HEALTH SERVICE ADMINISTRATION IN DEVELOPING COUNTRIES*

M. H. WEBSTER, *O.B.E.*, M.B., CH.B., D.P.H., *Secretary for Health, Rhodesia*

The development of medical services in a country like Rhodesia can be divided into 3 phases: Firstly, the phase of establishment; secondly, the phase of expansion; and, thirdly, the stage of vertical panic when the responsible administrator realizes that development cannot be sustained on the established lines and standards in the face of escalating demands and in the absence of essential, even more rapid, expansion of the economic infra-structure which is required to sustain such services. Abel Smith[1] says: 'The purpose of health services is to promote health, to prevent, diagnose and treat disease, whether acute or chronic, whether physical or mental in origin, and to rehabilitate people incapacitated by disease and injury'. It will be noted that the usual lip-service is given to promotive and preventive health services, but if we examine the components of a health service we find that it consists of:

(*a*) Medical care services:
  (*i*) inpatient services—hospitals;
  (*ii*) ambulatory services—hospital outpatient departments, clinics and health centres;
  (*iii*) domiciliary services provided by medical, nursing and paramedical staff.
(*b*) Public health services:
  (*i*) environmental services—housing, sanitation, water supplies, food hygiene, vector control;
  (*ii*) personal services—mother and child welfare, school health service, industrial health service, inoculation services, special services such as tuberculosis clinics, etc.
(*c*) Teaching and research.

An analysis of costs of these components indicates that hospitals account for 50% of the total expenditure on health services, while medical care services, as a whole, account for no less than 90%. Of the remaining 10%, if anything is allocated for teaching and research it is inevitably at the expense of the preventive services, because the hospital and other sectors of medical care services, of course, must not be denied anything. The process of health administration must be considered as a continuum in which the unhappy administrator generally finds himself at any point in time in command of resources which might have been adequate 10 years ago, are quite inadequate to meet the existing situation, and hopelessly deficient as a pattern for the future.

The problems which beset a developing country in the evolution of its social services are: poverty, ignorance, inexperience of administration, in many cases instability of government, and, in not a few cases, corruption of administration combined with a habit of dependence which finds expression in repeated and often peremptory demands for external assistance. I recently read with interest a report by the Regional Director for Africa of the World Health Organization presented on the 20th anniversary of the organization; Dr Quenum[2] says: 'In the present world situation most countries have budgets grossly inadequate to their needs and only 1 or 2% of the gross national income can be earmarked for health services . . . It must be added that the limited resources available, far from being properly used, are only too often wasted . . . African countries make their greatest error in matters of health development or of any development when they overestimate the scope of assistance. Progress will be illusory as long as countries continue to expect some kind of miracle from aid. The only sound attitude for the future is that of personal and national effort.' These are brave words to utter in Africa today and Dr Quenum, himself an African, is to be congratulated for having said them. There are, however, countries which are developing in the true sense and in which the necessary national effort is being made. It has to be, because there is no external aid forthcoming. I think Rhodesia can claim to be such a country and I believe the health administration in such a country has a special responsibility. A World Health Organization Expert Committee Report[3] states: 'It is the responsibility of the public health administrator to convince governments of the need to provide adequate funds for health services'. I believe it is also his responsibility to realize that there are other long-term needs in a truly developing country and that it would be shortsighted indeed to demand so much for health and other social services as to prejudice investment in the development projects of economic value on which the long-term welfare of the same social services may depend. This is particularly important in a country where one section of the population, economically advanced and scientifically knowledgeable, may, in providing sophisticated services for itself, find that it has created a demand for the same services among another section of the population, equally or even more in need of such services but quite unable at the present stage of their economic development to make a significant direct contribution to the cost. In such circumstances any community is well advised, before embarking on any developments, to have a clear idea of the long-term implications of such developments and of the limitations, in breadth rather than in depth, which must be put upon them.

PAST DEVELOPMENTS

It might be worth considering for a moment the motives which led to the establishment of medical services in Africa and the lines on which they have since developed. As everywhere, the prime motives for the establishment of medical services were fear and compassion. In Africa there have been 2 subsidiary motives which have operated with a relative emphasis depending on whether, in any particular part of the continent, the prime objective was the lure of gold on the one hand or the propagation of the gospel on the other. In the former case, the administration of the country has accepted responsibility for the provision of health services, recognizing the economic wastage created by sickness. Such a country was Rhodesia. In the latter case, both in the beginning and since, medical services have depended greatly on the missions who recognize the value of such services in the cause of evangelism. In both cases, however, the first thought was for hospital and medical care. This was, of course, inevitable by public demand—from the advanced section of the population because by the end of the last century they had come to expect and take for granted a modicum of prevention as a built-in part of the social infra-structure with which they had

*Paper presented at the Rhodesian Medical Congress, Bulawayo, August 1968.

become familiar, and from the primitive section because they had no conception of preventive medicine in any case. Both sections of the population were concerned with the obvious human suffering which demanded immediate attention, and the indigenous populations were not long in recognizing the advantages of the imported skills.

The only concession to preventive medicine was in the form of sporadic attempts at the control of formidable epidemic disease. In Rhodesia it was not until 1925 that a Public Health Act came into being, and it was 1946 before a serious attempt was made to develop a central government preventive health service to supplement and support local authority efforts in this field. Although this service has made considerable progress since and has successfully developed special programmes for the control of specific health problems, it has, like similar services elsewhere, been the 'poor relation' of the hospital services.

PRESENT SITUATION

Since 1890 the African population in Rhodesia has increased from some 360,000 to an estimated 4½ million. Our African birth rate is 48/1,000 and the death rate only 14/1,000, giving a net annual increase in population of a frightening 3·4%. Not so long ago the infant mortality in Africa was of the order of 300/1,000, with over 50% of children dying before the age of 5 years. Even today few African territories can claim to have brought this figure down to as low as 75/1,000. A recent sample census in an African township near Salisbury indicated an infant mortality of 31/1,000.

We hospitalize 105 in every 1,000 of our White population and 125/1,000 of our African population every year and have a hospital bed provision of 4 beds/1,000 for all races. These figures are of course, as always, misleading. The high rate of hospitalization among the Africans (*cf.* 75 - 80/1,000 in European countries) is to some extent, of course, a reflection of the high rates of morbidity, mostly from preventable disease; but among all sections of the population there are other factors at play, such as social and medical convenience, the lack of domiciliary medical and ancillary services, the nature of domestic help and the nature of the housing accommodation.

The hospital bed provision is far from being uniform in either quantity or quality throughout the country, so this figure is as meaningless as the statement that we have one doctor to every 7,000 of the population in the light of the fact that this varies from 1 : 1,800 in the White urban communities to about 1 : 100,000 in some African rural areas. Nevertheless, direct government expenditure on health services will be £6·8 million in 1968, or the equivalent of 4·5 US dollars per head of population compared with about $2.00 in most developing countries. Direct government expenditure accounts for only about 40% of the total expenditure on medical services by all individuals and agencies, which is thus of the order of £17 million or 4·6% of the gross national product.

Hospital costs are rising disproportionately to the populations served. In the United Kingdom since the inception of the National Health Service in 1948 the population has increased by only 14%, but hospital utilization has increased by 50%, nursing staff by 50%, medical and administrative staff by 63% and technical staff by 140%. As over two-thirds of hospital costs are represented by staff salaries, the cost inference is obvious to any country which attempts to achieve similar standards. Hospital bed daily maintenance costs in developing countries now exceed 500% of the average daily gross expenditure *per capita*, and yet Llewelyn-Davies and Macauley[4] say: 'The first task of a health service is to reach *all* the people *all* the time at the best level of care the country can afford. Hospital provision is only one part of the health service and the money devoted to it must not impoverish the rest of the service.' The trouble, of course, is that it does. In the face of a mass of preventable disease, administrators are unable to devote more than 10% of the health budget to preventive and promotive health services.

Our African population presents a picture of increasing and clamorous demand for treatment of communicable disease and nutritional deficiencies—not because these are increasing, but because awareness of the availability of modern medical services is increasing. However, we have our place on the circumference of that vicious circle which surrounds the continent of Africa: disease, low productivity, malnutrition, disease, lower productivity.

Certain health problems are actually increasing, notably the incidence of accidental injuries and the mental and physical effects of stress on a population which has been transported, as if on one of H. G. Wells's time machines, from the Iron Age to the Atomic Age in the span of 75 years. Among our more advanced communities the diseases of stress and the effect of trauma, together with the pathological patterns of an ageing population, provide the main features of the epidemiological picture.

THE FUTURE

Our objectives for the future are therefore clear. They are: (*a*) to reduce unnecessary demands on medical care facilities and (*b*) to increase the efficiency of these facilities. Whether the first objective can be achieved remains to be seen, but it must be attempted by two main approaches:

1. The limitation of the natural growth of the population by the expansion of family planning services.
2. The practice of preventive medicine.

I note that a conference on human rights has just declared family planning to be a human right. As human rights have always been proclaimed more readily and accepted more readily than human responsibilities, let us hope that this pronouncement will have the desired effect. The trouble is, of course, that the practice of family planning entails the acceptance of certain responsibilities; it will, therefore, be less attractive than those so-called 'rights' which call for no reciprocal responsibility on the part of the receiver. In this country we are convinced that both the theory and practice of family planning can best be advanced through an expanding maternal and child welfare service.

As regards the practice of preventive medicine, the key is to be found in two interdependent factors: (*a*) the advancement of the economic status of the whole population—when a man is on the breadline it is unrealistic to expect him to be interested in a theoretically healthy tomorrow; and (*b*) health education based on a planned programme of research into the social and cultural backgrounds of the people whom we hope to educate. Our relative failure in this field in the past has been due to a neglect of such research and of the fruits of the research which has been done by others.

Planning Preventive Programmes

The planning of any positive health programme must depend on sound statistical information. Demographical information, vital statistics and quantitative data on the main causes of ill-health are obviously of primary importance. In Africa they are equally obviously lacking, largely because we have attempted to apply sophisticated record systems at a level where we have no sophisticated personnel. Need we be surprised or disappointed if returns of patient utilization from our peripheral health units are largely works of fiction? The people who compile them understand neither the forms they complete nor the need for the information. A pragmatic approach to health statistics with the object of obtaining only the information which is essential at each level is urgently needed and depends on the close association with and supervision by the public health staff of the peripheral health units on which the first impact of community health problems is felt. But perhaps both more important and more easily acquired than detailed disease incidence figures is information based on the broad principles of the comparatively new science of geographical pathology.

Among environmental health problems, that of water pollution has been long neglected but may soon be of little more importance than atmospheric pollution if we continue to allow the development of industry without regard to this factor. Special programmes must have a place in the health service plans of developing countries. By this I mean programmes for the control of such diseases as bilharziasis, malaria, tuberculosis and leprosy, and the provision of mental health services. Such special programmes must, however, never be allowed to develop into special 'empires'.

The main criteria for such programmes are:

1. They must be country wide and set up on a permanent basis.
2. They must satisfy the existing needs of the country without creating new ones.
3. They must be integrated into the general health services.
4. They must be planned so as to be effective with existing available resources.

Dr Quenum[2] says: 'Too many projects are started in many instances without proper preparation and often they are ineffective because the minimum requirements for success were not observed from the beginning. In giving too much too quickly to an underdeveloped country there is a danger of blocking the machinery and hindering any real development. All too often projects, however interesting, bear no relation to the real needs of the countries concerned and sometimes they do not even conform to the aims of the socio-economic development programme. This lack of co-ordination and the multiplicity of unrealistic and ill-adapted projects are linked to the weakness of the administrative structures.'

Whatever programmes in preventive medicine are conceived, it is certain that they will not come to full fruition unless the active participation and indeed initiative of the community concerned are achieved and fostered by inspiration and financial assistance from the central authority. It is at the periphery where cause and effect can be demonstrated most easily, and so, in the fostering of the development of peripheral medical units and services by local communities, the preventive role of these services must be kept to the fore.

Medical Care Services

What can be done about hospitals for developing countries?[5] In the first place, all medical care facilities must be adapted and developed to meet the actual medical need and to provide services and personnel appropriate to each level of medical care. In other words, a hospital should not be built where a clinic or even a trained health orderly will do, and the maximum use must be made of ambulatory and domiciliary medical services, which are very much cheaper than hospitals and provide all that is required at small community level. For the rest, emphasis must be placed on good communications to enable patients who really do require hospital services to be taken as quickly as possible to the district general hospital or central hospital, whichever is appropriate to their needs.

What about the rural and small district hospitals, so long a feature of the scene in developing countries? Llewelyn-Davies and Macauley[6] say: 'This small local hospital should not be necessary except in countries in which the population is very diffuse and the lines of communication are long. The small hospital, contrary to general belief, is not intrinsically economical and tends to be medically inadequate, except for the treatment of the most straightforward and ordinary conditions. The staff is often tempted to undertake procedures beyond the capacity of the hospital facilities, often with disastrous results. It is usually better for a sick person to undertake a somewhat longer journey to a large, well staffed and well equipped hospital than to receive treatment near his home in a less well equipped establishment.' They go on to say that when, because of sparsity of population and poor communications, some form of local unit is called for, such unit should be primarily outpatient in function, preventive in purpose and should be considered as a satellite of a larger unit. Such a concept takes cognizance of the realities of economics, in finance, facilities and, above all, in medical and paramedical staff. Education in modern medicine, with its emphasis on the laboratory, radiological and other diagnostic and therapeutic services, no longer equips the young doctor to play the role of the 'lone wolf' District Medical Officer. He is trained to work as a member of a team with colleagues trained in specialist disciplines on the one hand, and trained auxiliary helpers on the other. Such a situation can be created only in the district general hospital or central hospital.

The doctor working on his own does so under several disadvantages. Lack of skilled assistance can limit his activities; lack of frequent contact with others of his profession cuts him off from the advantage of exchange of ideas and from the constant and usually vocal appraisal of the quality of his work which a colleague can give and which is so necessary for the maintenance of standards. But above all, a doctor needs periodic relief from his responsibility, and a one-man station can rarely be abandoned with a clear conscience. In short, therefore, it should be the aim of any country:

(*a*) to improve its communications; and

(*b*) to improve the facilities of its district general hospitals in order to provide units which will attract and retain the medical and auxiliary staff required

to operate the main departments of such a hospital in medicine, surgery, obstetrics, radiology, pathology, ophthalmology and accident service.

Training

There is, however, little future in the provision of hospital buildings and facilities if the staff required to turn these facilities into a service is not available. A programme of staff training at all levels is, therefore, an essential in any developing country which has any progressive ambition. It is no longer either possible or advisable to rely on outside recruitment. In the first place, doctors and others recruited in developed countries do not find it easy to adapt themselves to the less organized, less cushioned existence of a developing service, and, in the second place, there is much competition in the international personnel recruiting market. In order to obtain and keep personnel with the right background and orientation, therefore, I believe that, without any sacrifice of standards, we must train them ourselves. This is especially true of doctors and makes a first-class medical school backed by a first-class teaching hospital an essential part of the health plan. The costs of medical education are of course high. They have been computed at 200 times the total *per capita* gross national product per student, but they are inescapable because the days when one country could depend on another to train and provide its doctors are over.

'Very Special' Services

A teaching hospital, apart from being the focus of undergraduate and postgraduate medical education and the training ground for such auxiliaries as physiotherapists, pharmacists, radiographers, nurse educators, etc., is also the obvious centre for specialist medical services of which a country cannot afford reduplication. In no way do I wish to denigrate the great achievements which have recently taken place to the south of us with echoes around the world. I am glad that these developments have taken place. One day they may make possible the prolongation of the life of a President of the Republic of South Africa or perhaps a Prime Minister of Rhodesia. Above all, it must be brought home to the medical profession that if they insist in setting up situations in which discrimination is necessary in matters of life and death, they themselves must exercise that discrimination and must not seek to pass the buck to others, and the criteria must be not only the ultimate benefit of the individual, but also the benefit of the community which has to meet the cost.

In this connection I think we in Rhodesia should be grateful to Graham[7] for his contribution to the literature on this vexed question. He in turn finds formidable support from the Director General[5] of the World Health Organization who, in connection with the overwhelming patient-load on hospital facilities, says: 'The situation arises because the criteria for admission are based on the gravity of the patient's case and not on the possibility of restoring his life . . . The aim should be to ensure that priority for beds in the best-equipped hospitals goes to patients who are curable and who can contribute to economic development by going back to work.'

Financing of Health Service Costs

Here in Rhodesia we are remarkably fortunate in having a sound nucleus of mutual non-profit-making medical aid schemes which I believe could be expanded to cover a much wider spectrum of the employed population. For the population who subscribe to a subsistence economy on the one hand but produce the greatest demands on our medical services on the other, a simple system of modest *per capita* taxation to meet, in part, health service costs and to stimulate production on the one hand and possibly to limit reproduction on the other might have its merits.

Systems of Administration

The various systems of health service administration which are canvassed from time to time—central, regional, autonomous—have not been discussed, for lack of space. Suffice it to say that autonomy inevitably leads to extravagant duplication of services. Regional administration is justified and indeed desirable when the service infrastructure is big enough and complex enough to support the additional level in the administrative superstructure. Finally, I must state as my firm opinion that the only kind of medicine that makes sense in a developing country is social medicine or, as Pooler[8] has called it, 'ecological medicine'—the study of man in health and sickness in relation to his environment, and the planning and provision of services which take note of priorities and of the social, cultural and economic realities of the situation.

SUMMARY

It is inevitable that in a developing country in its early phase emphasis should be placed on personal and curative medical services rather than on preventive services. The advanced section of the community who, in the main, pay for the services have learnt in the countries of their birth to build preventive measures into the social structure and environment which they create for themselves in their new home, and their felt need is, therefore, for personal medical services. The backward section of the community, although they may need preventive services, express their felt wants in demands for the treatment of their established diseases.

The history of the development of medical services in Rhodesia is briefly outlined against this background, and the present organization, functions and scope of the health services are described. In the future development of these services it will be necessary to assess the limitations dictated by economic progress and to count the cost of health services against these limitations. It will be necessary to control the demand and to spread the cost of medical services and to shift the emphasis towards the prevention of disease. Sound medical statistics will be required as a basis of future planning. The need to economize in skilled manpower must inevitably involve the centralization of hospital services, careful job evaluation and analysis, the introduction of the medical team with workers at varying levels of skill, and the increasing use of automation.

In the prevention field the main problem is that of health education and the awakening of a community sense of responsibility for health expressed in concrete form in locally established and maintained, but government-subsidized, services. Special disease control programmes which, though having specialized aims, must be integrated into the general medical services will remain for some time the role of central government. Above all, it is necessary in the development of health services to strike a sane balance between prestige and practicality.

REFERENCES

1. Abel Smith, B. (1963): Wld Hlth Org. Publ. Hlth Pap., No. 17, p. 24.
2. Quenum, A. (1968): *Review of the Second Decade of Public Health Work in Africa*, pp. 8 and 9. Brazzaville: WHO Regional Office for Africa.
3. WHO Expert Committee on Public Health Administration (1961): Wld Hlth Org. Techn. Rep. Ser., No. 215.
4. Llewelyn-Davies, R. and Macauley, H. M. C. (1966): Wld Hlth Org. Monogr. Ser., No. 54.
5. Candau, M. G. (1965): WHO Chron., **19**, 423.
6. Llewelyn-Davies, R. and Macauley, H. M. C. (1966): *Op. cit.*,[4] p. 17.
7. Graham, A. J. P. (1968): Cent. Afr. J. Med., **18**, 127
8. Pooler, N. R. (1968): S. Afr. Med. J., **42**, 146.