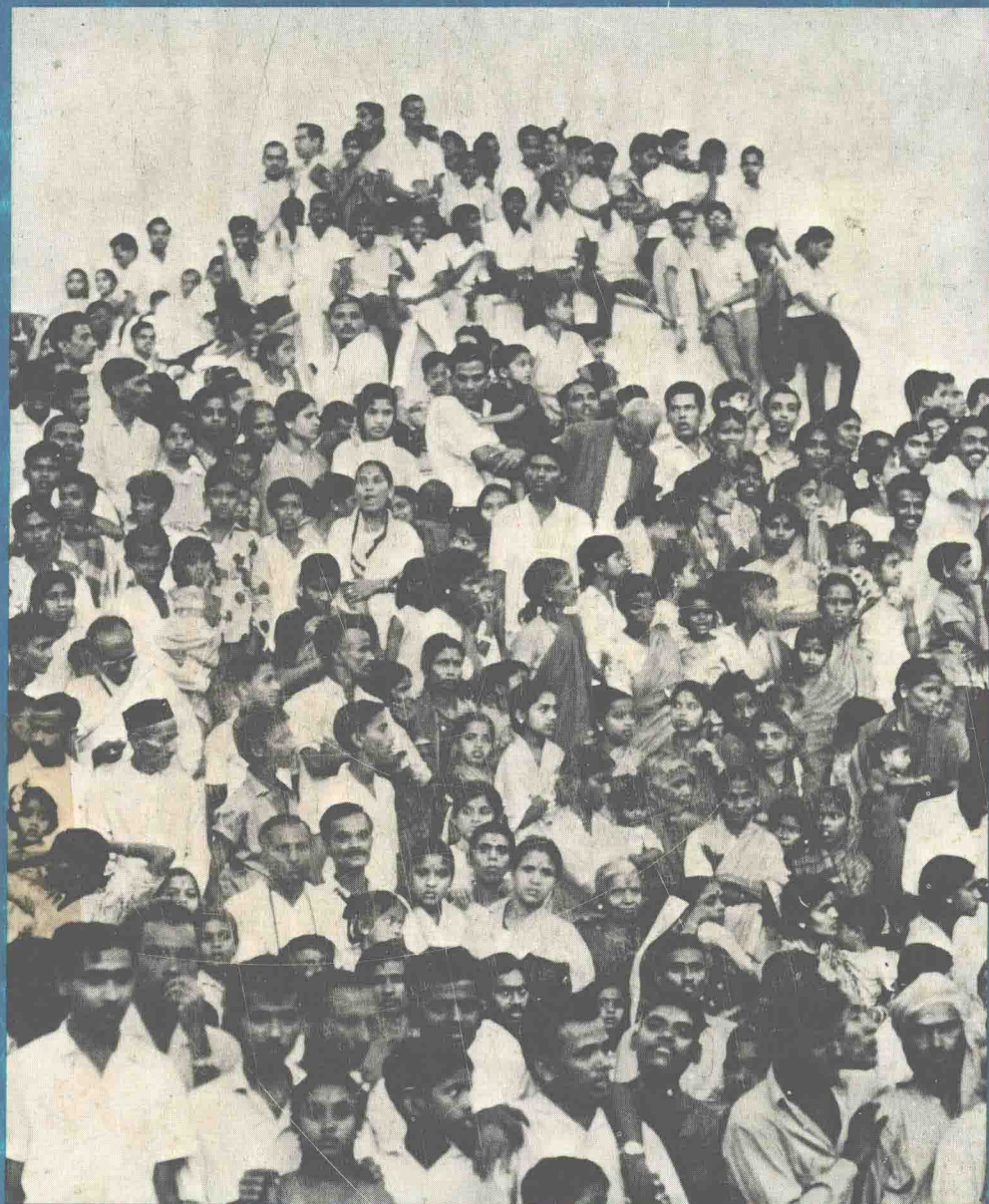


HEALTH BY THE PEOPLE



WORLD HEALTH ORGANIZATION

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Edited by

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WORLD HEALTH ORGANIZATION

GENEVA

1975

ISBN 92 4 156042 8

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PRINTED IN SWITZERLAND

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FOREWORD

The condition of the rural majority of the population of the developing world has been presented many times in economic, organizational, and health terms. Nearly all accounts are gloomy and some describe both the present state and the speed of change in a way that makes us doubt the acceptability or the effectiveness of solutions. But our view must depend upon what we hear and sometimes it is difficult to listen to, and to understand, all of the voices.

In this book a group of persons close to the villagers themselves from many different countries have gathered to give us their examples of possible health solutions. The scale of their examples ranges from the country to the village and their outlook has been properly conditioned by both the good and the bad experiences they have passed through.

I consider that within this diversity of experience and outlook there are some common messages and qualities in addition to the pleas for help. We should listen to these voices and add to our own knowledge and then consider whether their conclusions could influence our attitudes and actions.

A large, stylized handwritten signature in dark ink, likely belonging to the Director-General mentioned in the text below it. The signature is fluid and cursive, with a long, sweeping initial stroke.

Director-General

INTRODUCTION

KENNETH W. NEWELL ^a

There is little doubt that a visitor from another world looking down upon the earth would find much to be puzzled about. He would see as much as 80% of the world's population spread within a lush green area sandwiched between the concentrated dark blobs of the cities and the grey browns of the deserts and mountains. It would be natural for him to assume that these rural people were the primary strength of the human race and were particularly favoured. However, as he came nearer he would observe that most of them were physically confined to a small plot of land and socially tied to a group as small as an extended family or clan. Rather than order or organization, he would see drought-stricken areas side by side with flooded areas, dry fields beside rivers taking water to the sea, and persons sitting or waiting, apparently powerless as disaster inevitably approaches. The possibility that there would be economic, ecological, nutritional disaster, disease and death would appear to be self-evident, and yet the people would appear to sit with blank faces apparently unaware that a hundred, a thousand, or a million pairs of hands working together could influence their future and stave off the disaster to come.

Great changes for the better have occurred during this century. We must recognize these achievements, but while we do so we must also be perceptive enough to understand to what point these victories have taken us. The majority of the rural populations of the world do not have sufficient food to enable them to have a normal growth and development; one out of four of the children of many groups dies before the age of one year; epidemic and endemic communicable diseases are a day-to-day reality; and maybe 80% of these people have little or no contact at all with what we call health technology, which is so often quoted as a shining example of present-day man's technological ingenuity and progress.

The lot of many rural populations has improved even when viewed through the doubting eyes of a health worker. However, their present state is sufficiently well documented for us to have few doubts that the

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point we have reached is still intolerable. We have no overall indicator of rural hopelessness. Even those fragments of "fact" that we call health statistics are all too often incomplete and inaccurate. This is not surprising when we consider that the efforts involved in their collection must compete against other imperatives and that they are often unwelcome if they mainly document failure or shame. Despite the improvements that have taken place, the ground-level view is still one of swollen-bellied children playing in the dust of the village square, of lines of women carrying water, and of the scratching of little patches of land with a stick as the desert creeps nearer.

It is very easy to throw up one's hands or to shut one's eyes to these sights and sounds. If one uses the most simple arithmetic to add up all that is needed to counter the worst of the evils, it would appear that there will never be enough resources. There appears to be no starting-point, no proper way to start. The step from hopelessness to hope may appear too big for us to consider in a time scale of less than a century. Some people say that such a conclusion is not that of a pessimist but that of a realist. Other people do not agree. Such sums and such thinking, they hold, are products of our own way of looking at the world. They ignore a whole series of factors and strengths that we cannot and should not quantify and put into an equation. They ignore what has been done and is being done in various parts of the world. A different conclusion is possible.

This book is about rural populations, but its main emphasis is upon health and health services. The relationship between rural hopelessness and health is a complex one. Ill health adds to hopelessness, but its removal does not mean that there is hope. We can describe endemic or epidemic diseases, stunted children, deaths occurring mostly in infancy and childhood, no help in an emergency, maternal deaths against such a background as we have indicated; but the background and the description would have to be different if the people were healthy and strong. We should have to add such qualities as hope, human dignity, a capacity for improvement and change, organization and responsibility, and mastery over one's own fate. The problem and the priority have to be the total rural hopelessness complex and not just ill health. We are only slowly beginning to understand that people themselves are aware that health may have a low ranking among the starting points for change.

It is difficult to work out the reasons why members of the health services have tried to separate "health concerns" from other parts of the complex. Is it because we do not understand the problem or feel incompetent or powerless to influence the main issues, or because we want to "control" our own field? Whatever the reason, it is clearly not because we have scientific "evidence" that it is the most effective or the cheapest way or that it is what the people want. On the contrary, we have studies demonstrating that many of the "causes" of common health problems derive from parts

of society itself and that a strict health sectoral approach is ineffective, other actions outside the field of health perhaps having greater health effects than strictly health interventions. If we do not consider our restricted approach to be valid, then our reaction to its rejection is even more strange. As the health services fail in their bid for additional resources to further their priorities, the health professions turn their backs on the problem and direct their energies towards developing additional methods for helping the privileged people who can both afford and appreciate them.

Such views could be said to be widely held, but they also are biased as they ignore some events that have been taking place during the past 25 years. Individual groups and some states have tried to approach the problem from a different direction. Some have tried to extend services, including health, outwards towards the villages. Some countries have tried to face the total problem by an interlocking series of political, economic, and social measures. Some individuals have tried to build upwards and outwards with the villagers, using health benefits as trigger mechanisms or consequential benefits of change. Health workers and health service techniques have frequently played an important role in these endeavours.

All of us who have seen or heard about the results of these endeavours want to know more. We feel that we may have missed something that could be important. We want to have more than purely "before and after" data. We want to find out what really happened and why this effort was a success in one place while it was a failure somewhere else. We rarely receive a useful answer.

For this reason WHO, as an extension of a joint WHO/UNICEF study in 1974, decided to ask a group of people who participated in some of these attempts at change to write down what happened. While some data were necessary to put the changes into a meaningful perspective, the authors were asked to give especial prominence to the process itself. What was wanted was a series of stories that would give life and colour to the sequence of events and decisions they considered important. This was a difficult or impossible request. Active participants are not always good story tellers. No single individual is fully responsible for a national change and he may feel diffident about giving a personal view. Many projects or programmes were still a long way from reaching even their intermediate goals.

An added difficulty was that as one looked for examples one found more than could be included in a single volume, so that some have had to be omitted. This book is, therefore, a selection of examples from many different countries and includes areas as large as China and as small as a Guatemalan Indian village. It has contributions from observers (China), from national participants (Cuba, Tanzania, Venezuela), from local groups (India, Indonesia, Iran), and from persons who participated (Guatemala, Niger). Many of the authors have had the collaboration of WHO staff

members who have observed their projects or programmes and have assisted in preparing their section for publication. As editor I have selected the examples given and regret having had to exclude others for reasons of space.

The criteria for selection have not been dependent on WHO sponsorship or involvement; WHO has played little or no direct part in many of the programmes chosen. I have not attempted to correct or change any of the contributions except for purposes of clarity. Responsibility for the accuracy, balance, and conclusions of each contribution rests exclusively with the authors concerned. The accounts are given in the authors' own words and it is hoped that the differences in approach and style will be seen as a refreshing expression of the diversity of the endeavours throughout the world.

WHO has two motives in publishing this book. One is to present once again the problems that the world has to face; the other is to present successful solutions to them, in the hope that information about existing successes will encourage others to seek out new paths. There appear to be many roads to success. Indeed, if there is a moral to this book it is that possibilities for change are open to all people but no standard method is applicable to them all.

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THE HEALTH CARE DELIVERY SYSTEM OF THE PEOPLE'S REPUBLIC OF CHINA

VICTOR W. SIDEL & RUTH SIDEL

There is common agreement that prior to 1949 the state of health of large numbers of the Chinese people was extremely poor and that the health services provided for them were grossly inadequate. The people of China in the 1930s and 1940s suffered from the consequences of widespread poverty, poor sanitation, continuing war, and rampant disease. The crude death rate was estimated at about 25 deaths per 1000, one of the world's highest death rates. The infant mortality rate was about 200 per 1000 live births; in other words, one out of every 5 babies born died in its first year of life (1). Most deaths in China were due to infectious diseases, usually complicated by some form of malnutrition. Prevalent infectious diseases included bacterial illnesses such as cholera, diphtheria, gonorrhoea, leprosy, meningococcal meningitis, plague, relapsing fever, syphilis, tetanus, tuberculosis, typhoid fever, and typhus; viral illnesses such as Japanese B encephalitis, smallpox, and trachoma; and parasitic illnesses such as ancylostomiasis (hookworm disease), clonorchiasis, filariasis, kala-azar, malaria, paragonimiasis, and schistosomiasis (2).

A picture of health in Shanghai, one of the most industrialized cities in China, was given by a Canadian hotel manager who returned to China in 1965 and sought the sights he had known for the twenty years prior to 1949.

I searched for scurvy-headed children. Lice-ridden children. Children with inflamed red eyes. Children with bleeding gums. Children with distended stomachs and spindly arms and legs. I searched the sidewalks day and night for children who had been purposely deformed by beggars. Beggars who would leech on to any well-dressed passer-by to black-mail sympathy and offering, by pretending the hideous-looking child was their own.

I looked for children covered with horrible sores upon which flies feasted. I looked for children having a bowel movement, which, after much strain, would only eject tape-worms.

I looked for child slaves in alleyway factories. Children who worked twelve hours a day, literally chained to small press punches. Children who, if they lost a finger, or worse, often were cast into the streets to beg and forage in garbage bins for future subsistence (3).

Preventive medicine was almost non-existent in most of China except for areas where special projects were conducted, usually with foreign funding. Therapeutic medicine of the modern scientific type (which the

Chinese call *xiyi* or “Western medicine”) was almost completely unavailable in the rural areas—where 80% of China’s people live—and for most poor urban dwellers. Estimates of the number of physicians in China in 1949 who were trained in Western medicine vary from 10 000 to 40 000 (4); the best estimate seems to be about 20 000, or approximately one doctor for every 25 000 of the roughly 500 million population of China at that time. Most of these were either doctors from Western countries, usually missionaries, or doctors trained in schools supported and directed from abroad; they were mainly concentrated in the cities of eastern China. Nurses and other types of health workers were in even shorter supply. The maximum estimate of the number of hospital beds in 1949 was 90 000, or less than one bed per 5000 people.

There had been some very localized efforts in the 1930s to train new types of health worker to meet the needs of China’s rural population, but these efforts also were largely supported from abroad and usually poorly supported by the people they were supposed to serve and poorly integrated with their life and needs.

The bulk of the medical care available to the Chinese people was provided by the roughly half million practitioners of traditional medicine (*zhongyi* or “Chinese medicine”), who ranged from poorly educated pill peddlers to well-trained and widely experienced practitioners of the medicine the Chinese had developed over two millenia. These practitioners and those who practised Western medicine were deeply mistrustful of each other and blocked each others’ efforts in many ways.

Probably most important of all, three-fourths of the Chinese people were said to be illiterate. Cycles of flood and drought kept most of the people starving or at the least undernourished. And the limited resources that did exist were maldistributed, so that a few lived in comfort and the vast majority lived a life of grinding poverty. Feelings of powerlessness and hopelessness were widespread; individual efforts were of little avail and community efforts were almost impossible to organize.

Experiments in meeting these needs were started during the 1930s and 1940s by Mao Tse-tung and the People’s Liberation Army that he led, first in Kiangsi Province and then, after the Long March, in the areas around Yen-an in Shensi Province. These efforts involved mobilizing the people to educate themselves and encouraging them individually and collectively to provide their own health care and medical care services.

With the assumption of state power by Mao and the Chinese Communist Party in 1949 (which the Chinese call the “Liberation”) this experience was expanded into a national policy, which included the following elements:

- (1) Medicine should serve the needs of the workers, peasants, and soldiers—that is, those who previously had the least services were now to be the specially favoured recipients of services.

(2) Preventive medicine should be put first—that is, where resources were limited, preventive medicine was to take precedence over therapeutic medicine.

(3) Chinese traditional medicine should be integrated with Western scientific medicine—that is, instead of competing, the practitioners of the two types of medical care should learn from each other.

(4) Health work should be conducted with mass participation—that is, everyone in the society was to be encouraged to play an organized role in the protection of his own health and that of his neighbours.

Some of the efforts of the 1950s and early 1960s were based on models from other countries, particularly the Soviet Union, which provided a large amount of technical assistance to China during this period. A number of new medical schools were established, some of the older ones were moved from the cities of the east coast to areas of even greater need further west, and class size was vastly expanded. “Higher” medical education usually consisted of 6 years, following the completion of some 12 years of previous education, although some schools accepted students with less previous schooling and some were said to graduate them after only 4 or 5 years of medical education. One school, the China Medical College located in the buildings of the former Peking Union Medical College, had an 8-year curriculum and was devoted to the training of teachers and researchers. These efforts produced a remarkably large number of “higher” medical graduates, including stomatologists, pharmacologists, and public health specialists as well as physicians. It has been estimated that more than 100 000 doctors were trained over 15 years, an increase of some 500% (4). But by 1965 China’s population had increased to about 700 million, and the doctor/population ratio was still less than one per 5000 people.

At the same time large numbers of “middle” medical schools were established to train assistant doctors (modelled in some ways on the Soviet feldshers), nurses, midwives, pharmacists, technicians, and sanitarians. These schools accepted students after 9 or 10 years of schooling and had a curriculum of 2 to 3 years. It has been estimated that some 170 000 assistant doctors, 185 000 nurses, 40 000 midwives, and 100 000 dispensers were trained (4).

In addition to these efforts to produce rapidly many more professional health workers, people in the community were mobilized to perform health-related tasks themselves. A large-scale attack was made on illiteracy and superstition. By means of mass campaigns, people were organized so as to accomplish together what they could not do individually. One of the best known of these campaigns (which were often called the Great Patriotic Health Campaigns) was the one aimed at eliminating the “four

pests", originally identified as flies, mosquitos, rats and grain-eating sparrows; when the elimination of sparrows appeared likely to produce serious ecological problems, bedbugs (and in some areas lice or cockroaches) were substituted (5). People were also encouraged to build sanitation facilities and to keep their neighbourhoods clean.

Campaigns against specific diseases were also mounted. Thousands of people were trained in short courses to recognize the symptoms and signs of venereal disease, to encourage treatment, and to administer antibiotics when necessary; at the same time the brothels were closed and the prostitutes were treated and retrained (6). There were also mass campaigns against opium use. Epidemic prevention centres were established to conduct massive immunization campaigns and to educate people in sanitation and other prevention techniques.

The classic example of the use of mass organization in health was the campaign against schistosomiasis. This campaign was based, according to J. S. Horn (7), on the concept of the "mass line"—"the conviction that the ordinary people possess great strength and wisdom and that when their initiative is given full play they can accomplish miracles." Before the peasants were organized to fight against the snails, they were thoroughly educated in the nature of schistosomiasis by means of lectures, films, posters, and radio talks. They were then mobilized twice a year, in March and August, and, together with voluntary labour from the People's Liberation Army, students, teachers, and office workers, they drained the rivers and ditches, buried the banks of the rivers, and smoothed down the buried dirt. The idea behind the antischistosomiasis programme was not only to recruit the people to do the work but also to mobilize their enthusiasm and initiative so that they would fight the disease (7).

The antischistosomiasis effort is particularly revealing, since it mobilized the population in several directions: to move against the snails, to cooperate in case-finding and treatment, and to improve environmental sanitation. Yukiang County in Kiangsi Province, for example, had been plagued by schistosomiasis for more than 100 years. According to one report (8), 1 million m² of land was infested with snails, and the "average" infection rate among the peasants was 21.4%. After investigating the prevalence of the disease, the antischistosomiasis station was set up in the county in 1953. When the campaign started, the personnel of the station began publicizing its purposes, as well as health work in general, using

broadcasting, wall newspapers, blackboards, exhibits of real and model objects, lantern-slide shows, and dramatic performances. Related scientific knowledge was also popularized. To help the peasants raise their political consciousness, break their superstitious belief in gods, devils, and fate, and to build up their confidence in conquering the disease, meetings were organized for recalling sufferings in the old society and comparing them with the happiness in the new society. Through these activities the confidence of the broad mass in the certain triumph of their struggle against schistosomiasis was gradually built up and further strengthened.

Once the population learned about schistosomiasis, a "people's war" was launched against the snails. From 1955 to 1957, 20 000 peasants in Yukiang County filled up old ditches and ponds, dug new ditches, and expanded the cultivation area by roughly 90 acres (36 ha). Special methods had to be used in some areas. For example, three lotus ponds, each 3 feet (1 m) deep, covering several acres contained snails in high density that people had attempted to exterminate by removing the surface soil, burning aquatic vegetation, and other methods, but the snails had not been completely eliminated. Finally the ponds were drained, all grass and vegetation at the bottom were burned, and snail-free mud was piled on top and pounded so that the snails were suffocated. Seven square or rectangular fish ponds were then created out of the three former snail-breeding ponds.

After this massive war on schistosomiasis, however, it was still necessary to check for the recurrence of snails, as well as on water control and waste disposal, so the people had to be educated in the treatment of human excreta, the provision of safe drinking-water, and improved personal hygiene. Production teams under the leadership of health workers are responsible for these public health measures.

Health work in Heilungkiang Province in the north-east was described in an article in *China's Medicine* in 1968 (9). In order to promote health education in the province, mass meetings were called in 60 cities and counties, leaflets and pamphlets on health were distributed, and students began to engage in health education among the workers and peasants. It was estimated that in two counties 250 000 middle and primary school students were mobilized for this work. Needless to say, the students learned as much as they taught.

In all these health campaigns it was repeatedly stressed that health is important not only for the individual's wellbeing but also for that of the family, the community, and the country as a whole. The basic concept is said to be the recognition of a problem important to large numbers of people, the analysis of the problem and recommendation of solutions by technical and political leaders, and then—most important—the thorough discussion of the analysis and recommended solutions with the people so that they can fully accept them as their own. Using the techniques of mobilizing the general population to participate actively in the provision of medical care and the prevention of illness, diseases such as smallpox, cholera, typhoid fever, and plague were completely eliminated. Venereal disease and kala-azar were practically eliminated, and diseases such as malaria and filariasis are being rapidly brought under control. Tuberculosis, trachoma, schistosomiasis, and ancylostomiasis are still not under full control although their prevalence is being markedly reduced (2). In short, the successes in the prevention of infectious disease over a time-span of only one generation were truly monumental.

In therapeutic medicine, the campaign to integrate Chinese medicine with Western medicine was designed (1) to make full use of those elements of Chinese medicine that were found effective; (2) to provide greater acceptance of Western techniques among those, particularly in the rural areas, who mistrusted them; and (3) to employ efficiently the large numbers of practitioners of Chinese medicine. The campaign met with some success but there was still said to be considerable resistance on both sides. Perhaps of even greater importance, there was said still to be considerable resistance on the part of "higher" medical graduates to practising in the rural areas where there was the greatest need for them. As a result much of the large rural population still lacked adequate access to medical care.

In 1965, in one of the forerunners of what came to be known as the Great Proletarian Cultural Revolution, Mao severely criticized the Ministry of Health for what he called its over-attention to urban problems. He urged a series of changes in medical education, medical research, and medical practice. His statement, known throughout China as the June 26th Directive, concluded: "In medical and health work, put the stress on the rural areas!" As a result of this directive, and of the Cultural Revolution of 1966-1969 itself, much in medicine was markedly reorganized. Higher medical schools began again to admit students who had less previous schooling but had experience of working in factories and in communes; these students were usually selected by the people with whom they had worked and whom they were to return to serve. The curriculum was restructured to place greater emphasis on practical rather than theoretical aspects, with much more training in Chinese medicine, and was experimentally reduced to about 3½ years instead of 6 as previously. Medical research in the institutes of the Chinese Academy of Medical Sciences began to place much greater emphasis on the treatment of common illnesses and especially on the role of techniques of Chinese medicine.

The Cultural Revolution also brought about great changes in medical practice. Previously, some mobile health teams had travelled the countryside providing services and training, but now mobile medical teams were organized on a massive scale. Most urban medical workers were required to play a role in these teams or in other work in the rural areas, and a rotation system was operated so that at any given time about one-third of urban health workers were serving outside the cities. They were there not only to provide services for those living in the countryside but also to be themselves "re-educated" by the experience.

Part of their responsibility was the training of large numbers of peasants to provide environmental sanitation, health education, preventive medicine, first aid, and primary medical care while continuing their farm work. These peasant health workers came to be known as "barefoot doctors" in the rural areas near Shanghai, where much agricultural work is done barefoot in the rice paddies. Although the barefoot doctors wear shoes most of

the time, and especially while performing their medical tasks, the term is used to emphasize the fact that these personnel perform their medical work together with their tasks as farm workers.

With regard to environmental sanitation, the barefoot doctor has responsibility, for example, for the proper disposal and later use of human faeces as fertilizer, for the purity of drinking-water, and for the control of and campaigns against "pests". Many of the sanitation tasks are usually carried out by more junior health aides, whom the barefoot doctor trains and supervises. Immunizations are an important responsibility of the barefoot doctor, but these too are often performed by the health aides, who do their work during lunch hours and "spare time".

Health education and the provision of primary medical care are other important tasks of the barefoot doctor. He is also readily available to deal with medical emergencies, since he often works in the fields with his patients and lives among them. He is said to be skilled in first aid and in the treatment of "minor and common illnesses". Perhaps most important, his fellow workers know him well and trust him.

Some idea of the range of what the barefoot doctor is supposed to know is provided by barefoot doctor handbooks, of which a number are now available. The handbooks cover a broad range of medical problems and discuss both traditional Chinese and Western treatment (10). Another, perhaps more direct, measure of what the barefoot doctor does is the drugs he is empowered to use. These range from traditional herb remedies to antibiotics, epinephrine, reserpine, and other powerful modern drugs, but other drugs with great toxic potential, such as digitalis and adrenal corticosteroids, are not generally used by the barefoot doctor. Visitors discussing these items with barefoot doctors have been impressed by their remarkably detailed knowledge of the nature of the medications, the indications and contraindications, and the possible adverse reactions.

The initial training for the barefoot doctors, of whom there are now said to be over a million, usually takes place locally for a period of 3 months, often in the commune hospital or county hospital. Subsequent continuing supervision and training periods are used to improve their knowledge and skills. Barefoot doctors are encouraged to use a wide range of both traditional Chinese and Western medicines and some have become skilled enough to perform limited forms of major surgery. The complex system of supervision and referral appears to ensure that there is adequate control of technical quality as well as rational deployment of manpower and access to services.

China's countryside is divided into communes; these are divided into production brigades, which in turn are divided into production teams. The barefoot doctors usually work in health stations at the production brigade level, but do much of their work, both medical and agricultural, with their fellow members of the production team. The barefoot doctor's