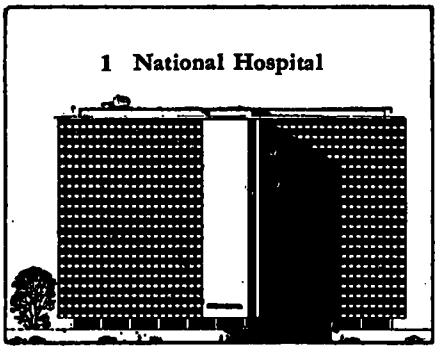
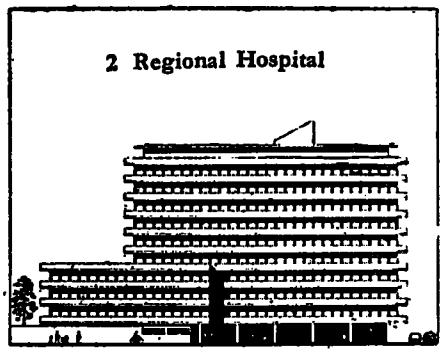
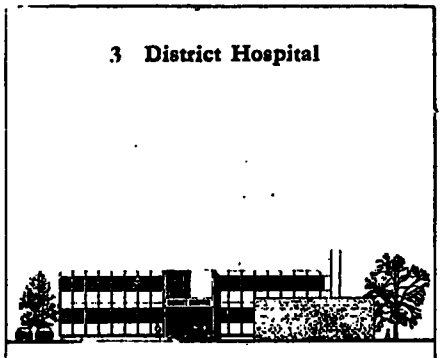
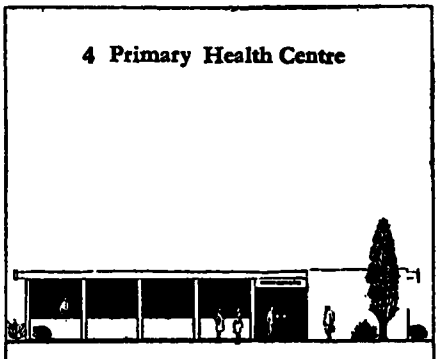
IN MANY COUNTRIES LESS THAN 15 PERCENT OF THE RURAL POPULATION AND OF THE UNDERPRIVILEGED GROUPS HAVE ACCESS TO HEALTH CARE OF ANY KIND, ACCORDING TO W.H.O FINDINGS

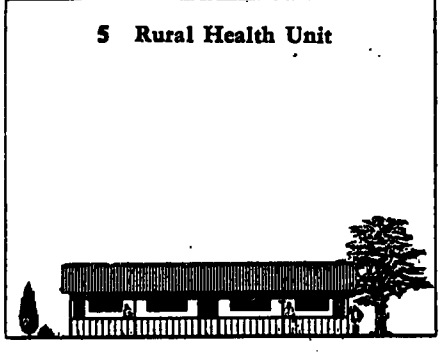


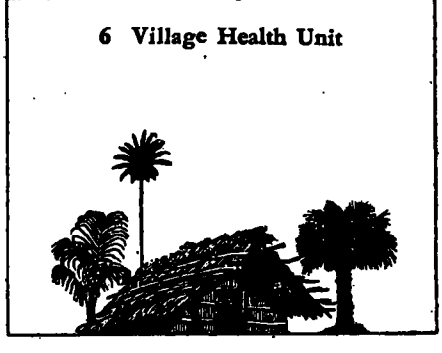


ONLY A PRIVILEGED MINORITY, MAINLY FROM THE CITIES, IS TREATED IN HOSPITALS LIKE THE TWO ABOVE









THE REST OF THE POPULATION THAT RECEIVES HEALTH CARE OF ANY KIND IS ATTENDED TO IN ESTABLISHMENTS LIKE THESE FOUR

VILLAGE HEALTH WORKER

In most developing countries of the world today, the Village Health Worker (VHW) is beginning to play a vital role in their health care services. This fact has been recognised in Sri Lanka too where the emphasis is now necessarily being shifted towards the health care education and general preventive services. Village Health Workers can play an essential role in health care because nearly 75% of the world's people live in the rural areas. Moreover hospitals are expensive; according to WHO estimates a hospital bed in (1) above costs ten times as much as a rural health unit in (5) above.

Village Health Workers are generally man or woman, young or old provided with some education and selected by the villagers, or with their agreement to deal with health problems of both individuals and the community. Their duties vary from country to country depending on the local problems, but basically they attend to the community hygiene of the village, give elementary care and advice on general health problems and refer patients to the nearest health centre or hospital. In all cases they undergo regular periods of training as near as possible to their own villages. The VHW is available at any time of the day or night to respond to any emergency calls. He or she is encouraged to continue as far as possible in his or her other activities such as farming.

HEALTH CARE SERVICES

The health of a country's economy is very closely linked to the health of its people, just as much as the health of a country's people is closely dependent on the health of its economy. On the whole, in any country the organisation and functioning of its health services are governed by the level and nature of development achieved by that country. This is the major factor determining what and how available national resources can be allocated in a country's economy. This allocation is essentially a political decision based on social preferences and only partially on economic considerations.

Some of the common fundamental symptoms affecting our health services can now be identified. One of these symptoms is that while during the past decade demands on the health services and the cost of meeting them have rapidly increased, there also has grown a strong competition for the limited resources with other major sections of the economy, for example, agriculture, industry, transport. Funds allocated to these sectors provide visible results as compared with the intangible and often invisible benefits of preventive and curative medicine such as increased life expectancy, decreased infant mortality and reduced morbidity.

Prevention of disease demands adequate nutrition, reasonably good housing, proper water supply and sewerage disposal and innumerable related services. A greater part of this is outside the province of the Health Services of any country and would depend on the level of development of its economy as a whole and a fair distribution of resources within it. In most developing countries, such as Sri Lanka, their govern-

ment's commitments to channel limited resources into development projects have inevitably resulted in the shortage of manpower and supplies to match the demands of the health services of these countries.

It is accepted, however, that we cannot and need not in the present state of our Third World economies and social setting aspire to provide a sophisticated health service akin to that of the more affluent nations. Moreover, the extension of urban patterns of health services will not solve rural problems, and the ideas derived from curative medicine in the context of a developed country are unlikely to be appropriate for preventive work or the extension of basic coverage in developing countries.

In Sri Lanka, for instance, it is now accepted that our efforts need to be directed to a proper channelling of our limited resources in order to provide a comprehensive basic health care system capable of dealing effectively with the common health problems besetting a majority of our popuation. A paper on an "Assessment of the Present Health Problems in Rural Sri Lanka", read by Professor T. E. J. de Fonseka, at a recent seminar on "Towards a Healthier Village" argues strongly that the system of health care in developed countries is inappropriate to the health needs of developing countries. Solutions to our health problems lie not in an urban "developed country" type of health delivery system and medical education which are curative, hospital and doctor-oriented, but in a preventive community - health oriented health care system (The box below summarises his views.)

It is a truism that "a great number of diseases could be prevented with little or no medical intervention if people were adequately informed about them and if they were encouraged to take necessary precautions in time". This statement repeated in much of the WHO and general Public Health literature stares health authorities in the face, but appears more easily said than done. There certainly is a greater awareness today of the vital aspect of education in health care, but much still remains to be done.

The morbidity rate in our developing countries is so high that the curative aspect naturally demands greater attention. But in the growing awareness that the demand for curative services can be reduced if more attention is paid to preventive aspects. WHO authorities see signs of hope, The significance of the preventive aspects of health services and the importance of the Health Care Worker and Health Teams is very apparent today. China is considered "a shining example", in this regard, by the WHO's Regional Adviser on Health Education (Details of the Chinese experience are given in the box on pages 8 and 9).

The trend today is to build-up a health team which works in close cooperation along with the various development officers of the area, giving the health workers greater responsibility and mobilising peoples' efforts towards one common goal—a better quality of life of which health is an essential component. Through experience so far, in certain developing countries, it has been found that "the people-centered community approach moved people away from a sense of apathy to a feeling of confidence in their ability to solve their health and related problems by their own efforts and using their own resources". This has been made possible by consistent health education programmes. In Sri Lanka, similar family health education programmes conducted by the Health Department have shown great promise so far (See box on page 10). In these programmes the community has begun to accept responsibility in solving its health problems and work on a self-help collective basis.

Though there are such attempts to change the emphasis in the health care services, it is a fact that nearly 80 percent of the total health burden of the country is still made up of preventible illnesses and that much of these illnesses can be adequately treated at a low cost by simple remedies prescribed by suitably trained para-medical personnel. A closer look at the current state of our health services emphasises the disproportion in the main thrust of the entire system. The following review, presented at a special international session of the SLAAS in August 1976, on the state of the Health Services in Sri Lanka reveals this situation clearly.

AN ASSESSMENT OF THE PRESENT HEALTH PROBLEMS IN RURAL SRI LANKA

The system of health care in developed countries is inappropriate to the health needs of developing countries, like Sri Lanka, particularly to the needs of the rural population, which constitutes about 78% of the total population.

A debilitated rural population cannot meet the challenge of achieving improved agricultural production. A study of morbidity patterns in Sri Lanka reveal that in addition to the problem of malnutrition, the population lacks the availability of safe water, hygienic sewerage disposal and proper housing.

A historical review of the development of health services in Sri Lanka shows that in the recent past the health services have become so hospital and specialist-oriented that even the population has come to believe for the need for specialist attention for all but the most trivial ailments. The need for improvement in the environment have receded to the background.

Training of health personnel, particularly doctors and nurses, have also not been relevant to health care in rural communities. This is an important factor in the unwillingness of health personnel to serve in these communities. There has, recently, also been a lack of the proper type of health worker like the public health midwife in rural areas resulting in a minimal accessibility of the villager to health care services.

Solutions therefore lie not in urban 'developed country' type of health care delivery systems and medical education which are curative, hospital and doctor-oriented but in a preventive community health-oriented health care systems using more primary care workers like the public health midwife.

Prof. T. E. J. de Fonseka

State of the Health Service in Sri Lanka

During the past thirty years substantial investments have been made in the development and improvements of health services. Of the present share of public expenditure, that on health services amounts to about 2% of the estimated G.N.P. and about 7% of total government expenditure, e.g. in 1976, it was Rs. 409.2 million or 7.5% of the total budget. For a population of approximately 13 million this amounts to about Rs. 30/- per capita. There has been an annual increase of approximately 10% in the amounts spent on the Health Service, but the effects of this increase have been largely multiplied by the process of inflation and by the general increase of population. The following indicators reflect the improvement in the health of the population over the years :

	1934	1968
Crude death rate per 1000	20.3	7.9
Maternal mortality per 1000	15.5	1.8
Infant mortality per 1000	141	50
Life expectancy at birth—males	44	65
Life expectancy at birth—females	42	67

Though statistically impressive, the health services in the country still suffer from a number of deficiencies. The emphasis hitherto appears to have been on the tradition of curative services while the preventive services have not been adequately developed and expanded.

LEADING CAUSES OF DEATH IN 1965

Diseases	*Mortality per 10,000*
Diseases of infancy and immaturity	107
Heart diseases	76
Diarrhoeal diseases	70
Respiratory infections ...	47
Gastroentiitis	46
Accidents and suicides ...	45
Anaemias and malnutrition ...	38
Malignancies	27
Other infectious diseases ...	21
Other helminthic diseases ...	15
Tuberculosis	15
Dysentry	5
Hookworm	2
Typhoid	1

A closer analysis of these figures shows that the causes of mortality are intimately related with preventable factors and arise principally from poor

HEALTH CARE SERVICES IN SRI LANKA—1972

Sector	*Type of Institution*	*No. of Institutions*	*No. of beds*
Government Western	Colombo group of hospitals	10	4811
	Provincial hospitals	10	7085
	Base hospitals	18	3642
	District hospitals	96	10719
	Cottage hospitals	13	416
	Peripheral units	94	3385
	Rural hospitals	73	1076
	Maternity homes	128	1534
	Central dispensaries	424	—
	Branch dispensaries	345	—
	Visiting stations	1017	—
	Tuberculosis hospitals	4	1670
	Leprosy hospitals	2	859
	Mental hospitals	3	3520
	Other hospitals	12	430
	Health units (Medical Officer of Health areas)	98	—
	Specialised campaigns	5	—
	Medical Research Institute	1	—
	Sub total ...	2253	39780
Government Ayurveda	Ayurveda hospitals	7	—
	—do— dispensaries	211	—
	Sub total ...	218	
Private Western	Nursing homes	62	
	Co-operative hospitals	14	
	Estate hospitals	66	
	Estate maternity homes	115	
	Private practitioners	530	
	Sub total ...	787	
Private Ayurveda	Private practitioners	9823	
	Sub total ...	9823	
Others	Other practitioners	10000	
	Sub total ...	10000	
All Sectors	TOTAL	23081	

The government sector provides a free medical service

nutrition, inadequate environmental sanitation and inadequate housing, whereas degenerative and chronic diseases still play a minor role.

Trend of Diseases

In any attempt to assess the kind of changes that may be expected in the disease situation during the next twenty years, the following facts are of great importance :—

(a) The causes of most of the leading diseases in Sri Lanka are deeply rooted in the environment so that without a basic change in the environment a major reduction in these diseases cannot be expected to occur. Thus the present pattern of leading diseases does not differ significantly from the pattern 25 years ago. For this reason, no major decline in diarrhoeal diseases, infectious diseases, diseases of the digestive system, diseases of the skin and subcutaneous tissues and of accidents may be expected in the future, if the hazards in the environment are not improved. Moreover, the development of modern industries and transport may lead to an increase in accidents and occupational hazards.

(b) The economic development of the country will lead to the improvement of living standards. The future trend of anaemias, malnutrition and diseases of infancy and immaturity will be influenced by the degree of improvement in the living standards of the population and a more equitable distribution of the national income.

(c) The spread of the acute communicable diseases occur through the environment. Consequently, without major changes in the environment, especially with regard to water supply, sewerage, waste disposal and vector control, no major improvement in the island-

HEALTH MANPOWER IN SRI LANKA 1972

	Sri Lanka's Health Manpower in Numbers		
	Govt. and semi-govt.	*Private*	*Total*
Total Western Trained	38783	4747	43530
Doctors	2218	1033	3251
Nurses	5661	797	6458
Midwives	3394	192	3586
Dental Surgeons	180	100	280
Asst. Reg. Med. Practitioners	1194	143	1337
Public Health Inspectors	1074	129	1203
Medical Lab. Technologists	455	55	510
Radiographers	164	20	184
Physiotherapists	129	15	144
Dental Nurses	239	29	268
Pharmacists	406	49	455
Dispensers	804	96	900
Attendants	5269	632	5901
Other Workers	18867	1000	19867
Total Ayurveda Trained	983	9823	10806
Ayurveda Doctors	293	9823	10116
Other Workers	690	—	690
TOTAL	41037	14113	55150

wide control of infectious diseases may occur. It is worthy of note here that some anaemias may be due to hookworm, a disease maintained by an unsafe environment. However, in respect of poliomyelitis, diptheria, tetanus, whooping cough and rabies and in part typhoid, modern health technologies can limit to a great extent the spread of infection.

(d) There has been a significant increase of malaria and venereal diseases in recent times.

The total numbers of health personnel are probably inadequate for the needs of the country and this situation is aggravated by the so-called brain-drain. The cities are better supplied than the rural areas where 70% of the population live. It is also questionable whether optimum use is being made of the services of the health personnel.

Some Conclusions

Closer study of hospital admission figures for the whole country reveals two major facts:—

1. Hospital admissions show that the leading causes of illness are again primarily the result of preventible factors i.e. poor nutrition, inadequate environmental sanitation and housing.

2. Gross overcrowding of the larger health institutions together with a under-utilisation of smaller institutions. This over utilisation of facilities in the larger hospitals has led to a deterioration of the quality of health care in these institutions while the under-utilisation of facilities in small rural hospitals has led to an uneconomic use of these institutions.

Though this state of affairs further highlights the importance of the preventible causes of ill-health, the distribution of national health spending reflects merely the felt needs of the population rather than its real needs. Thus out of a health vote of Rs. 331,000,000 (million) in 1975, Rs. 237,000,000 (millions) were allocated to patient cure services and only Rs. 71,000,000 (million) was spent on community health.

In view of the fact that the burden of ill-health in Sri Lanka is primarily due to preventible causes, it follows that an improvement of the health status can only be acheived by paying much greater emphasis to prevention. Whereas major changes of housing, nutrition and environmental sanitation can only result from a real improvement of the country's economy and a fairer redistribution of its resources, the delivery of health care services must be geared to improving the levels of public health education, more effective implementation of immunisation procedures and the health service itself should be oriented more towards prevention than cure. This change in emphasis would require the services of more para-medical and auxiliary health workers trained so as to be capable of delivering primary health care to the people specially at a rural level where 70% of the population of this country reside. Their tasks should also include the education of the people in elements of nutrition, family planning procedures and prevention of parasitic and other infections and also the referal of selected patients to health institutions when necessary. Such a scheme would release doctors who have been more highly and extensively trained to perform those tasks for which their expertise is essential.

The implementation of this scheme would involve (1) a better programme of surveillance and collection of data with the object of identifying priorities properly, (2) more research into the health problems relevant to this country and (3) a redistribution of health tasks and a revised training programme for all categories of medical and para-medical personnel.

An Accepted Solution

It is clear that the solution to a major part of the country's health problem lies in the development of an integrated system of health services with the emphasis on a preventive community health-oriented health care system utilizing to the fullest extent the primary care workers. The health care provided to the rural poor in Sri Lanka, who form a vast majority of the population, is inferior to that which is provided to the urban population. A mere expansion of the curative services into the rural areas to bridge this gap is not possible in Sri Lanka. The solution it is accepted must lie in a shift of emphasis towards prevention.

With our limited resources and the rigid administrative structures within our health services such a preventive

(Continued on page 8)

VILLAGE HEALTH CONDITIONS

The two extracts on village health conditions published on this page were selected at random from sociological studies of typical villages and are intended to portray a first hand view of what health conditions are like in our villages.

HALPE

Halpe is a village of about 950 inhabitants, located in the Ratnapura District only 15½ miles from Balangoda town. This study was conducted in September 1976

A complete health index ought to take into account a variety of factors, such as birth and death rates, the incidence and character of diseases; the conditions of nutrition and physical efficiency, the progress of health knowledge and health habits, the development of sanitation and the extent of medical and sanitary facilities available in the locality. All this mass of information could not be collected within the brief period of such a survey and therefore was beyond the scope of our investigation. Our purpose required a general idea of health conditions as a background to economic life. For this purpose the few facts that are presented here may perhaps suffice.

Although, serious illnesses are few the general health conditions of the villagers cannot be said to be high. Except for the few well-to-do, a general under-development in their state of health was found to be prevalent among many of the villagers. Ignorance and apathy, poor sanitation and insufficient medical facilities were contributory factors. Signs of being under-fed and malnourished still exist on a considerable scale. Malaria too still exists, but the loss of working days on this account is not very heavy.

On the whole people seem to have a greater faith in Western medicine than in Eastern medicine. For medical attention the villagers generally go to the rural dispensary, available outside the village, about six miles away in Panibahinna. For more acute sicknesses, villagers go to the government hospital at Balangoda which is about 15½ miles away from the village. There is a 'mobile-dispensary' attending on the villagers—a doctor visits the village once a week, with ready-made medicines. People seem to have no faith in this system. They believe that whatever the sickness, they get 'pot-luck'—at the hands of the doctor. The situation is highly deplorable because the doctor has no established place from where he could operate during his weekly visits.

There are about three Ayurvedic Physicians in the village, but they are not full-time physicians. Occasionally they attend to the patients, while being engaged in their normal agricultural activities. Maternity welfare, however, is poor. The village is not served even by a qualified midwife.

Medical facilities available in the village cannot be said to be satisfactory, as revealed in this survey. In case of any sickness people have to go long distances outside the village for treatment. This is one serious handicap the village is facing today. At least child-welfare should receive due consideration. During our brief stay, we had the unhappy experience of seeing a child die in his mother's arms while being taken to the rural dispensary. The bus was not available.

The availability of drinking water too is unsatisfactory. There are a very few wells in the Halpe village. The majority get their drinking water from mountain streams and springs. During the dry season when most of these dry up, the villagers have to travel long distances for drinking water.

The opposite can be said about the latrine systems. Hygienically constructed latrines are a common possession. Nearly 85% of the households in the sample had their waterseal latrines. This is a result of an organised campaign carried out by the Rural Development Society of the village. With the financial aid received from the Rural Development Department, many of the villagers have built latrines and in some instances the latrine looked better than the house itself.

From "The Halpe Village — A Socio-Economic survey by D.S.D. Gajanayake and B. K. J. Gajanayake; to be published by the Research Council of the Rural Development Training and Research Institute.

DOMBAGODA

Dombagoda is a village with about 250 inhabitants, located in the Matale District within the Rattota Electorate by the Matale-Elkaduwa bus route. This study was conducted in early 1975.

Dombagoda seemed relatively isolated from the national programme of family health and welfare. There was no P.H.I. or midwife overlooking this particular village. Medical facilities were available at a government dispensary 6 miles from the village. An active Rural Development Society had spotlighted these shortcomings and taken the initiative to introduce a few health measures in the way of cleaning wells and encouraging householders to build pit latrines. There was a certain amount of awareness of family planning but no incentives to accept any method to limit family size. It was apparent that in a number of village households, successive pregnancies had been a severe drain on the mothers health. Many of the women looked under-nourished and completely worn out. However, this did not deter them from attending to their household chores and even work in the fields. There was a certain amount of ignorance associated with the whole question of nutrition. Food was not scarce in the village and there were plenty of fruits and vegetables in every garden. Yet, the women were not aware of the best food that could be given to the family, especially the infants. Certain traditional customs too prevented the mothers introducing solids to their children. There was the case of little 'Kamal', an eight-month old infant, who was never satisfied with his mother's milk. In desperation the mother would try to soothe him with coriander water or glucose water. She was reluctant to introduce him to solids as the infant had not had the traditional 'indul kavana ceremony' or the ceremony to mark the first meal of rice.

Unless there is an organised effort to improve nutrition and food habits, our health services will continue to be burdened with disease due to dietary deficiency.

From "Family and Family Patterns in Sri Lanka. A study of the Dombagoda Village" by Mrs. Malsiri Dias, presented at a seminar on the Village in Transition, in May 1975.

programme is not likely to succeed unless there is definite participation on the part of the people themselves. If this is achieved it should also cut down state expenses on our health services to a great extent. For the people once motivated are likely to be the most enthusiastic supporters of a preventive programme as they would be the direct beneficiaries.

The best way to motivate our people in the present context is through health education: Education not only of the clients of the health system but also the medical authorities and the profession which today overemphasises the curative.

To be effective, however, health education would need to aim at eliminating superstition and harmful practices now prevalent among large sections of our population. Ignorance has been a fundamental factor behind several mortalities in this country. Ignorance leading to a faulty diet and malnutrition in the population has been highlighted in several studies. A typical example is quoted in a sociological study carried out on the Dombagoda village in the Matale District by Mrs. Malsiri Dias, where she shows that traditional customs prevented mothers from introducing solids to their children (See Box on page 6).

(*Continued on Page 11*)

PEOPLES PARTICIPATION IN THE HEALTH CARE SYSTEM

A Preventive Health Service programme is unlikely to succeed without participation of the people. The people, once motivated, are likely to be the most enthusiastic supporters of a preventive programme and the best way to motivate the people, in the present Sri Lanka context, is by health education.

To be effective health education should aim at eliminating superstitions and harmful practices while also inculcating modern scientific medical concepts, such as the germ theory of infectious disease. In doing this careful consideration should be given to the psychology of the people.

The health education programme should be carried out at a national (mass media) and local level. The school curriculum should also be used.

To mobilize the people it is essential to have one or more carefully selected Rural Health Workers (R.H.W.). They must be permanent residents of the village, preferably from poorer homes, part-time volunteers and be trained locally.

The R.H.W. should be the link between the health personnel and the people. They should carry the preventive programme to the people and enthuse them while ensuring that the Health Personnel provide their services in time.

The R.H.W. should organize volunteer teams for preventive campaigns (vector control etc.) for pure water supply and latrine construction.

The R.H.W. could play a key role in (a) the Family Health Programme (b) spotting health problems and (c) collection of data.

It is essential that the R.H.W. should not engage in any curative work (other than first aid).

Every village should have someone capable of treating on modern scientific lines the common disease problems e.g. malaria, diarrhoea, anaemia, minor injuries, pain etc. (possibly ayurvedic practitioners and barefoot doctors).

At the level of the Health Centre or equivalent there should be a Peoples' Health Committee (elected representatives of the village and health personnel) to determine and attend to the health needs of the area.

The collective spirit of the ancient village is no more, nor has that of socialism been achieved. Values are determined by individual gain rather than the collective good and differences of class, caste and creed divide the village. Besides these difficulties the programme may experience opposition from local vested interests.

Mobile health teams from the towns may enthuse the local health personnel and R.H.W. and help to overcome local problems, while themselves learning to understand the village.

This scheme should have national application while yet being adaptable to local needs.

Dr. Tissa Vitarana

THE CHINES

In recent years worldwide interest has centred on China's successful experience in the field of health, specially in relation to the phenomenon of her "barefoot" doctors. The first WHO study mission to visit China, in 1974, returned with the impression that "the Chinese people's state of health seemed excellent, particularly the children's". In China's health services there is a distinct difference between the cities, where the main production facilities are part of the state, and the rural areas, where land and industry are largely community-owned. However, while the difference affects the responsibility for health services, the structure of the services remains similar.

The WHO mission found that each rural area includes health workers as members of production groups; each area has its own health facility and some mechanism for referring patients to other health service echelons. Each patient has equal access to primary health care, to preventive services, to family planning services and to the referral system. An unique aspect of the rural health system in China is that it is not distinct at any level from other parts of the community structure. Not only is the role of the small, primary unit understandable at the personal level, but its relation to other units is also clear.

Referring to the importance of health education in public health practice the WHO mission commented that barefoot doctors seem to be the focus of health education activities; but interest in, and demand for, health services seem to come from the people themselves—the interest of the total community appears to be the central motive of actions taken by individuals and various groups. The key here is the political and ideological context of Chinese life. Health is an important component of social services and a substantial user of community resources. Any citizen's health is considered everybody's business, and the principles of health are included in Chairman Mao's writings. Everybody is familiar with these and they provide powerful motivation

for action at all levels, including, and in fact emphasising the grass-roots. Thus everybody feels personally involved with health and in their own way they all play the role of health educators.

The WHO team summed up that health services in rural China are widely based, peripherally controlled and provide both preventive services and primary care for most or perhaps all of the people.....while the breath of the primary health services is similar, their standards and facilities differ. Since one principle of the communes is self-reliance, their levels of health care vary according to a number of factors such as their production. For instance, the poorer communes receive financial and other help from state bodies.

The concept of self-reliance plays an important role. The number of medical, paramedical and auxiliary personnel apparently varies according to the economic development of the administrative units concerned. This seems to be in line with the principle that the levels of health service available should progress parallel with productivity and the standard of living. The numbers trained would also depend upon community needs, and these too may vary. However, there seems to be a certain minimum number of medical personnel even at the lowest levels of administrative units (brigades or production teams), and this is much higher than the numbers of corresponding medical staff available in the developing countries.

The "barefoot doctor" plays a key role in China's rural health services. A large part of primary care occurs at the peripheral level where the services of a "barefoot doctor" are not costly—this doctor already being supported by the group.

Again, in selecting her medical students, criteria of political commitments, social background and motivation to serve the masses are also considered as important as an educational background. Medical colleges make the final decisions on admissions, but students are recommended by their respective communities. Many of them are former barefoot doctors and almost all have had experience with manual and rural work.

The following excerpts from a joint UNICEF/WHO study also indicate the levels of care between the urban and rural regions, and the training given to the special category of "barefoot" doctors.

TABLE I

LEVELS OF ORGANIZATION AND MEDICAL SERVICES IN CHINA'S RURAL AREAS

Organizational Level	Population Range	Medical Facilities and Personnel
Province or autonomous region (27 in China)	About 1 million to 50 million	Provincial hospitals-subspecialists western and traditional doctors bureau of public health.
County (2,000 in China)	Upto 1 million	County hospitals—specialists, western and traditional doctors
Commune (27,000 in China)	Upto 60,000	Commune hospitals or clinics—western and traditional doctors assistant doctors, nurses.
Production brigade (5 - 20 per commune)	500 - 3,000	Brigade health stations—barefoot doctors, health aides.
Production team (10 - 30 per brigade)	50 - 300	Barefoot doctors, health aides.

TABLE II

LEVELS OF ORGANIZATION AND MEDICAL SERVICES IN CHINA'S URBAN AREAS

Organizational Level	Size of Population	Medical Facilities and Personnel
Municipality	From less than 100,000 to 11 million (Shanghai, of which about 6 million would be considered urban)	Specialized and teaching hospital — subspecialists, bureau of public health.
District	From less than 100,000 to 900,000 (a district in Shanghai).	District hospitals—specialists epidemic prevention centres.
Neighbourhoods (also called "streets" or "urban" communes)	40,000 - 70,000	Neighbourhood hospitals or —clinics western-type doctors, traditional doctors, assistant doctors, nurses, midwives.
Residents' committees (also called "lanes")	1,000 - 8,000	Residents' committee or lane health stations — red medical workers with periodic visits by doctors.
Group	59 - 150	

"Just as much of the work of the part-time health workers seems to vary from place to place in China, so too does their education. For the barefoot doctor the most frequent pattern appears to be a three-month period of formal training, either in the county hospital or in the commune hospital, fairly evenly divided between theoretical and practical work. The three-month training is followed by a variable period of on-the-job experience under supervision. As seems to be common in present day China, continuous training either on the job or in further short courses enables workers to upgrade their skills. In practice, preference for entry to medical college goes to the barefoot doctor and other health workers because they are often the ones chosen by their fellow workers as most suitable for such training".

FAMILY HEALTH EDUCATION PROGRAMME

(BY VOLUNTEERS)

The need for people's commitment and their active participation in solving health problems in a given country is being increasingly recognised. No state organisation by itself could hope to make adequate progress unless such effort is shared by the people. The community must necessarily be an active collaborator rather than a passive receiver of services.

Inspite of our seemingly extensive health infrastructure ill health continues to take its heavy toll in the country. It is unfortunate that the larger percentage of these illnesses fall into the easily preventable group. It is even more unfortunate that the children and mothers constitute the major proportion of the victims.

In Sri Lanka, like in many other countries, the concentration of both institutions and trained personnel is in the more urban areas. The rural population which is nearly 70% to 80% has not had a fair share of the services. In our country the most peripheral trained health worker closest to the people is the Public Health Midwife. At the present time on an average she has to serve a population of about 7500. In the rural areas she has to cover large areas in order to reach the people and this she does on foot (on bicycles in a very few areas). Maternal and child health is her major responsibility. Mothers, infants and children not only constitute the major fraction of the population, they are also the more vulnerable and are at greater risk. These risk groups need greater attention and also need it more frequently.

Most of the morbidity conditions in these groups are easily preventable. They also need early attention. The major problems in providing satisfactory care to these groups lies in the fact that such care is not available adequately early. The family/community is not assisted and guided early enough to take the necessary preventive measures. It is also observed that most of the measures that need to be taken are both simple and do not require the intervention of highly trained personnel.

Persuasion at person to person or person to small group level seems inevitable if satisfactory levels of behaviour changes are to be expected. Such an approach would need enhanced resources specially by way of personnel. The existing resources of the public sector are clearly inadequate to meet this education/communication need which has to reach vast numbers frequently and repeatedly before any significant behaviour changes could be anticipated.

There is a form of volunteerism which on closer examination holds greater scope for village developmental work. Traditional village life in Sri Lanka demonstrates this form in many situations (building of tank bunds, work associated with places of worship, ceremonies connected with keeping off evil such as epidemics etc.) Some of the more significant characteristics in this form of voluntary effort are that:

(1) Work undertaken is always based on a need felt by the community; basically it is their proposal.
(2) Village leadership plays a very significant role in organising the work.
(3) There is a very high degree of self-reliance.
(4) Work is essentially on the basis of self-help.
(5) Organising the work, carrying it out and assessing its progress is carried out by the community and not by any external agencies.
(6) There is a high level of commitment for the work by the whole village.
(7) Specific responsibilities are willingly accepted rather than assigned.
(8) Execution of the programme is on a collective and team basis.
(9) Resources both men and material are invariably local.
(10) The proposed activities conform to other aspects of village life and are not in conflict with accepted values, customs, beliefs and norms.
(11) The total programme is executed by the community as one of their own and is not a programme thrust on them by outside agencies.

This indigenous form of voluntary organisation holds greater promise for development work—be it health or otherwise.

An attempt to harness this form of volunteerism in the country is being made by the Health Education Bureau of the Health Ministry in the proposed extended family health education action programme. The proposed programme is based on the basic principles of self-reliance and self-help. The most urgent need in successfully implementing the family health programme is one of extensive health education directed towards changing the health behaviour of our people. The proposal envisages the acceptance of educational responsibility by a group of selected volunteers from the community. Most of the characteristics listed above have been given due consideration. Volunteers identified by the community (generally selected by the leaders and health workers) are anticipated to accept responsibility for a chosen number of families. These volunteers will truly belong to the community in which they work. After a preliminary orientation to some of the current health problems in the country in general and in the area in particular, they will identify the degree of prevalence of such problems in the families under their care. Educational work will commence and will be first directed towards helping the families to identify these problems as adequately significant and thereby appreciate the need for action. Education will continue over a period of time until desired action is taken by the families in respect of identified health problems.

In the first instance the community health worker PHM/PHN/PHI will discuss the proposal very informally with selected members of the community who generally take part in village welfare activities. Next a village level meeting of these leaders will be held at which the proposal will be discussed in detail. At this meeting, the health worker will outline the proposal and assist in the discussion. The main discussants and decision-makers will be these representatives of the community. It is anticipated that at this meeting they will appreciate the need for further action and form into an action committee which from the very outset will begin to own the proposal and the foundation will be laid to make it their programme and responsibility. For the routine educational activities local manpower resources by way of the earlier mentioned volunteers would be enrolled. The identification and recruitment of these volunteers would be done by the leaders referred to above and the health workers. At a joint meeting of the leaders the volunteers and the health workers, the proposal would be discussed in greater detail where it is anticipated that the individual responsibilities would be willingly accepted It is envisaged that each volunteer will accept to look after a chosen number of families (10-20) preferably around his/her own residence. These volunteers will carry out intensive educational work at family level (person to person, person to small group) generally based on the need and seek the help of the health workers in the educational tasks and in providing the services. Thus it will be observed that the work is not centered around a specific problem but family-centered. The volunteers and the village action committee will meet regularly to assess the progress.

The little experience gained so far in the different parts of the country has shown great promise. Sri Lanka is exceptionally suited for such an approach. There is a ready-made volunteer 'bridge' (young boys and girls) of our school-educated youth who have shown great enthusiasm. In this proposal there is also scope for the N.C.H.E. students to make it one of their projects. It is hoped and could even be expected with some degree of confidence that these volunteers, at least some of them in due course would gain considerable acceptance by the community. Consequently they could extend their sphere of work into other areas of family/community beyond health. This is likely to happen since health problems are invariably closely connected to other aspects of family/community life. With the guidance of extension workers in other fields such as agriculture, industry, economics etc. they could contribute significantly to total family/community development in all its dimensions. These volunteers by virtue of this work experience would become ideal candidates for future development/extension workers. In whatever sphere or whatever speciality they work in the future, they would perform their tasks with greater understanding of community needs. and not in classrooms and libraries. The responsibility of initiating this proposal and developing it to its ideal lies with the field level extension workers of the different Ministries commencing with those of the Health Ministry. It is a challenge—all the same a very promising one.

Dr. T. Munasinghe

Health education while eliminating superstition should also inculcate modern scientific concepts such as the part that germs play in infectious disease. Two proposals for such programmes for involving the people in the health care system have been discussed.

They both focus on the value of a link between health personnel and the people and emphasise the need for volunteer teams in the village (see boxes on pp. 8 & 10). Such a programme is in its initial stages of implementation and appears promising, as indicated on the previous page.

The experience of the people also contains a large storehouse of knowledge of indigenous, non-western, systems of medicine. This medicine is not related to fundamental scientific knowledge, that is to biochemistry, physics etc., as in the case of western medicine particularly within the last 30 years or so; though in the early decades of this century modern western medicine was drawing on the tich legacy of traditional medicine (see box on page 13).

Our own Ayurveda system (see p. 13) has many advantages which can be usefully integrated into the entire health care services. Health, it is recognised, is not limited to the physical but closely connected with the mental and therefore a health care system of the future needs to consider both these aspects closely. Infact the indigenous system goes so far as to emphasise that the duty of an Ayurvedic is not merely to prevent, control and eradicate disease but also to correct one's way of life.

Another vital aspect of basic health care services is proper nutrition, a subject which was the focal point of the *Economic Review* of March 1976. There we emphasised that malnutrition resulted not only from poor diets but also from poor environment. Malnourished populations are most susceptible to various infections, and such infections further aggravate malnutrition. Poor communities are often caught up in this vicious circle. In such situations, control of infections and improvement of environmental sanitation can often bring about as great an impact, if not an even greater one, on the nutritional status of a population as ad hoc feeding programmes operating in isolation.

The global problem of malnutrition is much discussed today by international scientists at FAO, PAG, WHO, UNICEF, besides other international scientific bodies and national scientific societies. The situation has been a chronic one and even three decades ago, its socio-economic background was perceived. Children died of *marasmus* and *kwashiorkor* and were

UNHYGIENIC EATING HOUSES

The Council of Management of the Public Health Inspectors Union of Ceylon drew attention to the highly insanitary conditions in average catering houses in the city, in an article in its Journal in 1972. The situation has not changed much today. The extracts from this article published below describe dramatically a typical scene in an eating house, in order to highlight the magnitude of the problem.

A cursory glance at the morbidity figures respecting the intestinal infections of the day would reveal that a majority of these cases are from the age group 20-50 years and here too males predominate. They doubtless form the major segment of the population patronising these establishments. Hence it is self-eloquent that these food handling establishments are verily the source of such infections, which sap the vitality of the Nation and cause a serious drain on the resources of the country.

This indeed is no cause for surprise to those acquainted with the set-up of the Public Health Services of the country. On the contrary what astonishes them is that the rate of illness among those patronising these eating houses is so low as compared with the risks encountered by them. For, the food consumed at these establishments subjects itself to the foulest forms of contamination, adulteration, pollution and putrefaction at all stages of production, transport, preparation, distribution and consumption.

Meat dressed under most unhygienic conditions, in slaughter houses which could least justify being so-called and are a disgrace to the health of the nation, and fish in varied stages of putrefaction sold by the wayside on pavements littered with filth go to make the enticing savoury dishes served at these establishments. Vegetables extricated from garbage heaps and refuse dumps, washed in stinking water from highly polluted water holes and puddles and so blatantly exposed for sale on equally filthy pavements often serve as the 'Maracurri' (a term used in eating house parlance for the subsidiary dishes accompanying the fish or meat dish). Grains and pulses and other food ingredients condemned as food unfit for human consumption at government warehouses are surreptitiously inveigled into these eating houses to boldly qualify as edible food fit for human consumption, not to speak of the sweepings from these warehouses reaching the dining tables of these establishments.

Inside these establishments the already contaminated articles of food are stuffed away in dingy hovels over filthy gutters and sewers, where they suffer further contamination, through rats and cockroaches so plentiful in these hovels. In the kitchen which consists of a dilapidated ill-ventilated and ill-lit cubicle in most cases, with space hardly sufficient for two people to move about freely, is the hearth where the fires burn almost twenty-four hours of the day throughout the year, to steam the aluminium containers chockful of curries etc. often not washed throughout their period of service. Food thus cooked is often stacked along the edge of the wall in unprotected containers, where also lies the passage to the latrine attached to the kitchen. Here the food undergoes contamination by flies and dust undeterred and undisturbed.

By the side of the kitchen adjacent to the serving counter is a rack for stacking the plates and dishes. There, by its side is a wooden barrel full of dirty, murky water for washing the plates and dishes, which are thereafter cleaned with a piece of rag not fit even for brushing the squatting plan of a latrine.

Food thus prepared and stored is served to a continuous flow of customers flocking into these kiosks at all hours of the day on dining tables teaming with flies.

HEALTH

The rich get richer—the poor, poorer

The water situation illustrates the familiar proposition that the rich get richer—the poor, poorer. If you can afford the capital costs, piped water can be cheap enough for the rich to have swimming pools whilst the poor pay two or three times as much to buy clean water by the bucket from the tanker.

The really poor, and that includes most of the world's rural population, get their water from wherever they can. Usually, it is a woman's job—and one that occupies many hours of the day—to fetch and carry water from the nearest well or source. Under these conditions, when the supply is inadequate and of indifferent quality, water-borne diseases strike at health.

Surface water—open to sunlight—whether it is stagnant or flowing soon picks up enough nutrients to become an efficient breeding ground for organisms which cause disease directly, or for insects, or for other animals which are carriers of disease.

THE WATER MARCH AT THE VANCOUVER HABITAT CONFERENCE, ILLUSTRATED IN DIAGRAMS AS THAT ABOVE, DRAMATIZED THE IMPORTANCE OF WATER TO MAINTAINING HEALTH AND BATTLING AGAINST POVERTY

blinded with *keratomalacia*. Yet, affected countries did not address their minds to the problem. No long-term solution was planned out. Medical personnel, battled helplessly to salvage some lives and eyes.

The fuel crisis of 1973 was an emergency situation. When this was superimposed on the chronic lack of food in many developing countries, the problem of malnutrition was perceived widely. It is indeed fortunate that at last this is no longer considered a medical problem to be solved within hospitals. It is a matter of grave concern to many.

A number of factors influence health, and as nutrition is the foundation of good health, to attain good nutrition the individual must know how to select food and to maintain an environment conducive to the utilization of the nutrients provided by such food.

The body needs a balanced diet which includes adequate amounts of protein, minerals, vitamins, fats and carbohydrates for maintaining good health. However in Sri Lanka dietary surveys conducted by the Medical Research Institute and other agencies and the Socio-Economic Survey (1969-70) indicate that all is not well with our nutritional status, mainly among the income groups of less than Rs. 200. Reasons for nutritional deficiencies have been listed as follows:

Calories: There is an inadequacy of calories due to consumption of insufficient quantity of food.

Protein: Due to low consumption of animal foods and dried legumes.

Calcium: Due to low consumption of milk milk products and green leafy vegetables.

Iron: Due to low consumption of animal foods and vegetables.

Riboflavin: Due to low consumption of milk, milk products and green leafy vegetables.

Nutrition plays a significant role in the outcome of any disease. For instance, in Sri Lanka child mortality is heightened by the poor nutritional status of our children. At the same time, it is now possible to reverse severe malnutrition fast enough to reduce its old high fatality risks. The focus therefore is not merely on therapy alone. We have to look beyond the walls of hospital wards to wipe out the hideous face of malnutrition.

The ultimate answer lies in prevention. The availability of food is crucial for the solution of malnutrition. No mother will starve her child if she has enough food. An equitable distribution of food is necessary not merely between the rich and the poor countries, but also between the rich and the poor within each country.

It is necessary to stress that the role of the medical personnel in malnutrition is mainly in the prevention of infections that push those children with a minimal nutritive intake into malnutrition. These must be identified.

It has even been asserted that with a policy that placed high priority on adequacy and purity of water and eliminated pollution of the environment, half the battle against malnutrition could be won.

At the community level too, there is scope for integration of health care services, sanitation and water supplies and nutrition programmes. It is necessary for the woman to participate in these programmes not only as a consumer but as a productive person.

Nutrition activities at local health centres should include food production even at home garden level and preparation of well balanced meals. It is even possible to manage mild cases of malnutrition at this level and prevent them becoming severe as well as eliminate the need to treat large numbers in hospitals. The basis of the programme would be around regular assessment of growth, promotion of breast-feeding, education on food values and home-made weaning foods, knowledge of food hygiene, immunisation and simple curative therapy for minor infections. In the wake of fluctuating food prices and changes in food availability, there must be a system of information where mothers would know the cost per nutritive value of foods, so as to equip them with the knowledge of how best to spend their money and prevent malnutrition of their children.

The health delivery system would depend on the infrastructure of the country and the availability of trained personnel. The roles played by different personnel must be defined as well as their responsibilities. There must be supervision at different levels. Training facilities for health personnel would have to be afforded; stressing the priority needs for nutrition education.

Inadequacies in the System

That the emphasis hitherto has been on the provision of curative services while the preventive services have not been adequately developed and expanded is very evident today.

(*Continued on page 15*)

Schistosomiasis
200 million/yr

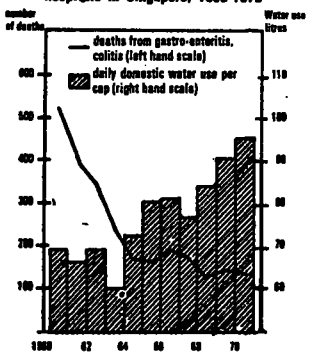
Filariasis
250 million/yr

Onchocerciasis
20 to 40 million/yr

Malaria
160 million/yr

Gastro-enteritis
400 million/yr

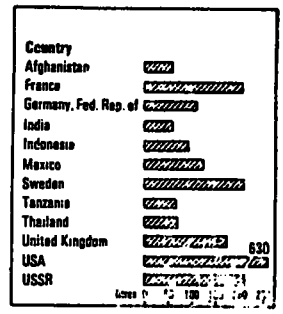
Domestic water use in relation to water-borne diseases reported in hospitals in Singapore, 1960-1970



A ten-year study in Singapore shows the trend—as domestic water use goes up, disease goes down. The study concluded that a daily per capita domestic consumption of 90 litres of high quality pipe water seemed to be the "social minimum" for preventing water-borne diseases in that area. The consumption of the inhabitants of some industrialized countries is shown in the following table, with selected Third World countries for comparison.

Sources: UN/ST/ESA/38, Table 41, New York, March 1976; Verband der deutschen Gas-und Wasserwerke e.V., 1971

Per capita daily domestic water usage in selected countries from 1967



TRADITIONAL SYSTEMS OF MEDICINE

Giving reasons why measures to revitalize systems of traditional healing have become not only necessary but also urgent the WHO's Regional Director, Dr. V.T. Herath Gunaratne stated at a recent WHO session in New Delhi—

"Till the early decades of the present century modern medicine drew its nourishment from the rich legacy of traditional medicine. In the early editions of Osler's textbook, one comes across many age-old therapeutic methods, such as hydrotherapy, manifold enemas and poultices. This was before the onset of the great tide of synthetic chemistry. Leaves or roots as drug sources and many time-tested details of dietetics; procedures, techniques and sets of rules for the maintenance of health were integral parts of the precepts and practice of medicine. Then came the great advances in physics and chemistry and the avalanche of the drug era was on.

For every symptom there have emerged innumerable pharmaceutical formulations, each one more potent and powerful than the one used before, but none of them free from side-effects and potential toxicity. It is true that some of these drugs revolutionized medical care by providing specific cures against ancient, hitherto unconquered killer scourges such as plague, tuberculosis and typhoid. But this very momentum of progress introduced a disconcerting complication. In the deluge of drug therapy the other vitally important ingredients of medical management, that is, the basic measures to harmonize the internal millieu, using simple procedures, health guidelines and dietetic adjustments, were sidetracked. Prescribing a pill, a tablet, a capsule or an injection fast became the predominant passion of medical practice.

'If Morton and Simpson had not discovered chloroform", a medical historian has mused, 'Hypnotism would have made tremendous progress and possibly would have replaced anaesthesia". In the same vein one could reflect that, if drug therapy had not developed so prolifically, overwhelming necessity would have refined traditional medical practices and perhaps made a science out of folk medicine. We might have had a cheaper, more rational, more effective, and less harmful armamentarium in the "physician's bag".

I believe this is one of the fundamental reasons why the time has come for us to take these steps to encourage and promote traditional medicine as an alternative approach.

Medicine, more than any other human activity, touches every home and hearth. It has an aspect of acceptability based on tradition and culture, in every region and community. It is in this that traditional medicine has its greatest strength.

'Any system of medicine will have to keep pace with the times'. said Vagbhata, one of the pioneers of ancient Indian medicine. It is for us to provide the wherewithal of progress and science to strengthen and support the traditional systems of medicine by integrating them into the primary health care systems which are now evolving in this part of the world.

AYURVEDIC HEALTH SERVICES

In this country the Ayurveda Medical System was in the past the only health care system available to the people of SriLanka and historical evidence shows this system was a developed one which served the needs of the people at that time. (See Box on page 14.) Even after the introduction of western medicine, the importance of the Ayurveda system has been preserved.

Ayurveda has been propounded on the basic knowledge of the causative factors; clinical features; and treatment.

This system is directed not only towards promotion and protection of positive health but also towards prompt treatment which includes prevention of further disability.

Ayurveda has a philosophical background and hence the ability of the Ayurvedic physician to 'understand' the patient makes him acceptable to the entire family, specially so in the villages. The Ayurvedic sector is estimated to meet about 70% of the demand of the population for medical care.

Records reveal that a majority of Ayurvedic practitioners are self-employed, others render their services through Ayurvedic hospitals and dispensaries. The largest number of Ayurvedic practitioners are in the Colombo SHS division while the lowest Ayurvedic doctor/population ratio was found in Badulla and Vavuniya SHS divisions. The age distribution of those who attend Ayurvedic hospitals differ from those attending Ayurvedic dispensaries. Ayurvedic hospitals cater to large areas whereas Ayurvedic dispensaries deliver their services to their immediate neighbourhood.

THE HEALTH SERVICES IN ANCIENT SRI LANKA

Medicines and hospitals were known to Sri Lanka from the earliest phase of our history. The Mahawansa records that King Pandukabhaya in the 4th century B.C. had made satisfactory provision for the sanitary services in his capital, Anuradhapura. He is said to have appointed 500 labourers for the cleaning of the streets, 200 for the cleaning of drains and 150 for the disposal of the dead. In the Town Plan of King Pandukabhaya in 453 B.C. a hospital was sited to the North of the walled city of Anuradhapura and the Mahawansa records this as follows:

"on this side of the Gamani tank..... and in this place and that he built a lying-in-shelter (sivikasala-vijayanaghara) house of delivery and a hall sothisala-gilanasala-(hall for the sick) for those recovering from sickness".

Capital cities built subsequent to Anuradhapura and other main towns had rather sophisticated hospitals in relation to the times. A few other sites of hospitals were Anuradhapura and Tissamaharama (Magama) in the 10th century, Polonnaruwa in the 8th, 9th and 12th centuries and Padavi in the 8th century.

The types of hospitals and how they functioned

The hospitals of ancient Sri Lanka were of four types. Residential hospitals that had male and female wards, maternity hospitals, dispensaries where out-patients were treated and animal hospitals. The Maditigiri Inscription refers to the "inmates of the hospital (ved hal vassan) shall not enter the village....." which suggests residential hospitals. The maternity hospitals or lying-in-shelters were called sivikasala or sutikagbara. The dispensary or out-patient hospital called 'bhesajjagcha' is constantly referred to in the ancient chronicles.

The 12th century monarch Parakramabahu the Great contributed to a large extent to raise the standard of medicine as practised in his period. His chief contribution was in providing a twenty-four hour medical service to the citizens of Polonnaruwa. The Culavamsa records his reforms thus: "hereupon the Ruler of men, filled with pity, had another great hall built for many hundreds of sick people, fitted for their sojourn there, and had placed in it the way above described, a complete collection of all articles of use... To discerning and skilful physicians who were quick at distinguishing various (bodily) conditions and who were versed in all the text books, he gave maintenances according to their deserts, recognising the merits in all of these and made them day and night practise the medical art in the best manner....."

The grades of staff, their training, research and the types of treatment

The staff associated with the ancient hospitals of Sri Lanka include physicians, surgeons, paediatricians, occulists, nurses, attendants, pharmacists etc. Physicians were the most widely dispersed group of medical men. They served among the rural folk when one physician was assigned to every ten villages. Physicians were also sent to sick ascetic monks living in forests. Names of physicians appear in cave inscriptions of the 1st century A.D. There were royal physicians who were also monks. Senior practitioners have been appointed to the status of Chief Physician and lands donated to them by the Crown for services. Surgeons of Sri Lanka have a ready-made historical patron in King Buddhadasa (337-365 A.D.) who is described in the Culavamsa thus: "Of his great pity he had a pocket for his surgical knife (sattha) made in the inside of his mantle and wherever he met them he freed the afflicted from their pains". The Buddhist text, the Brahmajala Suttanta, however, frowns on recluses and Brahmans practising as surgeons and refers to the livelihood as: ".....earn their living by wrong means....." The term Military Surgeon is also met with but no further details are known. In the same way the Buddhist texts refer to Paediatricians and Occulists. Nurses are mentioned in connection with personnel set apart for monks. As such they were, probably male nurses. Such services were remunerated with proportionate grants of land, garments and money. Attendants are however, alluded to as slaves in the chronicle where it states that: "There also he gave to each sick person a special slave and a female slave to prepare day and night according to need, medicines and food, solid and liquid. A Pharmacist entitled a Dispenser of Medicines is recorded, in the Mahinda IV (956-972 A.D.) inscription at Mihintale, as being on the payroll of the monastery. Medical stores of the 12th century are described as "There too he had many provender houses built in which a quantity of medicines, money and money's worth and the like were collected."

In view of the scale of medical service meted out to the citizens in the period of king Buddhadasa (337-365 A.D.) where one physician was assigned to each village, it is likely that central colleges for training medical personnel were in vogue. Such a medical seminary did exist at Nalanda in India. There was a Brahmana named Gobuti of the 3rd century B.C. who was not only the king's physician but also titled acariya (teacher) in an inscription of the period. This suggests that senior physicians were also commissioned to teach younger recruits. The writing and the summarising of medical texts were constantly carried out through the centuries. "He made a summary of the essential content of all the medical text books ....." High standards of learning in the profession were recognised, regarded and remunerated. "To discerning and skilful physicians who were quick at distinguishing various (bodily) conditions and who were versed in all the text books he (king) gave maintenance according to their deserts, recognising the merits in all of these.....". Research was part and parcel of each medical institution and the organised nature of such activity is evident from a 10th century inscription where it was laid down that: ".....(Dead?) goats and fowls shall be assigned to the hospital of the vihara. King Aggabodhi VII (772-777 A.D.) was also one who patronised medical studies. "He (king) himself studied the medicinal plants over the whole island of Lanka (to find out) whether they were wholesome or harmful for the sick". Historical medical texts written at various times have been dealt with by Geiger and Godakumbura.

General Ailments and Treatment

The types of general ailments treated and cared for in the ancient hospitals of Sri Lanka and found recorded in the old texts include patients with temporary paralysis, the cripples and the lame; those with eye ailments and the blind; ear treatment; relieving pressure in the head and insanity; bowel congestion; complications in pregnancy; children's diseases, etc. Paralysis has been cited with a brief description thus: "A bhikkhu was disturbed in his exercises by the writhing disease; as he had become (bent) like a roof-tree the wise king freed him from his ailment". Cripples were rehabilitated in halls that were maintained by the state. To the lame and the cripple, animals were provided by the king probably with a view to drawing their carriages. Cripple's chairs are mentioned as apparatus given by the state. The blind were also rehabilitated by the state like the crippled. There is reference to the village of the blind' in which the king set up a hospital for such treatment. This village could have been a type of rehabilitation camp. Persons practising as Occulists are mentioned in the text, The Dialogue of the Buddha. It also refers to those applying collyrium to the eyes and such other medical ointments. Ear treatment is referred to thus: "Oiling people's ears either to make them grow or to heal sores on them". Pressure in the region of the head is said to have been relieved by purging people by administering drugs to make them sneeze. The details of a brain operation is given in the Vinayapitaka where the patient was originally asked whether he would be prepared to be strapped to the bed for seven months. It was only after such agreement was reached that the operation was carried out. A parallel case is cited in the Culavamsa where king Buddhadasa operated on the brain of a young man. Insanity and madness is here associated with hydrophobia and the ancient text deals specially with this disease. A detailed account of a surgical operation connected with a twisted bowel is given in the Mahavagga. Pregnancy and children's problems have been dealt with in ancient texts. Another of king Buddhadasa's operations had been on a pregnant woman where the child was in the wrong position in the womb.

(Source: *A note on ancient hospitals with special reference to that of Mihintale prepared by the Archaeological Department*).

For instance, the supplies of water suitable for drinking and domestic purposes are estimated to be available to less than 20% of the total population while the rest have to obtain their supplies from unprotected wells, springs, tanks and rivers open to contamination. The importance of water to maintain health and to battle against poverty is graphically depicted in the diagram across pages 12 and 13. Today an estimated 40% of all morbidity cases in the country and about 30% of the diseases receiving indoor treatment in public medical institutions have their origin in poor environmental sanitation. The problem of environmental sanitation however becomes more acute in the urban areas, particularly the metropolis with its crowded housing, water scarcities and an environment open to the spread of diseases. The description of our unhygienic eating houses in the city, on page 11, dramatises this situation.

Overcrowding of large hospitals and under-utilisation of smaller medical institutions have become a characteristic feature of the curative services in Sri Lanka. Though the country is studded with a network of medical institutions, the smaller units have been neglected in favour of the larger institutions. Specialist facilities tend to concentrate in the provincial and base hospitals situated in the urban areas, while these same facilities are not provided in district hospitals which are more acceptable to the vast majority of the rural population. The result has been overcrowding of the provincial and base hospitals and underutilisation of other smaller medical institutions and therefore poor outpatients and other facilities for them.

It has also been found that a substantial proportion of the hospital beds are occupied by patients suffering from diseases that could be given out-patient treatment. Also, although about 90% of these ailments could be cared for by general-practitioner services, the demand for treatment of specialists leads to a shortage of beds in the larger hospitals. Aggravating this situation often is the lack of facilities. Patients are kept in wards for longer periods than are necessary due to inadequate operating theatre facilities or inadequate facilities for pathological investigations, X'ray examinations etc. This only increases

MENTAL HEALTH IN SRI LANKA

What is Mental Health? Is it merely the absence of obvious mental 'ill health' or does it imply something more—a state of positive psychological well-being? Some may consider mental health as an ideal beyond the reach of the vast majority of mankind—a sort of psychological Utopia. On the other hand, too narrow a definition of mental health, as the mere absence of overt psychiatric disturbance, detracts from our concept of health as a positive state. Generally psychiatrists avoid the extremes and take up a moderate position whereby a person who does not suffer from an obvious psychiatric disorder, and is healthy to a degree where he is able to be a useful member of the family and the community at large is considered to be in a state of positive mental health.

In psychiatry, most mental illnesses are considered as either belonging to the categories of neuroses or psychoses. Of these, neuroses are by far the more important considering the total number of sufferers, though the intensity of the disorders are often mild or moderate. The neuroses are also called 'stress disorders' and are more or less 'understandable' as a patient's reaction to unfavourable environmental circumstances. Psychoses on the other hand are more easily recognised as states of serious mental illness and are said to arise out of some biochemical or structural abnormality in the brain. In a systematic community psychiatric survey, conducted recently in a suburb of Colombo, it was found that there are approximately about seven persons suffering from psychoses, to twenty-five of neuroses per 1000 of the population. These figures are somewhat similar to those of many other countries, both oriental and western.

The number of patients seeking western-oriented psychiatric treatment in Sri Lanka are on the increase. It does not necessarily follow that this trend indicates an actual increase in the prevalence of psychiatric disorder. It is tempting to suggest that the increasing numbers of patients seeking treatment, both in Sri Lanka as well as in the Western countries reflect an increase in the incidence of 'nervous breakdowns' in the face of multiple stresses of "modern" life. Such an interpretation cannot be put forward with any conviction as the increasing incidence may be a reflection of several other, more likely factors; i.e. an increase in awareness of psychiatric disorders among the population, as well as among the doctors, the waning popularity of the traditional methods of treatment or perhaps the acceptance of modern psychiatry and the availability of such treatment facilities in the community. Further, it cannot be said that there were less stresses in ancient civilizations or among the less sophisticated peasant communities of today. What may have changed are the types of stresses and the modes of their expression.

Numerous patients suffering from neuroses are looked upon in Sri Lanka as being afflicted by '*watha roga*'. In general many of them are handled by the island's ayurvedic physicians, general practitioners and occasionally by kattadiyas or astrologers. These therapists may assume direct responsibility for treatment with some awareness of the psychogenic origin of these disorders or they may be obliged unwittingly to take on the role of psychotherapists.

We have thus a situation here where the number of psychiatrists available is grossly insufficient to meet even the therapeutic needs of those who are suffering from a significant psychiatric disorder. Under the current system of training and enrolling psychiatrists one cannot foresee the curative services ever being adequately manned. Perhaps one needs to recognise or even appreciate the role of the indigenous 'psychiatrists'. An urgent need is to obtain an adequate number of less rigorously trained personnel. Insistence on the criteria presently regarded as necessary for recognition as a competent psychiatrist is probably a luxury we can ill-afford.

OCCUPATIONAL HEALTH IN SRI LANKA

The discipline of Occupational Health is relatively new and has appropriately reduced the former discipline of Industrial Health. This change in nomenclature is important and particularly relevant in the context of Sri Lanka. The limitation of the discipline of Industrial Health was that it was only concerned with persons employed in Industrial Occupations, i.e. factory workers. Historically this discipline of Industrial Health developed as a consequence of the Industrial Revolution in Britain and in that context it was an adequate term.

There is a trend at present for large industries and corporations to employ medical officers to care for the health of the workers. This situation would affect only an extremely small percentage of the total number of registered factory premises. It is extremely unlikely in the present context of unemployment that employers would be too concerned with the welfare and health of workers, the requirements of factory legislation may to an extent be met, but here again the limiting factor must be availability of enforcement personnel. To this extent it is not reasonable to expect the employer to be responsible to cater to the health needs of the worker.

In a situation such as this it is unlikely that a climate would develop to provide an adequate coverage for the health of the worker and prevent him for being exposed to and suffer the hazards of his occupation. The existing organisational set-up is clearly inadequate and a new system for effective utilisation of available medical personnel must be sought where the guiding philosophy should be that occupational health is a health problem and not merely a labour problem, which must be catered for by the state. It is imperative, that close liaison between the Departments of Health and Labour is essential for solving this problem.

Approximately 56% of the workforce in Sri Lanka is agricultural (Table), it is indeed unfortunate that the health of this group of workers is not covered either administratively or by legislation, as the Factories Act of Sri Lanka applies to health of workers employed in the premises designated factories. This is a reflection of our colonial heritage which has not been altered to local needs. It is for this specific reason that the term Industrial Health which is limited in its scope is not tenable as today the concept has been broadened to cater to the needs of all occupational groups and not, industrial workers alone.

TABLE

Distribution of the Labour Force in Sri Lanka*

Sectors	*% of employment*
1. Agriculture, hunting, forestry and fishing	56.34
2. Manufacturing	20.64
3. Transport, storage and communications	7.43
4. Trade	7.38
5. Community, social and personal services	2.99
6. Constructions	2.84
7. Financing, insurance, real estate and business services ...	1.50
8. Electricity, gas and water ...	0.60
9. Mining and quarrying ...	0.28
	100.00

* *M. N. Rao—Orientation course in occupational health for medical officers in industry—Sri Lanka*, 1973.

The following points need to be reinforced.

(i) The main responsibility of providing health care to the workers must rest with the State. This responsibility must be accepted as a health problem rather than purely that of labour.

(ii) A system needs to be devised to provide such a scheme within the framework of the existing health services.

(iii) An independent authority be set up to provide advice and services whenever necessary.

(iv) The health problems of the agricultural worker be recognised.

the average length of the hospital stay of patients.

Accessibility to the health care services by the population does not present a significant problem in Sri Lanka. However, the kind of services offered throughout the island is not always that needed and demanded by the population.

The large government sector of the health care system requires resources (for its proper maintenance and for keeping the present standard) which seem to be beyond the current economic capacity of the country.

The absence of selective utilization of the medical care and public health services also often leads to wastage of resources. Certain management problems like maintenance, standardization of the capital stock, rational distribution of equipment and supplies, and the supervision of personnel deserve greater attention in this context.

The health care system is expected to reorganise its activities so that a mixed programme of health services may be provided to the population as the present health programme does not guarantee proper control of all our priority health problems.

A healthy population is one of the greatest assets of a society and the right to health is one of the fundamental rights of human beings. People living particularly in rural areas cannot be deprived of these rights. However, the problem of providing adequate medical and health care services in the rural areas is quite a complex one, especially in relation to our meagre financial and manpower resources. Health care programmes, therefore, cannot be considered in isolation, but must be balanced against other sectors of the economy within the limits of our resources.

An effective health care delivery service cannot be developed against the background of socio-economic conditions in which large masses of people still live at virtually subsistence level. It is therefore necessary to recognize that a real attack on the health problem should also be accompanied by a direct and sustained attack on the problem of mass poverty.