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A Health Policy for Developing Countries

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VIII.B. HEALTH AND NUTRITION

VIII.B.1. A Health Policy for Developing Countries*

Before it is possible to formulate a sensible health policy for the developing countries, perhaps the most fundamental question to be answered is: "What really determines the overall health level of a population?" One obvious possible answer is health services, and the number of physicians or hospital beds: yet there is clear evidence that at best this is only a very partial answer. In the "west"—North-western Europe and the United States—life expectancy at birth rose from about 35–40 years in the eighteenth century, to 50–55 by 1900. Yet very little indeed of this progress can be attributed to medical science. By 1900 major discoveries in medicine and surgery had already been made, but only smallpox vaccination would have been in sufficiently general use to have had a significant effect on mortality in the population as a whole. One must therefore look to other factors—better nutrition, a slow improvement in hygiene habits, and from about 1870 the effects of a series of public health measures.

Equally, factors other than conventional health services are still of importance today. It is difficult to measure health coverage accurately because of problems of definition: however, one indication that "modern" personal health services may be of very limited importance in many developing countries is the high proportion of babies

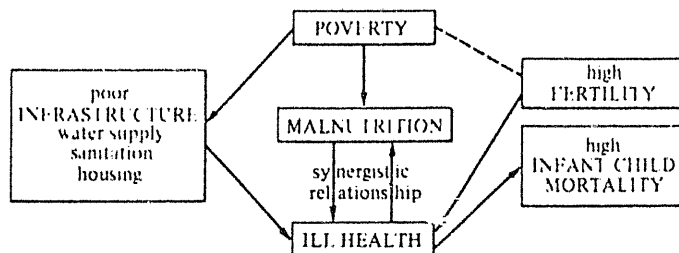
delivered by native midwives or indeed by relatives; probably as many as three-quarters or more of all births in such countries as Colombia, Tanzania, Thailand, Peru, Tunisia, Sudan, or Venezuela. Yet despite this low coverage of the population by "modern" health services in many developing countries, health has improved substantially since World War II. Evidence of this is the population "explosion", most of which can certainly be attributed to decreased mortality rather than increased fertility. Average life expectancy at birth in the developing world has probably increased from about 32 years before World War II, to 49 years at the end of the 1960s. Though this is still far short of the 70 years or more now typical of a developed country, it represents a very dramatic fall in mortality, over a rather short period. Some of the fall is attributable to major health campaigns (a notable example is malaria eradication in the Indian sub-continent), but a large residual is left which can only be explained by broader factors. To understand fully how such broader factors operate, one must examine rather carefully what the real health problems of a typical developing country are, and what causes them.

THE ECOLOGY OF POVERTY AND DISEASE

Man, the organisms which give him diseases, and the vectors (such as flies) which help transmit disease, are all part of an ecological system. It is the interaction of man and his environment which determines the

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incidence of disease, i.e., how often disease is contracted. Curative health care services only very infrequently affect the incidence of disease, though they may mitigate its effects.¹ Rather, the disease pattern of a society intimately reflects its standard of living, and indeed its whole way of life. The diagram above shows some of the key factors which affect health in a typical developing country:²

In many societies, poverty is associated with high fertility. This has an obvious effect on the age-structure of the population. In any country, it is the old and the very young who are most susceptible to disease. Developing countries have proportionately very few old people, and many young children. As a result, diseases such as cancer and cardio-vascular conditions are a far smaller part of the disease pattern than in developed countries. On the other hand, up to a half of all deaths may be of those under five. In addition, the high level of fertility common in the developing world, and the short interval between births, also have a direct impact on health, largely because less nutrition and care is available for each child. Morbidity

and mortality in a large family are higher, and later children in the family are at a particular disadvantage. Furthermore, the health of the mother also tends to be worse in large families.

One of the most significant effects of the existence of large families living in poverty is malnutrition, which is of considerable importance as a direct cause of death. Still more importantly, malnutrition acts "synergistically" with disease agents to increase the incidence of clinical disease and aggravate its severity, essentially because it hampers the body's resistance mechanisms. Equally, disease can bring on malnutrition by increasing food requirements at a time when effective food absorption is often diminished.

At the same time, poverty makes itself manifest in poor physical infrastructure, including water supply, sanitation, and housing. In their turn, poor water supply and sanitation relate directly to a prevalence of diseases connected with human wastes, while poor housing is associated with the prevalence of air-borne diseases.³ Among the diseases connected with human wastes are typhoid, dysentery, cholera, polio, and hepatitis. Diarrhoeal disease, also in this group, is probably the biggest single cause of death among children under five, and of illness in adults. Many worm diseases also belong to this group, including tapeworms, hook-

¹For an account of the very limited effect on the incidence of disease of very high-level, very intensive and expensive health care, see Walsh McDermott, Kurt W. Deuschle and Clifford R. Barnett, "Health Care Experiment at Many Farms" in *Science*, January 7, 1972.

²I am indebted to Ms. S. E. Harvey for help with this diagram.

³In fact, poor housing also seems to affect the prevalence of other diseases, such as diarrhoeal diseases.

worms, and bilharzia (also called schistosomiasis). Air-borne diseases are the second most important group. They are transmitted by the breathing-in of the disease agent, and include tuberculosis, pneumonia, diphtheria, bronchitis, whooping cough, meningitis, influenza, and measles.

In a major study of 22 locations in 8 Latin American/Caribbean countries, diseases from contamination by human wastes, air-borne diseases, and nutritional deficiency were responsible in all except two cases (both in Jamaica) for over 70 per cent of deaths under five—figures as high as 91 per cent are found.⁴ In other words, although exotic tropical diseases can be of great importance in certain areas, in general they do not constitute the key health problems of the developing world. Rather, it is the generally mundane diseases of the core disease pattern already described which really take the biggest toll. However, official health statistics, collected usually from a few major urban hospitals, will not necessarily show that this is so—even in a developed country, a health service “discovers” the illnesses for which it is looking and to which it caters.

THE ALLOCATION OF RESOURCES DEVOTED TO HEALTH

In nearly all developing countries, the bulk of government health expenditure is allocated to curative services. A large part of government funds are spent on hospitals, particularly on in-patient services. In turn, hospitals are concentrated in the urban areas, and most of the patients also come from the same urban area: organized referral

⁴Deaths due to congenital abnormalities or perinatal causes excluded. Calculated from Ruth R. Puffer, Carlos V. Serrano, *Inter-American Investigation of Mortality in Childhood, Provisional Report*, Pan-American Health Organization, September 1971. For a fuller account of the system of disease classification used above, see M. J. Sharpston, *Factors Determining the Health Situation in Developing Countries*, World Bank Staff Working Paper, 1975.

is usually of insignificant importance. Some rural inhabitants refer themselves—i.e., take themselves into an urban centre—but even so most of the medical care goes to a few urban populations.⁵

The reasons why doctors, government or private, congregate in the principal towns, and the government doctors in the large hospitals, are not hard to find. The economic opportunities are in the large towns—and government doctors often do private practice, whether or not it is officially permitted. Again, even if a doctor comes from the rural areas originally (and, in fact, most come from better-off households in the cities), by the time he has completed his training he usually has adopted the outlook of an urban professional man: his friends will live in the cities, and that is where the bright lights are. Furthermore, he is likely to associate high professional status with the sophisticated treatment of “interesting” cases: this will usually only be possible at a few major hospitals. Politically, private sector doctors will usually be able to determine where they practice, and so also will public sector doctors—doctors are a tight elite, with an arcane expertise that touches the frightening mysteries of life and death: few laymen will tackle them on their own terrain. In any case, the lay elite—politicians, civil servants, even trade union leaders—are also nearly all urban, and will want “proper” (i.e., western) levels of treatment for themselves and their families. The result is that in most countries the doctors stay almost exclusively in the main towns, perhaps after a token year or so of exile in the hinterland, soon after becoming qualified. Extra output of doctors by the medical schools only leads to unemployment or under-employment of doctors in the capital cities, probably coupled with emigration: this, for example, is the case in the Philip-

⁵See M. J. Sharpston, “Uneven Geographical Distribution of Medical Care: A Ghanaian Case Study,” in *Journal of Development Studies*, Vol. 8, No. 2, January 1972. Similar statistics could be produced for a very wide range of developing countries.

pires. The rural areas remain without doctors. On the other hand, the mere fact that doctors remain unemployed will not necessarily prevent the creation of new medical schools: the output of doctors is frequently determined by the political power and social aspirations of middle-class parents.

There is thus an impressive array of factors tending to concentrate the resources of the health services in a few urban areas. This situation can now be related to three main reasons why health coverage in developing countries tends to be low. The first reason is geographical: it is known that the great bulk of patients at a health facility come from the immediate vicinity, say, within five miles. Yet much of the population of most developing countries is dispersed and outside the immediate vicinity of a health facility. The second reason is administrative: it is very difficult to get referral systems to work. The transport from outlying areas to urban hospitals is not available, and few developing countries have an administrative control system strong and ruthless enough to prevent those in the immediate vicinity of a hospital from pre-empting the available beds. The third reason is cultural: particularly in Latin America, a peasant may feel that a doctor looks down on him, and prefer to go to a curandero. In Asia, people may have more faith in traditional healers, or go to western doctors only for certain conditions.⁶ Thus even in the cities many people do not make use of official health services.

POLICIES FOR HEALTH DEVELOPMENT

It has been shown that poor health, poverty, and high fertility are intimately inter-

⁶ A study in an Indian village showed that village women preferred the Family Health Worker for diarrhoea or fever, the private doctor for tetanus, and the faith healer for smallpox, chickenpox, or measles. See Rural Health Research Centre, Narangwal, Punjab, India, *Rural Health Services and Family Planning Utilization*, Annual Report of Population Research, 1972-73.

related. Any policy that raises income levels or equalizes income distribution is likely to improve nutrition, particularly among the poor: this will almost certainly improve health. Equally, any policy which lowers fertility will also tend to improve health.

More generally, health considerations need to be taken into account early on in all development planning, rather than having health regarded as a matter of giving more money to the Ministry of Health for a new hospital, or adding a clinic to a development project. For example, in agricultural development one should try to ensure that the crops grown in a region will yield a reasonably balanced diet, and avoid excessive emphasis on commercial cash crops. Large-scale water resource projects, particularly in previously arid areas, can create important health risks, of river blindness, schistosomiasis, and malaria. (A full list of counter-measures is not appropriate here: but, for example, sluice gates should be designed to minimize the breeding possibilities for simuliid black fly, which is the vector of river blindness.)

HEALTH PROMOTION SERVICES

Whatever policy has been in theory, in fact—as evinced in the allocation of financial and manpower resources—there has often been an effective emphasis on sophisticated and expensive clinical practice by highly trained, highly paid physicians in large urban hospitals. At the same time, environmental health, water supply and sanitation have generally received little emphasis, except to a limited extent in a few major cities. While this may have corresponded to the realities of powerful social and political forces—the vested interests of an urban elite and of the medical profession—such activities have scarcely touched the health problems of the bulk of the population, who often live in rural areas out of reach of official personal health services, and whose health situation is hardly affected by episodic curative health care.

Essentially, a way has to be found of promoting health in a whole community, rather than concentrating on the treatment of illness in individuals on an intermittent basis. What is needed is to change the ecological and cultural situation which permits disease to thrive. At the same time, curative health care is a felt need of all peoples in all situations, and attempts at health education or environmental health are often likely to meet with little acceptance, if they are divorced from curative care. The problem is to ensure that curative care does not swamp environmental health, other preventive measures, and health education, but is in balance with them.

THE COMMUNITY-BASED HEALTH WORKER SYSTEM

To achieve this goal, it may be useful to consider an approach based on the promotion of health from within the community. (Since the population of most developing countries is predominantly rural, the concept of community-based health workers is discussed here in a rural context; but the basic idea is equally applicable to poor groups in an urban environment.) Essentially, a village would choose one or perhaps more of its members for health training;⁷ in this way the health worker selected would be assured of the village's support. The health worker chosen could be male or female, an old traditional healer or birth attendant, or a young primary school graduate: the choice should reflect village cultural attitudes and literacy, though useful, would not be imposed as a qualification. The worker would then be given brief training—with frequent later refresher courses—in how to treat some of the commonest disease conditions

⁷ Arguably the government authorities should have some say in the selection process, especially if there are unequal power structures at the village level. The practical operation of the system proposed here will depend very much upon how it fits into the local socio-political environment.

on a symptomatic basis, i.e., if there is this symptom, give this treatment. (A programme of this kind, to teach illiterate villagers, already exists in Niger.)

The teaching of clinical skills would of necessity be very limited; and indeed this would be desirable, in order to ensure adequate time for environmental and preventive health work, including family planning. Among other duties such workers should monitor the growth of young children for possible nutritional problems, provide nutrition education and organize self-help efforts in the fields of environmental health, water supply and sanitation, with such governmental help as could be made available and was absolutely necessary. (Pit latrines are a cheap and effective self-help technology for rural sanitation. The construction of good water systems may require more technical assistance—but just to put a rim around the village well and a cover over the top may be better than nothing.) Since the health worker would be diagnosing and prescribing drugs in his own right, to make health care provided in this way as effective as possible, it would be necessary to permit such a worker to use certain drugs which have perhaps more conventionally been limited to prescription by a physician. The appropriate question is not, "Could some people die from incorrect treatment or from side-effects?" but "Will more die if the village worker is, or is not, allowed to use this drug?"⁸

In all likelihood, and whether or not the community-based health workers chosen by their communities are traditional healers, the traditional health care system will continue to be important for a long while. It is therefore most important that community-based health workers who are not themselves part of the traditional health care system should co-operate with it.

⁸ This has been called "statistical morality." See Walsh McDermott, "Modern Medicine and the Demographic Disease Pattern of Overly Traditional Societies: A Technologic Misfit" in *Journal of Medical Education*, September 1966.

Community-based health workers would typically work on health matters part time. For example, it may be possible to include agricultural extension among the functions of a multi-purpose worker; this has proved a very successful combination in the Cali region in Colombia. Costs in connexion with a community-based health worker system would tend to be very low compared to a more conventional health service. In Niger, the continuous training of village aides costs only about \$15 a year.

ADMINISTRATION AND SUPERVISION OF COMMUNITY-BASED HEALTH PROMOTION SERVICES

Immediately above the community-based health workers would come supervisory auxiliaries, who would be full-time community-health promotion workers, and would have perhaps 18 months to 2 years of health training. Above this level, various models exist for the administration and supervision of community-based health services. One view is that they can be run from within the Ministry of Health, by a "primary care managerial physician." Compared to a typical "western" clinical physician, such a physician would have less clinical training. On the other hand, he or she would also learn much more about epidemiology, the science of the causation of diseases in their social setting. More generally, he or she would be trained in community health promotion on a continuing basis, rather than principally in episodic curative health care on an individual basis. Such a physician should be able to participate in a general effort at rural development, discussing health-related improvements with community leaders and motivating communities. Training as a referral physician, and in supervising auxiliaries and community-based health workers who would act as initial points of patient contact, would also be required. A knowledge of the costs of different types of health measures would also be needed. Lastly, there would be train-

ing in management and administration skills. Above all, such a physician should be prepared to serve in the rural areas for long periods, and not be likely to emigrate to developed countries. Clearly, such a "primary care managerial physician" is a very long way from a physician as produced in the great majority of medical schools in developing countries today: in his training certainly, but even more clearly in attitudes and motivation. One may also note that a conventional teaching hospital is probably one of the worst places to train managerial physicians: a physician with urban professional-class background, trained at a teaching hospital and then thrust out into some rural health facility is indeed "an elegantly trained person in inelegant surroundings."⁹

The remaining issue is whether or not the new form of health promotion service should come under the Ministry of Health. On grounds of organizational logic, there is an obvious case for this. On the other hand, it can also be argued that the only way to achieve early health coverage of the bulk of the population in the face of the somewhat conventional or gradualistic views of many Ministries of Health is to develop rural health promotion services through another agency, for example, a Ministry of Rural Development. In Tanzania the promotion of rural health services outside the Ministry of Health is in fact taking place.

OTHER METHODS OF HEALTH PROMOTION

The community-based health worker system should not be seen as the exclusive means of health promotion. Some diseases can be handled by generalized environmental control techniques, such as large-scale use of insecticides. Another possibility is organized co-operation with traditional healers, who, for example, are often very good at dealing with mental illness. Again, in addition to

⁹N. R. E. Fendall, *Auxiliaries in Medical Care*, New York, 1972.

new community-based health workers, it may be useful to give some simple training to others who could be concerned with health—from traditional birth attendants to owners of general stores to agricultural extension staff to party workers. Commercial trade channels can also be used for health purposes. Radio and posters can be used for health education purposes, and so can any form of entertainment or large gathering of people. Certain very carefully chosen forms of food fortification may also be logistically and financially feasible, and genuinely effective in raising health levels: for example, if salt is purchased from some central supply source, iodization of the salt may avoid thyroid deficiency and cretinism.

MAIN FEATURES OF A REFORMED HEALTH SYSTEM

It may be useful to summarize some of the main features of the health promotion system which has just been described:

- a. Emphasis on active promotion of health in a whole community, rather than intermittent disease care for individuals.
- b. The key worker is someone who belongs to the community, and is given some health training.
- c. There is delegation of authority to diagnose and to treat illness, to auxiliaries and to community-based health workers.
- d. The "western" clinical physician is seen as a poor technologic fit for the health problems of developing countries. The health system outlined here could be managed by non-physicians.
- e. There is little emphasis on referral of difficult cases. Referral is not easy to

organize logistically or administratively, and it is more urgent to extend health coverage. This policy may result in some difficult cases dying: but a policy of stress on "adequate" referral facilities will result in many more *easy* cases dying, simply because health coverage is so low.

What has been given here is only the rough outline of an appropriate health policy for a developing country. Clearly the exact policy which is appropriate will depend upon local social, political and administrative conditions. It will also depend upon the existing structure of the medical profession and the Ministry of Health. Last but not least, it will depend upon the availability of financial and manpower resources, and logistical problems of communications in a particular country—a small, rich country like Singapore will be able to maintain a very different system to what would be workable in Chad. Nevertheless, it is probably generally true in most developing countries that in the past there has been far too much emphasis on referral facilities, rather than health promotion work at a community level. Talk about "health service pyramids" has often in practice been an excuse for concentrating resources at the apex of a pyramid rather than the base. The priority need in most developing countries is for better health coverage, and more emphasis on health promotion rather than health care. Accordingly, in nearly all developing countries every effort should be made to avoid construction of new hospitals, which are extremely expensive to build, but also very expensive to operate; which absorb vast amounts of high-level manpower; and which give a sophisticated clinical bias to the whole health system, and the prestige of ordering of its personnel.