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Health Care in China: An Introduction

by: China Health Care Study Group

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China Health Care Study Group

HEALTH CARE IN CHINA

Health
Care
in China

WHAT IS A "BAREFOOT DOCTOR"?

HOW DID THE CHINESE RID THEIR COUNTRY OF VENEREAL DISEASES?

WHAT ARE THE CHINESE DOING ABOUT BIRTH CONTROL?

These and many other questions are the subject of investigations by a Study Group in Hongkong. In this report they describe how the Chinese in the People's Republic have organized health services to provide care for 800 million people, 80% of whom live in the countryside. The purpose of this book is to stimulate those concerned with health care elsewhere in the search for solutions to pressing health care needs.

Christian Medical Commission
150, route de Ferney, Geneva

Health Care In China :

an introduction

The Report of a
Study Group
in
Hongkong
E.H. Paterson, Chairman
Susan B. Rifkin, Secretary

Geneva
Christian Medical Commission
1974

Errata: Page 59 should follow page 57 and page 58
should follow page 59.

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FOREWORD

The charter of the Christian Medical Commission of the World Council of Churches includes the task of providing its constituency with such information as may assist the churches throughout the world in carrying out their responsibilities for providing health care to man and community

In light of the widespread interest in what has been happening in China in the last quarter century, it seemed appropriate to the Commission in 1972 to explore what might be learned from the Chinese experience. The Commission, acting through the office of the Lutheran World Federation which was engaged in studies of China, arranged for the appointment of a group of medical and social scientists in Hong Kong and asked them to provide it with a relatively brief and introductory answer to the question, "What in the Chinese experience of rebuilding a health care system might be of value to communities in other cultures and social systems?"

This booklet is that group's answer to the question. The Christian Medical Commission is publishing this report because we believe that the information will be of value to health workers both in the developing and in the industrially developed countries where the failures in health care systems stand out so sharply against the technological and economic advancement.

The opinions and judgements expressed in this book do not necessarily reflect those of the Christian Medical Commission. Since the manuscript is the product of a group effort, individual members of the Study Group may not necessarily concur with every view expressed.

On behalf of the Christian Medical Commission I wish to express my thanks to the members of the Study Group, to its executive secretary and to others who have been engaged in the production of this book. There will be many health care workers throughout the world who

will stand in their debt.

John H. Bryant, M.D.

Chairman, Christian Medical Commission

Director, School of Public Health, Columbia University

PREFACE

In 1956, after many years of training in medical institutions in the USA, I returned to my birthplace to help establish Christ Hospital in Kapit, Sarawak. Ninety miles from Sibul, the nearest city along the tortuous Rejang River, Kapit was then a village market for the 50,000 Iban people who live scattered throughout the dense jungles of this area. When we arrived, there was only very rudimentary medical care available to these people, who suffered from the preventable diseases so common in the tropics.

It soon became apparent that the new hospital, if it were confined to its institutional walls, would make little difference to the health of the Ibans. To make available the health care that they needed meant travelling to the "long houses" where the people lived, teaching about good health habits, sending trained auxiliaries to aid with child-births, giving preventive inoculations and treating common diseases. The Kapit program had to be a community-oriented program rather than an institution-based Western style health care project if it was to meet local needs.

Seventeen years later, in December 1972, I went to Bangkok as a Hong Kong delegate to participate in the First Asian Ecumenical Conference on the Role of Health in the Development of Nations. Delegates from fifteen Asian nations, most of which are classified as "developing countries", came together to examine their common health problems and exchange ideas about possible solutions. The group was an impressive array of Asian Christians. As deans of medical schools, as secretaries for local medical associations, as directors of national health and population projects and as mission medical workers, these people were deeply involved in shaping the future of their national health care systems.

As I listened to these participants discuss and debate the issues, I began to realize how people from all over the region who shared the problems that we faced in Kapit also shared the same assumptions about how these problems must be solved. Among these assumptions were:

- 1) Health is more than the mere absence of disease. Health is "the creation of conditions of physical, mental and social well-being, so that the individual and the society may realize their full potential". In essence, this means that those involved in the delivery of health care must think of more than purely medical matters. We must understand that the goal of health is care for people and we must learn to respond to the needs of people as individuals.
- 2) Health care must not only be confined to hospitals. Health workers must stop duplicating Western health care patterns which provide the most advanced medical technologies in large curative institutions often available only to the selected few who can afford them, or to those living in the urban areas. To distribute the existing resources, community health care programs must be developed. This means building primary health care centers and emphasizing rural health care projects.
- 3) Emphasis must be placed on developing the type of education and training programs necessary to meet existing local conditions. The training of medical auxiliaries of many grades must have priority. Training must stress courses relevant to existing problems.
- 4) Finally, if Christian values are going to be meaningful and relevant to the future of Asian health care systems, health workers must serve the community. As the Asian Ecumenical Conference on Development which met in Tokyo in July 1970 stated, "health is a basic human right; it is among the gifts of God to man". If this right is to be assured, Christian health workers must commit themselves to this goal. They must be willing and able to provide health care to the people wherever they live.

As to the role the Church should play in realizing these changes in the broader context, the Bangkok health conference recommended:

"As part of the health development program, we of the Church should strive to influence Governments and other

interested medical bodies to provide better health care facilities and better conditions of living. And as the Church could play an important role as an innovator, a motivator and a demonstrator, let Christian medical bodies endeavour to establish pilot projects on the effective delivery of health services as a model for others to emulate and to help the communities to play a meaningful and creative part in making their own lives more healthy.”

In contemplating how the Church could develop such models, there was much interest in the Chinese experience in solving health problems. After all, reports on China indicated that the Chinese had implemented on a wide scale many of the suggestions discussed at the Bangkok health conference. The conference doubled my conviction that a study of the Chinese health care system in terms of its relevance to other countries would be a most timely and worthwhile project. After Bangkok, I am assured of the interest in this topic among Asian health workers. I hope those in other nations as well will find some useful information in this publication.

L. K. Ding, M.D.

Chairman, Committee on Health, Christian Conference of Asia

Vice-Chairman, China Health Study Group

INTRODUCTION

The Director of the Christian Medical Commission, Mr. James McGilvray, addressing a conference on international health called by the American Medical Association in 1969 discussed four problem areas that trouble those throughout the world who are engaged in the provision of health care. He defined these problem areas as:

“(1) the economic factors of health care delivery systems; (2) the present medical manpower system as an effective approach to massive epidemiological problems; (3) the dilemma posed by what we do know about disease and what we do not know about the delivery of health care; and (4) the tensions between the clinical care of individuals and concern for the health of the community”.

While very large amounts of money have been spent by both governments and voluntary groups to build and operate curative institutions, the increase of such services has failed to improve substantially the health of the people of the developing world. Mr. McGilvray suggested that one of the major reasons for the lack of adequate return on the tremendous investment of money and people in health care throughout much of the world is that the allocation of resources has been based on a series of faulty assumptions. These assumptions are, in brief: that more and better curative facilities will assure improved general health standards (a belief that seems to ignore the fact that these expensive facilities are available only to the few); that only highly trained manpower can deliver good health care; that medical care can be independent of such activities as health education and other preventive measures; and that “disease and hospital-centered systems” are, without reservation, the most appropriate means to solve the problems of a community’s health. Decisions made on the basis of these assumptions have failed by and large to alleviate the problems; most nations’ health care systems do not respond to the real health care needs. Mr. McGilvray’s conclusion that radical changes are called for is difficult to gainsay.

The issue may be approached in another way. Any person responsible for the planning of health care services or the allocation of the scarce resources in a community or a nation must ask himself three questions:

- 1) Who are to get the health care services? Shall it be the few (the privileged) or the many? The young or the old?
- 2) What kind of services are to be provided? Shall the emphasis be on the cure of the ill or the protection of the healthy? On the common or the esoteric diseases?
- 3) How will the services be delivered? By what combination of expensive, highly qualified and para-medical personnel? By what kind of organization and institutions - clinics or specialist hospitals?

The answers to these questions in too many countries must disturb the conscientious person, whether he be a public servant or a worker in a voluntary health care system. For all too often the answer, however complex the situation may be, can be summed up about as follows: What health services are available are provided by highly qualified practitioners in increasingly expensive institutions to the relatively few who, when they fall ill, can afford to pay the price.

There is throughout the world an increasing impatience with this picture, a widespread clamour for change and a search for new models and methods.

In recent months, for a variety of reasons which include the increasing availability of information, much interest has focused on what is happening in the People's Republic of China. Here is an example of a radically different approach to health care. The Chinese system emphasizes: (1) the expansion of health care to reach the general population, with a new stress on rural areas where most of the people live; (2) the use of a broad range of auxiliaries and the retraining and integration of traditional practitioners into the system; (3) the recognition that health care is an integral part of over-all social, political and economic development; and (4) the introduction of preventive and community health programs which assume that health care is

much more than curing diseases.

The initiative for the present volume was taken by the Christian Medical Commission, a specialized agency of the World Council of Churches. Believing that there was need to assess the Chinese health care system to determine its relevance for other countries - first of all the developing countries, but the industrialized nations as well - the CMC, enlisting the administrative help of the Lutheran World Federation China Study Program, requested a group of qualified professionals resident in Hongkong to undertake a study on its behalf. The China Health Care Study Group began its work in July 1972. It was composed of the following members:

Dr. E.H. Paterson, M.B.B.S., F.R.C.S., Medical Superintendent, United Christian Hospital, Kwuntong, Chairman;

Dr. L.K. Ding, M.D., founder and director of the Chinese Medical Research Centre, Vice-Chairman;

Richard B. Blakney, hospital administrator, United Christian Hospital, Kwuntong;

David Y.F. Ho, Ph.D., lecturer in psychology, Hongkong University;

Dr. Thomas Lee, M.B.B.S., pediatrician in Nethersole Hospital;

Raymond L. Whitehead, Ph.D., lecturer in ethics, Chinese University; Asia Research Consultant, National Council of Churches, USA;

Rhea M. Whitehead, Asia Research Consultant, National Council of Churches, USA.

Susan Rifkin, research fellow in the Science Policy Research Unit, University of Sussex, England, was generously seconded by the University to serve as executive secretary of the Group and to draft this Report.

The study project was financed through a generous grant from the *Arbeitsgemeinschaft für Weltmission* in Germany.

The Group collected information from Chinese medical publications, from interviews with people who had served in the Chinese medical services, and from published and oral

evaluations by foreign specialists who had travelled in China in the last years. Three members of the Group visited China and contributed their first-hand observations to the study.

The purpose of this Report is to examine the Chinese health care system not only because of its own intrinsic interest, but especially in order to stimulate thinking about alternative solutions to the problems of health care in other countries. Therefore the various chapters treat of topics in which the Chinese experience seems to have some possible lessons for other nations. In choosing these topics, the Study Group did not wish to imply either that China has no other achievements in health care or that there are no areas in which there have been unresolved problems. These topics simply represent those which we feel have the most interest to a broad readership. We have included as an appendix a brief description of the prevention and treatment of mental illness, a field in which the Chinese have developed a somewhat unique approach. Each chapter poses a series of questions about the broad concern of health care, discusses briefly what is known about the Chinese approach to the problem and appends a document to illustrate the Chinese understanding and response to the problem.

At the beginning of this book two points should be noted. The first is that it must be remembered that the Chinese revolution did not change society overnight. The fundamental change brought to China with the communist government in 1949 was a commitment to seek ways for the more equitable distribution of the nation's resources. The goal approaches reality only through a slow process of continuing change. In China the pressure for change is constant and omnipresent.

The second is that in this study we have been able to only describe the general health care policies in China and give some of the arguments why these policies are rational. We cannot finally judge the effectiveness of the system. One reason is that at present it is impossible to obtain adequate knowledge of the health care system. It is difficult for the outside researcher to gain access to the information

needed to do a comprehensive analysis. Another reason is that China is a very big country. As in many large countries, geographical obstacles, poor communications and transport, the scarcity of resources and the like make it very difficult to provide uniform health care throughout the country. Because of its size and the emphasis on local initiative (of which we will say more in Chapter II), different areas take different approaches to health problems. They also have had different degrees of success and failure.

This Report, then, is not to be read as a blueprint which gives directions for the transformation of health care systems around the world. It is only a record of one nation, which, with limited resources, is attempting to provide adequate health care for all its population. Debates on policy implementation have marked the entire history of the development of China's health care programs. Yet, because the Chinese refuse to be bound by traditional western health care assumptions, they confront and solve some health problems which continue to plague other countries, developed and developing alike. It is this Chinese achievement we have explored in our study and describe in this book.

There are many people who have given us their time and understanding. As always, it seems impossible to name everyone, but we would like to acknowledge the assistance and support of Brian and Sally Stewart, who gave their time to help editorially, and to Dr. Joe Wray and David M. Lampton, who spent long hours reading and criticizing work in progress. Several medical people who had been trained and had worked in the People's Republic of China were kind enough to share their experiences with the committee. Finally, we would like to thank the various people who have been hungry for more knowledge about health care in China. Their probing queries and their search for information about this subject supported our flagging efforts when at times our task seemed impossible.

CHAPTER I

THE RELATIONSHIP OF HEALTH TO NATIONAL DEVELOPMENT GOALS

Solve the problems facing the masses -- food, shelter and clothing, fuel, rice, cooking oil and salt, sickness and hygiene, and marriage. In short, all the practical problems in the masses' everyday life should claim our attention. If we attend to the problems, solve them and satisfy the needs of the masses, we shall really become organizers of the well-being of the masses, and they will truly rally round us and give us their warm support.

Mao Tse-tung, 1934

There is a major difference in old and New China. The only reason for the fundamental change in the health situation in China is that the government acts according to the wishes of her people.

Dr. Fan Shih-shan in Vienna, 1953

The work of public health is steered by the general policy of national economic development, with agriculture as the foundation and industry as the guide.

Chang K'ai, Deputy Minister of Health, 1964

Of all things in the world people are the most precious. Hygiene and sanitation directly concern the health of the people. Success in this work will enable us to prevent or reduce the occurrence of seasonal disease and strengthen our fighting effectiveness as well as our labour force.

Nanking Kiangsu Provincial News Service, 1970

The history of the introduction of modern health care in China, up to 1949, was much like that in most other developing countries. The system was drastically changed, however, when the communist government came to power

in that year. The Chinese Communist Party views health care both as a human value, that is, as something intrinsic to the well-being of the people, and therefore to be promoted, and also as an economic value, a means to increase the productivity of the people. On the principle that "to defend the life of the people by wiping out diseases means to protect the most important wealth and the most important productive force in the world", the Chinese socialist state has declared adequate health care for all the people to be one of its prime goals. For this reason, health problems are the concern not only of the medical professionals but also of the economic and political strategists.

As an integral part of development planning, health care guidelines were first promulgated in 1950 by the First National Health Conference. That meeting made four important points. Health work, it declared, must observe the following fundamental principles:

- 1. Health care must serve the common people*
- 2. Priority must be given to prevention of disease*
- 3. Western and traditional medicine should be integrated*
- 4. Health campaigns should be coordinated with other mass campaigns.*

These principles have guided the efforts of the Chinese government for over two decades, as it has sought to improve the productivity and the well-being of its 800 million people.

How was modern medical care introduced to China?

Western-style medical care was introduced to China by Christian missionaries in the 19th century. It was superimposed upon an ancient and highly complex system of health care that had been developing for 4,000 years. The classics of Chinese literature, whose sources go back to long before the time of Christ, show a well-developed tradition of medical theory and practice. The cosmological basis of Chinese physiology and medicine was first fully expounded in a classic published 2,000 years ago.

The best of the Chinese traditional doctors were

scholar amateurs who cultivated their skills and practised on their friends. The numerous scholars who, having failed the examinations that would have qualified them for prestigious government office, became doctors instead, were somewhat less respected. Further down the line were the bone-setters, the Taoist exorcists and the shamans, the quacks and the travelling charlatans who, because the lines were not always clear, brought the reputation of the whole healing profession into question. Nevertheless, the physicians were numerous and the old systems sufficiently effective so that to this day most Chinese, when in discomfort, seek a traditional remedy before a western one.

This was the system, oriented more toward internal medicine than surgery, that the first Protestant missionaries to China found 150 years ago. In 1827, Robert Morrison, who was not a doctor, opened a simple clinic in Macao. In 1935, Dr. Peter Parker opened an eye clinic in Canton; he began to train Chinese assistants immediately. When, after the Chinese signed the treaties with western powers in the 1840's, the first port cities were opened to foreign residence, western-style hospitals were built in them; and after 1860, when foreigners were accorded the right to live inland, missionary medicine began to penetrate the interior.

By 1889, there were 61 Christian hospitals in operation, and by the 1920's there were over 300 mission hospitals in China, with perhaps as many separate outpatient dispensaries.

At the same time, beginning with the simplest of apprenticeship arrangements, the mission institutions trained western-style doctors and auxiliary workers. Medical schools were established, modelled on those of the West (as were other Christian educational institutions), with the tacit assumption that what China needed was simply to follow the western example. Missionary medicine had almost no sense of concern for prevention except when an epidemic threatened.

In 1915, the Rockefeller Foundation established on the base of a mission institution the Peking Union Medical

College, whose facilities and general quality matched those of the best American institutions. It was meant to be, and was, the model for modern medical care in the new republican China, a symbol of western philanthropy's good will and also of its orientation in health care: it was more concerned with quality treatment for a few than with the broad improvement of conditions among the masses.

The popular response of the Chinese to the wonders of western missionary medicine was not immediately enthusiastic. Stories circulated of mysterious and even murderous activity in the surgeries, for the Chinese were suspicious of the foreigners' purposes in China. There was some danger of popular reaction if a patient died in the hospital. But the fears were slowly overcome, first among the common people who were treated free or at low cost, and then among the more hostile gentry and officials. Members of the Manchu court, unlike their Meiji contemporaries in Japan who embraced western medicine wholeheartedly, were uninterested. It remained for some Chinese statesmen and military leaders to take the first steps from the side of the government to introduce western medicine. In 1881 the famous Viceroy Li Hung-chang opened a medical school to train western-style doctors for his Northern Army. In the decade before its fall in 1911, the Imperial government finally accepted the new way. The first faltering steps - some public health measures - were introduced in 1902. In 1903, the Imperial University opened a Medical Academy, where both Chinese and western courses were taught. In 1905, further public health laws were passed and measures taken to open a few hospitals, which offered both traditional and western health care.

The breakthrough in proving the value of western public health ideas came in 1911 just at the end of the Empire. An epidemic of bubonic plague in Manchuria threatened to decimate the North China population. There was no cure available, and 60,000 died. But a young Cambridge-educated physician named Wu Lien-te organized sanitary and preventive measures that quickly controlled the epidemic. Official

and public opinion were convinced.

The Republican government established a few months later was ready to accept almost everything western, including medicine. A Public Health Office was established in Peking. But the struggling, ineffectual Peking regime had little influence; it was largely at the local and provincial level and through the warlords that some steps were taken - hospitals built, medical schools opened, public hygiene promoted - all in a very limited way. The number of western-style physicians grew, most of them settled down in the cities to lucrative practices. By 1927, there were 3,000 of them.

The Nationalist government that established its capital in Nanking in 1927 and began to re-unify the nation, accepted in principle responsibility for the health of the people. A Ministry of Health (which in 1931 became a department of the Ministry of the Interior) was firmly western oriented. It seems to have had two major goals. The first was the most rapid possible increase in western-style doctors, which meant the expansion of medical schools and shortened training programs. In the next decade, the number of qualified doctors trebled, but there was still less than one per 40,000 people. The second was the establishing of a nationwide network of county health centers. By 1940, there were said to be some 1,700 of them to serve 2,000 counties, but many were more formal than effectual agencies, for there was a constant shortage of funds and trained personnel.

The Japanese invasion began in 1937. Health care efforts were redirected from care for the public to serve the needs of the military, and the Nationalists lost what opportunity they had had to make any major changes in the health of the nation. War, with its disruptions and emergencies, continued for the next twelve years.

The health care system developed during this period was in effect a dual system, involving traditional and western medicine, with little if any relationship between the two. The traditional practitioners continued almost uninfluenced by western science. Attempts to regulate or limit their prac-

tice, particularly by the Nationalist health officials, were ineffective. Most people, rural and urban, relied on traditional medicine by preference as well as by necessity.

The western-style system was a minimally co-ordinated effort of mission hospitals and schools, private practice by fully and partly qualified physicians, and public health and education programs by various levels of government. The missionaries saw their function as treatment rather than prevention; they were concerned for the poor but tended to concentrate their efforts in the cities because there they found their patients in greatest concentration. They were also concerned for standards, and in general provided the best training programs for nurses, doctors and other personnel in the country. But they could neither afford nor did they have the vision to provide health care for the whole country.

The private practitioners, whom the health care system encouraged, tended to offer their services to those who could afford them, the urban wealthy and middle classes. They were little concerned with the problems of public health. They practiced elitist private enterprise medicine: he who can buy healing can be healed.

In summary, the health care system in pre-1949 China was curative oriented, urban based and dependent on highly qualified private doctors to deliver health care services. Because the free enterprise economy defined the social and political as well as the economic conditions, the government had only very limited capability for or interest in co-ordinating economic and welfare planning. The majority of the people, the rural and the poverty-stricken, had no access to or benefits from modern medicine.

What is the history of the development of the Chinese health care system since 1949?

The history of health care since the founding of the People's Republic of China in 1949 is one of the expansion of services to benefit as far as possible the entire Chinese population. Before it came to power, the Chinese Communist

Party had already faced the problems of providing health care to a large number of people. During the Civil War in the years following 1927, when the Communists established enclaves within the territory claimed by the Nationalist government, and especially after the Japanese invaded China in 1937, the Communists attempted to find ways of managing disease control and providing medical treatment for their followers. In these early years, perhaps more by necessity than by choice, but in any case with the firm belief that the provision of health care was essential to win the support of the people, the Communists established the rudiments of the system which has developed today. Their priorities were public health education, sanitation and hygiene. They used traditional practitioners to provide health care. From their experience in Yen-an and other border regions during the war years, they developed a health system which was articulated later in the 1950 National Health Conference's four principles of health care.

When the Chinese Communists established their rule over the entire mainland of China, radical changes in the structure of society took place. It was considered intolerable that a small group of people should maintain a monopoly on the goods and services produced by the labor of the majority of the people. A major goal of the Communist government was to develop ways by which financial and welfare benefits could be equally distributed among the people, 89 per cent of whom lived in the countryside. The expansion of health services was one example of how Communist words were made into immediate realities.

The development of health services after the establishment of the People's Republic of China has followed the successive stages of the nation's economic development. The period 1950-1952 was one of economic rehabilitation under the tutelage of the Soviet Union. Providing the basic organization for health and medical care and attempting to eradicate as quickly as possible epidemic diseases were the priorities. In the first instance, the government not only established the Ministry of Health in 1949 and brought the

existing hospitals and research centers under its control, but also took measures to mobilize the trained medical personnel. The government discouraged private practice and urged all medical workers, including practitioners of traditional medicine, to join the public health services. Medical schools expanded to train the desperately needed personnel.

To disperse medical care from its heavily urban concentration to China's 80 per cent rural population, the Ministry of Health in the 1950-1952 period relied on the creation of health teams and on mobilizing the people. The government sent teams led by doctors and staffed by medical auxiliaries to the countryside to establish anti-epidemic stations, maternal and child care services and programs for health education and vaccinations. The Patriotic Health Campaigns in which all people of a locality mobilized to undertake a massive assault on a given disease problem supported these efforts.

In the period of the First Five Year Plan, 1953-1957, the Chinese, still under Soviet guidance, emphasized the development of heavy industry rather than agriculture, and accordingly health policies focused on programs to benefit urban workers. The mass campaigns continued to hold an important place in health plans, as did the training of new personnel, but there was little focus on the expansion of health care in rural areas.

Then, in 1956, economic planners realized the inadequacies of the Soviet model for China's growth and progress and began to formulate plans which have determined the direction of policy for both economic development and health care services. The direction has not been easy to follow. With the promulgation of the Twelve Year Plan for Agricultural Development in 1956, the Chinese chose to emphasize agriculture as the basis of the nation's economic growth and to link health explicitly with this development. To protect rural manpower, the government, with the aid of the medical profession, took extensive measures to expand existing health programs and to create new ones.

By 1958, the communes* had emerged as the cor-

nerstone for implementing the economic policies of the period known as the Great Leap Forward, an era marked by a tremendous push for progress on all economic, political and social fronts. At this time, because of the government's choice to decentralize decision-making, local health units became responsible for health care in their surrounding areas.

In order to staff these new units, the Ministry of Health made several important moves. It undertook further steps to enlist the practitioners of traditional medicine (see Chapter V); it established an Academy of traditional medicine; it introduced both traditional practitioners and traditional theory into the university classroom, and recruited traditional doctors into the national and municipal public health services. Another measure was the transfer of urban medical personnel to lead and/or serve on mobile medical teams in rural areas (see Chapter VI). On a rotation system, which provided for one year's leave of absence from their urban institutions, city medical personnel rapidly expanded the manpower ranks of rural medical services. A third step was the creation of a new type of auxiliary worker, the forerunner of the present "barefoot doctor", peasants who trained in the part-time training centers that proliferated during the Great Leap period (see Chapter VI). This approach allowed people to be employed in health work during slack agricultural seasons, provided means of on-the-spot treatment and created a corps of concerned locals who had a stake in the good health of the commune's people.

* A commune is an economic, social and political unit in which 10,000–60,000 people live. It is collectively owned and run by the people who live there. It organizes agricultural and other production but also caters to the educational, medical, welfare and cultural needs of its inhabitants. Communes are composed of 5 to 20 production brigades of 2,000–6,500 people per brigade. The brigades are divided into production teams of which there are 60–300 per commune, consisting of 250 to 700 people. Production teams often are the same as a single village.

The economic decentralization which began in 1956 and accelerated in the Great Leap period met with obstacles in 1959. Because of, among other things, 1) a much too rapid attempt to develop the organization necessary to carry out expanded economic policies; 2) a series of natural disasters in the years 1959-61; and 3) the withdrawal of Soviet technical assistance and technicians in 1960, the years immediately following the Great Leap were ones of economic retrenchment and consolidation. "Self-reliance" began to emerge as a major theme for development. This period (1960-65) has been seen as one characterized by the dominance of the technocrats and bureaucrats and by the development of urban areas rather than the countryside. In the field of health and medical care, it was an era in which the drive for excellence in medical research and training diverted scarce resources from the establishment of health services for the masses.

To counteract the increasing power of the bureaucrats, Chairman Mao Tse-tung launched the Cultural Revolution in 1966, and, in the period that followed, economic strategies returned to decentralization and the rural emphasis.

Changes in the field of health anticipated the radical shifts in other fields, when Mao issued his "June 26" (1965) directive "in health to place stress on the countryside". As a result, in the period of the Cultural Revolution, policies concentrated on rapidly expanding rural health care by sending tens of thousands of city workers to join rural mobile medical teams; by vastly increasing the medical auxiliary corps through the training of barefoot doctors; and by broadening a scheme, initiated in 1958, for co-operative medical care within the commune structure (see Chapters II and VI). The goal of Mao and his followers became the institutionalization of these policies to ensure the continuation of the newly expanded rural health services.

While all these measures provided sensible solutions to an obvious need, the chaos of the Cultural Revolution made the firm establishment of the newly expanded health system difficult. It seemed at this time that, because of the

constant political pressure and shift of personnel, health care might break down completely. Apparently, in order to continue the delivery of health services, the Chinese turned to the one group that had retained its ability to function during this period of intense struggle, the army. The People's Liberation Army has become the model for all medical and health work.

Over the last five years many of the policies and programs of the Cultural Revolution period have been entrenched in the daily lives of the people. In health, co-operative medical schemes (see Chapter II) are more widespread and access to medical care is easier. Barefoot doctors not only have become increasingly numerous but also have been accorded more intense, advanced training programs. All ranks of medical personnel are taught western and traditional medicine. The referral system is establishing the continuity of health care. Although China has suffered setbacks and upheavals, it has never questioned the need for health as a major component for modernization, nor forsaken the four goals of health care set forward at the First National Health Conference in 1950. The Chinese health care system is the product of failures and re-adjustments. But it is evidence that, through commitment and perseverance, change is possible.

Documentation

DIRECTIVE OF THE CCP CENTRAL COMMITTEE AND STATE COUNCIL ON HEALTH CAMPAIGN

Issued by the Chinese Communist Party, Feb. 12, 1958
Translated in *Survey of the China Mainland Press*, Hongkong*,
No. 1722

The basic aim of the present health campaign for the extermination of the four pests and improvement of sanitary conditions is to wipe out diseases and unhygienic habits, as is stated in the National Program for Agricultural Development To achieve such an aim, we must improve both environmental and personal hygiene, prevent the outbreak of diseases and check the spread of diseases The elimination of flies, mosquitoes, rodents, and sparrows is an important step toward the conquering of diseases, as is the elimination of all insects, animals and birds that are harmful to humanity. In the course of the struggle, we must greatly raise the hygienic and health levels of the people and gradually control the spread and outbreak of diseases that are most pernicious in one locality or within one profession. This will boost the confidence and courage of the masses of the people in their attempt to conquer nature and surroundings We will not only conquer the diseases of man, but also the diseases, insects and animals that plague domestic animals, poultry and crops. This struggle is an important aspect of the great war to conquer and reform nature, an important aspect of the great cultural revolution to improve the health of the Chinese people, bringing them from backwardness to an advanced state. It is closely connected with raising labor efficiency, developing industry and agriculture and improving the living standards of the people. It is a mistake to neglect the significance of the struggle or to consider it unimportant . . .

The campaign must be combined with urban and rural production so that it will directly serve the purpose of production. The program for the extermination of the four pests and improvement of sanitary conditions must be included as a part in the general production and construction plan.

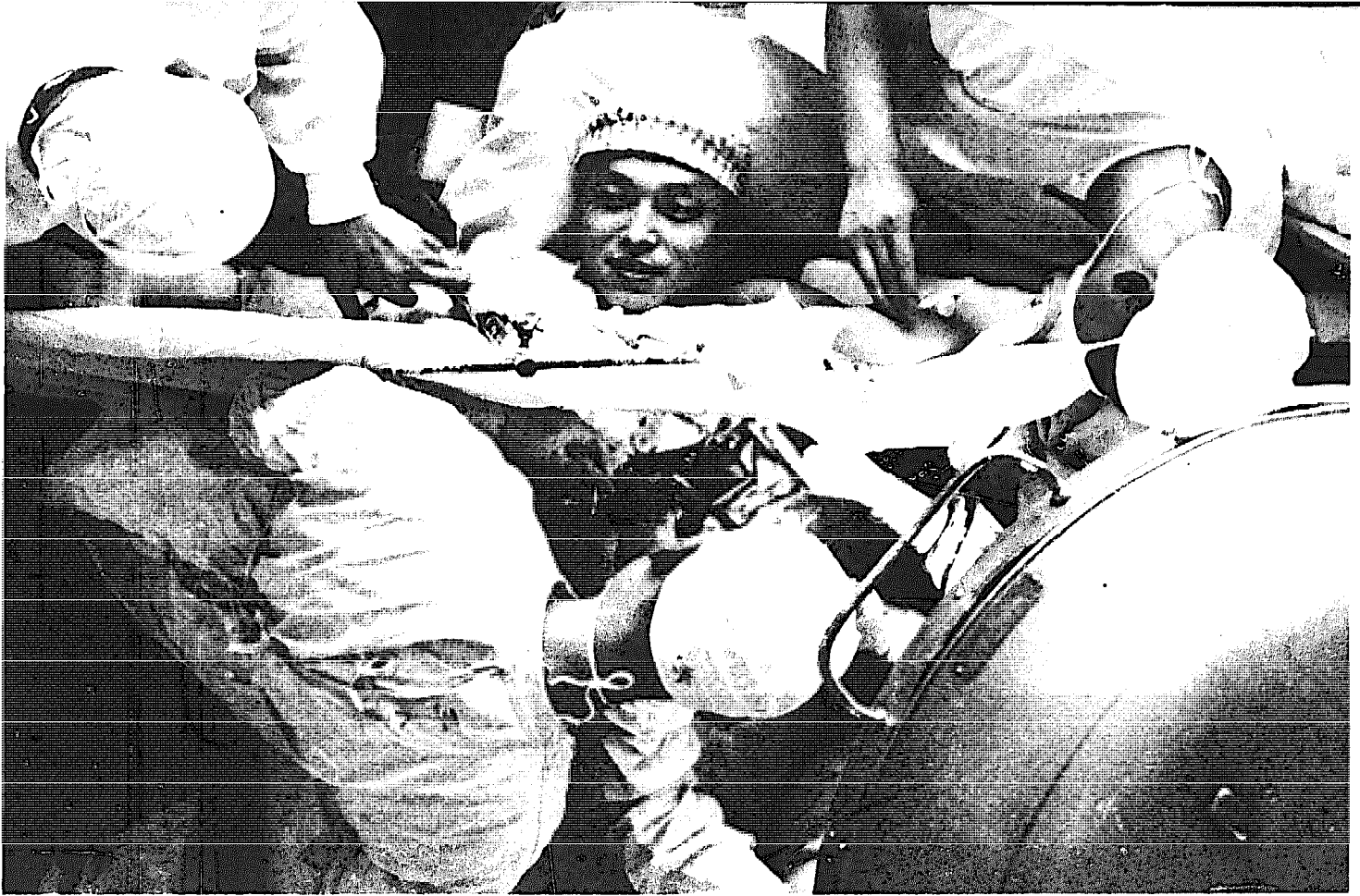
*Translation slightly amended.

In the rural villages, it must be combined with agricultural production. The question concerning the handling of human and animal excrement has an important bearing on sanitation and manure accumulation and it must first be solved. Throughout the country, latrines must be made available to the people, shelters provided for cattle and horses, pens for sheep and hog, and roosts for poultry. In some parts where the people and domestic animals share living quarters, they must be separated gradually. . . . Canals must be dredged regularly, ditches adjusted, dirty water drained, weeds cleared, garbage removed, excrement collected and methods of manure accumulation popularized. Work on the destruction of flies and their pupae, repair of latrines, control of excrement, sweeping of courtyards and improvement of circumstantial sanitation must be carried out in combination with work on the increase of manure and raising of fertilizer efficacy. Work on the elimination of mosquitoes by weeding and the destruction of mosquito larvae and snails by dredging canals and ponds must be carried out in conjunction with work on the building of farmland irrigation projects, the draining of dirty water and the spread of mud to fertilize the farmland, and the breeding of fish in all canals and ponds. Wherever possible, the health work must be united as one with the work on developing agricultural production.

In the urban areas, the campaign must be combined with city construction, business administration, urban-rural mutual aid and school education. For the purpose of eliminating the four pests and improving sanitary conditions in the urban areas, the question of how to dispose of night soil, garbage and dirty water must be solved; filthy rivers, ditches, pits and hollows must be dredged or filled. The trades which attract flies and rodents and which easily spread diseases (such as animal fur, feather, hide, bone, blood, and meat processing; sweets, edible oils and soy sauce manufacturing; bean curd plants, milling plants, restaurant trade and animal-breeding) must be brought under proper management. The disposal of night soil, garbage and dirty water must serve agriculture in the vicinity. Enterprises, government organs and schools may conclude long-term contracts with the suburban agricultural cooperatives to actively develop the cooperation between urban areas and nearby agricultural cooperatives in this respect. In all public places of gathering and entertainment, attention must be paid to keep these places clean and to check the spread of communicable diseases. In factories, mines, construction sites, and newly developed areas, . . . special attention must be paid to the management of food,

cleanliness of dormitories, health of workers and prevention of occupational and recurrent diseases. The enterprises, government organs and schools must subject themselves to health inspection and administration by *ch'u* and street organizations of various cities and towns. . . . In schools, the health education must be stepped up and the fostering of hygienic habits must be regarded as a part of the score given to each student's conduct and behavior. Activities concerning the elimination of the four pests and improvement of sanitary conditions within and outside schools must be considered a part of the entire labor education. The government organs and armed forces units must also take part in the voluntary labor of the health campaign in urban areas. . . .

All provinces, municipalities, autonomous regions and administrative districts must in the first half of this year work out their annual and long-range programs for the elimination of the four pests, improvement of sanitary conditions and wiping out of pernicious diseases. They must also maintain monthly and seasonal inspection, evaluation, and reporting of the work in their subordinate units in order to commend the advanced and to supervise and encourage the backward. The success of ten years is determined by what is done in the first three, and that of three years by the first year. If only the Party organizations of all levels can take up the responsibility in earnest and persist till the very end, we will successfully lay a foundation for the work within the course of this year, eliminate the four pests and practically eliminate the diseases which are most harmful to humanity in a number of years, and bring about a fundamental change in the sanitary conditions of the whole country.



A single needle inserted in the body of this thoracic surgery patient provided the anesthetic. The operation took place at the Peking Tuberculosis Research Institute.



The Army brings its "clinic" to the fields.

CHAPTER II

HEALTH CARE ORGANIZATION

The State will provide public health services and gradually expand the facilities to guarantee this right to the working people.

Draft Constitution of the People's Republic of China, 1954

In the field of health work, medical and health institutions in cities and in factories and mines and along the railway will be expanded and new ones added. County health centers and district clinics will be further improved.

Industrial Construction Plans, 1953

Policy is to make no basic change of the established organizations, but to rearrange them to add some new health centers, to redistribute service areas and to produce regional divisions of responsibility.

Jen Min Pao Chien (People's Health), December 1959

To direct the main drive of our public health work towards the countryside and to do genuinely practical work to solve the problems of providing a medical and public health service for the broad peasant masses is an undertaking unprecedented in the history of China and in the rest of the world. It is a long-term strategic policy for our country's public health work.

Chinese Medical Journal, February 1966

To carry out the four principles of health care established at the First National Health Conference in 1950, the Chinese set up a health care organization which stresses decentralization and flexibility. It is one which is organized on a hierarchical scale (with less comprehensive health units reporting to more comprehensive ones and with the Ministry of Health at the top responsible for broad policy direction

and major financial support), and is loosely controlled, leaving individual units to solve local problems. Because most decisions which concern the actual functioning of each unit are made at the local level, the implementation of over-all policy varies from place to place and changes with changing conditions. We can, however, describe some aspects of implementation which appear to be common to all units.

Who makes health and medical policy in China?

National policy for health is made by the Ministry of Health. The Ministry is divided into several departments including public health and preventive medicine, traditional medicine and maternal and child care. Not much is known outside China about the functioning of the Ministry. Prior to 1966, the Minister of Health and several Vice-Ministers directed health work. The First Vice-Minister had responsibility for the Ministry's relationship with the Communist Party, medical education, mass campaigns (see Chapter IV) and deployment of doctors. The Vice-Minister for Management had responsibility for giving direction to the provincial and district health offices. In 1965, the Ministry of Health came under heavy attack when Mao Tse-tung suggested it be re-named the "Ministry for City Overlords" because of its overwhelming concern for urban health services. As a result, while the organization appears to have remained the same, responsibilities have changed. Until mid-1973 the Ministry, was under the direction of an army officer and a revolutionary committee. In June, Madame Lin Hsiang-p'ing was appointed Minister, the second woman to hold the position.*

* Revolutionary committees were established during the Cultural Revolution to replace the then existing managers, who came under criticism. They attempt to share the responsibility of decision-making among those who are affected by the decisions. Composed usually of army men and/or Party members, professionals and lay people, these committees develop policy at all levels from the national ministries to village production teams.

The Ministry of Health is also ultimately responsible for medical research policy, which is carried out under the auspices of the Chinese Academy of Medicine. Following the Soviet model, the Academy is linked closely with other academies of science. Academy activities are financed with from five to ten per cent of the funds allocated to the central science budget and possibly with funds available to the Ministry of Health. The academy has 17 research institutes including acupuncture, parasitic diseases, occupational health, environmental health and nutrition. Essentially these institutes are responsible for almost all medical research and for national policies in their sphere of expertise. They are connected closely with hospitals and medical schools, primarily through dual staff appointments. These connections allow a concentration of manpower and material resources to attack specific health problems. Provincial academies and research institutes have been established under the Academy of Medicine to study local health problems. Because many urban professionals serve in local institutes, these organizations provide means of acquainting researchers with more general medical and health problems.

At the next level, provincial and district health offices are organized on the same lines as the Ministry of Health and have responsibility for more specific aspects of health policy. They are directly responsible to the Ministry. Since the Cultural Revolution, they, like the Academy, have been run by revolutionary committees and are now responsible for the direction of sanitation and other public health measures, hospital administration and financing, and for the deployment of available health workers to the hospitals, to neighborhood and factory health centers and to the communes under their jurisdiction. Many policies, however, from manpower utilization to finance, are made by the local health care unit and are the result of local initiative.

What are the functions of the various health care units?

The various levels of units function differently. But they do share three general characteristics. Firstly, all health

units carry out both preventive and curative work. In other words, in contrast to practice in the West, hospitals and lower (i.e. less comprehensive) units are responsible for such tasks as health education and sanitation work, tasks which, for instance in the United States, would be undertaken by public health departments.

Secondly, decision-making is decentralized, which means each health unit has responsibility for dealing with its own problems. This process allows a great deal of flexibility to deal with health problems as they arise. It also means that the central government is not the sole support of health care at the local level, and that local units can function without Peking's finances or detailed approval.

Thirdly, there exists a referral system by which lower health care units depend upon higher ones both for more complex medical advice and for treatment of those cases which the lower units cannot handle. This system 1) allows each unit to concentrate its resources at an appropriate level of care rather than spreading them too thin in an attempt to provide comprehensive medical care, 2) allows higher units to carry out more specialized functions because the screening of cases has taken place at a lower level, and 3) allows good utilization of professional time because the specialist can treat those cases which demand his skill rather than those which can be handled by a general practitioner or an auxiliary. Decentralization of health services and the referral system have enabled the Chinese to establish health units throughout the country, making some kind of primary health care available to nearly all citizens.

The basic organizing unit in health delivery in China is the hospital. Over the past decades, the number of hospitals in China has increased greatly. In 1949, there were less than 600. Since this time the number has been increased so that at present, the Chinese say, each of the 2,000 counties and most large communes have hospitals. Hospitals are administered by revolutionary committees. In Huashan Hospital in Shanghai, for example, the revolutionary committee is chosen in a general election in which all hospital personnel

participate. Patients, because they are transient, do not join in elections but are consulted by the staff about decisions that affect themselves and about ways to improve hospital services. The revolutionary committee establishes a special team to collect patients' views on hospital management and the attitudes of professional personnel. The Communist Party personnel are responsible for the political education of hospital staff.

Collective decision-making in hospital administration attempts to ensure that the channels of communication remain open among hospital staff and that the professional medical people do not become so engrossed in furthering their own skills that they ignore human problems. It also allows all levels of staff from the doctors to the cooks to have a say in hospital policy. This system of management, however, is not without problems. Tension continually exists between the medical people and their lay colleagues, particularly Party members, on questions of how to allocate time and money. Medical professionals, particularly those trained in the West, have had some difficulty adjusting to this system.

Central hospitals are at the top of China's referral chain. They serve both basic health care units in urban areas and the entire rural health care organization. There are several categories of central hospitals. The specialized hospitals whose main tasks are research and teaching are under the auspices of the Chinese Academy of Medicine. Specialist hospitals include those which are concerned with mental illness, highly infectious diseases, leprosy, traditional medicine, ophthalmology, cancer, obstetrics and tuberculosis.

Provincial, district and municipal hospitals are located in each of the major cities and are the major units responsible for health care for their areas. They have between 400 and 1,000 beds each and often 10 departments (internal medicine, surgery, gynecology and obstetrics, pediatrics, ophthalmology, dermatology, and ear, nose and throat departments, and moxibustion and acupuncture, X-ray, and herbalist doctors' services). They also have their own dispensaries

and laboratories. In addition to providing round-the-clock outpatient service, district hospitals treat the more complicated diseases, train medical staff and set guidelines for the preventive activities and primary health care services provided by the lower health care units. In Peking, with six million people, for example, according to Dr. Victor Sidel, an American doctor who travelled in the People's Republic in 1971, there were several research-oriented hospitals, 23 municipal hospitals, including 10 with over 500 beds, and 20 district hospitals.

Although hospitals in China's large cities are easily accessible to those who live there, health care is not confined within these institutional walls. To reduce the burden of medical care on the larger institutions, and to carry out preventive work to keep people out of expensive curative institutions, the Chinese have extended the outreach capacity of hospitals by creating smaller health units — factory health protection stations and street health stations which are responsible for the even smaller lane health stations. These units rely on a system of referrals. The factory health stations and street health stations are the units most involved in community health work.

Factory health stations provide emergency care, engage in health education and carry out family planning activities in the individual factory complexes. The health staff is also responsible for recommending improvements in working conditions. The street health stations, on the other hand, have responsibility for the health care of an entire neighborhood including all its residents. Their medical auxiliary staff not only handle emergency treatment and health propaganda work, but also visit homes to look after the infirm and to record the general state of a family's health and the dates of inoculations. The lane health stations are responsible for all children up to eight years of age, when the schools take over their care. They also carry out birth control work and preventive activities at the family level.

The organization of the basic health units in Hangchow has been described by Dr. Sidel. In that city, perhaps

more highly developed than most, there was one health unit for every 1,500-3,000 people, none of whom lived more than 300 metres from a station. The lane health station was under the supervision of a committee which also supervised a range of social service activities including kindergartens and care for the aged.

Silvery Lane in Hangchow, with 2,700 people in 702 families was one such lane. Its health station had six Red Guard doctors and part-time medical auxiliaries (see Chapter VI) and 47 health workers who were residents of the neighborhood and served as volunteers. It was one of 12 lanes in a street which had 28,000 people in 7,350 families. The street health station, which was also governed by a committee, supervised health care in 88 smaller units including those in factories, office buildings and primary and middle schools.

The rural health organization parallels the urban with a pyramidal structure and channels to refer patients to the district and provincial hospitals. Although China's urban health services are still more highly developed than those in rural areas, several new programs have been initiated to ensure the health of the agrarian labor force. These programs include transfer of medical manpower from urban to rural areas (see Chapter VI) and commune co-operative medical schemes (see below).

Each county in China has a hospital, which, like the district hospitals, is financed by the central government. County hospitals have approximately the same organization and responsibilities as their urban counterparts, only on a smaller scale. The institution may have 100-300 beds and has X-ray equipment, laboratories and a pharmacy which is stocked with both western and traditional medicines. At the county hospital, staff train medical personnel, treat referral cases and run a 24-hour outpatient clinic. Such hospitals may have about 10 western and traditional doctors and a large number of medical auxiliaries.

At the next lower level is the commune hospital. These hospitals vary in size and capacity, depending both

on the number of commune members and on the ability of the commune to finance health services. They have both inpatient and outpatient clinics. Simple surgery can be performed here but more complicated cases must be sent to the county or city hospitals. Many commune hospitals have X-ray equipment. They may have one or two doctors on the staff supported by barefoot doctors (see Chapter VI) and other types of medical auxiliaries. (The document at the end of this chapter describes health care organization in a commune in Shansi province.)

At the brigade level, there is the brigade health center. This is usually a large building which houses some of its staff, who include at least several barefoot doctors and often one or more fully qualified doctors, a male nurse and medical assistants. Since it functions only as an outpatient center, its work concentrates on child care, treatment of common diseases, pre- and post-natal care for mothers, family planning work and health education. It handles occasional simple surgery usually related to gynecological problems, and refers all complex cases to the commune health unit. It combines western and traditional medical procedures and medicines. A great proportion of its work is in preventive activities.

The production team or village has a health station, which usually consists of one or two rooms of a typical rural house with adobe or brick walls, a tile roof and a cement, brick or dirt floor. The station is staffed by one or two barefoot doctors who work in the fields when they are not treating patients and know each team member personally. Their work focuses on emergency treatment and on prevention, including the provision of birth control information.

How are health services financed?

The central government is the major source of financing. The goal of the Chinese government has been to provide free medical services for everyone. Lacking the resources, however, it has had to find ways of dividing the

financial burden between the central government and the local units, and of mobilizing all local resources. Since the Chinese have not released any meaningful figures on the health budget since 1960, we can make only some general statements about central government spending in this sector. The health budget is included in funds assigned for health, culture and education. This category recorded a rapid increase in the 1950's which corresponded to an equal decline in defense spending.

The central government pays for the construction, upkeep and staffing of central hospitals and contributes to the support of county hospitals. The district hospitals are financed in part by the cities' social, educational and cultural budgets, while the more specialized research-oriented institutions receive central government funding through the Chinese Academy of Medicine.

The national budget finances a medical insurance scheme for all state employees, including those working in certain types of industrial, mining, transport, communication and construction enterprises as well as government officials. In operation since 1952, this scheme pays for medical treatment including hospital care. The state pays maternity costs and for leave for state-employed women. In total, state insurance is provided for about 25% of the population in the urban areas.

A third central government expenditure is on preventive activities. The government supports many of the public works required for sanitation projects. Government funds support massive inoculation programs to prevent outbreaks of epidemic diseases. Vaccinations and inoculations, including anti-tuberculosis injections, are provided to children free of charge.

The decentralization of health services requires that each local health unit support many of its own activities. Referral or other kinds of services which are provided by hospitals to lower units are usually paid for by the lower unit under contract. If a dispute arises, any services can be terminated either by the hospital or by the lower unit.

Officials from the Ministry of Health can mediate in disputes.

To pay for rural health services, the government has encouraged the development of co-operative medical schemes which provide relief for the national budget. The scheme most often operates at the brigade level. Each brigade member pays a minimal fee* for medical expenses each year and the brigade fund contributes the additional financing. The total sum goes to build and maintain the health facilities, to cover the cost of treatment and medicines needed by brigade members and to buy services not available. If the patient needs to be sent to a higher health unit, the fees are covered by the brigade fund. There are still instances, however, where fees are collected from the individual for medicines and treatment.

In addition to monetary contributions, brigade members are encouraged to support health care by actively participating in the health scheme. Reports indicate that in some villages all inhabitants spend time collecting herbs for medicinal purposes and making their own medicines. They also build their own facilities.

While the decentralization of health care makes possible a wider distribution of services, several problems have arisen. One is that the availability of local health care can vary enormously depending on resources. The richer communes, brigades and production teams can afford more and better care than those which are less wealthy. This disparity tends to lead to a return to a dual health care situation - one for the rich and one for the poor. The government has attempted to counteract this trend by supporting local services to ensure minimal health care, but the gap is not yet filled.

Another problem has been the financing of auxiliary personnel, particularly since the creation of the massive ranks of barefoot doctors. How they are to be paid has

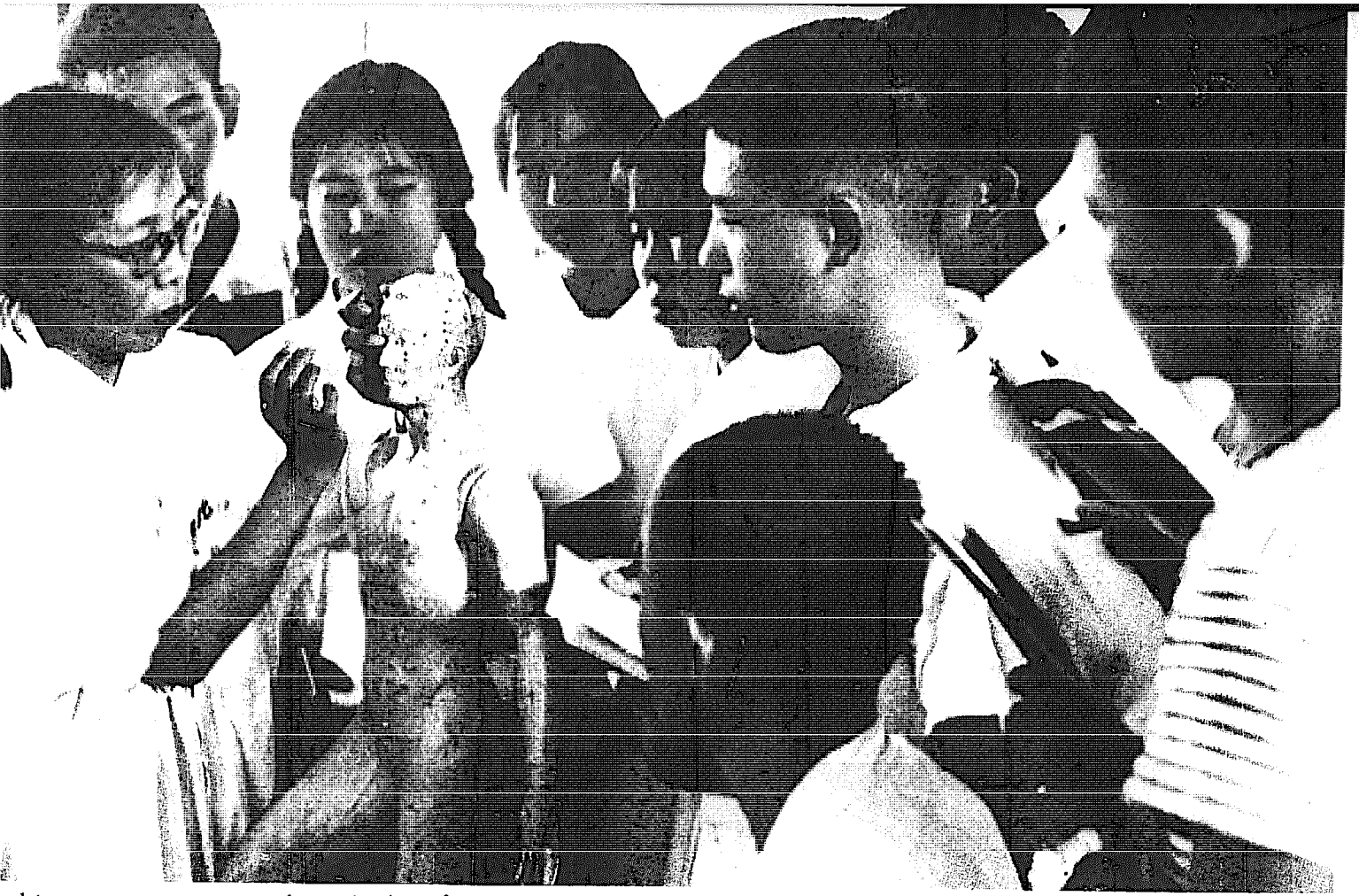
* The annual fee varies from commune to commune, but each person usually pays 1-2 yuan, the rough equivalent of a day's wages.

been a real question. Often the solution has been to give them work points* equal to their time spent in health work. Reports have indicated that some rural people resent the added cost of supporting both the barefoot doctor and the co-operative medical scheme. Some peasants feel that they have received little benefit in exchange for their contributions as neither they nor their families have used the health services.

A third problem is the heavy demand on all health care units. The low cost encourages some people to go to the health unit for the slightest ailment, which can obviously cause tension between those who work in the health services and those who wish to use them. The latter may be convinced their illnesses merit hospital attention, while the former must examine each case carefully to ensure the best use of facilities.

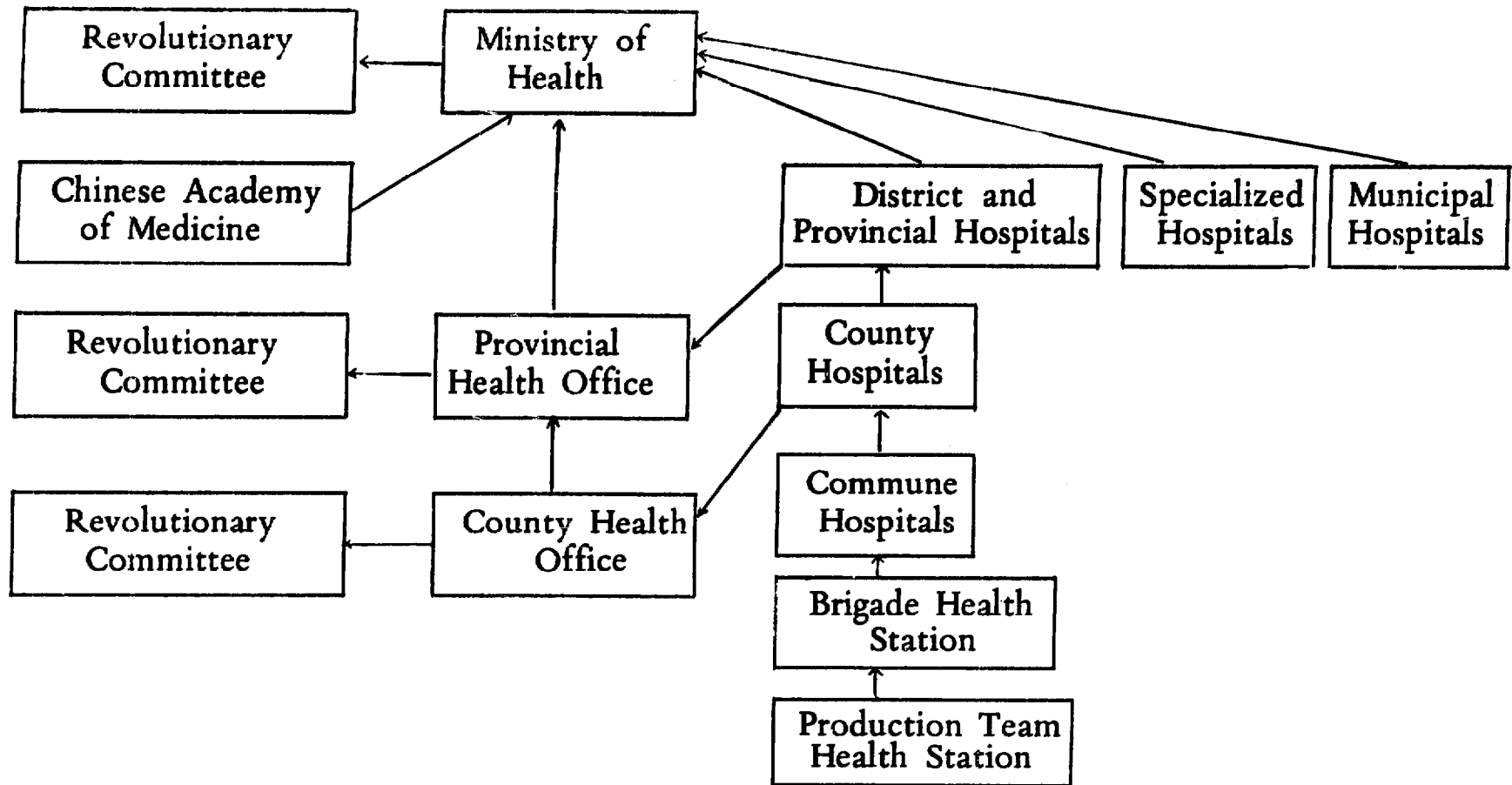
Despite these problems, the Chinese have developed a health care organization which rests on a fruitful combination of general policy setting and major financing from the central government and local initiative and financing. Reinforced by an effective referral system and intensive public education, the health care organization has maintained a fairly stable structure while retaining flexibility and experiencing very rapid growth.

* Work points are the method by which income is distributed in the commune system.

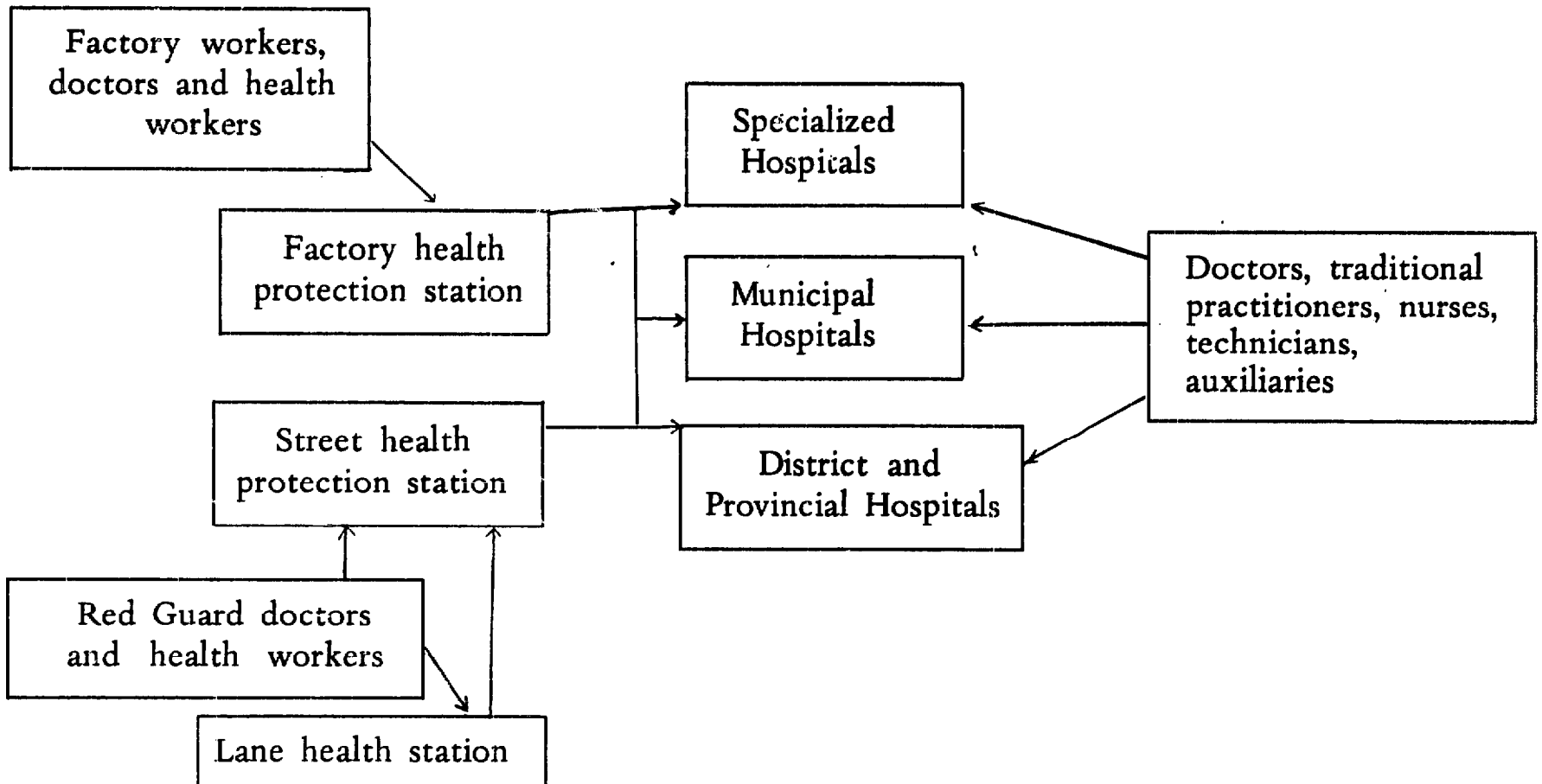


teaching acupuncture to brigade barefoot doctors.

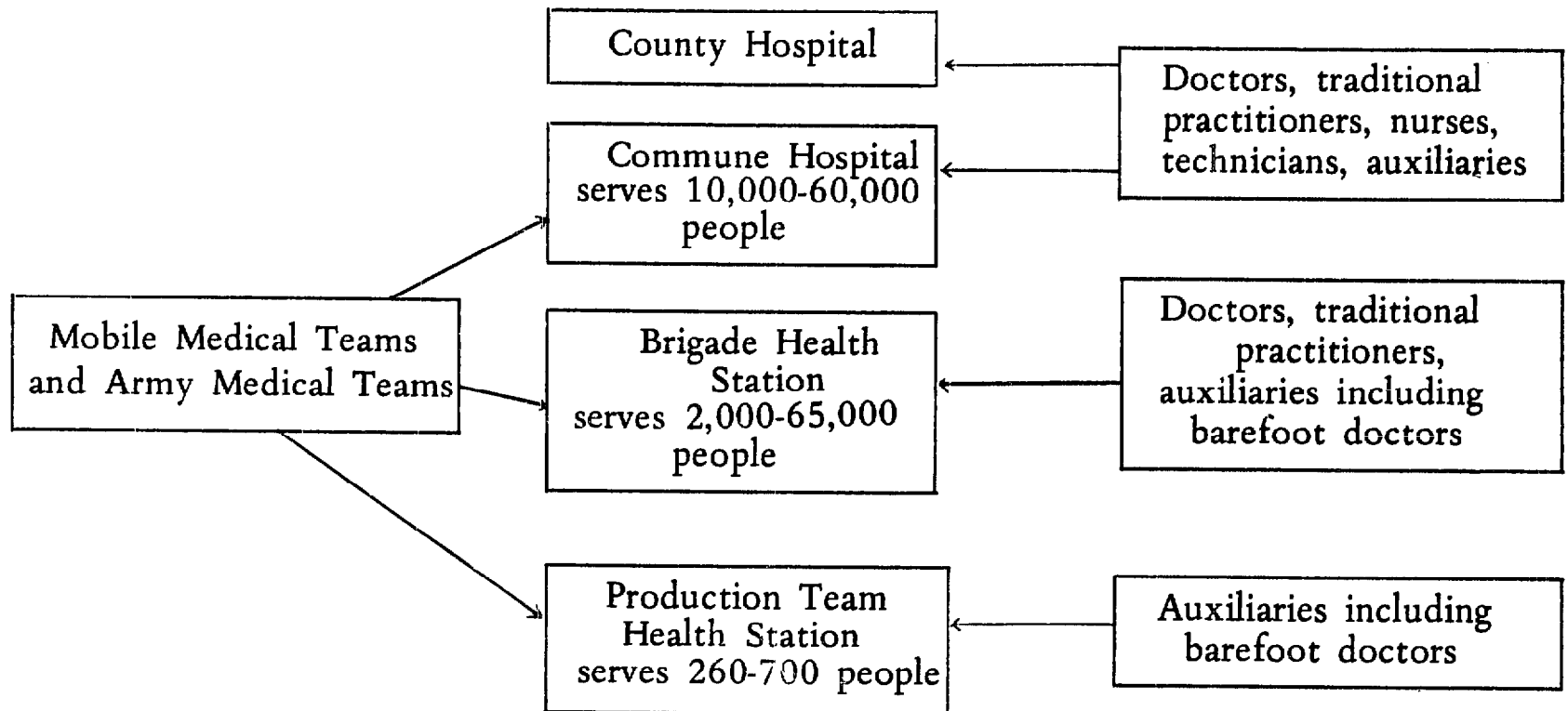
CHAIN OF RESPONSIBILITY OF HEALTH CARE UNITS IN CHINA



URBAN MEDICAL CARE ORGANIZATION IN CHINA
Health Care Units and Health Personnel



RURAL HEALTH CARE ORGANIZATION IN CHINA



CO-OP MEDICAL CARE IN SUN VILLAGE

A staff writer in *China Reconstructs*, November 1972

Soon after lunch people began coming to the health station in Sun village. A woman production team leader came in holding one hand over her ear. A young barefoot doctor examined her and said it was an infection of the outer ear. He weighed out some dried dandelions and honeysuckles, wrapped them in a piece of paper and handed them to her with instructions to make a broth from them. She had just gone when an elderly woman who suffers from chronic high blood pressure came in for her regular injection. A mischievous-looking boy dashed in and stood very still in front of the medicine chest. The barefoot doctor changed the dressing for a boil on his head. "All right, scoot!" he said, giving him a pat on the behind as he finished. The boy ran off.

It all seemed to be happening in one big family and quite makes one forget that this is a commune production brigade health station, in this case the Sun brigade of the Sun People's Commune in Shansi province. It wasn't just that the patients did not have to register or pay any fee. What is more impressive is their complete trust in the doctors and the doctors' warm informality with them. This new doctor-patient relationship is only one of the results since the countryside has had cooperative medical care and barefoot doctors. The Sun production brigade is one of the pioneers in cooperative medical care. Since the cultural revolution, brigades all over the country are establishing and consolidating similar systems.

Co-op Medical Care Pays the Bill Sun village, for which the brigade is named, was a poor place before liberation. There was no doctor and few would have been able to pay if there had been. When someone in a landlord family fell ill, they could send a cart to bring a doctor from the town; for the poor there was only the hope that the illness would pass, or death if it were serious.

Life improved after liberation, but as long as the peasants still farmed individually, the poorer ones, who after years of being exploited in the old society owned little to call their own, often had to go into debt to pay any large medical expense. There was, for instance, Wang Chih-lin, a poor peasant whose wife had complications in childbirth. The medical bill ran to 500 yuan and to meet it he had

to sell the three-room tile-roofed house he got in the land reform.

In 1956 the people of Sun village formed a fully-socialist producers' cooperative. Collective production raised the members' income. At the initiation of the poorer peasants, each member paid 0.30 yuan a year into a medical fund which covered the cost of treatment but not medicine. In 1958 after the co-op became a unit in a people's commune, many members suggested a larger payment which would cover all medical expenses. This had the support of the members. "If it means that everybody's health is taken care of, I'll be glad to pay out ten yuan a year, even if I don't have to use one cent myself," said old Liu Fa-tung, who knew what it was to be poor and on his own.

That was how the system of cooperative medical care came into being in the Sun People's Commune in 1959. Now each member pays two yuan a year to the brigade health station. From its public welfare fund, the brigade pays 0.70 yuan per person to the commune clinic. These measures make it possible for members to have treatment and medicines without charge at both the brigade health station and commune clinic. When brigade members need treatment at the county hospital, the brigade pays 80 percent of the cost.

Since 1959, 29 people in Sun brigade have incurred medical expenses of a hundred yuan or more, all of which were paid out of the cooperative medical fund.

A Health Network

A health network with medical facilities at every level assures members of the Sun commune of prompt treatment for their illnesses.

The health worker. The Sun brigade's more than 60 health workers spend most of their time at farm or other commune production tasks, and give first aid and the most elementary level of medical care. They make the rounds of the fields, homes, classrooms and kindergartens to take care of ordinary ailments.

Brigade health station and barefoot doctors. The brigade health station is staffed by four barefoot doctors working under the guidance of a regularly-trained physician. The barefoot doctors have been trained to handle cases of colds with fever, pneumonia, parasitic diseases, high blood pressure, gynecological troubles, deliveries, and minor obstetric and emergency operations. They answer calls to home or field any time of the day. In addition to these duties, they continue to work part time in production, cultivate medical plants, and prepare and compound herbs.

An ordinary home serves as the health station. A large portion of the spacious courtyard is constantly filled with medicinal plants drying in the sun. The rows of drawers in the dispensary chest contain a fair variety of medicinal plants, and on the shelves stand some 60 bottles of potions brewed from herbs and an almost equal number of modern medicines. The greater part of the treatment by the health station is with Chinese traditional methods, such as acupuncture, moxibustion, massage, and *nieh chi* and it prescribes mainly herbal medicines. As all of this can be done with very little cash outlay, the cost of treatment does not generally overrun the co-op medical care fund.

On the walls of the consultation room hang rows of envelopes containing the medical histories of each commune member. This system was instituted a year ago after the station gave every person in the brigade a medical examination.

For the brigade's 1,266 members there is one medical worker with some kind of training for every 18 people. Since the majority of the illnesses and diseases in rural areas are of the ordinary kind, bare-foot doctors and health workers, who make up the main force in rural medical care, can handle them adequately. Such personnel take care of 80 percent of the medical cases in Sun village.

Commune clinic. The 20 percent of cases which are referred out of the brigade are those which call for surgery or need further laboratory tests or X-rays. Most of these are handled by the commune clinic.

The Sun commune's clinic was set up after the people's commune was formed. Administratively it is under both the commune and the county health department. It receives direct professional guidance from the county hospital. The county government subsidizes half the cost of running the clinic. Last year the Sun commune's clinic received 8,000 yuan, or 51 percent, from the government.

Housed in a set of one-story buildings are the clinic's departments: internal medicine, surgery, obstetrics and gynecology, and a department of traditional medicine. There is also an X-ray room, a laboratory, a pharmacy which prepares herbal medicines and distilled water, and a ward with 20 beds.

The clinic's medical equipment was provided without charge by the government. This includes a portable X-ray machine, a portable high-pressure sterilizer, microscopes and sets of surgical instruments for most operations with the exception of chest and brain surgery.

The commune clinic has a staff of 20. Of the ten doctors qualified to write prescriptions, five have had a further short course at the county hospital or provincial medical college. The county health department sends all of the commune clinic's doctors in turn to the county hospital for such additional on-the-job training. The county hospital also sends its experienced doctors, one or two at a time, to the commune clinic to help and guide work there.

Doctors in the commune clinic's internal medicine department can diagnose the more complicated illnesses. The surgeons perform operations for appendicitis, intestinal obstruction and stomach perforation, caesarean section and debridement and internal fixation of compound fractures. This level of skill guarantees that most acute conditions can receive prompt treatment at the commune level.

The county hospital. Cases turned over to the county hospital are those like tumor and cancer cases which require biopsy tests, and major abdominal operations such as removal or partial removal of the stomach, kidney, spleen, or uterus. In the first six months of this year, the clinic referred 20 such cases to the county hospital.

Attention to Prevention. In the early morning, Sun village is filled with the sound of the sweeping of its earthen streets. Though the village is situated on the loess plateau where water is scarce and one must drill down at least 120 meters for a well, every home seems neat and clean, with the cooking utensils and bowls neatly covered with cloth. Never once did I see a courtyard littered with rubbish or firewood. The latrines were free of odor and maggots, and there were no flies, mosquitoes, fleas, or rats in evidence.

Sun village had its first health campaign back in 1952 in answer to Chairman Mao's call, "*Get mobilized, pay attention to hygiene, reduce disease, improve health conditions.*" Sanitation has been a regular feature of life there for the past 20 years, sweeping the streets daily, levelling and retamping them after a heavy rain, destroying pests at first sign of them, and prompt treatment and measures to prevent the spread of any illness that is noted.

The brigade health station gives preventive inoculations regularly, and prepares herbal broths for the whole population to drink to heighten resistance to infectious diseases like influenza. Since 1956, there has been no outbreak of typhoid fever, dysentery, whooping cough, diphtheria, or measles. These used to take a great toll. During a typhoid epidemic in 1947, 120 people in Sun village came down with the disease, an incidence rate of 16 percent.

With better health, the brigade's work attendance is always over 95 percent. The annual death rate is 6 per thousand. Of 65 deaths in the village in the past eight years, three-fifths were those of people over 70. In Sun village there is one man 105 years old and several other elderly people over 80.

CHAPTER III

EPIDEMIC DISEASE CONTROL

Vigorous action should be taken to prevent and cure epidemic and other diseases among the people and to expand the people's medical and health services.

Mao Tse-tung, On Coalition Government, 1945

The masses have boundless creative power. They can organize themselves and concentrate on places and branches of work where they can give full play to their energy; they can concentrate on production in breadth and depth and create more and more welfare undertakings for themselves.

Jen Min Jih Pao, 24 April, 1970

Health education is the foundation of preventive medicine. It is a specialized science in itself.

Dr. Chia Wei-lien, 1956

On the basis of the network of health organizations, the Chinese have developed widespread programs for the purpose of eradicating the major parasitic and infectious diseases which have plagued the people. Efforts for disease control have focused on three types of activities: 1) health education for the improvement of personal hygiene habits, 2) mass inoculation programs, and 3) destruction of animal and insect vectors. Rejecting the preoccupation with curative medicine that is so common elsewhere, the approach of the Chinese has been to "put prevention first". They have mobilized the individual and the community to do disease control work, and linked mass health campaigns with other mass campaigns in order to use all existing resources.

How have mortality rates changed since the establishment of the People's Republic of China?

One of the major problems in evaluating China's health care system is the lack of reliable statistics. Among available data, however, there are some which provide at least a profile of the progress in disease eradication. Table 1 presents statistics concerning the reduction in mortality from some of the most common infectious diseases. While the numbers may be imprecise, the table does suggest two

DISEASE MORTALITY (per 100,000)		
DISEASE	1950	1956
Tuberculosis	230	46*
Smallpox	207	rare
Typhoid and Typhus	204	10
Dysentery	216	10
Cholera	165	rare
Diphtheria	155	40
Scarlet Fever	28	4.5

table 1.

Sources: 1950 rates are tabulated from Scott, James Cameron, *Health and Agriculture in China* (London: Faber and Faber, 1952.) 1965 rates for dysentery and scarlet fever from Tung Chi Yen Chiu (Statistical Research) May 1958 cited in *Union Research Service*, vol. II, no. 25, p. 360. Tuberculosis - *Chinese Medical Journal*, vol. 79 (1959), pp. 217-52. Smallpox & Cholera - *Chinese Medical Journal*, Dec. 1959, pp. 438-88. Typhoid, typhus and diphtheria - T.F. Fox, "The New China", *The Lancet*, 273: 7004 (Nov. 23, 1957).

*This is the rate recorded for Peking.

things. The first is that the new Chinese government placed high priority on controlling diseases which could be prevented by improvement in environmental sanitation or by inoculation. The second is that the government was able within a few years to create a highly effective preventive network.

How have the Chinese managed to reduce the prevalence and mortality rates of communicable diseases?

The major factor in the Chinese success in reducing the threat of communicable diseases has been the technique of mass mobilization, which has engaged whole communities in pursuing the goal of disease eradication. These campaigns are possible because of the political technique known as the "mass line" (see below), the health care organization and a large pool of surplus manpower.

In the matter of public health, these methods of mass mobilization have enlisted the whole populace under the leadership of professionals toward the accomplishment of two ends: 1) the systematic eradication of and continued vigilance against those diseases which have always been the greatest threats to the well-being and productive capacity of the people, and 2) the conduct of widespread health education programs.

Building on the patriotic sentiments of the people during the Korean War, the first nation-wide mass campaigns were organized in 1952. At the time, Americans were being accused of using biological warfare. What better occasion could be found to induce the people to protect themselves against communicable diseases? The first "Patriotic Health Campaigns" attacked the "four pests"—rats, flies, mosquitoes and sparrows*—and urged the cleaning up of village water supplies. These campaigns, as Robert Worth, Professor

* Shortly thereafter, bedbugs were substituted for sparrows, since it was discovered that the insects normally controlled by sparrows were destroying the food crops.

of Public Health at the University of Hawaii, has pointed out, represented a masterful utilization of war psychology to effect basic changes in environmental sanitation. While they were subsequently criticized as being poorly organized, it was in these years that visitors to China began to report in wonder the absence of flies and generally high standards of cleanliness.

In later years, the Patriotic Health Campaigns were supplanted by "Shock Attacks", short and highly intensive campaigns that were carried out, often on a regional scale, each to deal with a specific problem. Shock Attacks were most common during the Great Leap period (1958-9), when they were linked to the emphasis on increased agricultural productivity. Thereafter, campaigns became regular seasonal affairs aimed at the eradication of all major communicable diseases as well as the "four pests" and at the improvement of sanitary conditions through health education.

Mass campaigns embody the four health care principles set forward at the First National Health Conference. Thus they 1) rely upon the "mass line" to make health care widely available, 2) stress prevention, 3) utilize all available manpower and medical resources (western and traditional), and 4) link health care with agriculture by co-ordinating mass activities in these two areas. A national mass campaign is carried out in the following steps. The decision by the government to launch such a campaign may be based on its own information or on recommendations from the provinces of local areas after reports of a disease problem. The government then considers how best to carry out the campaign, given the social, political and economic goals of the society. Health personnel at the various organizational levels come together to discuss the best methods to deal with the disease problems. After a decision has been reached, these methods are tested in field trials. The results of the field trials are reported and analyzed by both health and Communist Party personnel. The next step is to call a national conference where the

groups report their findings and compare results. Finally, after results have been evaluated, a general method is agreed upon for implementation, but latitude is provided for adaptation to local conditions. The people of the target area contribute to the campaign in several ways. Local personnel such as barefoot doctors are engaged in the planning, all able-bodied people participate in killing pests, getting inoculations, burying snails, or whatever activity is required. They can also suggest ways of adjusting the campaign to local conditions.

To understand the mechanics of mass mobilization, it is necessary to examine briefly what the Chinese have called the "mass line". Based on the Maoist belief that the common people, given the proper leadership and necessary power, knowledge and motivation, can successfully cope with highly complex problems, the "mass line" is a basic tenet of China's socialist policy. A line of action, it is held, can serve the people only when they are thoroughly committed to that line; therefore there is an attempt in all political, economic and social activities to maintain interaction between the leadership and the people. After the leadership has proposed a broad policy as a program of action, it is discussed from the highest ranks to the lowest in sometimes lengthy and repeated study sessions; it is modified as conditions require and is carried out only after the public is tacitly or actively in agreement with its fundamentals, that is, after it has become the "mass line". In this way, an attempt is made to involve everyone and to commit all the people to the national goals. Developing the "mass line" in health work follows the normal procedure. After making information available to all community members through films, lectures, posters and drama, the local authorities call meetings to discuss the disease problem. These meetings aim both to inform the people on health questions and to mobilize and enlist them for action to control and prevent disease. Decisions follow understanding. This technique, according to Joshua Horn, a British surgeon who worked 15 years in the People's Republic of China

selection at the end of the chapter describes the campaigns against schistosomiasis and the construction of irrigation canals. Another example, is found in a report of the 1958 campaign when mass mobilization is said to have induced the people to construct or repair no fewer than 65.27 million public latrines - or one for every 10 people. If such reports lack credibility, they do not diminish one's sense of admiration for the thoroughness with which the Chinese have attacked their disease control problems.

Mass health campaigns depend on mobilizing all resources. A large pool of experienced manpower is found among the practitioners of traditional medicine. Both their skills and their medicines have been incorporated into the attack on preventable diseases. Their experience and the trust they generate among the local people have added a great deal to the efforts to control diseases. The manner of their being drawn into the programs represents another way in which China makes use of its existing resources. Chapter V discusses in some detail this contribution to the Chinese health system.

Finally, mass health campaigns have been coordinated with other mass campaigns, particularly with those concerned with agriculture. Because the diseases with the highest incidence rates are those which attack the farmer, the Chinese have launched mass campaigns to coincide with attempts at rapid increase of agricultural production. These campaigns reached peaks during the time when the Twelve Year Plan for Agricultural Development was published in 1956 and during the Great Leap in 1958. They continue to be carried out seasonally on a much less intensive scale.

While many nations have used mass campaigns to wipe out specific diseases such as malaria, they have not always been successful in maintaining the eradication programs. The disease often reappears as soon as control efforts diminish. To maintain the results of a short-term attack, the Chinese rely on a system of constant supervision. Community inhabitants are appointed to carry out regular

(see bibliography), was a key element in the attempts to eradicate venereal diseases and schistosomiasis, of which detailed accounts follow.

Health education is the key to preventive work. In the words of Li Te-chuan, China's Minister of Health from 1949 to 1965, "Health education, I think, is the most important phase of public health work, because the more we teach the people about hygiene the more will they be able to prevent disease. The general level of people's health will thus be raised." Educational work is followed by mass inoculation programs and attacks on disease carriers.

Programs for massive inoculations began in 1950 and in a few short years yielded impressive results. Early programs focused on the eradication of smallpox and cholera. Very few cases of either disease have been reported since that time. The rapid reduction of the mortality rate for these diseases is due in no small part to mass mobilization activities. To prevent recurrence, health personnel pay house-to-house visits to teach people about disease dangers and to persuade them to receive inoculations, which usually are provided free by the state. Reports are kept on each household. The radio and printing media are used for education, as are posters, films and dramas. Public pressure, as described in Chapter IV, is brought to bear on those who will not co-operate.

Attacks on disease carriers use China's abundant manpower to remove filth and disease-breeding animals and insects from an area. To clear a community of disease carriers may require the efforts of all its inhabitants for a given period of time. In early campaigns against the "four pests", the authorities set goals for the number of pests to be killed by each person each week and established a system of recording these efforts to make sure everyone did his share. Stories have been told about the university professor who went to his colleagues in tears begging to buy a few rats to fulfill his quota.

Another example of this kind of activity is the use of China's manpower in public works construction. The

inspections. In the urban areas, monitors are appointed in each neighborhood, one person responsible for every ten households, to educate people so that they follow directives. In addition, all people in major cities participate in a once-a-week "sweep-up". In Peking, for instance, every Thursday everyone cleans his residence, place of work and the adjoining street. In rural areas, sanitation workers are responsible for mobilizing the people to participate in the mass campaigns. Sanitation squads have been created in some areas, composed of representatives from every 4 to 12 households, to check that the work is carried out. All health workers, from doctors to the lowest medical auxiliary, spend some time doing preventive work. In addition, there are categories of health workers whose major function is to engage in preventive activities such as health education, examination for diseases and inoculation programs. In this way, health workers are building a strong preventive network to ensure continuing results. That the methods are effective can be judged from the fact that, in the last 20 years in China, there has been so far as we know no major epidemic.

How is a mass campaign for disease control implemented?

In recent years, China's achievement in the control of two common communicable disease problems - venereal disease and schistosomiasis - has attracted much attention. In this section, we shall describe China's attempts to eradicate venereal disease (V.D.). In the documents, we allow the Chinese to describe their own efforts in controlling schistosomiasis - a liver fluke which attacks the mesenteric blood vessels of the abdomen causing debilitation and eventual death.

Known to the medical profession as "social diseases", venereal infections reached their peak in the period under Republican rule (1911 - 1949). Warlord armies and after 1937 the war with Japan brought continual troop movements throughout China. In 1949, urban areas were estimated to have an incidence rate of five per cent and

the rural areas (with the exception of certain war-ravaged places where it was high) from one to three per cent.

The new government made the eradication of venereal disease a priority. It took advantage of the fluid situation which resulted from the destruction of many traditional social structures to launch a three-point attack on the problem. The first aimed to destroy the institution most responsible at that time for the spread of V.D. - prostitution. In the autumn of 1949, the Chinese government passed a law which closed down all brothels and set up special medical boards to examine and treat with penicillin all prostitutes suffering from V.D. To ensure that these women did not need to return to their former trade, the government provided special education classes for them. They were taught about the social, political and economic circumstances which had led them into the profession and they learned to read and write. When they had completed this formal education, work was found for these former prostitutes. Some went to factories or farms, others into professional work such as acting. Many are married.

The second focus was the provision of medical care for all those who contracted the disease. Under the direction of the Central Research Institute of Dermatology and Venereology which was established in 1951, programs for detection and treatment were co-ordinated on a nation-wide scale. The work of the Institute included the co-ordination of eradication work at all levels of health units, the training of specialized personnel and the supervision of investigation research and field control. The Institute worked closely with other departments of medical services and hospitals. In 1958, it organized pilot projects in eight different provinces. After some successes had been achieved, the Ministry of Health convened a nation-wide conference to study the experience of one project in Ningtu county, Kiangsi. It held the conference in the township where the work had been done so that participants could see the results and discuss the problems with local people. The government later reported that, through applying the lessons learned

at this conference, every province in China had by 1961 either eliminated or controlled V.D. Henceforth, efforts focused on follow-up work and the final eradication of the disease.

The third prong of the government's effort engaged the masses in active eradication programs. Large numbers of para-medical personnel chosen from the local people were trained rapidly to diagnose, report and treat with penicillin infected individuals. Often with no more than seven days' training, these people provided the manpower necessary for very quick control, in part because they knew their neighbors. Communist Party cadres, medical people and voluntary workers taught the people about venereal diseases, supported by films, the radio, and wall newspapers as well as ordinary newspapers. Stressing the contrasts between some of the horrors of the old society and the improved conditions in the new China, these groups sought the active participation of the people to wipe out V.D.

An example of this mobilization is shown in one approach to detection. Hopei province personnel decided that questionnaires to be completed by all people in the province would be useful. Most people, especially the rural majority, were reluctant to fill out the questionnaires which contained 10 questions designed to reveal V.D. symptoms. After much work on the part of the medical and Party personnel who conducted education meetings, however, a few finally consented to answer the questions. Once the barrier had been broken, the response rapidly multiplied.

Efforts toward the eradication of the diseases rested upon these three points and upon the involvement of the entire community without exception. As Dr. George Hatem, the first director of the Institute of Venereology and Dermatology, in his article in *China's Medicine*, October 1966, pointed out, to cure and control V.D. was to rid both the individual and the community of these diseases. In dealing with syphilis the following criteria had to be met: 1) all cases in the community had to be found and treated, 2) no new cases of syphilis must occur, 3) no signs

of clinically active syphilis must be present, 4) all newborn children must be free from congenital syphilis, and 5) previously treated syphilitic mothers of child-bearing age must show about the same outcome on follow-up as a comparable group of nonsyphilitic women. When all these criteria had been met for five years, the government considered a community to be rid of the disease.

Venereal diseases have now been eliminated as a major threat to the health of the nation. The campaign relied upon a thorough health education program, which took place in a society that was traditionally as reluctant as any to speak openly of health problems related to sexual relations. The educational work was combined with highly organized and effective mobilization of the masses, and a detection and treatment program that seems to have relied as heavily on local community pressure as upon enforced action. It succeeded, in other words, because the people wanted it to succeed, rather than simply through political pressure from above, and it succeeded because of the progressive atmosphere of the times and the new sense of community. There was no hesitation in putting pressure to conform on the individual in the name of the community. The mass campaigns for the elimination of other infectious diseases have taken a similar form.

What are some other results of disease control programs?

China seems to have practically eliminated such communicable disease as cholera, smallpox, typhoid, typhus, syphilis and gonorrhoea, but has made less progress with the control of other infectious diseases including tuberculosis, trachoma, malaria, filariasis and hook worm (ancylostomiasis). The following summaries of efforts to control the latter category of diseases are based on information presented by Dr. K. Y. Huang, Associate Professor of Microbiology at George Washington University in Washington, D.C., in *Medicine and Public Health in the People's Republic of China* (see bibliography).

Tuberculosis. Recent information on the elimina-

tion of tuberculosis is not available. It is estimated that in the decade from 1949 to 1959 the mortality rate in the cities (where the rate was higher than in the countryside) was reduced from 230 to 49 per 100,000, with a corresponding drop in the incidence rate of from three to nine per cent to about one per cent. It was still the number one killer in China at that time, with a mortality rate eight times that of USA. Second to pulmonary tuberculosis, tuberculous meningitis was the most common form among children, and tuberculous pleurisy and peritonitis were common among adults. Treatment in the 1950's was up-to-date and included both chemotherapy and surgical procedures. It is reported that traditional herbal treatment and acupuncture were "effective for symptoms of neurofunctional origin". By 1960, special tuberculosis institutions provided 36,000 beds, in addition to those in general hospitals. Although a large increase, these facilities were still not adequate.

The number of doctors directly involved in anti-tuberculosis campaigns was said to have increased in a decade from 100 to 2,700. Nation-wide programs for the inoculation of children with BCG were begun in the 1950's, and it was claimed that by 1964 90% of all newborn infants were being vaccinated. These measures were, of course, accompanied by broad educational activities on the transmission and control of the disease. Routine X-ray examination does not seem to be generally available.

Trachoma. Although this disease does not kill its victims, it is the most prevalent and disabling disease in China. It is most common among the rural poor in north-west China, where the infection rate may be as high as 90%. Chinese studies indicate that it is responsible for 45% of all vision impairment and 25-45% of blindness. Chinese scientists have cultivated the causative agent and contributed to world-wide work on a vaccine, which, however, has not yet been developed. Control measures include educational campaigns to acquaint the people with the causes of the disease, which is transmitted through con-

taminated towels and wash basins, and the establishment of anti-trachoma stations. Control has been aided by the simplification of diagnostic procedures and the realization of the need to continue drug therapy for a time after clinical cure. There are no recent figures available to indicate the results of these efforts.

Malaria. One of the five diseases to be singled out for attack in China's National Program for Agriculture in 1956 (the other four were schistosomiasis, filariasis, kala-azar and hook worm). Malaria is more prevalent in the south than the north. There were about 30 million cases in 1959. As the result of the 1956 and following campaigns, incidence has dropped steadily throughout the country. The campaigns included treatment of patients with the whole range of anti-malarial drugs, destroying the vectors with DDT and other insecticides, and the filling in and drainage of the marshes, ditches and ponds where mosquitoes breed.

Filariasis. Filariasis, which can lead to elephantiasis, is endemic in two varieties in at least 13 provinces mainly in southern China. The estimated number of patients is about 40 million, though many are clinically asymptomatic. A diagnostic test using an antigen rather than a blood test has aided in detection. The disease is treated with the drug hetrazan, which is used in therapeutic programs suitable for mass treatment. The control efforts through mass campaigns are similar to those used for malaria.

Kala-azar. Kala-azar was one of the five parasitic diseases under attack in 1959. This disease was distributed mainly in central China with an estimated number of half a million cases. The intensive mass campaign in the 1950's, assisted by an intensive anti-sandfly program, led to a rapid decline in the incidence. There was a resurgence, however, reported in the early 1960's which indicated a partial failure in maintaining severance of the infection chain.

Hook Worm (ancylostomiasis). Found in 15 provinces mainly along the Yangtze River and in the coastal

regions, ancylostomiasis has its highest incidence among adults. In 1959, it claimed 100 million sufferers. Research has found that the disease is related to the cyclical cultivating seasons of dry-land crops. The mass-produced drug, bephenium hydroxylresorcinol, has aided control. Other measures are similar to those used in control of schistosomiasis.

Huang also discusses the treatment of encephalitis and paragonimiasis. He notes that the Chinese have concentrated their efforts upon the eradication of the major parasitic diseases, rather than tuberculosis which ranks number one in the causes of death, or trachoma which ranks first in incidence. He points to the logic of this approach because, according to 1959 statistics, one out of every two or three people had a parasitic infection. His studies show that although China still has comparatively high rates of incidence for these diseases, it has an impressive record in disease control. The striking improvement in environmental sanitation has perhaps been the most important single factor in this accomplishment.

Documentation

THE FIRST COUNTY TO WIPE OUT SCHISTOSOMIASIS

Abridged from *China Reconstructs*, July 1968

The Schistosomiasis endemic in parts of China is caused by the parasitic worm, *Schistosoma japonicum*. These blood flukes live in the mesenteric blood vessels of the abdomen of the patient and cause great damage to health. The eggs of the flukes are laid inside the human body and are discharged through the stool. Once they get into water, they hatch into ciliated larvae which make their way into the bodies of snails which inhabit ponds and water courses. There, after 30 - 40 days, each ciliated larva gives rise to numerous fork-tailed larvae which emerge from the bodies of the snails and swim about in the water. When a peasant transplants rice seedlings in paddies or comes into contact with water in ditches, ponds, lakes or rivers infested with the fork-tailed larvae, these penetrate the skin and make their way into his mesenteric vessels. There they grow into mature schistosomes which feed on the blood, making the person sick. In the final stage of the disease, the patient vomits blood and dies of extreme weakness. The parasites also live inside the bodies of such mammals as the draft ox, not only harming the animal but making it an important carrier of schistosomes.

Ten years ago Chairman Mao wrote two poems under the title, "Farewell to the God of Plague", after he had read a report in the newspaper that Yukiang county in Kiangsi province had wiped out schistosomiasis, the dread parasite disease which killed countless people. Chairman Mao's two poems have inspired and encouraged the people of this county to make continuous progress ever since. Today, led by their new Revolutionary committee, the county's 200,000 people are applying to production and disease prevention alike a heaven-storming energy born of the great proletarian cultural revolution. On both banks of the White Pagoda River which runs through the county, people, livestock, and crops are thriving. No one today could imagine that before liberation this rich and beautiful land was a disease-ridden and desolate area with few inhabitants, and fields overgrown with weeds.

The Rule of the 'God of Plague'. Before the liberation, Yukiang county was plagued with schistosomiasis. Peasants contracted the disease in childhood and many died before they reached adult-

hood. Among those who did survive, the lightly afflicted were thin, sallow and weak, while the seriously afflicted were mere bags of bones with huge swollen bellies. Women with the disease could not bear children. In the village of 12 peasant households in Makang township, no child was born for years prior to liberation. Many afflicted young and middle-aged people were physically underdeveloped and wasted before old age. With the labor force so cruelly ravaged, large tracts of good fields became wasteland where only wild animals roamed.

Schistosomiasis threatened the very existence of Yukiang's labouring people, already deeply oppressed by imperialism, feudalism and bureaucrat-capitalism. Many families, with no money for medical treatment and nowhere to borrow, were wiped out by the disease. Thousands left home to escape death. One village of 2,000 people in 500 households in Hsipan township had only 24 people in eight families on the eve of liberation in 1949. Six villages in Makang township in 1930 had 1,119 people in 302 households. Less than 20 years later, almost all who had remained had died of schistosomiasis. Altogether 23 villages in this area were wiped out.

Struggle. Implementing the Party Central Committee's policies on medical and health work, a station for the prevention and cure of the disease was set up in the county in 1953, and groups leading this work were organized in the Party committees at the county, district, and township levels. These began spreading information, investigating the disease, counseling on prevention and giving treatment in places chosen for the initial experience.

By 1955, the investigation of the disease and of snails was nearly completed and a series of experiments for prevention and cure were attempted. However, the fact that all the rural areas had not yet formed agricultural co-operatives prevented an over-all program of prevention and treatment because there was no unified way of assigning the labor force or planning the use of the land.

In July 1955 Chairman Mao gave the famous report, *On the Question of Agricultural Co-operation*. Immediately the movement to form agricultural co-operatives surged ahead. That winter, Chairman Mao again issued a call for schistosomiasis to be wiped out. The peasants of Yukiang county were organized in co-operatives, and a plan was proposed to wipe out the disease in the entire county within two years

The station used many ways of publicizing the directives of Chairman Mao and the Central Committee on wiping out schis-

tosomiasis, health work in general and related scientific knowledge. These included broadcasting, wall newspapers, blackboards, exhibits of real and model objects, lanternslide shows and dramatic performances

Treating the Patients. The formation of agricultural producers' co-operatives in the countryside provided far better conditions for treatment. Before, when each household had been its own unit of production, work in the fields would have been held up if a member of the family left for treatment. Now, with the unified management and work distribution of the co-operatives, treatment could be arranged in groups in a planned way according to the farm season, strength of the medical force and the particular situations of the patients. The majority of the patients received free treatment. By the end of May 1958, all but 30 of the 4,700 patients in the county had been treated. The exceptions were people who could not take the tartar emetic treatment at the time, expectant and recent mothers, and patients suffering from other disease complications.

Holding firmly to Chairman Mao's teaching to "serve the people", the revolutionary medical workers and cadres carried out their task by going to the masses. In every township they set up one or two medical groups, each with seven or eight members. These stayed for a time in each of the co-operatives, getting the sick peasants together for treatment, one group at a time. The peasants enthusiastically welcomed this approach

Patients in the early and middle stages of the disease were given a tartar emetic treatment, 25 milligrams per kilogram of body weight intravenously every day for 20 days. Later, a three-day treatment was adopted which reduced suffering and shortened the time of stay in the village clinic. This consisted of 12 milligrams per kilogram of body weight intravenously morning and afternoon. Cure was effective and more patients could be treated at greater speed. Patients in the late stages of the disease were put under the combined care of doctors of both traditional Chinese and western medicine. First, traditional doctors gave dialectical treatment, viewing the patient's condition as a whole in all its many-sided complexity. This lightened the symptoms, eliminated abdominal fluid and built up body strength. Then the three-day tartar emetic treatment was given, or, in serious cases, the spleen was removed.

Snails - The Intermediate Host. The Central Committee's policy for eradicating schistosomiasis emphasized active prevention. The great problem in prevention was to wipe out snails,

the intermediate host of the schistosomes. Before the agricultural co-operatives, Makang township had tried killing them with insecticides or catching them by hand. The masses had invented many other methods. One of the most effective was burying the snails, a simple method which suffocates them. First, the peasants sliced off 10 to 15 centimetres of the walls of a ditch inhabited by the snails. This wet earth was dumped in the bottom of the ditch, which was then filled up with dry earth until it was level with the ground.

This method had another advantage: the peasants had always wanted to fill in the old ditches and ponds and dig new ditches to improve irrigation and expand their area of cultivation. But when they were farming individually, quarrels were inevitable if new ditches were dug through someone's private field. It was agricultural co-operation that removed the boundary stones marking private ownership, joined individual households into agricultural producers' co-operatives and made it possible to manage labour, fields and irrigation under a unified plan. Rural co-operatives made it possible to conduct organized mass campaigns against the snails

Three winter-and-spring campaigns were fought in 1955-1957. Red flags fluttered on the snail-killing and irrigation work sites, and picks swung in the sun. Twenty thousand peasants worked in the revolutionary spirit of the Foolish Old Man who removed the mountains, resolved to change once and for all their disease-infected surroundings. Between the winter-and-spring campaigns, they fought countless smaller summer and autumn battles, fitting them into their farm work. In the three annihilation campaigns they filled up 130 km. of old ditches, 363 old ponds, opened up 676 km. of new ditches, and thus expanded the cultivation area by 532 mu (35 hectares, 90 acres) and made water flow naturally into the fields through a new system of ditches. In improving cultivation methods, they applied lime and oil-seed fertilizer. These not only enriched the soil but killed snails in low-lying fields.

For a Healthier Environment. Chairman Mao teaches us: "We must call on the masses to arise in struggle against their own illiteracy, superstitions and unhygienic habits." The Yukiang peasants answered the call. Thus began the arduous struggle it takes to change ages-old harmful customs and habits.

As the station's personnel patiently explained the scientific reasons, the peasant masses gradually saw that the old custom of living in the same houses with animals and having animal shelters and

manure pits scattered all over the villages actually facilitated the spread of the eggs of the schistosome. It was necessary to have strict management of water sources and manure in order to prevent new infections of the disease. On their own initiative, the peasants cleaned up the old manure pits and built public latrines and collective cattle shelters. They sank wells, quarried stones and lined the wells to keep the water clean. They ruled that the new ditches beside the village could be used only if vegetables were washed upstream and clothes downstream.

In May 1958 a thorough reexamination found that new infections were unlikely. Yukiang county began to take on a new look of health and prosperity for both people and animals. Many villages formerly on the verge of extinction regained their vigour. In the early days of liberation, 40 per cent of the peasant households in Yukiang county's endemic area had lived on government relief. Since 1958, the peasants there have been selling thousands of tons of surplus grain to the government every year. More than 300 households which had left for other places returned to their villages.

The Effort Is Continued. Under the new conditions of the commune, the people of Yukiang carried on the fight to bid "Farewell to the God of Plague" forever. As they developed farm production, they continued to consolidate their achievements in wiping out schistosomiasis. They tightly linked the patriotic health campaign and prevention, treatment and elimination of diseases with farming They made agriculture, the prevention of schistosomiasis and general health work promote each other with marked results.

Chairman Mao's teaching that "A good comrade is one who is more eager to go where the difficulties are greater" is highly important to the revolutionary medical workers today. In all villages and mountain districts at least once a year they examine the peasants for schistosomes, re-check the results of former treatment and treat recurring cases. They also check and treat hookworm, filariasis and other diseases, and some of these have been eliminated

Ten years of persistent struggle has enabled the people of Yukiang county to consolidate their achievement in eliminating schistosomiasis. Repeated checkups during all this time found no new snail-infested locations. No new infections have been found among the people and animals. Recurring cases are given renewed and prompt treatment. Once victims of schistosomiasis, the peasants have now regained their health and have become capable agricultural producers and pathbreakers in the proletarian cultural revolution



An Army medical team member serves civilians as well.

CHAPTER IV

POPULATION POLICIES

The number of births, 30 million each year, is a sign of great progress made in medical science and the general rise in living standards, especially in the countryside, and of the faith people have in the future. But this figure must also be of great concern to us. The increase in grain harvest for the last two years has been 10 million tons a year. This is barely sufficient to cover the needs of our growing population. It is estimated that at present 40 per cent of our youth have not been placed in primary schools. Steps must therefore be taken to keep our population for a long time at a stable level, say 600 million. A wide campaign of explanation and proper help must be undertaken to achieve this aim.

Chairman Mao Tse-tung, 1957

Population increase in a planned way is China's established policy. We follow such a policy, not because the question of 'overpopulation' exists in China. In China, social production is carried out in a planned way and this requires that the population increase is planned, too. It is also necessary to have a planned population increase in order to promote the thorough emancipation of women, care for mothers, women and children, and bring up and educate the younger generation well, improve the people's health and bring about national prosperity.

Chi Lung at the 29th session of the Economic Commission for Asia and the Far East (ECAFE), Tokyo, April 17, 1973

To provide services for 800 million people is one dimension of China's health care problem. Another dimension,

as the Chinese see it, is the need to put a brake on the rapid growth of the population in order to alleviate the strain on resources. The Chinese recognize, on the one hand, the value of a large labor force for industrialization, and, on the other, the impossibility of improving the general standard of living if the population growth is too rapid. Attempts to limit population growth have been put in the context of improving health conditions of the people, especially mothers and children. The Chinese delay marriages, use various methods of contraception and practise abortion as means of limiting the size of their families.

What is the Chinese government's policy towards family planning?

The attitude of the government toward population growth has varied over the past 23 years. In the early years, the leadership saw no need for an official policy. By 1957, however, the Chinese had begun to formulate a birth control program which was implemented in the Great Leap period in 1958. During the chaos of the next two years, Peking suspended its program. By 1962, however, a policy of population limitation which required family planning was being advocated again. This effort has been increased markedly in the post-Cultural Revolution period.

The fluctuations in policy can be understood if one recognizes the factors that influence China's attitudes on population growth. The Indian population expert, S. Chandrasekhar, writing in *Current Scene* (see bibliography), suggests that four inescapable if contradictory factors can be defined. The first is the traditional view of the family. In traditional/patriarchal societies everywhere, and particularly in agrarian societies where children contribute very early to food production, the male child succeeds the father as provider and sons are therefore the security of parents in their old age. A large family is to be desired because it tends to assure both wealth and security. "Grain is stored for famine just as sons are brought up against old age" is an old Chinese proverb. This reason for large families is rein-

forced in China by the Confucian tradition, which structured all of society around family relationships. Not only the present life but the life hereafter depended on having sons who would carry out the functions of ancestor worship. Filial piety required the maintenance of the family line, and to die without sons was to be remiss in one's filial duties.

The second factor is the belief of any ethnic group in its own superiority and the value of increasing its numbers. This ethnocentric pride, combined with the belief that socialism will eventually conquer the world, is a strong element in Chinese thinking. It is another expression of the argument heard sometimes in Africa - that population control aims at the diminution of the "non-white" people, so that the developed countries, "the white nations", can maintain their dominant position in the world. China's approach to population policies has been influenced by this argument.

A third factor is the Malthusian theory. Malthus argued that food supplies increase in an arithmetical ratio while population grows in a geometric ratio. China is a classic example of this problem, say the Malthusians. Up to the present time, China's population growth has been checked by natural phenomena—floods, famine and epidemic—which have kept the death rates high. Now that nature is being controlled, the question remains whether China can continue to support its growing population on the available food supply. Its continuing need to import food grains shows that this is a serious problem.

The fourth factor is the Marxist answer to the Malthusians. The Marxists say that the idea of overpopulation and poverty is irrelevant. In a socialist society, it is argued, labor is the sole value. Since the laboring class is the productive class, all goods and services will go to the working people, if no capitalists take the fruits of production from them. In theory, the more working people, the more production, which, if there is equitable distribution, means a rise in the standard of living for all. In theory, what is

necessary is not prevention of population growth, but planned growth.

What are the Chinese approaches to population planning?

The Chinese have taken two broad approaches. The first emphasizes maternal and child health. Small families will tend to assure better health for both mothers and children, and will also free the mothers to take an active role in productive labor. The second stresses the provision of birth control information and the making available to all of birth control instruments. Both are integrated with general health services.

Like other countries with poorly developed health services, China, prior to 1949, had very high infant mortality rates. The average was 117/1,000, but in the rural areas it was as high as 200/1,000. As the few maternity and child health care centers existing were in urban areas, very few women had hygienic medical care during confinement, although traditional midwives served. Tetanus and puerperal fever were major killers.

The draft constitution promulgated in 1949 guaranteed the care of mothers and children. To give this clause substance, the government rapidly expanded health facilities. In 1953, it established the Peking Children's Hospital, the first hospital to specialize in research on and treatment of infant and children's diseases. A 600-bed complex, its early work focused on reducing mortality caused by toxic dysentery and pneumonia. Since that time, 30 children's hospitals have been built in China's major cities, with over 3,000 beds to cater to urban health problems. They have several specialized departments including those of traditional medicine.

The expansion of health facilities was more dramatic in the rural areas. Although the government established a rudimentary rural health network during the time of greatest Soviet influence (1950-1956), the creation of the communes in 1958 was marked by rapid increase in rural health care. By the end of 1958, maternity homes in the

rural areas numbered about 130,000, which meant nearly every commune or sizable village had such a home. By 1964, each of China's 2,000 counties had a hospital, with a pediatrics department attached to nearly every one.

The Chinese approach to maternal and child care is the same as to health care in general – emphasize prevention. Massive inoculation programs among children are one example of this effort. These programs began in 1950 and focused on the eradication of smallpox, cholera and tetanus. Very few cases of these diseases have been reported since that time. In addition, there has been an attempt to inoculate every child against other common diseases. For example, when children are brought into Peking hospital for physical check-ups, they are routinely given BCG vaccinations against tuberculosis. China has not reported a major epidemic of a preventable disease in the last 23 years.

Another established program is the development of a nation-wide system of creches for children. Not only does this program free mothers to work but it also provides protection of children against disease. Creches have instituted regulations such as daily morning inspection to detect contagious diseases, periodic physical examinations, preventive inoculations, isolation of infectious cases, physical training and nursery school education. They are staffed by para-medical personnel.

There has been a corresponding improvement in the health protection provided for women. They receive the medical care and welfare benefits given to all members of the production force. Women may now retire at 55 years of age and receive a pension which is equivalent to 70% of their former earnings. A pregnant woman does not have to do the night shifts in factories and light work is assigned to her. Women employed in state enterprises are given 56 days paid maternity leave, free medical care and necessary hospitalization for the birth. Nursing mothers work only day shifts and are allowed one hour for feeding their babies during working hours.

It is the responsibility of medical and health personnel at every level of the health care services from the hospitals to the rural health clinics to spread information about birth control. Doctors as well as barefoot doctors provide technical lectures on the health reasons for family planning. Rural communes, factories and urban neighborhoods have family planning committees which unite Party members and medical personnel to carry out government policies. Family planning workers keep records of women in the areas for which they are responsible. They go from door to door doing physical examinations and giving information about birth control. In the more remote rural regions, mobile medical teams undertake the responsibility for public education and rely on barefoot doctors to continue their work. How these teams function is described in the selection at the end of this chapter.

The Chinese report that their family planning aims are pursued through late marriage, abortion, contraception and sterilization. The minimum legal age for marriage is set at 18 years. While there are no laws prohibiting marriage at that age, there is strong pressure by society and through intensive education to marry at a later age, at least 23 for women and 26 for men. In addition, young people become heavily involved in programs for education, work or military service, so that early marriage is "inconvenient".

Abortions are performed free upon the request of the woman; they are usually requested because of failure of a contraceptive device. Nearly all abortions are done by vacuum aspiration in the basic health units (commune health stations and the like) rather than hospitals. They are performed by nurses, and, in the communes, by trained medical auxiliaries such as midwives and barefoot doctors (see Chapter VI). Abortions are done with the minimum of ado. The women rest for a few hours in the clinic and then return home. Any problem cases are referred to a hospital for treatment.

A wide range of contraceptive devices is available. The pill is most popular, owing, in part, to the fact that it

has a higher rate of success than other devices and is easier to use. Distribution is aided by the complete records kept on women at local health stations. When a woman cannot collect her pills, a medical auxiliary often will deliver them to her. IUD's are used by some women but not without problems. The "flower of Canton", a modified Margulies spiral, has the lowest expulsion rate, but the highest possibility of side effects. IUD's are most popular among women who have had one child and wish to postpone the birth of a second. The Chinese are also experimenting with a once-a-month injection to prevent conception. There have been no reports, however, as to its success.

Tubal ligations are as popular as the IUD as a means of birth control for women who wish to have no more children. Regarded as a minor operation, they are performed in basic health units and sometimes in the houses of villagers. Vasectomies, the equivalent operation for men, are not very common, although attempts to popularize this operation are being made.

These different means of birth control have had some impressive results. In the pre-1949 period the birth rate was 45/1,000. Now the highest estimate given by the US Library of Congress China specialist, Leo Orleans, is about 30/1,000. Rates in the urban areas are even lower. In Peking, estimates place the rate at 18/1,000, in Shanghai, 11/1,000. Even the highest of these figures represents an impressive reduction.

What factors have contributed to the achievement in the reduction of birth rates?

There are several factors. We have described the improvement of health care for mothers and children, which has resulted in the decline of the infant mortality rate. With improved health facilities and well-trained midwives, the process today is much less dangerous than it was. Families now have some assurance that infants will live. Those who cling to the tradition of a male heir no longer need to have many children to ensure the survival of at

least one.

A second factor is the improvement in the status of women that came with political and economic changes. In the traditional society, to be a woman was a low status occupation. Few worked outside the house. Women are now seen as an important part of the national labor force, and on the farm, in the factory or the office they are paid for their work and can rise to important positions. Many no longer want more than two or three children because they are engaged in another type of productivity.

A third factor is the public education programs of the Chinese government. It has been able to conduct national campaigns for birth control, using such mass communication techniques as printed material, posters, films, exhibitions and dramas. They combine medical, social, and political approaches to the problems of limiting the population. Focusing especially on the young, who will soon be of child-bearing age and who are not tied to the traditional need for male heirs, the campaigns stress the responsibilities of having children rather than the problems of overpopulation.

A final factor is the stress that Chinese society, both traditional and Communist, places on social conformity. In the new China, this tradition is reinforced by the efforts of Party and government officials, called cadres. Those who do not practice birth control can be "criticized" by their neighbors for their irresponsibility or disregard of the norms set by society. Such criticism is normally carried out in meetings called by the cadres in which people in the neighborhood help a recalcitrant couple discover why their attitude is "incorrect". To be the object of such persuasion is not always a happy experience. The pressure of social conformity has thus given great force to birth control programs.

Documentation

BIRTH CONTROL IS AN IMPORTANT MISSION

Report of a Field Medical Team During 1964-66 Control Campaign

(Excerpts translated from June 1966
Kwangtung Medical Journal)

While the Second People's Hospital of Canton field medical team was in the Jen-ho Commune in Hua Hsien, it united with the personnel working on disease prevention and basic health instruction to arouse the populace and begin positive birth control work. After over four months of work, having widely advertised the advantages of birth control, and having that area establish organizations for birth control work, it had distributed 3,475 contraceptives, and performed 613 operations. Of these, 547 were insertions of uterine devices, 48 were abortions, 8 were sterilizations of women, and 10 were sterilizations of men. The field medical team laid a firm basis for commune birth control work.

Starting With Education

In developing this birth control work, we did a great deal of comprehensive propaganda and educational work. By increasing the people's basic common knowledge, with the support of fellow-workers among the lower poor and middle poor peasants, we produced the above mentioned achievements. We feel deeply that furthering birth control is an important task which affects the lives of the masses.

The Jen-ho Commune has a population of over 53,000, which is divided into 25 large brigades and over 450 work teams. When we first arrived, no part of the commune had established any units for birth control propaganda. Certainly the majority of people had never heard about birth control.

We began by allying ourselves with the March 8 Festival of Women activities, and producing a wave of birth control propaganda. Then we called small discussion meetings. Many women came holding their children. They listened intently and raised many practical

questions.

At the same time, people were filling our out-patient dispensary each day. We therefore hung several posters about hygiene and birth control on the dispensary walls. A particularly large number of people looked at the birth control posters. But some could not read. After we had explained them once, many asked about birth control methods. At that time, many women expressed their desire to have a uterine device inserted.

Propaganda Methods

We chose the following important methods of propaganda:

Meetings: In over 4 months we participated in about 58 propaganda meetings of various kinds; over 8,800 people received our information. At a large brigade propaganda meeting during the last 10 days of March, we put on two short plays and a mimicry skit. Everyone watched quietly. It made a deep impression.

Exhibits: We discovered that the peasants welcomed this form of propaganda. Within 4 months we displayed our exhibits 34 times in 21 large brigades and at two markets. Eleven thousand people came to see them, excluding those under 16. Each time we set the exhibit up somewhere, the birth control propaganda staff of that area used the exhibit as an opportunity to develop and consolidate the movement. The exhibits became the subject of the mass discussions, and were tremendously useful in disseminating birth control information.

Movies: With the vigorous help of the town health education building and the movie brigade, we showed 25 movies on "What is birth control?" and other health subjects in 21 brigades. Over 10,000 people saw these.

Propaganda materials: Each time we arrived at a single unit, we always distributed birth control propaganda materials. Altogether we sent out over 8,000 pieces of material. We used these methods extensively. Within over four months, we had organized five intensive propaganda campaigns. The masses' feeling of fear and embarrassment gradually diminished. The commune's enthusiasm for birth control gradually intensified. In order to make birth control work more thorough, we gathered together and taught the non-productive health personnel of the agricultural villages. We organized and trained 450 birth control propagandists.

Once the propaganda personnel was trained, each passed his information along to the masses, like links in a chain, so that the

results were very good.

Our propaganda work certainly was not smooth sailing. False rumors and disparaging tales were circulated. At first, fears that birth control would harm health or affect marital life were very widespread. Using the poor and lower middle peasants of the commune who had already had contraceptive operations as positive educational models, we held "personal testimony meetings" and so disputed each of the rumors. At different times we held 23 "personal testimony meetings" in nine large brigades. For example, Ts'ao Tung-ken of the Liu-pei work team of the Heng-li brigade had long thought of sterilization but was afraid it would affect his health and sexual life. After the medical team arrived, he carefully questioned the doctor on sterilization. Repeatedly he had persuaded his wife to agree with his being sterilized. After being sterilized, he was willing to do extra work. In examining his own feelings, all the apprehensions which he had had formerly were eliminated one by one. Moreover, he encouraged his own brother to be sterilized. We invited him to a "personal testimony meeting" to present his changing ideas about it. The masses believed him. After going through this kind of directed propagandizing, the rumors were destroyed. Each day more people wanted contraceptive operations.

Even when a person has been motivated to use birth control, the work of educating his thinking is not finished. One must continuously strengthen and increase his general knowledge and take care down to the last detail. We repeatedly explained post-operation facts and so quieted their feelings. We communicated with local organizations, requesting that they pay attention to educating the people's thoughts. We also requested those who had received devices or had been sterilized several years previously to give personal testimony and to teach about their experiences. We taught those whose bases for thinking were comparatively sound to be propagandists, and showed them how to defeat the various undermining notions in an argument.

The primary task of the field medical team going into the countryside is to cure disease. It is appropriate that birth control work be actively joined to the task of preventing and curing disease. The relationship of these two has been proven. Our procedure follows the principle of intimately joining together and arranging the work cooperatively. In all of our bureaus, the prevention and curing of disease is primary, and the promotion of birth propaganda is attached to this

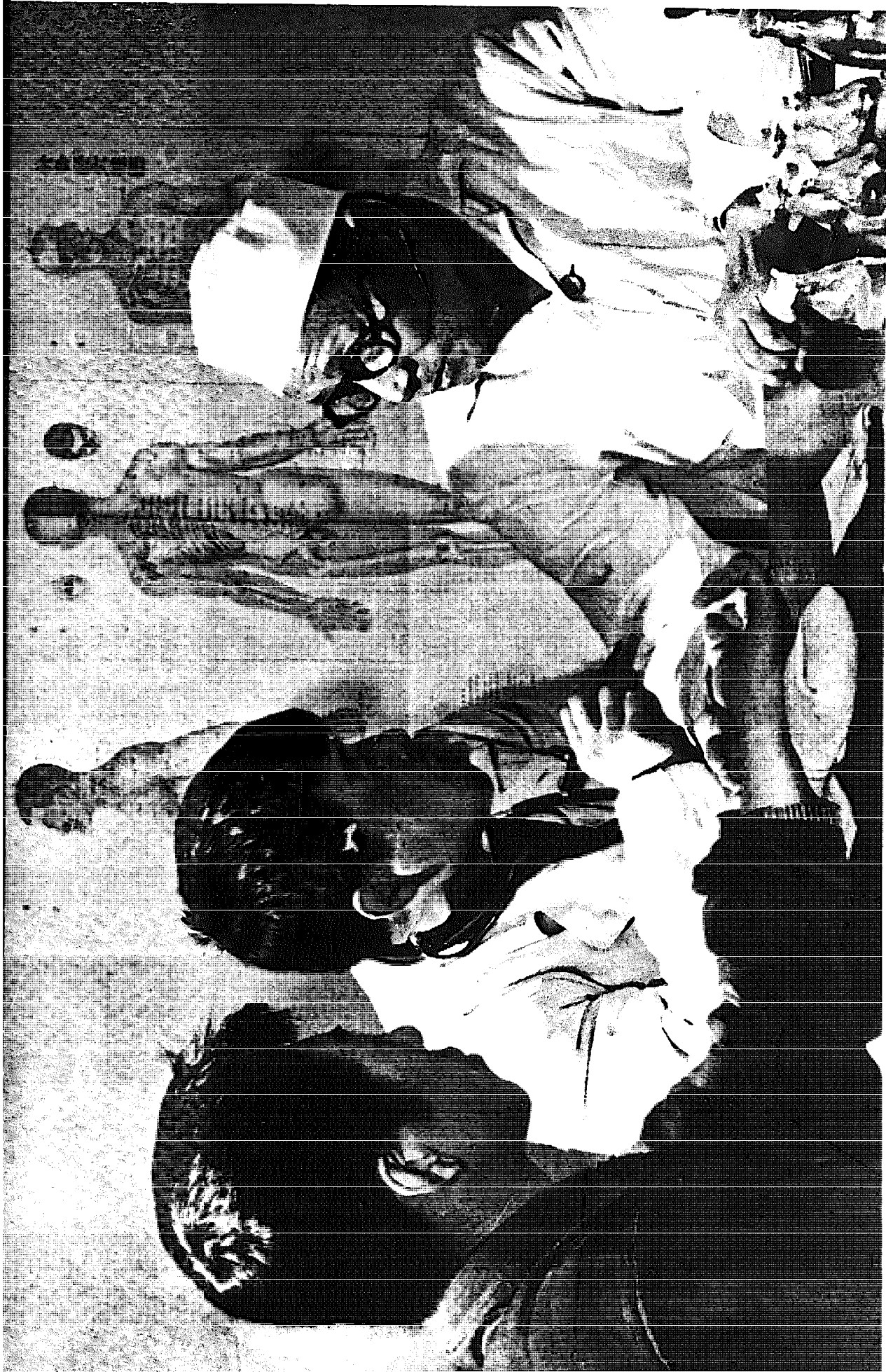
Focus on Birth Control

But each time we send technicians into the local areas and begin to plan discussions on birth control, we make birth control the main focus, and join to it the prevention of disease. Both curing sickness and birth control are urgently demanded by the lower poor peasants. In acting from concern for the masses' lives, we must amply pay attention to both of those, and satisfy the masses' demands as completely as possible. When the medical team has heavy duties but limited energy, we still want the work to begin sufficiently. The key to this situation lies in the medical team's revolutionary determination, in their positive activities among the people, and multi-sided relations with them, and in their clearly recognizing the mass line. If we could manage to call a meeting then we called it. If we could work in an hour or half-hour meeting, we did it. If there were no meetings, then we used other opportunities when we had contact with the masses, or used opportunities when commune members were working together, had stopped working, or were resting under a tree. We used these to further the chain-like mobilization of the people.

(Reprinted from "Population and Family Planning in the People's Republic of China", The Victor Bostrom Fund, Washington D.C., 1971).



China's noted gynecologist Professor Lin Chiao-chih trains young medical workers while treating a patient in the countryside.



An old doctor of traditional medicine teaches young doctors of western medicine his special skill, diagnosis through feeling the pulse.

CHAPTER V

TRADITIONAL AND WESTERN MEDICAL PRACTICES

Modern medicine is of course better than old medicine, but if western-trained doctors pay no attention to the sufferings of the people, train no doctors to serve the people, and do not unite and work with one thousand and more old style doctors and veterinarians in the border regions, then, in fact, they are encouraging superstition and witchcraft among the people and are indifferent to the loss of a large number of lives, both human and animal Our task is to unite all thedoctors who come from the old society but are useful, and to help educate and transform them. They will come to our help if only we act properly.

Mao Tse-tung, 1939

Unite all medical workers, young and old, of the traditional school and western school, and organize a solid united front to strive for the development of the people's health work.

Mao Tse-tung, 1950

The study of traditional medicine by doctors of the western school will help to develop traditional medicine and raise it to a higher level with present-day science and technology.

Chinese Medical Journal, February 1959

All societies, like the Chinese, have always had available some kind of medical care. However, traditional medicine has extended beyond the myths and cosmology of folk medicine. It is a complete set of coherent ideas about the causes of illness and the maintenance of health of the human body. Ignored or threatened with curtailment of their practices by the Nationalist government, traditional practitioners

were brought into the system when the Chinese Communists came to power. Because they provide needed manpower and skills and because they are trusted by the people, especially those who live in the countryside, traditional practitioners play an important role in the delivery of health care. Their practices have been modified by the application of modern hygiene and scientific knowledge, and their treatment and medicines are used by western doctors as a resource to supplement modern medicine. Research is proceeding with the aim of integration of the two schools of medical thought.

What are the origins of Chinese traditional medicine?

Traditional Chinese medicine is based on the ancient Chinese theory of the relationship between man and nature. This theory holds that balance and harmony are the normal state of the universe. Each creature of the universe must be in balance with other things in the universe and within itself. When the human body is ill, it is in a state of imbalance which must be corrected. To rectify this situation, the medical practitioner, by taking the pulse of the sick person, locates the organ which seems to be causing the trouble and takes measures to restore the body's balance. Traditional medical theory is concerned with maintenance of harmony as well as its restoration, and teaches the prevention of illness through exercises, massage, certain dietary prescriptions, the drinking of boiled water and adjustment to climatic conditions.

Traditional Chinese medicine traces its origins to centuries before Christ. References to its use as early as 1700 B.C. have been found among the archaeological finds at Anyang. By the time of the Han dynasty (206 B.C. - 220 A.D.), China had developed a broad medical theory on the cause of diseases and their treatment, which was recorded in the *Nei Ching* (the Yellow Emperor's Classic of Internal Medicine). At that time, China also had a medical profession which practised certain methods of treatment, including some rudimentary vaccination procedures and diagnosis by pulse, which long anticipated their widespread use in the

West.

Traditional practitioners treat illness by a number of methods. Acupuncture, which recently has received much international publicity, involves the insertion of long, fine needles into certain definite points on the body (there are said to be 361 in all), in order to restore the organic balance. The needle is seldom inserted at the point of pain or supposed pain, but rather is placed into another part of the body. The insertion of a needle at the back of the knee may relieve backache; a needle placed at the base of the thumb between thumb and forefinger can stop a toothache.

A method of treatment which was highly refined by the time of the Sung Dynasty (960-1276 A.D.), acupuncture has been an important aspect of traditional treatment. Although criticized in the early part of the 20th century by the western-oriented Chinese intellectuals, it has received recognition as a useful form of medical treatment since 1949. It has acquired some popularity outside China after the reports of prominent western doctors who have witnessed its use during recent visits to China.

Although satisfactory scientific explanations of acupuncture still elude the medical profession both in and outside China, it is applied in many kinds of situations. At present, acupunctural anesthesia is receiving the most publicity. (The term is a misnomer because, in fact, acupuncture used for this purpose acts as an analgesic, numbing the affected part of the body, rather than an anesthetic which deadens the part.) While acupuncture has long been used to relieve pain, its application in surgical procedures has been developed only since 1958. It has been particularly effective in surgery above and in the chest and has been praised by doctors because it allows the patient to respond to the surgeon's instructions. In brain surgery, for instance, the doctor can direct the patient to do specific actions to indicate what effect the surgery is having. Other advantages of acupuncture anesthesia are that it lacks the after-effects of drug anesthesia, it does not repress respiration and it is relatively cheap and easy to use.

Acupuncture is used also in treating diseases. It is said to have corrective effects on diarrhea and constipation and to regulate high and low blood pressures. It seems to relieve nervous disorders and insomnia. It has been reported to have helped paralytics regain some use of their limbs. In recent years, acupuncture has been used in the treatment of the deaf. Visitors have been told that the improvement rate through use of this treatment is 80%, but this cannot be confirmed.

Moxibustion is closely associated with acupuncture in traditional medicine. Most probably originating in Northern China, where the moxa herb was used to ease the rheumatic pains of Stone Age man 4,000 years ago, this treatment now consists of placing the burning herb either in a container or directly on the skin on a specified acupuncture point. It is supposed that cauterizing the point will stimulate the surrounding area and restore the balance among the organs of the body.

Chinese herbal and other natural medicines form the third and broadest aspect of traditional medicine. The use of herbal medicines has a long written history which begins with the *Pharmacopeia of Shen-nung* (2nd/1st century B.C.), listing 365 different medicaments. The most famous piece of literature on this subject is Li Shin-chen's *Compendium of Materia Medica* which appeared in 1596. Li listed 1,892 known medicaments and their indications, plus another 1,479 which he analyzed and catalogued. This book has been translated into several western languages as well as Japanese.

Since attempts to seek a scientific basis for Chinese traditional medical cures have been begun, several of these herbal medicines have been found to be those which are used in other forms in the West to treat the same type of disorders. For instance, *ma-huang* (*Ephedra vulgaris*) has been used since the Han dynasty to reduce fevers. Its active principle, ephedrine, has been synthesized in the West and used to treat asthma.

The collection, analysis and use of indigenous herbs

has supplemented the supply of synthetic drugs. It has also relieved China from importing drugs from the industrially advanced nations. The use of local resources is a fundamental feature of this approach.

Chinese traditional medicine also includes such practices as respiratory therapy (similar to Yoga), remedial massage and physiotherapy. Archaeology shows evidence of some surgery, even trepaning, in very early times, but it must be said that this field was not developed in traditional practices. The ancient art of bone-setting, which relied on willow splints and herbal treatments, has now become a focus of Chinese attempts to integrate western and traditional medicine.

What is China's attitude toward traditional medicine and medical practitioners?

Traditional physicians have provided treatment for the ill in China since earliest history. Their profession was challenged, however, with the introduction of western medicine in the 19th century. After the establishment of the Republic in 1911, traditional medicine, like some other elements in Chinese culture, was disparaged by the new intellectual class. Yet all but the tiny minority of people to whom western medicine was accessible continued to resort to traditional medicine. Under the Nationalist government, the Ministry of Health was thoroughly western-oriented, and proposals were made for restrictions on traditional practice, but the popular need for the old practitioners, their own lobby, support for Chinese tradition within the government, and the general disorder in the country combined to preserve their legal position.

The Communists, relatively isolated in their enclaves in the 1930's and 40's, took a somewhat different attitude to this confrontation between East and West. Mao and his colleagues preferred to make modern medical treatment available to their followers, but with severely limited resources they had to make use of all available manpower and materials. In the Communist-held area in Chinggang

Mountain, traditional and western medicine were used together in hospitals as early as 1928. When they came to power in 1949, the Communists continued to advocate the integration of traditional and western medicine in the health care system. Leo Orleans notes that as the first step they began to praise Chinese medicine as part of China's fine cultural tradition. Then they began the hard task of organizing the highly individualistic practitioners and classifying and systematizing some of their skills and potions. Thirdly, to secure status for the traditional practitioners equal to that of their western colleagues, they developed courses in traditional medicine in all medical schools and required western doctors to take this training.

The goal of the new government was not merely to select certain aspects of traditional medicine as a supplement to western practices. The Ministry of Health sought a true synthesis between the two medical systems by formulating a scientific basis for traditional medicine and combining it with western practices. To this end, the Academy of Traditional Medicine was established in 1955. This body included five research institutes (internal medicine, surgery, acupuncture, pharmacy and rural diseases) and two research and teaching hospitals. By 1966, it had a research staff of about 300. Research was conducted in modern laboratories and in over 900 clinics located throughout the country. The Academy has published textbooks, collected and tested over 400,000 traditional medical prescriptions and sent its practitioners on trips to Asia, Africa and Latin America to advise others on its medical methods. Its duty has been to give a structural basis to the ancient Chinese healing methods.

By 1954, many traditional practitioners had been placed in the rural clinics. By 1956, 30,000 had been incorporated into government public health organs. During the 1956-1958 period, the Chinese began a more concerted effort to incorporate the estimated 500,000 traditional physicians into the national medical service. They were assigned to hospitals and clinics of various types and were integrated into the existing health organizations. In the rural

certain problems. It has been reported that in 1969 one hospital in Peking treated 70% of its cases with combined treatment, and in 1970 70-80% of the cases treated in the commune clinics in Kwangtung province used acupuncture and herbal medicines. These data, of course, do not provide information on the comparative effectiveness but only on the extent of use of the two systems.

In the wake of the Cultural Revolution, the Chinese have continued to seek ways of integrating both the practical and theoretical aspects of traditional medicine with western medicine. The training of western doctors in traditional practices and vice versa continues. Herbal medicaments have gained new popularity. The press again exhorts doctors to combine the two medical schools of thought at the more abstract level. The January 1973 issue of the *Chinese Medical Journal*, the first to be published since 1966, contains two articles on the results of treatment by the use of combined practices. Both emphasize the need to understand the methodology of treatment in order to understand the use of the drugs and the nature of the illness. Issue no. 3 (1973) is devoted primarily to the use of acupuncture anesthesia in modern surgery.

It is too early to judge the long-term role of traditional medicine in Chinese health care. While it may emerge as a body of theory which complements modern medicine, it also may be modified and eventually absorbed into western medical practices. Dr. Paul Unschuld at a recent symposium of the Wenner-Gren Foundation (1971) suggests that at this time the Chinese may be training traditional physicians to serve as para-medical people who may, as their standards improve, become practitioners of modern medicine. The only verifiable observation that can be made at present is that traditional medicine is an important part of the Chinese health care system.

What are some of the limitations and benefits of traditional medicine?

There are several disadvantages and benefits. A major

areas, their presence provided both access to medical care for the inhabitants and an alternative type of treatment to western medicine. The traditional practitioners staffed rural health centers, trained auxiliaries and participated in health team work.

During this period, the Chinese also sought to introduce both traditional practitioners and medical theory into the medical school classroom. Students were encouraged to study both systems. Western-trained health personnel already serving were urged to study traditional medicine in special courses devised for this purpose. By 1958, there were reportedly 13 colleges of traditional medicine. By 1966, the number of colleges had increased to 21 with an enrollment of 10,000 students. Most traditional practitioners, however, were still being trained by the age-old method of long apprenticeship and in small schools. It is estimated that in 1966 there were 60,000 trainees.

In the years immediately prior to the Cultural Revolution, traditional medicine no longer received the publicity accorded it during the Great Leap period. While there was some success in combined treatment, notably in treating fractures, no great theoretical breakthrough was achieved. For the most part, the only practitioners who studied both medical theories were the traditional practitioners. Although the two medical systems continued to co-exist, the western system was seen as the more important of the two. In the countryside, traditional practitioners still provided much of the needed care, there the two medical systems developed with equal status and the two kinds of physicians apparently functioned in the same clinics without conflict.

The Cultural Revolution once more pushed traditional medicine to the foreground. As in the Great Leap Period in 1958, traditional practices have again permeated the entire health system. Working closely with their western-style colleagues, traditional practitioners serve urban hospitals, rural clinics and mobile medical teams. Nearly all doctors have some knowledge of acupuncture and all bare-foot doctors know how to use it to treat patients with

limitation is that traditional medicine lacks the scientific base of modern medicine. Although attempts are being made to analyze traditional medicine in a scientific context, such attempts are only beginning. For this reason, it is difficult to evaluate its effects as a means of treatment. Lack of scientific knowledge of the cause of the disease may result in prescribing the wrong kinds of drugs. By consulting a traditional doctor, a patient may delay the western treatment that his illness requires. Many western-trained doctors remain sceptical of its curative potential. They believe that there is little evidence to support its use as either a supplement or an alternative to modern medical care.

Furthermore, there is no uniformity of training. Some traditional healers are no more than practitioners of folk medicine or even outright charlatans. Those who were trained prior to the establishment of traditional medical colleges had little formal training. Though some have returned to study in educational institutions, others still rely on the training received as apprentices. The quality of traditional practitioners varies over a much wider range than is possible among those who have had modern medical training. Despite the weaknesses, the Chinese government has for social, political and economic reasons used this pool of medical manpower.

Traditional medicine is relatively cheap and easy to use. While some practices may be questionable, there is no doubt that some (e.g. acupuncture) are effective. Expensive equipment is not necessary to administer treatment. Herbal medicines are readily available and are often free of the side-effects of western drugs.

Secondly, the traditional practitioner has provided manpower for immediate use. There were an estimated 500,000 of these practitioners in the society when the Communists took power. There were fewer than 20,000 western-trained doctors. Even if these physicians cannot provide treatment as effectively as western-trained people, they can provide much of the emotional support needed by sick people in the countryside, because they spend long

periods of time with the patients. This makes them an important supplement to modern medical practice. Their presence often means that there is some care rather than none at all.

Thirdly, traditional medicine makes available treatment and cures that are often preferred by the people, particularly those in the rural areas. Even in the major hospitals people are given their choice of treatment. Often a combination of the two methods is used. Traditional medicine is known and trusted by many of those who need treatment. It is sought when western care might not be.

Fourthly, as Robert Worth indicates, because traditional medicine provides treatment which is readily available, simple and suitable to the habits of the Chinese people, it can become a channel for changing the society. Traditional medicine provides access to needed and wanted technical services while smoothing the shock of cultural transition. As communicators who transmit new ideas on health and medical care to a superstitious rural population, the modern-trained traditional practitioners help to strengthen the new health infrastructure. This building on the base of China's ancient medical knowledge may result in the gradual acceptance of the scientifically more valuable methods of western medicine.

Finally, it must be noted that traditional medicine is a source of cultural pride. Called *chungyi* (Chinese medicine) by the Chinese, it serves to promote nationalistic feelings toward the achievements and the future of the People's Republic of China. It seems to have an important place in gaining the people's support for New China's goals and leadership.

CHINA'S NEW PHARMACOLOGY

Abridged from "*Scaling Peaks in Medical Science*"

Peking, Foreign Languages Press, 1972.

Over six hundred medicinal plants, many colourful and pungent, grow in plots on hillsides and around the buildings of the No. 157 Hospital of the Chinese People's Liberation Army Kwang-chow units. Staff members go regularly into remote mountains to pick herbs, which they either transplant into the plots or take to the hospital pharmaceutical shop and process into pills, pellets, powders, ointments, or injection solutions. The medicines go to fill prescriptions at the hospital pharmacy (which also provides Western medicines) and for use in the wards and department clinics. The shop also fills orders for other hospitals and clinics.

A third of the doctors of No. 157 Hospital can diagnose and give treatment with both Western and Chinese traditional methods and make up prescriptions in both types of medicine. Combination of the methods of treatment of the two schools of medicine is used in internal medicine, surgery, obstetrics, gynecology, orthopaedics and diseases of the ear, nose, and throat. Even the physiotherapy, laboratory and X-ray departments have found ways to combine diagnostic and therapeutic methods of the two schools

The combination of Chinese and Western medicine is also tried in preventive measures. By mixing certain Chinese medicines and some chemical drugs, Tsai Chien-yu, the vice-head of the administrative department, succeeded in clarifying water in five minutes, much faster than by using alum. The very simplicity of the process makes it an important discovery for providing clean drinking water for army men in the field

No. 157 Hospital began using methods of treatment from Chinese medicine in 1958, when Chairman Mao pointed out that "*Chinese medicine and pharmacology are a great treasure house, and efforts should be made to explore them and and raise them to a higher level*". The hospital invited a group of teachers and students from a local college of Chinese traditional

medicine, to teach acupuncture and other methods of treatment. It soon became a mass movement with medical leaders, doctors, and nurses all taking part

Soon the hospital added a department of Chinese medicine and enlarged its traditional medicines pharmacy. Assisted by local doctors of Chinese medicine, the hospital began to extend its use of combined Western and traditional methods of treatment for more diseases. Before 1958, the treatment for roundworms in the bile duct had been to operate on the patient as early as possible to remove the worms. For pregnant women, however, this could cause abortion, yet to delay treatment was dangerous. The Party committee called on the staff to look for measures in the traditional school, and an effective treatment was evolved – an herb soup to be drunk, and acupuncture. The treatment has so far cured 109 patients, including the expectant mothers. The combination of Western and Chinese methods of treatment has also made progress in other departments.

Following Chairman Mao's instruction: "*In medical and health work, put the stress on the rural areas*", No. 157 Hospital has, in the past few years, sent out more than thirty medical teams, three hundred men and women in all, to tour army units, islands and villages. Since medicinal herbs are readily available, the teams used combined treatments as much as possible, their effectiveness, simplicity and low cost being welcomed by the people.

While touring the countryside, the medical workers collected close to a thousand home prescriptions from the people. After careful studies they chose the effective ones for treating such common complaints as lumbago and leg pains, tested them in practice, and then popularized them. They were able to treat some deaf-mutes and patients with other difficult conditions with acupuncture. At the same time, they trained health workers in the use of combined methods for army units and rural communes.

In combining Chinese and Western medicine, the medical workers of No. 157 Hospital absorbed the best of both Chinese and Western medicine and weeded out the obsolete and worthless. Combinations were tested disease by disease and problem by problem through actual practice, complementing the weak points of one school with the strong points of the other. The results are new methods of treatment which combine the best of both schools.

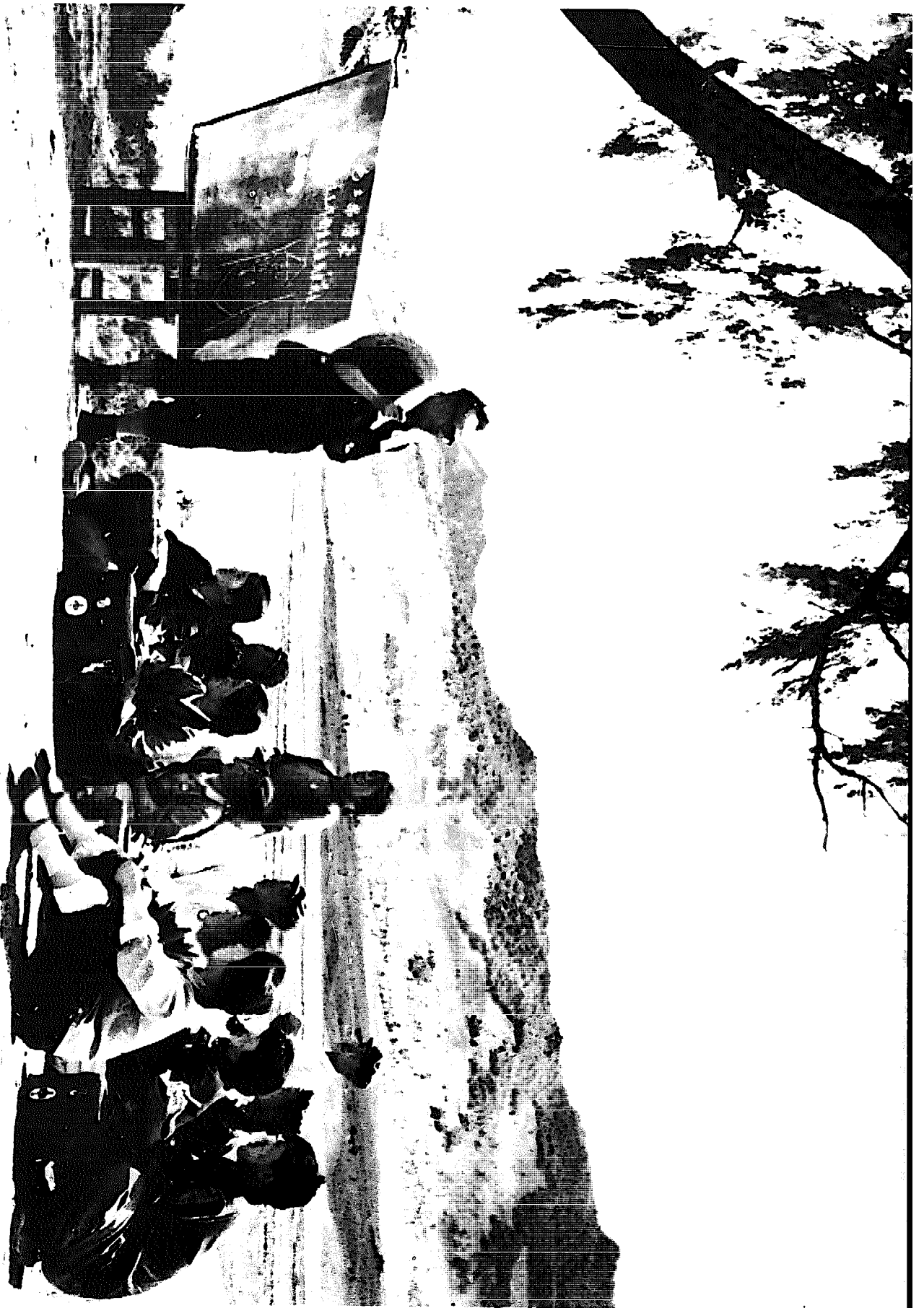
An example is the treatment of fractures. Western treatment gives careful attention to accurate reduction. The fractured ends as well as the joints above and below the fracture are fixed with plaster

casts. But as the treatment stresses bed rest and limited exercise, local blood circulation is relatively poor, and the union of the fracture is slow and sometimes complicated by general disorders. The traditional method, while giving greater attention to over-all treatment, did not stress accurate reduction as much as it should. The doctors of No. 157 Hospital worked out a treatment combining the merits of both schools. They adopted accurate reduction and used continuous traction to keep the fractural ends in position. But instead of a plaster cast, they fixed the reduced fracture with the small splints generally used in Chinese medicine so that massage can be applied to nearby joints and functional exercises started at an early stage. The patient is given both herb medicine and Western drugs, and herb poultices are applied over the fracture. All this improves both local blood circulation and the patient's general health. More than 1,800 fracture patients given this treatment recovered in a third less time than those treated with only Western or traditional methods. Some of the more difficult cases showed satisfactory healing. Six old patients with fracture of the neck of femur (top of thigh bone) recovered completely and were able to work again. None were disabled.

There are some traditional treatments and medicines for which no scientific theory has yet been developed. Medical workers raise the therapeutic effect through clinical practice and scientific experiments and apply them to more and more diseases and disorders. For example, a kind of holly is effective in curing boils, scalds and burns. Scientific analyses and laboratory tests show it checks the growth of a number of bacteria. The doctors tried using it to treat pneumonia, other types of burns and chronic infection of the veins, and found it effective.

A home prescription collected from the peasants was found to be more effective in curing bacillary dysentery than Western drugs. It was given careful study and an improved prescription based on it raised the rate of recovery to 94 per cent. Some chronic cases were also alleviated. Further studies and improvements led to the extraction of a plant oil, one injection of which into a certain point of the body, stops bacillary dysentery.

No. 157 Hospital has only just begun to combine Chinese and Western medicine, but the prospects are most optimistic.



A university professor and his class of barefoot doctors.

CHAPTER VI

MANPOWER FOR HEALTH CARE

Facts have shown that in order to revolutionize fundamentally both our country's medical and health work and the ideology of our health workers, we must mobilize the medical and health personnel to serve the peasants. Therefore, the organizing of mobile medical teams to tour the countryside is by no means a makeshift measure but, on the contrary, is a policy to be persisted in over a long period.

Chang K'ai, Vice-Minister of Health,
Chinese Medical, April 1966.

In the mind of some comrades such difficult tasks as operating on tumours and the heart are thought to be of value, whereas killing flies and mosquitoes, sweeping the streets and digging sewers are not considered important. We do not oppose performing difficult operations. But such operations are still few. Successfully carrying out mass health and sanitation movements so that 700 million Chinese people will not be threatened by seasonal diseases, and raising their general health level are the only things which could be termed of the highest value.

Wen Hui Pao, May 29, 1969.

We hold that a socialist medical college must put stress on the rural areas. It must combine teaching, medical care, and scientific experiments and have as its major subject the curing of recurring and endemic diseases suffered by the laboring people in the factories, mines and rural areas. It must enable the students to attach importance to preventive measures, combine prevention with medical care, combine Chinese with Western medicine and be with an all around education.

Thought Propaganda Team of Chungshan
Medical College, July 1969.

Ultimately the realization of the four health goals of the 1950 Health Congress depends on the people who are providing health care and on the nature of their relationship with the public. Like other developing countries, China has had three basic problems in the area of health and medical manpower. The first is the drastic shortage in the number of people required to provide the most basic services. The second is the heavy concentration of available manpower in urban areas, although most of the people live in the countryside. The third is the elitist attitude of members of the medical profession, which tends to make them both insensitive and unresponsive to the health needs of the majority of the people. To seek solutions to these problems, China has initiated a number of innovative programs, including changes in the scope and content of medical education, the use of mobile teams and new incentives for medical and health workers.

How is China solving its shortage of health care workers?

China is pursuing three complementary ways of solving manpower problems: recruiting traditional practitioners (see Chapter V), shortening higher medical education and expanding the number of medical auxiliaries.

At the time of the establishment of the People's Republic in 1949, there were about 35 institutions for higher education in medicine. They were divided into three categories: medical schools of the universities, independent medical colleges and medical schools having short courses.

In 1952, a series of reforms took place in medical education which reorganized teaching institutions to follow the pattern of the USSR, whose medical schools were autonomous institutions independent of universities. The length of courses varied from four to six years in the more prestigious schools. The Chinese Medical University, built on the foundation of the old Peking Union Medical Colleges, had an eight-year training program.

During the Great Leap Forward in 1958, medical education went through a second restructuring. Medical courses were shortened and students and faculty were sent to the countryside to engage in agricultural work and treat rural people. In the 1960's, however, medical education apparently returned to its pre-Great Leap framework.

The educational structure in the early 1960's led to a series of problems. It was not possible to produce large numbers of doctors quickly. Furthermore, the products of advanced level medical schools preferred urban life and large, well-equipped hospitals to service in the countryside where health care was most backward. In 1966, all medical schools in China were closed. When they opened again in 1970, their aims and curricula were altered radically.

Dr. E. Gray Dimond of the University of Missouri has described the new program at the Peking Medical College in a recent article in the *Journal of the American Medical Association* (see bibliography), which is based on information received in interviews there.

The college admitted its first post-Cultural Revolution class with 360 members (60% women) in 1970. All had been in productive work after finishing school and had met the following criteria for admission: "(1) desire of individual to study medicine; (2) recommendation by the commune, fellow workers or military indicating that he has been a good worker, has identified with the masses and is a bona fide proletarian; (3) approval by the Party and confirmation that the applicant has thoroughly studied Mao Tse-tung thought and is a bona fide proponent of communism; and (4) acceptance by the Revolutionary Committee of the medical school."

Normally the study program takes three years, but nurses with five or more years' practice (of whom the class included 140) could graduate as physicians after a year of school -- a fact which gives some indication of the stress placed on practical training. In a program that combines western and traditional medicine, the teaching method applied the dictum of Chairman Mao: "The teacher teaches the

student, the student teaches the teacher." The outline of the new curriculum was as follows:

Nine months: Military training, physical fitness training and manual labor.

One month: Vacation.

Six months: Lectures and clinical demonstrations in internal medicine, surgery, obstetrics and gynecology.

Two months: Military training, physical fitness training and manual labor.

One month: Vacation.

Nine months: Out to the countryside to do practical medical work with their teachers. The medical school faculty and the students form mobile medical teams and in the daytime see the entire spectrum of medicine and surgery. In the evening, clinical and basic science lectures are given by the faculty using the classrooms of primary schools in the countryside. The students also receive formal instruction in the recognition, collection and use of herbs, and learn to use acupuncture. This is also the period during which the role of public health and preventive medicine is learned by on-job training. Students and faculty also engage in manual labor together, tilling a shared plot or doing road work, etc.

Three months: The students next return to the city for an intensive period at the university teaching hospital, which is to give them the chance to consolidate what they have learned in the countryside. They are given lectures to complement their work and participate in ward rounds and clinical conferences.

Three months: A final three-month period in military training, physical fitness, manual labor and

vacation.

While there is an arrangement for students to return to medical schools to review their courses and learn new skills, there is no program to train specialists. Recent visitors report that specialist training is to begin soon and will be given in the teaching hospitals.

The Chinese recognize that the three-year medical education course is far from adequate training for high quality doctors. They think it is the correct approach at as this stage, however, because: (a) it increases rapidly the number of people who have basic medical skills and a more thorough training than the auxiliaries; (b) the new curriculum enables medical educators to re-evaluate what courses and what periods of study are necessary to obtain medical competence, and thus to indentify and jettison obsolete training; (c) it combines practical experience with classroom learning, so students can learn on the job.

Higher medical education is still in an experimental state. It is hoped that experience will show new methods of improving both quality and quantity.

Since 1949, the Chinese have emphasized the recruitment and training of medical auxiliaries. In the early 1950's and until the onset of the Cultural Revolution in 1966, auxiliaries trained in modern medical practices were divided broadly into three groups: (1) the specialist, the equivalent of the Russian *feldsher* or assistant doctor who was trained for one or two years in one specific field of medical care; (2) the para-medical professional, such as the nurse and laboratory technician who studied two to three years in the appropriate educational institution; (3) the hygiene worker whose three to six months of training stressed environmental problems and disease control.

In addition to these workers, the Chinese have depended on a large number of part-time personnel whose employment was not solely in the health or medical field. Part-time medical personnel have been trained on a large scale on two occasions. During the Great Leap in 1958, the Chinese launched a drive to disperse welfare services to the

countryside and created a new type of auxiliary educated in the training centers that proliferated at this time. Studying medicine at part-time schools, these workers were taught to carry out simple procedures, and preventive and sanitation work. The training was given during the agricultural slack season.

At the beginning of the Cultural Revolution, a renewed emphasis on rural health care originated the so-called "barefoot doctors", local people, usually young peasants, who spent some of their time in agricultural labor and the rest in health care work. British surgeon Joshua Horn (see bibliography) has described the training and duties of the barefoot doctors. Chosen for their "intelligence, educational level (all have completed junior middle school), keenness to become doctors and unselfish attitude", they spend the first four months of their training period learning simple anatomy, learning to recognize symptoms and causes of common diseases, and learning their treatment by using both traditional and western practices.

When their initial four-month training is finished, they return to their homes with a box of simple medical supplies to treat the local peasantry. (The table of contents of an Instruction Manual for Barefoot Doctors and a list of their equipment is reprinted at the end of this chapter.) During the next agricultural slack season, they go for another four-month course, and some time thereafter each doctor spends a period in a modern hospital with advanced facilities. At the end of ten months, students can recognize 75 common diseases and 160 acupuncture points. The period of part work - part study training lasts for three years, but it is possible to return to the large hospitals for additional education from time to time. Students do not receive certificates of qualification upon completion of this course, as it is expected that their education will continue throughout life.

The barefoot doctors work in agricultural production until they are needed to treat a case. Their duties focus on both basic treatment for illness and preventive work, al-

though their exact tasks vary from place to place. Confronted with a problem too complicated for their knowledge, they send the patient to the nearest clinic or contact the nearest mobile medical teams by telephone to obtain necessary advice. In exceptional cases and in the absence of higher medical personnel, barefoot doctors do perform operations. But in most instances this is unnecessary. They do extensive birth control work and vaccination, see that people attend health centers for examinations and engage in environmental sanitation work. They direct campaigns against the "pests". Barefoot doctors train subordinate medical personnel with even more limited duties. They staff rural clinics and travel with mobile medical teams to provide health care for the people in the very remote areas. They receive no extra salary for their efforts, but they are paid for their health tasks at the same work point scale as for their other work.

The rural barefoot doctors have urban counterparts called "worker doctors" and "Red Guard" doctors. The former are factory workers, who serve in their places of work. Their tasks parallel those of their rural colleagues except that they are also responsible for industrial health programs. The "Red Guard" doctor is usually a housewife. She has less training than the other two types of auxiliaries and is closely supervised by the neighborhood and assistant doctors.

The term "doctor" used in reference to these auxiliaries does not imply that their skill, competence or knowledge equals that of the more professional medical personnel. The people whom they treat address them as "comrade", reserving the title "doctor" for those who have had higher education. The barefoot doctors and their counterparts are supervised by the more highly trained medical people. They are part of a pyramidal referral system which begins with people with very limited training and responsibilities and moves through stages up the scale to the specialist teacher. At the base of the pyramid are various other part-time medical auxiliaries. There is the public health worker who

learns to administer preventive inoculations, to apply bandages and splints, to do some acupuncture and to treat simple diseases. The family health worker appeared in late 1969, when the country was ordered to prepare for war against the Soviet Union. The family health workers are members of commune households, and are equipped with first-aid techniques to treat minor problems. They also engage in sanitation work and take responsibility in health campaigns. The goal of the government is to provide one barefoot doctor for each brigade, one public health worker for each production team and enough midwives so that every woman giving birth will have someone with professional competence in attendance.

The mobilization of these part-time health and medical workers in the rural areas has several benefits. One is that it has made available a group of people who can carry out health work in the agricultural off-season. Secondly, it involves local people who are committed to and understand the connection between good health and good production. Finally, it uses China's greatest surplus resource, labor, in a dual capacity combining health care and agricultural work.

The appearance of these medical auxiliaries has not been without attendant problems. Reports say barefoot doctors with alarming brashness have performed such feats as the removal of abdominal tumors, and have carried out surgery by candlelight, using makeshift medical instruments. While only success stories are reported, the question of failure haunts medical professionals and patients alike.

There are also reports of the inability of training programs to guarantee that the pupils will disregard the quest for status and truly serve the common people. Some barefoot doctors have been described as becoming slovenly and lazy and resting on their laurels.

Whatever problems plague Chinese attempts to solve their medical and health situation, they have produced remarkable increases in manpower. In 1944, Sze Sze-ming, the Secretary General of the Chinese Medical Association, stated that there were 12,000 western-style doctors in China,

60 per cent of whom were fully qualified. For comparison, we give in the following table the approximate numbers of the several categories of medical personnel in China today. These figures, calculated by Leo Orleans of the USA Library of Congress (see bibliography), are based on available Chinese sources.

<i>Type of Personnel</i>	<i>Number</i>
Doctors of western medicine (trained in regular four-five-or six-year medical programs and post-graduate courses)	180,000
Assistant Doctors	172,000
Nurses	186,000
Midwives	42,000
Practitioners of traditional medicine	500,000
Part-time auxiliaries (barefoot doctors, worker doctors, Red Guard doctors, public health workers, family health workers)	1,000,000

How does China place medical and health personnel in the countryside?

Like most developing countries, China has an overwhelmingly rural population, many of whom lack basic health care because medical and health people prefer to be in the city where the most advanced facilities, better wages and a more interesting environment exist. Isolated in their urban enclaves, professionals have tended to ignore rural health problems and to utilize their time and resources to probe the more rare and therefore more interesting disease and health questions. The principal method of overcoming this tendency in China has been to transfer urban personnel to the countryside on either a permanent or temporary basis to serve on mobile medical teams.

To provide health care to rural areas, the government in the early 1950's depended on mobile health teams which

travelled in the countryside. Led by western-trained doctors and staffed by medical auxiliaries, these teams provided the foundation for preventive activities by establishing anti-epidemic and maternal and child care centers, training locals to do preventive work (including inoculations, disease identification and health education), and establishing health services among the minority peoples, some of whom were threatened by extinction owing to the lack of disease control measures.

In the 1958 Great Leap period, the mobile health teams gave way to mobile medical teams whose numbers have been greatly increased in the post-Cultural Revolution era. The mobile medical team is comprised of urban medical personnel who travel to the countryside not only to treat the local people but also to teach them to build and to support local health services. Some of China's most prestigious doctors, including the President of the Chinese Academy of Medicine, have served on mobile medical teams (a report of his experience is appended at the end of this chapter). Since the Cultural Revolution, nearly all urban medical personnel sent to the countryside have become members of mobile medical teams. It is a permanent long-range Chinese goal to have one third of all urban medical personnel in the rural areas at any given time.

Most mobile medical teams are organized by a hospital and sent to a selected rural area on a yearly basis. They compose a vertical slice of the hospital staff, including doctors and nurses of all grades, dieticians, laboratory workers, cleaners, cooks and administrators. In the countryside, teams split into groups. One group staffs the commune health clinic; others consisting of two and three people go to live in the local villages where they open dispensaries and pay bi-weekly visits to more remote areas.

The work which the teams do, in addition to treatment, includes training the barefoot doctors, guiding local mass health campaigns, doing research on prevention and cure of the diseases most common to the places they visit, lecturing on health education and teaching important medical

techniques to upgrade local personnel. Urban teams live in the homes of the local peasants. They also engage in manual labor in agricultural work and assist in the construction of rural health facilities.

Rural manpower is supplemented by medical personnel from the People's Liberation Army (PLA). With its own network of clinics, hospitals and medical schools, in most recent years the army has supported rural health programs. Army medical workers lead some of the mobile medical teams who treat and train the peasants. During the Cultural Revolution the PLA, as the only organization not drastically disrupted during that period, seems to have become the mainstay of the team efforts. Today it continues to play a major role in rural health delivery.

The transfer of urban personnel to the countryside has not been without inevitable and predictable problems. Urban medical services have suffered some disruption. Constant changes in personnel have upset hospital administration and medical research. And of course many people do not wish to live in the rural areas.

For a country with such drastic health and manpower shortages, however, this approach has some important advantages. For example, mobilizing medical personnel through the use of mobile medical teams is enabling China to attempt to make best use of her limited number of fully qualified doctors. Auxiliaries handle the less complex work and allow the skilled physicians to concern themselves with cases which demand their training.

The team approach allows a flexibility which can better meet the specific needs of the people they are treating. The mobile medical team learns to develop its own resources and to evolve methods of confronting specific problems in local areas. This approach militates against wasting resources and ignoring local problems.

Finally, the transfer of urban personnel to serve on mobile medical teams means both more manpower in the rural areas and the provision of information about rural disease problems to urban doctors and researchers. Stressing

the Chinese approach of uniting theory with practice, the transfer allows medical and health people from the city to confront the health problems which plague China's rural majority. It also provides for some personnel to stay permanently in the countryside.

How are the Chinese attempting to change the elitist attitude of the medical profession?

They are attempting to change attitudes by developing the realization among the medical professionals that health care is a political question. Effective health care depends on the best possible distribution of scarce resources: money and manpower. Since their supply is always much less than the demand, choices are made which allocate resources to some groups in the society at the expense of other groups. In China, prior to 1949, we noted that the medical profession, for the most part, served the urban people who could afford their services. A major goal of the Chinese Communist revolution was to change this pattern of resources distribution. The Communist leaders wanted to make sure that the poor and the rural masses had an opportunity to share in the material and welfare benefits their own labor produced.

Attainment of this goal implied obtaining the commitment of the medical profession, particularly the western-style doctor, to the revision of the distribution pattern. In the words of Chairman Mao, it was to get the medical profession to "serve the people". In order to achieve this objective it was necessary for many of these doctors to realize that the chance to apply their advanced training and research capacities would have to be sacrificed for the moment in order to gain more equal distribution of medical services. The attempt to convert members of the medical profession, whose previous training stressed quality care rewarded by prestige and money, has been a constant struggle. Its latest phase culminated after the Cultural Revolution when the higher medical education courses were cut very short and there was a massive exodus of urban

medical and health people to the countryside.

To win support for their new health goals, the Chinese leaders are attempting to change the traditional system of incentives for medical and health workers. One step is to diminish the disparity in wages between different grades of personnel. Prior to 1966, there were great differences in wages between senior staff and new recruits. Now salaries at the upper end of the scale have been frozen until those at the lower end can begin to catch up.

In addition, the difference in status between specialists and those who engage in primary health care work is being minimized. The transfer of personnel to the countryside tends to diminish the role of the highly trained doctors because all health and medical workers, not they alone, share in dealing with the common problems. The tasks of the specialists in the rural areas include building clinics and doing preventive and health education work with the para-medics. The contribution of the better trained people to primary health care is a necessity both in terms of manpower needs and in the transformation of their own attitudes toward medical care.

Another change has focused on the prestige awarded for service. Everyone is constantly reminded to follow the example of Norman Bethune, a Canadian doctor who died while treating the Communist soldiers during China's war against Japan. Bethune embodies the spirit of "serving the people". Mao Tse-tung's tribute to him, "In Memory of Norman Bethune", written in 1939 and one of the three most widely read pieces of Mao's writing in China today, spells out the ideals which all people must strive to attain. In part it says:

Comrade Bethune's spirit, his utter devotion to others without any thought of self, was shown in his great sense of responsibility to his work and his great warm-heartedness toward all comrades and the people. Every Communist must learn from him. There are not a few people who are irresponsible in their work, preferring the light and shirking the

heavy, passing the burdensome tasks on to others and choosing the easy ones for themselves. When they make some small contribution, they swell with pride and brag about it for fear that others will not know. They feel no warmth toward comrades and the people but are cold, indifferent and apathetic Comrade Bethune was a doctor; the art of healing was his profession, and he was constantly perfecting his skill which stood very high in the Eighth Route Army's medical service. His example is an excellent lesson for those people who wish to change their work the moment they see something different, and for those who despise technical work as of no consequence or as promising no future.

The Chinese urge the medical profession to put service to the patient and the community above personal achievement and glorification. By trying to replace the search for personal achievement with the satisfaction of caring for those who have thus far lacked adequate health care, the Chinese are attempting to destroy the elitism of the medical profession.

Documentation

CITY DOCTORS GO TO THE COUNTRYSIDE

Huang Chia-ssu in *China Reconstructs*, October 1965

Early this year, a large number of doctors from cities all over China went to the countryside to help improve medical care for the rural population. Now the first contingent has returned and a second contingent has left. This is the beginning of a systematic rotation of city doctors to the countryside. Below, Dr. Huang Chia-ssu, a well-known thoracic surgeon and President of the Chinese Academy of Medical Sciences and the China Medical College, describes the activities of the rural medical team which he led, the first to be sent by the Chinese Academy of Medical Sciences.

Last spring, a team made up of thirty doctors and nurses from the Chinese Academy of Medical Sciences, the China Medical College, and the Peking Union Hospital went to Hsiangyin county in Hunan province. Working in the countryside was an entirely new experience for doctors like myself who had spent practically all our lives in city hospitals.

In Hsiangyin county we set up our own base clinics in three communes - Hsinchuan, Kuankungtan and Haoho. Except for a few who slept in the clinics, most of us stayed in the homes of peasants who were poorest in the old society, thus having the opportunity to learn at first hand how they think, work and live. The clinics were open to receive patients at any time, but we devoted the greater part of our efforts to making rounds of the commune member's homes, finding out about health conditions, and giving treatment. We answered emergency calls no matter how great the distance, at any time of the day or night. By the end of June we had treated over 30,000 patients, and had achieved good results in many serious and critical cases

Immediate treatment. Often, in cases such as acute appendicitis, immediate surgery is necessary, but sending the patient to the county hospital would mean a delay of a day or more. Therefore, despite limited equipment and facilities in the countryside, we performed some major surgical operations. One patient with acute intestinal obstruction had to have a section of his intestine removed. Ordinarily this would only be done in a regular hospital,

but there was no time to lose. Dr. Tseng Hsien-chiu, head of the surgical department of the Peking Union Hospital, and I worked together on the surgery, which took four hours. With good postoperative care, the patient soon recovered.

Conditions requiring minor surgery, such as varicose veins, haemorrhoids, anal fistula, abdominal hernia and hydrocele are common among the peasants. But they often allow these to drag on because they do not want to take the time out from work and to pay the extra expense of going to a distant hospital for treatment. While our team was in the countryside we treated many such cases at the peasants' convenience. They could spend the few days' convalescence either at home or in our clinic. Families often brought them food from home to save expenses.

Prevention first. We accompanied treatment of common diseases with campaigns for preventive measures. After we had gained the peasants' confidence by relieving them of their discomfort, we found them more receptive to our publicity about prevention. In one production team we made a general survey and administered mass treatment for trachoma. As a result, the members readily followed our instructions for preventing a recurrence of the disease and even went about passing on the information to their neighbours.

When one of the children had whooping cough, we explained to the parents and their neighbours how inoculation against whooping cough could have prevented him from getting it. After that it was relatively easy to get other parents to agree to bring their children for mass inoculation against disease.

We also embarked on a campaign to prevent flies from breeding in the latrines. After many experiments we found that from 15 to 20 grams of "666" (gammexane) powder used in the latrine could keep it free of maggots for a week to ten days, and then demonstrated the fact. Calculating on this basis, the production team members learned that they need spend only 30 fen a year to keep one latrine clean, and readily incorporated this measure into their health plans

Training medical workers. Naturally, visiting teams from the city cannot completely change the picture of rural health or thoroughly solve the problem of medical care in the countryside. It is necessary to train local personnel. On this, our team worked in cooperation with people from the local hospitals.

We selected one area as an experimental spot where we trained someone in each production team to be responsible for

health work. These people will engage in farm production as usual, but when called upon are prepared to treat minor injuries and common ailments such as colds, bronchitis, dysentery and trachoma. They should be able to recognize a condition which is beyond their skill so that they can report it to local hospitals. They will also handle simple prevention work. These health workers can assist the local doctors in publicizing health and sanitation measures, organizing sanitation campaigns and giving inoculations. If their duties take them away from production for a lengthy period of time, they will receive work-points equivalent to what they would get while doing farm work, so that they do not need to take a cut in income for doing this much-needed job. In each production brigade, we trained a mid-wife to handle normal deliveries.

In one farm-study middle school, we set up a two-year medical course to train personnel. Thirty-six young people enrolled. As in other farm-study schools, they join in collective production during busy times and attend classes when the work is slack. The course of study includes elementary hygiene and medical theory, how to treat simple conditions, and how to carry out preventive work. Before the summer harvest they had completed their study of basic theory and had learned to diagnose and treat such common summer conditions as heat-stroke, malaria, furuncles and carbuncles, and light injuries. When they began to practise their new skills during the harvest, the commune members, highly pleased, commented, "These youngsters are both members of our production team and our doctors. And we can depend on them to stay with us because this is their home."

Far-reaching influence. For almost all of us in the team, this was the first trip to the countryside, but we agreed that it was altogether a very pleasant four and a half months. Eleven of our doctors were over the age of 50, but all came back strong and healthy, heartened by the feeling of having done an important job well. The experience helped us understand more deeply the significance of sending city medical teams to the rural areas.

In semi-feudal and semi-colonial China, health and medicine never received proper attention. Hospitals were found only in the big cities and the charges were so high that only the rich could enjoy their services. Since 1949, however, medical work has been guided by the Communist Party's policy that it must serve the working people. Much has been done to build up health and medical units at the basic levels, and great progress has also been made in developing

and perfecting medical organizations in the cities. Now every one of the country's 2,000 counties has its own hospital, as well as one or more epidemic prevention stations and maternity and child health clinics. Some counties also have organizations for prevention and treatment of endemic diseases. These units have been important in making medical care available to the peasants.

In China's vast countryside, however, where over 80 per cent of her population lives, 16 years is too short a period for every place to have established complete systems of medical and health services. In Hsiangyin, for instance, each commune has a clinic, and physicians of traditional medicine, who were formerly individual practitioners, have organized into a clinic which enables them to treat more people. But the staffs are small and not all rural hospitals have equipment such as X-ray machines, electrocardiographs, electroencephalographs, and laboratory facilities to help in the diagnosis of difficult cases. Country doctors have only a limited variety of drugs to choose from and cannot prescribe such special treatments as physiotherapy and radiotherapy, so more experienced doctors are needed to make the best use of existing conditions. Teams like ours visiting on a systematic basis, therefore, can make a real contribution in the countryside.

We have become more and more convinced that this new way will not only promote rural health and medicine, but that the accumulated experience will provide us with a new orientation for China's medical work, education and research. With a deeper first-hand knowledge of the existing conditions in the countryside, we will know better how to guarantee the health of China's 500 million peasants.

THE CONTENTS OF A BAREFOOT DOCTOR'S BAG

The following list of items for a barefoot doctor's bag was compiled by the Chinese Medical Association. The items followed by (1) were actually found in the bag of a barefoot doctor in a commune near Peking. The items followed by (2) were found in the cabinet of a worker doctor in a Peking factory. We are indebted for the list to Victor Sidel in *Medicine and Public Health in the People's Republic of China* (see bibliography), pp.69-71.

Medications

Adona ampoules

Adrenalin ampoules

Topical Agents

Alcohol (1)	Boric Acid Ointment
"Eye Drops"	"Eye Ointment"
Gentian Violet (1)	Iodine Tincture
Mercurochrome (1)	"Nose Drops"
"Sulfa Ointment"	

Traditional and Herb Medicines

Pills and tablets. Type depends on the individual commune or other site. Examples include antipyretics (1,2), antitussives (1,2), anti-spasmodics (2), and medication for dysmenorrhea (2).

Equipment

Acupuncture Needles (1)	Adhesive Tape
Bandages and Gauze	Bowl (for changing dressings)
Cotton Sponges	Cotton Swabs
Cups (for drinking)	Forceps
Fountain Pen	Hypodermic Needles (1)
Manometer	Notebook for Records
(sphygmomanometer)	
Paper Bag	Rubber Tubing
Scissors	Syringes, 2 cc. and 5 cc. (1)
Thermometer, oral and rectal (1)	

INSTRUCTION MANUAL FOR BAREFOOT DOCTORS

The instruction manual for "barefoot doctors" is outlined below. We are indebted to P.A. Pickowicz in *Eastern Horizons*, XI (1972), No. 5.

- Chapter 1 Human Anatomy (4 pages)
- Chapter 2 Prevention and Treatment of Common Diseases of the Respiratory Tract (30 pages) (influenza, bronchitis, asthma, emphysema, pneumonia, etc.)
- Chapter 3 Prevention and Treatment of Common Diseases of the Digestive System (32 pages) (enterogastritis, ulcers, sclerosis of the liver, etc.)

Aminophyllin tablets and ampoules (1)	Ammonium Chloride tablets and solution (2)
Analgin tablets and ampoules	A.P.C. or P.P.C. tablets (aspirin-Phenacetin-caffeine) (1,2)
Atropine tablets	Belladonna Extract tablets (1,2)
Berberine (a traditional Chinese medicine with antibiotic properties) tablets (1)	Brown's Mixture tablets and liquid (1)
Butazolidin (phenylbutazone) tablets	Caffeine Sodium Benzoate tablets
Chloromycetin (chloramphenicol) ampoules and capsules	Chlorpheniramine tablets (2)
Chlorpromazine tablets and ampoules (1,2)	Chlothamine tablets
Coramine (nikethamide) ampoules	D.C.T. tablets
Dolantine ampoules	D.P.P. tablets
Ephedrine Sulfate tablets	Furadantin (nitrofurantoin) tablets
Furazolidone tablets (1,2)	Gastropin (a medication for peptic ulcer) tablets (2)
Lebedura tablets	Luminal (phenobarbital) tablets (1)
Paperazine tablets	Penicillin, crystalline
Penicillin, procaine	Phenergan (promethazine) tablets
Phenolax (a laxative) tablets (1,2)	Probanthine (promethazine) bromide) tablets
Reserpine tablets	S.M. 2 tablets
Soda Bicarbonate tablets	S.T. tablets
Sulfadiazine tablets and ampoules (1)	Sulfaguanidine tablets
Sulfamethorxypyridazine tablets (1,2)	Syntomycin capsules
Terramycin (oxytetracycline) tablets	Tetracycline tablets (1)
Valium (diazepam) tablets (1)	Violactyl (lactobacillus) tablets (1)
Vitamin B1 tablets (1)	Vitamin B2 tablets (2)
Vitamin C tablets (2)	Vitamin K tablets (2)
Vitamin U tablets (2)	Yeast tablets (1)

- Chapter 4 Prevention and Treatment of Common Parasitic and Communicable Diseases (76 pages) (malaria, schistosomiasis, measles, diphtheria, tuberculosis, meningitis, dysentery, typhoid, etc.)
- Chapter 5 Prevention and Treatment of Common Diseases of Blood and the Circulatory System (45 pages) (rheumatic fever, anaemia, etc.)
- Chapter 6 Prevention and Treatment of Common Diseases of the Urinary Tract (12 pages) (kidney infection, kidney stone, etc.)
- Chapter 7 Prevention and Treatment of Common Diseases of the Nervous System (18 pages) (epilepsy, hyperthyroidosis, etc.)
- Chapter 8 Prevention and Treatment of Common Disorders of the Skin, Bones, and Muscles (33 pages) (staff infection, acute acne, elephantitis, mammitis, tetanus, haemorrhoids, arthritis, rheumatism, etc.)
- Chapter 9 Prevention and Treatment with Regard to Birth Control and Gynaecology (58 pages) (contraceptives, abortion, sterilization, childbirth complications, miscarriage, etc.)
- Chapter 10 Prevention and Treatment of Common Diseases of Eyes, Ears, Nose, and Skin (22 pages) (trachoma, cataracts, etc.)
- Chapter 11 Information about Prevention and Care of Tumors and Cancerous Growths (4 pages)
- Chapter 12 Emergency Treatments and Poisoning (37 pages)
- Chapter 13 Diagnosis and Treatment of Common Maladies which Occur Suddenly (13 pages) (high fever, convulsions, shock, coma, etc.)
- Chapter 14 Rescue, and Treatment of Battle Wounds (21 pages) (bullet wounds, splinting, transportation of wounded, etc.)
- Chapter 15 Common Chinese Herbal Medicines (131 pages) (207 herbs are discussed under such broad categories as cough prevention, fever reducing, heat prostration, laxatives, rheumatism, chills, congestion, blood treatments, diarrhea, indigestion, vomiting, nutritious medicine, tranquilizers, preventing parasites, skin diseases)
- Chapter 16 Methods of New Acupuncture (30 pages) (basic

principles, common acupuncture points, new acupuncture treatments for common illnesses)

Charts

- 1) common medicines
- 2) norms for diagnosis
- 3) mixing medicines
- 4) tests for allergies (penicillin)
- 5) tests for poison allergies (anti-toxin)
- 6) antibiotics
- 7) standard weights and measures and conversion tables
- 8) medicine dosage for children by age and weight

CONCLUSION

Despite the shortage of data of the kind that would justify a thorough and conclusive evaluation of the Chinese health care system, we believe that our studies justify the conclusion that the last quarter century has seen a radical change in the health conditions of the Chinese people. A redefinition of the basic approach to health care has been worked out. Problems hitherto considered insuperable in a poor county have been solved. A foundation has been laid for continuing improvement.

The Chinese health care system today is notable for the following characteristics: (1) it focuses on the needs of people in the rural areas and emphasizes the elimination of the most common debilitating and killing diseases; (2) it stresses disease prevention, and that in combination with treatment; (3) it uses the possibilities of mass mobilization in carrying out preventive activities; (4) it carries on programs for health manpower training and use that correspond to China's available pool of surplus labor and the stated goals of a socialist society; and (5) it attempts to integrate traditional and western medical practices and practitioners in a system that uses what is more acceptable and available of each.

The result of this approach is that the Chinese have been able to develop a system of health care delivery that is more equitable, more rapidly expanding and lower in cost than would have been thought possible. They have also, it seems, been able to encourage a good deal of research in *materia medica*, particularly in traditional herbal antidotes, and in surgical techniques, including (most spectacularly) acupuncture. This they have done without major reliance on either the resources or the methods of other countries.

Inevitably the question arises about the relevance of the Chinese experience to the rest of the world. If indeed it is

as effective a system as it seems to be, many, and especially those of the "third world", will be interested.

Can the Chinese health care system be transplanted?

The Chinese system has grown in an environment which has no parallel elsewhere, even in other countries which like China have gone through a successful socialist revolution. Our study suggests that the Chinese model cannot, as a system, be transferred to any other nation. Several reasons can be stated.

First, the Chinese health care system is an integral part of the new Chinese social structure, the establishment of which was made possible by the success of the Communist revolution that culminated in 1949. The revolution destroyed the power of a small, economically and politically powerful elite class which controlled the national resources, and it established instead a more mass-based political, economic and social structure. This power structure, concentrated in the Communist Party, emphasized among other things a more equal distribution of resources and committed people to work toward socialism. The health care system then is one result of a change in the political and economic basis of the Chinese society. It is also the consequence of a radical upheaval in society which destroyed old structures, set up new social values and freed the people for new ways of thinking. The Chinese would say that revolution is a necessary prerequisite for radical change in health care delivery.

Secondly, China has been able to bring its large manpower resources to bear on health problems through the techniques of mass mobilization. This process has been possible because of the political interaction between the leadership and the common people. In few other countries has the leadership made such heavy and sustained demands on the population as in China. That is to say that the Chinese political system has been an important factor in the construction of its health care system.

A system like the Chinese is operable only in a coun-

try which has both a labor surplus and the means of mobilizing this resource. It is not suitable for a country which has a labor scarcity or lacks the political and economic structure to encourage full participation by the labor force.

Thirdly, China does not have an open economy, and has been a relatively isolated country. These facts allow the government to plan and develop health services and to control the placement of medical manpower. For the past dozen years the government has built up the economy and extended welfare services without any significant aid, advice or even influence from other nations; it has had nearly complete control over the direction of national development. China has not been subject to external economic pressures which are the result of dependence on foreign trade; its priorities for development have not depended on the international market. Social welfare could be allowed to be as important as the production of oil and steel. Furthermore, because the government carefully regulates the movement of manpower within the country and restricts emigration, China has not been faced with the "brain drain" problem which has handicapped some other poor nations, which lose many of their country doctors to the cities and their city doctors to the developed world.

Finally, there are the long and deeply imbedded traditions that are peculiarly Chinese. The highly developed, relatively "scientific" and time-tested traditional medicine has provided a body of medical practice that is perhaps a good deal easier to integrate with western medicine than would be true in most non-western countries. A cultural tradition of mutual concern within the clan has been modified to extend beyond the family limits, and has provided the foundation for the mobilization of local units to bear responsibility for their own health care needs.

What then is relevant about the Chinese experience?

The limitations that have just been noted by no means render the Chinese experience irrelevant, as we have found in our work in Hong Kong. If the systems as such

cannot be borrowed wholesale there are still many elements that are of value.

The example of China in determining the four major principles (as on p.18) that form the cornerstones of the system is instructive. Another health service might not formulate them in exactly the same way. Yet in whatever social system we work, guidelines must be established that set a direction — and that direction may well be similar to the one the Chinese have set for themselves.

In some situations certain Chinese techniques may be borrowed. Acupuncture, for example, is being introduced — amid a good deal of scepticism to be sure — in many parts of the world: In fact some other elements of Chinese practice — for example the wide use of para-medical and voluntary neighborhood personnel — may be far more important. The serious way in which local communities take responsibility in the system, illustrated by the fact that they elect from among themselves those who are to be educated and employed in health work, is a most significant deviation from tradition, and it can be applied anywhere. Much more detailed information than is included in these introductory pages is becoming available on the preventive activities, the organization, economics, and techniques of health care delivery and on the health educational system in China. Some is included in the bibliography.

But perhaps more important than the borrowing of techniques from the Chinese is that we learn from them to devise for ourselves ways and means that are suitable for our varying situations. If the Chinese example can release us from the conventional and the traditional ways of thinking, if it can stimulate us to question what we are doing and to apply to our situations the resources available to us, that will be a greater contribution than any number of ingenious techniques. For if the above pages say anything, they say that what success the Chinese have had is the result of a determined effort to make use of, to adapt and to improve the resources in people, in material things and in skills that had long been available but had not been brought into

use.

To those who think of health care as a matter of a simple mutual relationship between the healer and the patient, the Chinese also have something to say. For in China it is clear that health is a matter of community concern, very much a social matter. More than that, it is a political matter. If, against all the pressure of tradition, of commercial-mindedness, of a professionally dominated system, changes are to be made, it is clear that they will happen only as political action takes place. It is political and economic power and not first of all a lack of imagination that has kept many of the world's public health systems from serving the greatest good of the greatest number. Political action, community action, will be required to reform the laggard systems so that they serve the people, not only themselves and the elite. Systems are changed by people who take responsibility. Health care workers themselves can lead the action for change, as indeed they are doing in many lands. But the health care "consumer" is equally able to bring change, the public can assume more responsibility than it has for the health of the community.

Finally, and this is perhaps the most important thing the Chinese have to say, adequate health care depends upon the commitment of the health worker. What shall be that commitment? In the words of the slogan heard and seen written everywhere in China: *Wei jen-min fu-wu!* "Serve the people!"

APPENDIX

THE PREVENTION AND TREATMENT OF MENTAL ILLNESS

by David Y. F. Ho

The Chinese have not dealt with the problem of mental illness merely by building more treatment facilities, training more workers and intensifying efforts to educate the public. Rather, they have given full recognition to the significance of the entire social dimension with which treatment and prevention are related. Without compromise, the Chinese are intent on operating within the framework of the political culture in the People's Republic. The result is the emergence of a new psychiatry with characteristics that are unique to contemporary Chinese society.

It is possible to speak of three periods in the development in the People's Republic of China: the period from 1949 to the Great Leap Forward in 1958, the period following the GLF to the Cultural Revolution in 1966, and, lastly, the period following the CR to the present.

The period from the liberation in 1949 to the beginning of the GLF was one of rapid growth for psychiatry, in terms of the training of psychiatric workers, the establishment of new treatment facilities, and, to a modest extent, research on mental illness.

With regard to treatment, a combination of Western and Chinese methods was used. The physical methods consisted of: drugs, Chinese herbal medicines, insulin and electric shock, heat treatment, artificial hibernation (via lowering the body temperature), artificial sleep induced by various means, acupuncture and ignipuncture (also known as moxipuncture, involving the infliction of small burns on the skin). Participation in productive labor was considered an important form of therapy. Psychotherapy was, however, apparently not widely practised during this period.

In 1958 and 1959, the energy of the entire nation

was absorbed in the Great Leap Forward. A movement calling for *cheng-chih kuo-shuai* (politics taking command) in psychiatry was initiated with characteristic zeal. Articles began to appear in the *Chinese Journal of Neurology and Psychiatry*, official organ of the Chinese Society of Neurology and Psychiatry, calling for following political guidance and the "mass line", and for promoting political mindedness in mental patients. It was declared that, no less than ordinary citizens, mental patients must participate in production and political activities, even within the hospital.

With more far-reaching effects, the entire social milieu in which patients received treatment underwent profound changes, affecting both the staff and patients. To begin with, the binding, isolation and restriction of patients were prohibited, and the slogan, "No shrieking in adult wards and no crying in children's wards", was found on posters throughout the nation's hospitals. The practice of "locking up patients for their own good" was criticized as based on capitalist thinking. A completely open-door policy was adopted in Peking as well as other places. It was observed that when patients were isolated from the world and restricted in their activities, they were unorganized, sluggish and lifeless. Efforts were therefore made to "transform the hospital into a family-like institution, so that patients could lead normal lives". An atmosphere of optimism and high morale was in evidence. Patients were told that they should "struggle against their illness in the spirit of revolutionary optimism". They were no longer left alone in the wards, allowed to remain in passivity, doing nothing, talking with one another or sleeping all day.

The period after the Great Leap saw this approach become entrenched. After 1966, however, the situation seems to have changed considerably. Very little information can be obtained from the China press. In the last several years, however, a number of western visitors to the People's Republic of China have been able to visit some of its psychiatric hospitals (mostly those in the major cities).

Taken together, the reports of their visits present a rather consistent picture of how the problem of mental illness is viewed and dealt with in contemporary China. Admissions to the hospital are usually initiated by referrals from the patient's family or co-workers, and are nearly always preceded by persuasion. They generally represent a joint effort by the family and the authorities of the unit where the patient works. It is claimed that usually all parties concerned agree on the need for hospitalization. Patients are admitted either upon their reporting to the hospital or upon a request that the hospital personnel come to get them. Commitment by force is the exceptional case.

Hospital life is highly organized and structured. Following the model of the People's Liberation Army, many hospitals divide patients into divisions and groups, so that there are "fighting groups instead of wards". A "buddy system" is introduced whereby those patients who are less ill are paired with sicker or newer patients belonging to the same "fighting group". Old patients take turns arranging welcoming parties for the newly admitted and helping them to adjust to the hospital environment. Some are encouraged to help in directing morning exercises and work therapy. Others perform routine chores, such as washing clothes for the seriously ill. The more literate help by writing wall posters to promote better hygiene and morale. Those who have contributed the most to the hospital, for example by actively helping other patients, are given recognition as "model patients". These "model patients" have proved to be effective intermediaries between the hospital personnel and the patients, especially schizophrenics.

The daily activities of patients are scheduled. According to Ruth Sidel, a foreign visitor in 1971, the schedule for patients in Shanghai Mental Hospital included the following activities: occupational (work) therapy, military training (once weekly), studying Chairman Mao's works, heart-to-heart talks (thrice weekly), study classes, physical activities (thrice weekly), visits from friends or relatives (thrice weekly) and watching television. Arrangements are

made with local factories or other production units to provide patients with opportunities for productive labor. The money earned goes to the hospital, which uses it to improve its services.

It appears that a highly harmonious staff-patient relationship is maintained. The punitive atmosphere is conspicuously absent. Professional aloofness, traditionally alien to the ethos of China, is actively discouraged. The staff regularly participate in the daily activities of patients, in work and recreation. They give drama performances for patients, or perform together with them. The running of the hospital is to a very large extent a joint effort by the staff and patients.

Post-hospitalization care

Treatment does not cease with the patient's discharge from the hospital, which assumes responsibility for co-ordinating efforts to help the patient to readjust and to prevent any relapse, especially in schizophrenic cases. Before leaving the hospital, the patient is fully advised of the nature of his illness and during "discussion therapy" sessions is instructed to observe rules to prevent its recurrence. In his final meetings with the staff, he is required to report on the highlights of his hospitalization experience and to recount the instructions for post-hospitalization care given to him. Prior to discharge, members of the patient's family as well as people from the place of work to which he will go are invited to participate in study sessions at the hospital together with the patient and staff. (A doctor would already have visited the patient's place of work to make sure that he returns to a job suitable for his mental health.) After discharge, the patient is often kept on medication like chlorpromazine, but on a smaller dosage. The patient visits the out patient department of the hospital once every two weeks and then monthly.

Within half a month from the date of discharge, the doctor-in-charge, or the head nurse, makes a house call to check on the patient's progress, to provide whatever guidance

is required, and to impress upon members of the patient's family and neighbourhood the importance of their role in contributing to his lasting recovery. In these visits, attention is focused upon ways and means to alleviate those pressures on the patient which are traceable to the conditions of his work and living. Once discharged from the hospital, the patient is under the special concern of the neighbourhood Revolutionary Committee whose functions are, among other things, to provide social services, mediate disputes, do marital counselling and in general look after the people in the neighbourhood. In effect, the hospital, the work unit of the patient, the neighbourhood street health station, the Revolutionary Committee and the family all work closely together in helping the patient on his way to mental health.

It is claimed that, as a result of the changes within the hospital and of the provision of an integrated system of post-hospitalization care, the length of hospitalization has been considerably shortened. Sidel reports that currently the average length of hospitalization in the Shanghai Mental Hospital is 70 days. The rates of recovery and improvement have increased, while that of relapse has decreased.

An over-all view

The current Chinese approach to the problem of mental illness is seen to be characterized by the following salient features:

1. The principle of "politics taking command".
2. A stress on patients' self-reliance and acceptance of responsibility.
3. A high morale, based on the conviction that mental patients can be educated and hence can be cured.
4. A high degree of dedication among mental health workers.
5. A diversity of methods in treatment, including both the traditional and the western.
6. Emphasis on the co-ordination of efforts by all parties concerned.
7. Emphasis on collective help.

8. A policy of decentralization.
9. Emphasis on prevention.
10. Downgrading of professionalism.

Implications for mental health workers

The Chinese approach to mental illness has much in common with such notions as "therapeutic community", "milieu therapy" and "community mental health". What is worthy of attention, however, is that the Chinese apparently have been able to put these ideas into practice on a massive national scale within a relatively short period of time, despite the very modest resources they had in the beginning. Furthermore, these ideas were not imported, but have emerged from experience gained through practice within the framework of China's socio-political culture.

It appears that China has succeeded in avoiding many of the mistakes of the West. It did not concentrate its efforts on building more hospitals and training more workers in the hope that mental illness could be coped with in this way. Professionals are not considered the only persons on whom the responsibility for treatment and prevention rests. The country is not burdened by large patient populations hospitalized for lengthy periods of time, resulting in a tremendous wastage of human and economic resources.

In conclusion, it would appear that the contribution to psychiatry of the Chinese approach does not lie in its sophistication in academic research or theoretical formulations. Nor does the promise to mental health workers rest upon proven results, in terms of success rates, etc., for reliable and comprehensive statistics have yet to be obtained. Rather, the Chinese have demonstrated what can be done when human resources are utilized to the fullest - that it is possible to provide the means for meeting the needs of all mental patients. They have shown that dynamic programs of treatment and prevention can be initiated when the whole society is mobilized, without having first to wait for more professionals to be trained. This is the message which deserves the attention of all mental health workers

in other parts of the world.

AN ANNOTATED BIBLIOGRAPHY

The resources on this list deal mainly with health care in China. For the reader who seeks a more general background on Chinese history, culture and politics, the following three publications, all in paperback, may be of use:

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SCHURMANN, Franz & SCHELL, Orville:
The China Reader. 3 v. New York, Random House, 1967.

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A BIBLIOGRAPHY of Chinese Sources on Medicine and Public Health in the People's Republic of China: 1960-1970. Washington, D.C., U.S. Dept. of Health, Education and Welfare, 1973.

This bibliography has just been completed by the Library of Congress. It contains references to both abstracts and full texts. Since China ceased to publish scholarly journals in 1966 and only began again in early 1973, most of the material was published between 1960-1966. The citations are divided into clinical subjects and health-related subjects. Covering topics from urology to public health to political subjects, this bibliography includes 95% of all items translated or abstracted from Chinese medical journals. Available through the John E. Fogarty International Center, National Institutes of Health, Bethesda, Maryland, USA. The individual abstracts and articles may also be purchased from the Technical Information Service, Joint Publications Research Service, Department of Commerce, Washington D.C.

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This article is based on 250 published reports, largely in Chinese biomedical journals, on interviews with Chinese expatriates and Japanese scientists, and on news reports. It discusses the disease prevalence and incidence rates, and the attempts at control and treatment of the disease.

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Croizier examines the history of traditional medicine under the Nationalist and the Communist governments. It gives a fairly complete analysis of the possibilities and problems both governments faced in considering the integration of traditional medicine and practitioners into the modern health care system. It includes an excellent bibliography of both Chinese and English language sources.

DIMOND, E. Grey: "Medical Education and Care in People's Republic of China". In *Journal of the Ameri-*

can Medical Association, December 1971. This article is based on Dr. Dimond's personal interviews with various physicians and medical educators in China. He gives a brief history of the effects of the Cultural Revolution on medical education, describes the present curriculum in some detail and discusses his visits to a commune hospital, the Institute of Materia Medica in Peking and several other institutions. Admittedly limited because it is based on a twelve-day visit, the article is still useful as a doctor's analysis of medical care in China.

FAUNDES, A. & LUUKAINEN, Tapani: "Health and Family Planning Services in the Chinese People's Republic". In *Studies in Family Planning*, Supplement, July, 1972.

These two doctors, one from Chile and one from Finland, travelled to China in connection with their activities as members of the International Committee for Contraception Research of the Population Council. This article is the report of their findings. They discuss health and family planning data, delivery of maternal health care and family planning services as well as the organization and delivery of general health services. Available from the Population Council, 245 Park Avenue, New York, N.Y., USA.

HORN, J.:

.....*Away with All Pests*. London, Paul Hamlyn, 1969.

As a personal reminiscence of a British physician who worked for fifteen years in China, this book is unique. Horn describes the major health achievements in China over the past 23 years as well as his personal experiences in giving medical treatment and travelling with a mobile medical team. Although not without admitted bias, the account provides a rare

insight into the Chinese health care system.

HUARD, P. & Ming Wong: *Chinese Medicine*. New York, McGraw Hill, 1968.

This excellent history of Chinese traditional medicine traces the origins of the theory and practice in both China and Japan. The study focuses on developments prior to the founding of the People's Republic.

"MAO'S REVOLUTION in Public Health". In *Current Scene*, May, 1968.

This article is a political analysis of the developments in health and medicine during the Cultural Revolution. Based on Red Guard reports and other news items from China, it documents the factional interests of the medical professionals and of the government leaders. It gives the political background to present-day health policies.

ORLEANS, L.:

"Medical Education and Manpower in Communist China". In *Comparative Education Review*, February, 1969.

In an attempt to compile the scarce statistics on medical education in China, Orleans provides an analysis of the Chinese approach to medical education. He discusses higher medical education and manpower, traditional medical education and manpower and the training and deployment of medical auxiliaries. The article gives a description of the state of medical education and personnel prior to the Cultural Revolution in 1966.

ORLEANS, L.:

Every Fifth Child. Palo Alto, Calif., Stanford University Press, 1972.

This recently published book analyzes population growth and density in China and its consequences for future development goals. Orleans reviews the results of improved health,

the history and implications of population policies and the problems of obtaining accurate statistics on population increases. The book contains a lengthy bibliography and several good charts and maps.

PALOS, Stephan:

The Chinese Art of Healing. New York, Bantam Books, 1972.

Palos has simplified the theoretical basis of Chinese traditional medicine. He discusses the relationship of man and nature, the traditional views of the functioning of the human body, the causes of illness and the methods of treatment, including acupuncture, moxibustion, respiratory therapy, remedial massage, physiotherapy and herbal remedies. The book includes several useful charts and acupuncture points, meridian lines and the like. A translation from the Hungarian.

QUINN, J.R., ed.:

Medicine and Public Health in the People's Republic of China. Washington, D.C., Department of Health, Education and Welfare, 1973.

A collection of fourteen papers for which sufficient information was available to write scholarly studies, this volume was commissioned by the U.S. National Institutes of Health. The papers are divided into three sections: Chinese medicine through the ages, health care organization and administration, and health problems. Each paper is a detailed study of the subject based on the use of both Chinese and English sources. Available from the National Institutes of Health, Bethesda, Maryland.

RIFKIN, Susan B. & KAPLINSKY, R.: "Health Strategy and Development Planning: Lessons from the People's Republic of China". In *Journal of Development Studies*, January, 1973.

The authors present a model for health care

planning in the developing countries and show the alternatives between most developing countries and China. They then present a cost-benefit analysis of the Chinese health care system. A final section evaluates the possibilities of transferring the Chinese health care model to other nations of the Third World.

SIDEL, R.:

Women and Child Care in China. New York, Hill & Wang, 1972.

A social worker in New York, Sidel writes of her personal observation in the areas in China. She focuses on such topics as the liberation of women and the commune system of child raising. A final chapter provides a cursory comparison of child raising practices in Israel, the Soviet Union and China.

WORTH, R.M.:

"Strategy of Change in the People's Republic of China - The Rural Health Center". In Lerner, D. and W. Schramm, eds: *Communication and Change in the Developing Countries.* Honolulu, The East-West Center Press, 1962. Worth recalls personal experiences in China to illustrate the use of modern medical care as an agent of change. He examines the introduction of western medicine and the use of traditional practitioners in the old villages. He examines in some detail the role of the rural health center as a unit where modern medical care can be introduced to change old health habits.