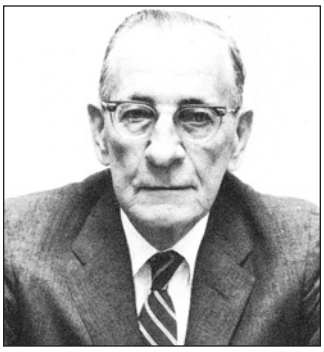
International Planning of Organization for Medical Care

Excerpted from Seipp C, ed. *Health Care for the Community: Selected Papers of Dr. John B. Grant*. Baltimore, MD: Johns Hopkins Press; 1963:52–57.



John B. Grant, MD, MPH, undated. *Source.* Courtesy of the Lasker Foundation.

John B. Grant is known for many contributions to international health but especially for the concept of regionalization of health care, which he explains in this paper, originally presented at the Forum of the World Health Organization's Department of Advisory Services in the spring of 1951.

THERE ARE THREE components in providing health care including medical services. These are: first, the personnel and facilities required for adequate services; second, the administrative organization to assure the most efficient distribution of personnel and facilities; and third, the financial resources regulating the quality and quantity of the first two. The following is concerned chiefly with present international trends for the most effective organization to distribute services. For planning to be effective, it must build up from the local unit of organization to the central administration rather than be superimposed from the center on the periphery.

Experience already available points to the conclusion that area regionalization of institutions and group practice, preferably in health centers, are the two essentials for effective organization. However, the content of regionalization and of group practice is necessarily entirely different in underdeveloped as compared with developed countries because of the numerical insufficiency of personnel and the low economic level. Consequently, while the two essential components of planning are the same, the content of organization is entirely different in developed and underdeveloped countries. Planning in the former is designed to improve the *quality* of services and in the latter to improve the *quantity.*

As already stated, the improvement of the quality of medical care in developed countries depends upon the development of two interrelated steps; regionalization and group practice preferably through health centers, with the family rather than the individual as the entity cared for by the general practitioner. . . .

Regionalization delimits an area with three or four levels of medical institutions of which the one at the apex should be a teaching hospital and organically related to smaller district and local community hospitals and/or health centers at the periphery in order that a two-way flow may be established. Systematic organization makes it possible for each general practitioner to have the diagnostic services of pathology and radiology available locally together with consultant services from or at the base when required. Continuation education becomes a routine responsibility of the base hospital which helps to organize teaching rounds and central pathological conferences in the peripheral hospitals as well as refresher courses at the base. The improvement of clinical diagnostic services and of continuation education do not, however, provide for the extension of clinical practice to include social medicine. This provision constitutes the second stage in the development of regionalization.

The term "Social Medicine" . . . has now been defined as "the study of the effect on physical or mental health of social conditions—hereditary, environmental, domiciliary, occupational and economic—and application of that study to promoting or restoring of health." The practice of social medicine assumes three conditions. The first of these is the extension of diagnosis and treatment from clinical to encompass social pathology, including functional mental disturbances. Second, the responsibility of any treatment should also be for restoring the patient to social usefulness and not only for diagnosing and treating of clinical symptoms. Third, social medicine cannot be practiced unless the individual can be studied as a human being in relation to all relevant factors of his environmental surroundings.

Several departures from present practice must occur before the foregoing extension of practice can be undertaken. For the physician to know the individual physiologically as a whole person, he must have knowledge of the home and the family as the unit of observation. The physician cannot obtain this single-handed and thus becomes the captain of a team which also

includes the services of a medical social worker.

Continuity of observation will require that the health authorities should delegate to the physician—trained for it—the responsibility for the personal health services which are now undertaken by "ad hoc" public health agencies. The most effective manner in which the practitioner can thus function would be in association with other practitioners under one roof where the required social, diagnostic, and consultative services can be provided more satisfactorily than in the case of the physician practicing solo. In brief, if this extended practice of medicine is to be effective, it should be through group practice in a health center with the physician as a captain of a team designed to provide health care of which the treatment of disease becomes but one part.

It is recognized that the implementation of the foregoing concept of general practice from health centers will require a considerable period before it can become widespread. The general practitioner will have to receive his training in an environment much different from that which exists in teaching institutions dealing primarily with cases of clinical pathology mostly referred for consultation. Satisfactory clerking and training will not be possible until students can practice in health centers with physicians as preceptors who are captains of medical teams taking the family as the unit and extending the scope of their practice to include the diagnosis and prevention of social pathology. Although reforms in medical education evolve slowly, the necessity of providing one or two demonstrations for teaching in each area is urgent.

Adequate organization for health care also requires that, in developed countries, no family should be more than fifteen to thirty minutes from the availability of the health care services. In urban areas this would require, generally speaking, one health center for each 10 000 to 20 000 population, housing some four to six general practitioners and their associated workers and services.

There should be a medical school for each two to three million population with its hospital constituting the base or central institution for regionalization. The number of divisional hospitals is determined by natural trade areas generally averaging around 250 000 people. A chief factor determining the latter is provision for the highly specialized services such as thoracic and brain surgery where a single department can meet the requirements of at least 100 000 population.

Needs are found to be very different when one turns to the underdeveloped areas of the world. Broadly speaking, in countries with only one physician and ten beds for 50 000 population (and located mostly in the few cities), the rural family is not receiving the barest minimum of diagnosis, treatment, or prevention of even clinical pathology. Another essential factor, in addition to the scarcity of personnel and facilities, is the low economic level of these areas where the total annual per capita income does not even equal what is now being spent in the United States for only medical care. One finds in countries where the present annual per capita income is approximately $30, that only some 30 to 50 cents per capita is currently available annually for all medical and health services.

While the need for medical care is greater in the underdeveloped areas than in the developed countries, one gains the impression that the percentage of national income available for medicine is much less in the former, and probably rightly so in terms of the relative importance of developing such essentials as communications, agriculture, education and other needs.

The purpose of planning the organization of medical care services in underdeveloped countries is to provide within economic practicability the most effective conservation of personnel and as much care as is feasible to cover the population. Organization will be effective proportionate to the extent that self-help can be developed in the villages which are being covered. The development of self-help depends upon two factors: first is a mechanism whereby the interest of village communities can be evoked and sustained to volunteer to help themselves. Second is the provision of facilities within the area which can give short-term vocational training on the spot to village workers and, as important, to provide a system of adequate supervision.

Thus again, planning to provide *quantity* necessitates regionalization, but for different reasons than in the development of *quality.* Experience has shown that the optimum population for regions in underdeveloped areas is between 250 000 and 500 000. The two largest items of expense are the provision of a small "mixed" hospital with at least two physicians and other required hospital workers together with the essential *well-trained* community workers to plan, train and supervise, viz. the health officer, the sanitary engineer, the public health nurse, and, if possible, the health educator. The provision of these two items makes the overhead economically impracticable of nationwide establishment if the population is less than 250 000. On the other hand, if the population is more than 500 000, it becomes necessary to duplicate the minimal facilities at the regional base.

A health center having the foregoing implied facilities and personnel can organize the training of village health workers and give supervision provided there are health sub centers intermediate between the village and the regional base. There should be a center within three to five miles of each village and caring for approximately a population of between 15 000–25 000.

The staff of these centers would consist of a physician and nurse. The qualifications of the latter will, generally speaking, not come up to those acceptable in advanced countries. They also would require in-service training at the regional base to supplement their previous education in order that they might discharge their responsibilities in the community. Their duties would be 2-fold: to provide curative and inoculation services at the centers and to supervise the village health workers through routine visits. One in every 3 or 4 centers would have a sanitarian attached for supervision of sanitation in the villages undertaken through self-help.

It has been found practicable to provide such minimal regional services for approximately the equivalent of 20 cents per capita per annum. It should be realized, however, that with this skeleton organization, there would be no attempt to provide care for 10 to

15 cents of the less common causes of morbidity.

The rate of development of welfare activities, including health, in underdeveloped areas is proportionate to the extent that a single activity is coordinated and related with the other nation-building activities such as agriculture, communications, education and village industry.

Regionalization, it can be seen, is the basic principle of organizational planning whether in developed or underdeveloped areas. Regionalization provides the mechanism whereby the general practitioner has made available to him a range of personal and technical service which should markedly improve the level of care which he can render. Regionalization corrects the present defect of hazardous unrelated hospital facilities. It is also designed to meet the need for providing a continuous system of postgraduate education. It provides a mechanism for greater integration of public health and clinical medical services. Finally, group practice within such an organizational framework is essential if medical care is ever to extend from prevention and treatment of clinical, to include social, pathology. ■

John B. Grant
International Statesman of Public Health

Liping Bu, PhD and Elizabeth Fee, PhD

JOHN B. GRANT WAS BORN to Canadian medical missionaries in Ningbo, China, in 1890. He graduated from Acadia College in Nova Scotia in 1912 and received his medical education at University of Michigan and his public health degree from the Johns Hopkins University. He would later often refer to Arthur Newsholme and Victor C. Vaughan (his professors in public health), together with George Newman, as the men who had most influenced his thinking about public health.[1] Grant joined the International Health Board of the Rockefeller Foundation in 1918 and gained practical experience in a county health program in North Carolina. He went to China to conduct a hookworm survey in 1919. In 1921, Grant was appointed International Health Division representative in China and associate professor of public health of the Peking Union Medical College.

Grant believed that public health was an integral part of socioeconomic progress and that health care could be best achieved by combining preventive and curative medicine through a community "health station." In 1925, he created a health demonstration station, Beijing First Health Demonstration Station, as a "social laboratory" for training public health professionals and medical students of Peking Union Medical College. The station, a project of collaboration with Beijing Municipal Police in a ward of 95 956 people half a mile from Peking Union Medical College, had three divisions of activities: general sanitation, vital statistics and communicable diseases, and medical services. Besides regular teaching and investigative research, the station maintained a school health service for 1800 students and an industrial medical service for 1200 workers. It also served as a health center for a population of 45 000. The health station offered short training courses for traditional midwives and municipal sanitary police.[2] The courses for the midwives developed into the First National Midwifery School in 1928, which represented a significant advance toward modern maternity and child health work in China. The health station experiment was extended into rural China in 1929 when Grant and his colleagues established a health station in Ding Xian, a county of 400 000 people west of Beijing. The Ding Xian experiment integrated health work into a comprehensive rural education and reform movement. It provided affordable health care to the peasants and short training courses for village health workers. These efforts provided the models for the training of barefoot doctors and rural health reforms in the 1950s to 1970s.[3]

Grant's ideas of health work on a community basis constituted an innovative experiment in the 1920s, but they matured in the following decades as Grant applied the lessons learned in China to many other countries. In 1939, after 18 years of health work in China, Grant was appointed director of the All-India Institute of Hygiene and Public

Health in Calcutta and served in this position until 1945. He was instrumental in shaping the recommendations of the Bhore Committee in 1944, which provided a blueprint for the organization of medical education and health care in India. After World War II, Grant worked with international and US governmental organizations including the Economic Cooperation Administration, President Truman's Commission on the Health Needs of the Nation, and the World Health Organization. He conducted surveys of medical care plans in the United States, Canada, Asia, and Europe. From 1954 until his death in October 1962, Grant advised the Puerto Rican government on a plan for regionalization of their health services, showing how the hospitals and medical services belonging to different agencies could be coordinated into a smoothly working system to provide even the most isolated villages with access to excellent medical care. Grant also taught as professor of public health at the University of Puerto Rico.[4]

Many countries awarded Grant with high honors for his contributions to public health. China presented him with the Jade Order in 1940; Britain honored him with Commander of the Most Excellent Order in 1945, France with Chevalier de la Légion d'Honneur in 1952, and Denmark with Commander of the Order of the Elephant in 1952. The United States awarded him the Lasker Award in 1960 "in recognition of more than forty years of inspired leadership in promoting the health and well-being of mankind throughout the world."[5] ■

About the Authors

Liping Bu is with the Department of History, Alma College, Alma, Mich. Elizabeth Fee is with the National Library of Medicine, National Institutes of Health, Bethesda, Md.

Requests for reprints should be sent to: Liping Bu, Department of History, Alma College, 614 West Superior St, Alma, MI (e-mail: bulipi@alma.edu).

This article was accepted October 27, 2007.

doi:10.2105/AJPH.2007.129304

Acknowledgments

The authors would like to thank Tom Rosenbaum for his assistance.

REFERENCES

1. Seipp C. Introduction. In: Seipp C, ed. *Health Care for the Community: Selected Papers of Dr. John B. Grant.* Baltimore, Md: Johns Hopkins Press; 1963:xiii–xiv.

2. Grant JB. Report on Department of Public Health and Preventive Medicine, PUMC, January 18, 1929, p. 7. CMB Inc., RG IV 2B9, Box 75, Folder 533, Rockefeller Archive Center.

3. Bullock M. *An American Transplant: The Rockefeller Foundation and Peking Union Medical College.* Berkeley: University of California Press; 1980.

4. Grant JB. Rockefeller Foundation *Staff Newsletter*, vol IX, no. 8 (November); 1962. Rockefeller Foundation Biography Files, Rockefeller Archive Center.

5. Biographical Outline—John B. Grant; John B. Grant Honored by Public Health Group, Rockefeller Foundation Biography Files, Rockefeller Archive Center.