Strategies for Increasing Rural Medical Manpower in Five Industrialized Countries

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MEETING THE NEEDS FOR HEALTH MANPOWER of many types is a crucial aspect of the planning of all national health care systems. Adequate numbers of each type of manpower must be prepared and located in an appropriate geographic distribution. As one aspect of a general exploration of health manpower policies in five industrialized countries, the strategies used to achieve such geographic distribution of physicians were analyzed.

Introduction and Methodology

The countries studied were Australia, Belgium, Canada, Norway, and Poland. These five were selected to illustrate a range of different types of national health care systems, insofar as such systems would obviously have an important bearing on health manpower policies. The first four countries (alphabetically) have systems of national health insurance covering all or nearly all the population; the scope of benefits and methods of administration, however, differ in many features. The fifth country, Poland, operates a "national health service," in which financial support is derived almost entirely from general revenues of the economy, and all resources (both personnel and facilities) are controlled directly by the government. Perhaps the principal common attribute of all five health care systems is that the great majority of health services in the nation are financed collectively and provided as public benefits.

Four of the countries are parliamentary democracies, of which two (Belgium and Norway) have constitutional monarchies. Two are federations of States or Provinces (Australia and Canada), in which there are many differences among the component jurisdictions regarding health policies. In the constitutional monarchies, there are also Provinces or counties, but in the main they carry out policies that are determined by the central government. Poland is a socialist country, where general control is exercised by the dominant political party.

For all five countries, a literature search was conducted (through the MEDLARS system of the National Library of Medicine) on health manpower articles published over approximately the previous 10 years. Field visits of 5 to 10 weeks were then made to each country during the years 1973–76. Interviews to elicit information regarding health manpower policies, practices, and experience were held with executives of the ministries of health, social security authorities, Provincial and local public health agencies, universities and other training institutions, professional associations, consumer organizations, hospitals and other health facilities, regulatory agencies, important voluntary health bodies, indi-

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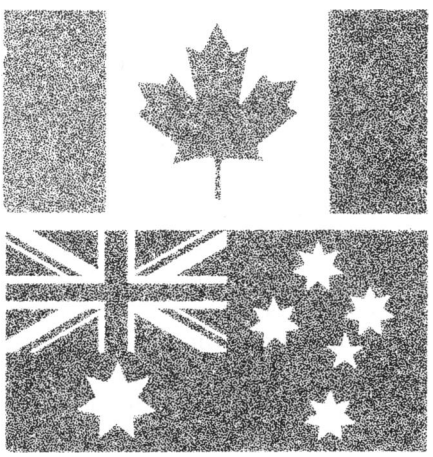

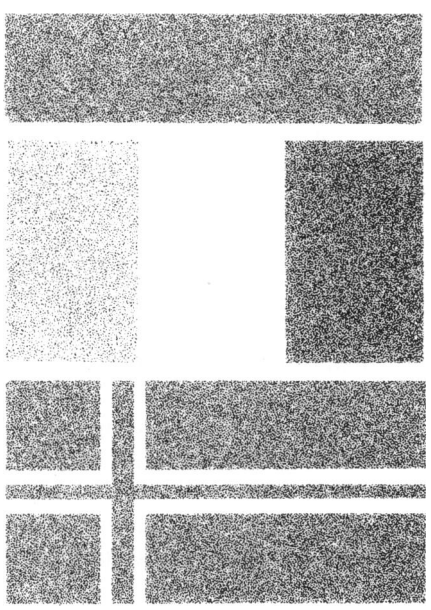

vidual providers and recipients of health service, and miscellaneous other knowledgeable persons involved in health services. In all interviews, information was sought on health manpower education, functions, and regulation, with special attention to policies and practices regarded as "innovative," insofar as they differed from the conventional methods of the United States. Numerous official reports and unpublished documents were collected wherever possible, particularly to obtain quantitative data on health manpower supplies, distribution, and trends.

A monograph was prepared on each of the five countries from the information gathered in these ways (*1–6*). Each monograph presents the findings under six main headings: (*a*) the national health care system, (*b*) health manpower resources, (*c*) innovative functions of health personnel, (*d*) health manpower education, (*e*) regulation of health personnel, and (*f*) salient highlights, issues, and trends. As part of the second general topic—health manpower resources—data were presented on the geographic distribution of physicians, dentists, nurses, and other major categories of health personnel, along with accounts of the efforts being put forth to equalize this distribution in relation to population needs.

In all five countries, as in virtually all nations of the world, inequalities were found between cities and rural areas in the distribution of physicians and other health personnel. The natural flow of people and health services in geographic regions inevitably requires greater technical resources in the cities, but the degree of such urban concentration is usually excessive. To cope with the resultant undersupply of health manpower in rural districts, numerous actions have been taken specifically to strengthen rural resources.

Before discussing these rural-specific efforts, I should note several underlying features of national health policy in the study countries that indirectly must influence the availability and distribution of all health services—urban and rural.

Underlying Influences

The impacts on rural areas of many aspects of the national health care systems as a whole should not be overlooked simply because they are not identified as

having "rural" objectives. Most fundamental is the operation in four of the countries, of national systems of health insurance and in Poland, of a general tax-supported system covering everyone. These economic support programs mean, of course, that the typically lower income levels in rural districts do not directly discourage the rural settlement of physicians and dentists, as they do in the United States. This basic point should not be exaggerated since, even with financial protection, rural people for many other reasons do not seek as much medical care as urban people. Under insurance programs paying physicians by the fee-for-service method, therefore, rural practitioners still tend to earn less. Moreover, copayment requirements in Norway, Belgium, and Australia may offer some financial deterrence to low-income families—and these families are commoner in rural areas. Nevertheless, the protection of social financing doubtless reduces one of the barriers to rural settlement of medical manpower.

Second, the general national enlargement of the health manpower supply, which has occurred in all five countries, undoubtedly affects the numbers available for rural service. Whenever there are shortages of physicians or other health personnel, the urban locales that are more attractive for work and life are bound to be occupied first. Even in the freest market economies, however, when urban opportunities for physicians are saturated, rural locations will be sought; thus, a larger overall supply of health personnel is bound to help the rural areas. Obviously, many factors influence the saturation point of a medical market, but the steady expansion of the supply of physicians and nurses in all the study countries, and also of dentists in Norway and Poland, has clearly benefited rural areas.

Third, a national system of health care delivery that is basically organized as in Poland helps to assure personnel for all locations, urban and rural. Where all physicians and dentists must work 7 hours per day in the systematized public program, the availability of vacancies on the organization chart is crucial. Although Polish physicians are not "ordered" to go to one place or another, they will naturally go where positions are available; if all urban posts are filled, they must take rural posts. This strategy has operated to steadily improve rural health care resources in Poland.

Similar dynamics operate within the hospital services of Norway and to a lesser extent in Australia. When the medical staffs in hospitals are entirely (as in Norway) or substantially (as in Australia) composed of salaried specialists, the physicians trained in various specialties must go essentially where hospital posts are available. The specialist may also engage in private practice outside the hospital, but membership on the "closed staff" of a hospital is a practical necessity. Thus, the establishment of hospitals in the rural regions of Norway and Australia, as well as in Poland, inevitably attracts health personnel.

Fourth, implementation of the concept of regionalization of health facilities is especially helpful to rural people. To some extent, this policy is being applied in all five study countries. In Poland, virtually all hospitals, health centers, and health stations are established in accordance with a centrally planned regional scheme. This is also the general strategy for hospital construction in Canada, Norway, and Belgium, which is carried out through the selective awarding of capital grants. To a lesser extent, the strategy is also applied to the construction of health centers for ambulatory care in Australia and Canada. The operation of regional public health authorities in Canada and Australia, moreover, provides a stronger voice for the articulation of rural personnel needs by citizen regional boards.

A fifth broad policy with special rural implications is the movement in all five countries to strengthen general medical practice. The ways that this is being done are too numerous to review here, but it may be noted that the generalist in medicine has a manifestly greater role to play in rural than in urban areas. In all five countries, the swing of the pendulum toward specialization has been slowed down or reversed in recent years. Specialization is bound to be more concentrated in urban centers; the principal need of rural people is for general primary care, after which they may be referred elsewhere for needed specialty services. The newer type of "specialist in general medicine" has a role par excellence in rural communities.

Finally, a sixth general policy with special dividends for underserved rural localities is the operation of information systems for physicians and others seeking a place to practice or work. The Norwegian Medical Association provides such an information service for all new medical graduates; Provincial medical associations in Canada and State associations in Australia likewise maintain data on communities needing physicians. In Australia, the national medicial association assists small-town physicians in finding locum tenens replacements, so that they can take a holiday.

Special Strategies

Numerous other strategies were identified that were more specifically directed at equalizing the geographic distribution of health personnel in the study countries.

Two years of mandatory service in a rural post, after completing medical school, were required in Poland from 1948 to 1963. This requirement was ended once Poland had achieved a large enough overall supply of physicians so that it could rely instead on voluntary incentives, as is discussed later. In Norway, a similar period of mandatory rural service had previously been required of new medical graduates, but also was abandoned a few years ago when the supply of physicians had expanded enough. Of the 18 months of supervised postmedical school training required of all Norwegian graduates, 6 months must be spent as assistant to a District Doctor (whose role is discussed later).

In Canada, recent actions have been taken to limit the immigration of foreign physicians. Some Provinces grant licenses to immigrant physicians only for practice in underserved rural communities; this restriction applies until citizenship is gained, which usually requires 5 years. A sort of reverse compulsion is applied in the Canadian Province of Quebec; there certain cities are declared "overdoctored" for purposes of payment under the medical care insurance program. Thus, a physician, in effect, is compelled to settle and practice in a community needing more physicians if he expects to be paid by the insurance system. Smaller towns in rural districts would naturally benefit from this policy.

Much more widely applied in all five study countries are several specific inducements designed to attract physicians to rural locations. In Canada, with its extensive rural stretches, various policies have been implemented. Even before the national medical care insurance program was instituted in 1967, many rural municipalities in the prairie Provinces (particularly Saskatchewan) offered public salaries to attract general practitioners; the first of these began in 1914. Provincial governments later gave supplemental grants to these "municipal doctor plans." More recently, the Province of Ontario has guaranteed relatively high annual incomes to physicians who settle for a stated period in certain rural localities; the local community assumes responsibility for adequate housing and office facilities. The great majority of physicians entering this program in fact have remained in the rural community beyond their initial contract period. Some Australian States have likewise guaranteed physicians minimum incomes for settlement in small towns.

In Poland, as noted, there is no longer any mandatory period of rural service in spite of the generally structured character of the Socialist health care system. Rural medical and dental posts, however, offer higher salaries than positions with similar responsibilities in a city. Also, more attractive housing is offered than is likely to be available in a city, where in light of the rapid Polish urbanization housing is still in short supply. The rural physician also can purchase an automobile on more favorable terms than his urban counterpart. Automobile expenses are paid, of course, for professional travel.

A propos of traveling expenses, the social insurance systems of all five countries reimburse the physician for these costs incurred in making home calls to patients. In Belgium, the physician making a long drive to a rural patient is reimbursed for travel time, as well as for motor vehicle expenses.

The District Doctor system of Norway is one of the most impressive strategies for getting health care protection to rural populations. The National Government appoints and pays the physician a basic salary for taking on the public health responsibilities in his area. Most of the physician's time, however, is spent in general clinical service to the local population, for which payment is made by the insurance system. The entire country is covered by some 600 District Doctors, each of whom is assisted by one or more public health nurses and sometimes a sanitary inspector. Most districts are thinly settled, and in Norway's Far North, the positions offer longer holidays, subsidized housing, and supplemental credits toward attainment of specialty status later if that is desired. The Norwegian District Doctor soon finds himself a much respected leader in general community affairs; the whole system, with its national status, has a rich tradition that engenders a strong esprit de corps. There are virtually no vacancies in the 600 positions throughout the country. For the U.S. population of more than 200 million, this system would be equivalent to having more than 30,000 primary care physicians (compared to the less than 1,000 in the U.S. National Health Service Corps, which has been developed to help underserved areas).

On a more limited basis, some Australian States have appointed salaried rural physicians, who serve patients without charge during certain hours each day and for fees at other hours. Their salaries

are paid partly by the State government and partly by the local community. Since the 1974 social insurance legislation, governmental stipends are simply supplemental to the physician's health insurance earnings.

Both Australia and Canada have long used the device of fellowships for medical or dental schooling in return for equivalent periods of later service in rural communities. This approach has been particularly successful in the Canadian Province of Ontario. In the other three countries, where almost all professional school students in financial need are supported by national stipends, such a mechanism would have little meaning. Medical schools in Canada and Australia also send students for brief periods of training in certain isolated communities.

Organized transportation is a special strategy for providing medical care to isolated patients in some countries. Australia has its flying doctor service to bring physicians to its vast, thinly settled interior. Several Canadian Provinces have special airplane ambulance systems, which bring remote rural patients to the larger city hospitals any time of the day or night; telegraph or radio communication is part of this process. These programs are all subsidized by government.

Finally, in the very thinly settled regions of Canada's Far North and in the Australian outback, there are health stations staffed by nurses with extended roles. The substantial responsibility and dramatic overtones of these posts make them attractive to a certain type of woman, and there are few vacancies. These positions are typically financed by government and supervised by a territorial physician, but the nurse does much diagnosis and treatment on her own; she seeks medical help by radio or refers the patient to a distant facility only for difficult conditions. With few exceptions, such broad responsibility is not delegated to nurses in rural villages that are within an hour or two of travel from a city; nor is it found in any of the European countries studied.

Other strategies affecting the geographic distribution of health manpower may be briefly noted. Dental care programs for children in rural areas are well developed in Norway through government support of dental clinics. Some Canadian Provinces send dental nurses, trained and authorized to provide virtually complete dental care for children, to work in rural schools. Some States of Australia give priority to serving the dental needs of rural children. Public (governmental) control over the location of private pharmacies in both Norway and Belgium and of the public pharmacies in Poland, has the effect of reducing excessive concentration in the cities and equalizing drug services for the rural population. In Norway, rural pharmacies are even subsidized from a fund raised by a special tax on urban pharmacies.

Summary

The many-faceted national programs for economic support of health care in the five countries studied have generated a variety of strategies, direct and indirect, to increase the availability of services to rural populations. These strategies are, in a sense, a political necessity associated with nationally financed health care systems. Since virtually everyone contributes to the support of the health services, everyone has an obvious right to expect them to be available—wherever he or she may live. At the same time, the operation of the national health care system offers numerous workable methods to achieve improvements in the geographic distribution of health manpower.

Limited quantitative data to demonstrate these improvements are available from Norway, Poland, and Canada. In all five countries, however, rural health care handicaps do not now appear to constitute the social issue that they do in the United States, which lacks a national health care system. The precise methods used to overcome maldistribution of health manpower clearly depend on the governmental structure and political ideology of each country.

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