientific discoveries and new methods are translated into patient services can medical science make its full contribution to society.

No discussion of government's role in meeting physician manpower needs would be complete without mentioning the medical research program of the Public Health Service. The research grants program of the Service is now the major source of support for bioscience studies in the United States. Public support of this research effort has been most wholesome and the scientific community warmly endorses it. The benefits that accrue as knowledge is added to medical science are not readily measured, and certainly not in dollars, for they are human benefits.

There is one fact about research that may have an adverse effect on our manpower problems. Research has added and will continue to add to the complexity of medical technology. Each such development will place a greater strain on medical manpower in three ways. First, the extremely complicated procedures will require more physician time to insure their proper execution. Second, the knowledge and skills that will have to be taught in our medical schools will present frightful problems to curriculum planners. And third, the demands for medical manpower to undertake the research program will continue to remove approximately 8 percent of the physicians graduated by our schools. This is not, of course, wholly a loss from the medical care effort since most physicians in research positions are also teaching and providing clinical services.

This is not to suggest that we can do anything other than support as substantial a bioscience research effort as society will afford. To slow

down this program because it will put additional stress on medical manpower would be tragic short-sightedness. We must find ways to serve our current needs, but it cannot be at the expense of our obligation to the future.

### Summary

In discussing government's role in meeting physician manpower needs, I have touched on some of the things that are now being done by government at all levels. The enlarged role for the States recommended by the Bane report is summarized.

The role of the Federal government has been suggested as being related to seven broad areas:

- Assistance in planning for and in the construction or expansion of physical facilities for medical education.
- Financial assistance for training programs

both for scientists, who may then be available to provide the necessary academic manpower, and for medical students.

- Studies of the possibility of delegating some duties and responsibilities now held by physicians to other professional and technical people.
- Improvement and extension of preventive medical services.
- Investigations designed to discover methods for improved organization, distribution, and delivery of services.
- Biomedical continuing education.
- Continued support of medical research.

These areas of responsibility, which are almost entirely within the province of the Public Health Service, are not listed in any order of priority. They are inseparable and interdependent both among themselves and in relation to the responsibilities of others for meeting the physician manpower needs of the nation.

## Iodine 131 Intake Study

The radioactivity of iodine 131 in the thyroid glands of 20 children and adults from Kansas City and St. Louis, Mo., is being closely measured in a study initiated by the Public Health Service. Iodine 131 is a radionuclide present in fallout. The study is intended to provide more precise information about the uptake of iodine 131 by the thyroid gland from milk and other foods, water, and air.

The radioactivity measurements are being made at New York University with an instrument that can measure extremely low-level gamma radiation activity in humans. Radioactivity in the thyroid glands is registered through scintillation crystals placed against the neck over the glands. The instrument is heavily shielded from external radiation interference.

An important part of the study is a comparison of the amounts of iodine 131 detected in the thyroid glands of the subjects with the amounts measured in the milk consumed by them during a period of about 10 days prior to the thyroid measurements. The comparison will also serve to check the validity of estimates of total iodine 131 intake based on amounts of iodine 131 found in milk.