A Talk to Village Leaders

The following is a shortened form of a talk given earlier this year to village council members in the Gambia by Dr E.M. Samba, Director of Medical Services. It was delivered in the Mandinka language because most of the audience spoke only that tongue; most of them were also illiterate. Afterwards the village councillors asked Dr Samba to reproduce his statement in writing so they could use it during follow-up discussions in their villages, where very often their sons, who could read and write, would act as translators. The net result has been that village leaders in the Gambia are proving very receptive to the concept of primary health care and are responding actively to external stimuli for do-it-yourself health care. Dr Samba himself commented: “Clearly PHC will do well in this area. We are very hopeful that, long before the year 2000, we in the Gambia will achieve health for all.”

I feel very honoured to have this opportunity to talk to you about the role of primary health care in the social and economic development of our nation. First of all, let us define PHC. In the past when we talked about health, people thought of doctors, hospital, nurses, working largely in urban areas and affecting the lives of less than 20 per cent of the population.

PHC is different from this in many ways. The emphasis here is on villages where more than 80 per cent of the people live. The villagers themselves, with the collaboration and support of health professionals, plan, implement and evaluate PHC, while other ministries, such as those of economic planning, community development, education, agriculture and local government all take an active part in it.

In PHC the emphasis is on health rather than disease. Health is more than the absence of disease; a healthy person should enjoy physical, mental and social well-being. To have good health a person needs enough nutritious foods, wholesome water, good sanitation, good personal habits, vaccination against childhood diseases, maternal and child health including family planning, and an organization that will make it possible for every person to enjoy all the above items easily, at a cost which he or she can afford.

We have agreed, as you will remember, that each village committee should consist of the village chief, the religious leader, the traditional birth attendant, a prominent businessman, a representative from the women’s group, the youth leader and anybody else in the village who can be of some service, together with a representative of any ministry in the village.

The committee’s functions should include keeping the village clean, looking after the wells, organizing village gardens to grow supplementary foods, organizing expectant women and children for MCH (maternal and child health) clinics or for vaccinations, working on village farms to support PHC needs, selecting somebody among the villagers to be trained as a village health worker, and keeping village basic vital statistics, e.g. children born, their sexes, deaths, common ailments and so on.

And we agreed that the village health worker (VHW) should have the following qualities: a good character; he should be permanently settled in the village and not likely to leave for the towns; he should enjoy serving people without demanding higher remuneration, or pleading tiredness when he is called out at night to help; if he can read and write in English or Arabic this will be an additional advantage, but is not absolutely essential.

Village leaders in the Gambia gather to discuss their problems with a visiting politician.
( Photo WHO/UN)
We in the Ministry of Health will train the VHW for three months to enable him to look after basic village needs, such as simple sores, general body pains, malaria, early diarrhoea, anaemia, intestinal parasites. He will be taught to handle aspirin, chloroquine, iron tablets, piperazine, and prepare oral rehydration fluid (water, sugar and salt).

The community health nurse from the key village will visit him regularly and together they will organize health education, collaborate with the trained traditional birth attendant to look after the mothers and children, and organize them for the vaccination teams. They will also look after the village wells, latrines and general sanitation. Regularly short courses, seminars and talks will be organized to upgrade the knowledge and capability of the VHW, and he will be encouraged to collaborate as much as possible with other rural extension workers in agriculture, animal husbandry and community development.

Let us look at food. Our concept of food is something with which to fill the stomach. But, there is more to it than this. Food should have five qualities. It should provide energy for the body—carbohydrates. Then it should contain materials for body building—proteins. It should provide heat for the body—fat. It should contain small elements without which the body will not function properly—vitamins and minerals. It should be free from contamination and disease. Therefore it should be clean.

In our country, the meal consists of a large bowl of rice covered with a stew containing meat or fish, oil and vegetables. The whole family sits round this to eat. The children confine themselves to the rice. If they reach for the meat or vegetables they are reprimanded for being rude and ill-mannered. Mother eats mostly rice and a bit of the meat and vegetables. Father eats everything as he likes. This is our tradition.

Now we have to change this. To grow big and strong and to stand up to disease, the child needs more proteins than father... The lesson here is that children and mothers should eat as much protein as father, if not more.”

(Left: WHO/UN)

Right:
A woman at the well in the Gambia. “We cannot live without water. Since it is so important, we have to look after it properly and make sure it does not contain impurities which might poison the body.”

(Photo WHO/UN/A. Holbrooke)
as much proteins as father, if not more. Most protein foods are readily available.

Many families believe strongly in certain food taboos. Thus pregnant women do not eat eggs because these will make the baby dumb or have a bald head. Fish is supposed to cause intestinal worms and poor growth in children or expectant mothers. Expectant mothers drinking milk will suffer from congestion of the breast and breast inflammation. Rich foods, bread, butter, bananas all cause large babies, and therefore difficult labour. Pregnant mothers eating meat will suffer from excessive bleeding after the baby is delivered and their healing process will be delayed. Mothers who eat hot peppers will have babies that cry a lot, and those who eat garden eggs and bitter tomatoes will have children that suffer from ring worms. Giving the baby oysters and snails to eat will cause it to dribble.

You will see that any woman adhering to all these will not eat all the food she needs. Unfortunately, many women and men believe in these taboos. It is our duty to help these people to change these harmful beliefs. All these foods should be eaten in plenty by both mothers and babies. They do nothing but good.

You all know that water is a very important part of life and it forms the greater part of our body. We can live for weeks without food but we cannot live for days without water. Water serves a greater purpose than just quenching our thirst, and without it no part of the body will function. Since it is so important, we have to look after it properly and make sure it does not contain impurities which might poison the body.

Open wells, rivers and pools are exposed to the atmosphere. Dust containing disease-causing germs settles in the water. When we drink the water these germs get into the body and make us sick. Or the faeces, urine and washings of humans and beasts may contaminate wells, rivers and pools. Sometimes a whole animal may die and rot in them. If we drink water from these places we will definitely get sick and may sometimes die. Very often, of course, the sickness may not be acute but will continue in low-grade form for many years. When I talk to such people they say “Ah, but we have been drinking from this well or river since our grandparents’ days”. My answer is: “You think you are all right but I know you are not. Inside you there are worms of various kinds and many germs which are slowly making you unhealthy.
You will probably die younger than you would have if you did not drink directly from these places.

How do you avoid contaminating your water? Your water receptacles should be clean and covered from the open air. Wells should be deep and covered, and sited away from contaminated places like latrines. River water should never be drunk directly. If it must be used then we should boil and filter it. The same goes for pool water.

All over the country now the Government is constructing deep cement-lined wells fitted with foot pumps. Many people are not using these wells because they say the water is not "sweet". What they really mean is that it tastes different from the contaminated uncovered wells they are used to. These deep wells contain good pure water. Our traditional open wells are heavily contaminated and naturally taste different.

Let me go back to food and nutrition again. I forgot to mention breastfeeding. This is very important especially now that we have salesmen telling us that bottle-feeding is good. Mother's milk is the best for the child. It contains food, water, antibodies which help to keep the child healthy and, very important, in the process of breastfeeding there is a healthy child/mother relationship which is useful in developing good social habits. Of course, by the time the child is three months old the mother's breast alone will not be enough so that supplemental feeding will be needed. But the child should still be breastfed until he is two years old. This is our tradition. It is good and we should keep it.

Bottle-feeding on the other hand is very dangerous and in our situation in the village it should be banned outright. The village mother does not know how to use it properly. The bottle is not cleaned properly, the water is not boiled, sometimes the feeds contain too much sugar.

The best supplementary feed is a cleanly prepared cooked mash containing carbohydrates, proteins, a bit of groundnut oil, and vegetables. This should be eaten while it is still fresh. We also have a lot of milk. Gambia has more cows than human beings. Sheep and goats' milk are also good. The milk should be cleanly collected and boiled before being given to the child.

Foundation of health

Remember the old saying "Cleanliness is next to Godliness"? Cleanliness is the foundation upon which good health is built. A dirty person is an unhealthy person. Dirty surroundings breed disease and disease-carrying organisms such as flies, mosquitoes and rats. It is the duty of the village committee to keep the village clean. Many villages now organize youth groups to collect all the refuse from the village regularly and dump it into manure pits. This manure is the best fertilizer—much better than chemical fertilizers which are both expensive and sometimes dangerous to health.

With the help of the health inspector, the VHW and his collaborators in the village will also build proper latrines in each compound. Everybody should go to the toilet in these latrines. These latrines should be at least 100 feet away from the nearest well. They should be covered so that flies cannot enter them. Nobody in the village should go to toilet in the open in or outside the village.

What about good personal habits? I am sorry I have to touch on this. You are all grown-up men, leaders in your vil-
lages; but I noticed a few very dangerous habits which I would like to discuss.

Many villagers now smoke. I observe small boys aged about ten smoking in the streets. In this gathering of 15 people, only three do not smoke. This is very serious. Let us all smile and show our teeth. Look at the teeth of the smokers and compare them with the non-smokers. You wash your mouths many times a day and in spite of all that the cigarettes make your teeth so dirty. What do you think your lungs would look like? They are worse because you cannot wash them. So you see, my friends, smoking is very bad. Besides, it is expensive. Most of you smoke more than one packet of cigarettes a day. With that money you can feed your child with very good food and keep him healthy.

Left: “The child should still be breastfed until he is two-years-old. This is our tradition. It is good and we should keep it.”
(Phot o WHO/UN)

Right: “The village committee’s functions should include keeping the village clean, looking after the wells, and organizing village gardens to grow supplementary foods.”
(Phot o WHO/UN/A. Holbrooke)

Even where the Gambia is more than 96 per cent Muslim, alcoholism is gradually getting hold of the younger generation, especially the young executives who are the future leaders of this country. You may notice that our young girls are also slowly joining in. With increasing alcoholism in the society, road accidents, crimes, promiscuity and venereal disease also increase. All these contribute to a sick society. We are a developing country and we can ill-afford our young people, upon whose education we have spent so much, going to rot like this. I therefore commend this very serious health hazard to the care of the village committee.

You have heard of the EPI team going round the country. Before they come to your village you will hear it on the radio. Fortunately every household in the Gambia has at least one transistor radio. When you hear the announcement, it is for the village committee to organize all the mothers and their children to assemble at a convenient place so the team from the Expanded Programme on Immunization can vaccinate them. With the help of the VHW, the team will protect the children against tuberculosis—at birth or soon after; DPT (diphtheria, pertussis and tetanus) in three doses at two, four and six months. Every pregnant mother will be given tetanus toxoid. We hope to vaccinate 90 per cent of the target population by 1990, and by the year 2000, 100 per cent of the target population will have been immunized against these dreadful diseases.

The greater part of our population consists of young mothers and children. The future of our country depends on them. They are very weak and vulnerable to disease. They therefore need our special attention. The VHWs, traditional birth attendants and community health nurses should help organize all mothers and children to make full use of the facilities provided by the MCH service, including family planning.

You see, my friends, we cannot have it both ways. Before we medical people came into the scene, "nature" has maintained some balance between births and deaths. By our activities we are already drastically cutting down the deaths. How then can we leave the birth rate to "nature"? We should not. We should also control this side of the coin. Otherwise we will be heading for trouble.
The Enlightened Health Provider

How important are the psychosocial dimensions of healthcare to the professionals? From her experiences, a behavioural scientist concludes that it is vital for medical training to promote a broader concept of the whole range of psychological and social factors that affect health.

by Judith DePue Hewitt

It was a regular morning clinic in a rural New Guinea health centre. There were about 25 people waiting outside, many of them clutching notes from their "Aid Post Orderlies", indicating they had walked perhaps half a day on referral from some more isolated health post. The people were dressed in their everyday clothes of sulus (wrap skirts) and blouses or shirts. The faces of the women were tattooed and the men bore scars of arrow wounds from some recent clan fight. Mouths and teeth were stained red from chewing betel nut. Children had their own markings—scars from repeated bug bites.

Inside, there were hard wooden benches filled with more people, some drooping with fevers or wincing from bruises, but most sitting blank-faced for the routine wait. There was a smell of disinfectant much stronger than I've known in clinics but ineffectual in relieving the sense of dinginess: the crude treatment room, the gray unlit halls, and the dark wards off them. A peek into one of these wards would find a family clustered around a patient, all "living in" so as to help care for him or her.

The out-patient clinic proceeded routinely. Blank-faced patients were heard by a blank-faced orderly and nurse. Their symptoms were treated by the first line of medicine—chloroquine, antibiotics, ointments, bandages—without consideration for more complicating features. If the patient didn't get better, and in fact most did, they would get worse. And then they would come back for different medicine or the next referral. Most illnesses were simple and could be treated by such basic facilities as this sort of clinic provided. Time, home remedies, local healers took care of many others.

It wasn't the scene, the lack of sophisticated equipment, or the guess-work of orderlies that bothered me. I realized their clinical skills surpassed that of many doctors at home. I wondered whether the treatment would be followed. Would the patients bother to come back again? Could they take care of themselves any better? The patients didn't ask questions. The health workers plodded on through the waiting lines. The scene was different, but these were the same questions I had been asking at home in the USA.

At home I'm a psychologist on a health team. I've struggled with people trying to make changes in health habits—to quit smoking, to follow a sensible diet. I've tried to respond to personal concerns that interfere with medical improvement—the rejection of a new lifestyle that is imposed by a handicap or a chronic disease. And I've searched for alternative approaches to emotional upsets and mental illness. Medical care is complex enough, but more so because of our psychological and social dimensions. Motivation to change behaviour isn't just a matter of being at risk, in pain, having the will or the way, being rich or wise. It's a little of all those things, but a lot more. What other pieces to the puzzle? What could I learn from health care in very different settings that might help me do my job?

This self-styled odyssey took me all around the world for 15 months. It took
A team of health workers visits homes in Bombay. Community medicine has proved to be ineffective if it is not linked with broader social and economic development of the community. (Photo WHO/E. Schwab)

I came through the South Pacific, New Zealand, Australia, Papua New Guinea, parts of South-East Asia, Nepal, and India. I talked with health providers from a variety of programmes—public, private, educational, and clinical. I asked how important were the psychosocial dimensions in their everyday work. What were their approaches and experiences of what does or doesn’t work? When possible I sat in on an occasional clinic or a training programme to watch.

I wasn’t the only one so concerned, although the issues go by other names than “the psychosocial dimensions of health care”. A doctor in Nepal worried about sick kids not following treatment because of family authority conflicts. Another in the capital city, Kathmandu, talked about drug overdoses. Rapidly developing Papua New Guinea sees an increase in alcohol problems among young leaders pushed suddenly into top jobs. Embarrassment about sexuality and birth control in Thailand inhibited family planning. Taboos about not giving food or drink to children with diarrhoea baffled health workers in India.

The health staffs’ ability to respond to these situations is uneven at best. Besides the overwhelming demand for services, there are conflicting politics about priorities for funding. Supplies are held up. Staff are shifted around. Transport is unavailable. Patients lose confidence and drop out. A new water system is unused because the pipes go over black magic territory. Inconsistent policies about advancement or salaries, and poor communication channels in the hierarchy, diminish morale and lead to high staff turnover. Staff training addresses the relationships between smoking and coughs, scabies and hygiene. But in practice, the staff “forget”.

I have fewer illusions than ever about the task of facilitating health behaviour change and emotional well-being (mental health). People are generally unpredictable and elusive. Most approaches have to be individually tailored and nurtured within a caring partnership—patient and health provider, local community and staff. The power of that partnership—the blending of understanding, common-sense, mutual goals, trust—struck me again and again. There’s nothing new or startling about this point, except how often it doesn’t get credit amidst technical skills and how often it isn’t recognized and developed in training.

What impressed me more, however, was how often the system—the chancy politics, organizational problems, cultural or personal clashes—interfered with the process, undermining the skills, talent, and motivation of the participants. Facilitating human behaviour change is as unpredictable and elusive as the people who comprise the systems. As I searched for the underlying principles for progress, my first lesson was accepting this unpredictability as baseline, as normal. Given that, what can be done to increase the odds?

West Heidelberg Community Centre, near Melbourne in Australia, works. The staff like their jobs. Patients refer their friends. They’re learning to ask directly for what services they need, and they’re learning to help themselves. It is a low-income community, much unemployment, delinquency, poor housing. There used to be poor personal hygiene, bad nutritional habits and high absenteeism among school children. These problems are decreasing. The services provided are medical, nursing, occupational therapy, youth employment training, help with budgets, pensions, housing, dealing with governments, consumer protection, school problems, family relations, finding sports and recreation activities. The approach is to hook people with people, to serve as a sounding board, to act as a catalyst.

There are problems. The government funding sources don’t always recognize the local goals; they look at the number of clinic visits rather than increased participation in local politics, decrease in vandalism, children wearing cleaner clothes, fewer incidents of head lice.

The staff functions collaboratively, sharing expertise in law, medicine, nursing, social work, psychology, education and so on. They share ideas, community
contacts, mutual support. They have a loose organization to work out in-house problems and conflicts. Team members complain of some isolation from others of the same training, yet they also enjoy the stimulation and wider impact from the integration of disciplines.

The Community-Based Family Planning Service in Thailand is privately run. It is hard not to notice this programme in Thailand. Children sing jingles and wear T-shirts saying, "Many children make you poor". Condoms are used as tips in restaurants and taxis or for bus fares. Loan programmes are advertised as incentives for vasectomies. The director is seen in the newspaper blowing a condom up as a balloon. His strategy is to desensitize people about their embarrassment with sex and birth control.

Mr Mechai Viravaidya, the director, has been controversial and shocking, and his success is recorded in rapidly falling birthrates. But there's more to the success than that. The volunteers are pivotal. They are carefully nominated and chosen to work in their own community. Their relationship and trust among neighbours will help overcome some of the psychological barriers to discussing birth control. Their availability to respond to spontaneous questions and fears is crucial. Mr Mechai maintains that his approach, a combination of volunteers and media methods, could be used to change any health habit in villages, cities, institutions.

The World Bank, in a Health Policy Paper, put forward a wide concept of what must be embraced in health care. It reported that in developing countries community medicine has proved to be ineffective if it is not linked with broader social and economic development of the community. My own experience and observations underscore an ever wider range of factors important to the success of health systems. Certainly there is the health provider-patient relationship, including the provider's willingness to deal with emotions, his communication skills, and his knowledge of medicine and technique. Yet at its best, that relationship is limited in its ability to affect health on a long-term basis. The use of a team to expand the range of skills, insight, shared responsibility and support increases that effect. There must be administrative and organizational support both functionally and philosophically. And special recognition must be given to the fact that staff morale and efficiency need continual consideration. There is the power of public relations, through the media and by word of mouth, to give increased exposure of a message. The involvement of the community works not only as a practical and low-cost resource, but as a way to foster self-help abilities and to promote responsibility for people's own destiny. And, of course, there must be political ability—knowing how to be diplomatic at all levels and how to lobby to influence specific change. Health providers lament their lack of skills to address very many of these functions.

The emerging trends in health worker training and formal medical education reflect some of these needs. The behavioural input in the training of para-professional health workers depends on how much community organization or preventive motivation they are expected to do on the job. When I asked whether
The training of health workers should include a behavioural science component to help them, for instance, to become less afraid of and awkward about emotional behaviour, including severe mental illness.

After completing her training course, a traditional midwife in India receives her UNICEF midwifery kit. For trainers as well as trainees, the need now is to promote awareness of a broader concept of health.

(Photos WHO/E. Schwab and WHO)

in practice health workers talked with patients about personal and home situations or if they added consideration of these to their treatment, I was told it was up to the individual. Rarely were these issues discussed in supervision. If they were discussed in training, they were hardly reinforced. Yet I also heard about training of volunteers in Nepal that focusses more on discussion of their own health attitudes than on knowledge per se, because these are deemed more crucial to the health of patients. The manual for Primary Health Workers, issued by WHO in 1977 as a guideline for training, gives a lot of attention to the importance of personal factors and personal support, to the treatment of mental illness, and to non-cognitive factors in the training process.

My own analysis of the training needs and models for a behavioural science component suggests three general principles. One is consciousness raising: the need to recognize the psychosocial factors that were there all along, and also to admit a whole array of new ways of looking at situations. Second is desensitization: to become less afraid of and awkward about emotional behaviour, including severe mental illness. The third is the development of practical skills: learning from experience about processing diverse information, problem-solving, counselling, community development and so forth.

Clearly, the skill of the trainers is crucial. They must be able to articulate those vague impressions that are derived from experience into concepts that are solid, that can be duplicated, that can be translated again by the student to others. The careful selection of staff is imperative, and selection must be made on the criteria of the skills that need to be fostered.

My own training as a behavioural scientist and clinician has acquainted me with many of these process skills and perspectives. Yet my odyssey was satisfying especially because it expanded those perspectives. All too often the efficiency of our efforts is undermined by organizational problems, by politics. We need additional skills if we are to address these difficulties.

To be responsive to changes in medical knowledge and to integrate such changes with specific and local needs; to be able to recognize various psychological and social factors as they interfere with general health and to respond to them with support and direction; to be a teacher of patients and communities in how to help themselves; to participate in maintaining staff effectiveness including resolving conflicts; to recognize broader social and political issues affecting health and to consider useful actions including lobbies, votes, liaison with other programmes—these are the objectives for an enlightened health provider.

It sounds like an idealistic challenge. Yet it is possible and necessary for medical training to move in that direction, to improve the odds. We can promote awareness of a broader concept of health, of the interconnection between social factors and the delivery system. We can develop the ability to integrate knowledge, to continue learning, to interact with patients and colleagues toward common goals, to respond to the unpredictable.
Health Care in Kazakhstan

The public health goals of the Kazakh Soviet Socialist Republic (capital Alma-Ata) include raising the level of qualified specialist health care in the countryside to the level already enjoyed in town.

by T. S. Sharmanov

In 1913, the enormous territory of Kazakhstan was served by no more than 244 doctors, 393 medium-grade medical workers and 1,800 hospital beds. In other words, there were 0.4 doctors, 0.7 medium-grade medical workers and 3.2 hospital beds for every 10,000 inhabitants.

The Socialist Revolution of October 1917 created the conditions under which the problems involved in protecting and strengthening the health of the working people of the Soviet Union could at last be successfully tackled. Never before in the history of mankind had any government or any party set itself a health objective of such vast proportions as that involved in caring for the health of the entire population.

The unprecedented progress that has been achieved in the Kazakh Soviet Socialist Republic during the years of Soviet rule is evidenced by the great strides made by its economy and in the fields of culture, science, education and health. The present-day health services can call on a wide range of facilities at over 1,700 in-patient hospitals, over 2,200 polyclinics, and over 1,000 rural district hospitals and out-patient units.

Kazakhstan today has nearly 189,000 hospital beds, or 128.7 beds for every 10,000 inhabitants; and there are nearly 44,000 doctors and more than 141,000 medium-grade medical workers employed in the Republic. This indicates more clearly than anything else the tremendous reforms brought about by the October Revolution in what was once a backward and oppressed outpost of Tsarist Russia!

The USSR was the first country in the world to break new ground by introducing a socialist system of health care based on the principles that it should be planned at state level, that prevention should be emphasized, that highly qualified medical care should be available to all free of charge, that there should be unity of theory and practice, that health care should follow the precepts of socialist humanism, and that it should be democratic, with the widest possible participation by the community and the population in tackling health care. These principles are embodied within the framework of planned development of the health services in such a way as to develop a countrywide network of health care establishments and to provide them with medical staff in the most appropriate way to meet the people's needs for curative and preventive care.

Health care in a socialist society is of considerable economic importance, since it is responsible for maintaining the country's manpower resources, reducing losses in working time for health reasons and increasing the health status of the population as a whole. The country's economic growth has meant a steady increase in the material and technical facilities available to the health services and a continued improvement in the quality of medical care. The general death rate is
Alma-Ata, capital of Kazakhstan, was the scene of the International Conference on Primary Health Care in September 1978. (Photo WHO/Novosti)

Right: Heavy engineering plant in the Soviet Union. Health posts attached to industrial undertakings are helping to reduce absenteeism due to illness. (Photo WHO/Tass)

three times lower than it was before the Revolution and whereas life expectancy in pre-Revolutionary Russia used to be 32 years, Soviet citizens can now expect an average life-span of 70 years.

Since 1977, the Kazakh health authorities and all medical workers have been required to concentrate their attention on improving the efficiency of health establishments, preventing disease and injury, strengthening measures to protect maternal and child health, increasing the material and technical facilities at the disposal of health establishments, further developing specialized care and improving the work of research institutes and
medical schools. The obligation has also been laid on party, Soviet and economic authorities at local level, and on Ministries and departments, to give every assistance to the health authorities in furthering the development of health care and the medical sciences and ensuring effective supervision of financial and material resources and the construction of health establishments. There are long-term plans for building new hospitals in both urban and rural areas, and for greatly increasing the numbers of doctors and medium-grade medical staff.

Prevention is a major part of Soviet health care in all its aspects, and the work done in the preventive field by the health authorities and medical establishments is being increased, in particular by raising the level of coverage given by the health centres known as *dispansers*. The *dispanser* system at present covers not only people suffering from chronic diseases and children under school age but also applies to large sections of the population who apparently enjoy good health, such as industrial, transport and agricultural workers.

A gradual move has been taking place in the Republic in recent years towards an all-embracing comprehensive *dispanser* system providing active specialist coverage for the whole population. A universal *dispanser* system is the basic form that our health care must adopt under today's conditions and the general line along which it must develop in the future.

One effective way of providing preventive care for the working population is to expand the number of sanatoria and preventive medicine posts attached to industrial undertakings. Each year such posts provide preventive and curative care for over two million manual and office workers without disruption of their work. Such care has led to a reduction of 40 per cent in the rate of illness involving temporary inability to work. Similar posts are provided on a shared basis by state farms, collective farms and state establishments.

Bringing the level of highly qualified specialized care available in the countryside up to the level enjoyed in the town will involve setting up large central district hospitals in the principal towns of the rural administrative districts, enlarging the hospitals serving the whole Republic or its various administrative regions and continuing the building programme for large multidisciplinary hospitals with 1,000 and more beds.

Out-patient and polyclinic care for the rural population and those involved in pasturing flocks and herds includes extending the already-existing "flying doctor" services.

Left: Medium-grade medical staff undergoing training. The student intake for such training will be one-and-a-half times greater by the year 2000 than it was in 1978.

Right: Better health care for the rural population and for those involved in pasturing flocks and herds includes extending the already-existing "flying doctor" services.

(Photos WHO/Novosti)
of feldsher-midwife posts in operation because they are located in small centres of population; feldshers are medical auxiliaries trained in delivering primary health care to rural areas.

The twentieth century has seen major discoveries, scientific and technical advances and the increasing use of chemicals in industry, agriculture and everyday life. This has faced man with a number of serious problems arising from the need for protection of the environment and the careful husbanding of natural resources. The XXV Congress of the Communist Party of the Soviet Union referred to environmental health as one of today’s most pressing socio-economic problems, and noted that the health and well-being of present and future generations depended on its correct and timely solution. This means that the sanitation and epidemiological services must extend their scope and play a greater part in public health surveillance. If these goals are met, it will further improve the structure of the sanitary and epidemiological services, and increase their efficiency.

There will be more medical education. The number of students admitted to medical schools in the Republic will be one and a half times greater by the year 2000 than it was in 1978. Schools for medium-grade medical staff will increase their student intake one-and-a-half times by the year 2000. Two new schools will offer such staff further training.

Thus the future goals to be reached by the year 2000, as a result of the expansion of health care and medical science within the framework of our economic plan, will be: a higher level of health; a reduction in the levels of illness, disability and death, particularly the death of children in the first year of life; higher average life expectancy; extensive application of scientific advances and new methods of diagnosis and treatment to medical practice; more scope for medical education; further improvement in the dispenser system and a change-over to a universal system covering the whole population; protection of the environment and further improvement of hygiene in urban and rural population centres; further development and improvement of the material and technical facilities available for health care on the basis of a major building programme.

The steady rise in the cultural and material prosperity of Soviet citizens, and the scientific and technical progress that has been achieved, make ever more exacting demands on the health care services, their structures and their administration, since these must match the level of development reached by the productive forces of the country. To reach these goals the highest level and highest quality of medical care is required.

So by the time we reach the end of the 20 years that separate us from the year 2000, we can say with confidence that the goal of “health for all by the year 2000” set by WHO will have been reached in our country.
What is special about the Khartoum Eye Hospital is that it trains ophthalmic health workers for the whole country, and particularly the ophthalmic medical assistants who take eye care and blindness prevention out to the people—even in the remotest parts of Sudan.
Mr Presser Yuro Poul will also go back to his native Juba and expects to be transferred later to a district. At Juba he will work in the eye department with a trained ophthalmologist. The patients there come from as far as 30 miles away, but Mr Poul will also visit them in their round grass houses (called tokuls). Some of them sleep near their animals and, because of this habit, blepharitis (inflammation of the eyelids) is common. He will encourage them to keep their animals at a distance, and to wash their hands and eyes in the mornings with medicated soap.

Looking back on his 25 years at Khartoum Eye Hospital, Dr Hassan recalls when it was the only one caring for eye patients throughout Sudan, Africa's largest country. “We gradually decentralized, and now we have opened eye departments in every provincial hospital and even in some district hospitals. The emphasis has changed. It used to be on diagnostic and surgical improvements, but now we are entirely geared for training eye health workers for the whole country, and lately we are also starting to do research work on the endemic eye diseases of Sudan, with visiting scientists from abroad.”

Mr Galal El Tahir Abu Hawa is Principal of the Hospital’s Institute of Optometry and Visual Science. His optometrists' training course was, until a similar one started recently in Lagos, the only one of its kind in the African or Arab countries. Optometrists are the technicians who test for sight defects and prescribe glasses. Like the OMAs, they do extremely useful work, becoming the right hands of the ophthalmologists in the eye departments.

Mr Abu Hawa’s students come from various parts of Sudan and need good marks in maths, science and English language to enter the Institute. They learn anatomy, optics, ophthalmology, ocular pharmacology, physiology, orthoptics and refraction. The refraction room where they work in the practical part of their course has a long row of cabins on one wall with a variety of equipment for testing sight. Besides working in hospital departments, says Mr Abu Hawa, the qualified refractionists will take part in a new countrywide survey of schoolchildren’s eyesight. “This is very important, because some of the children may be defective in one eye and concentrating on the other, or they may squint, and unless the refractionists go to examine them many of these defects are never discovered.”

Unfortunately glasses are difficult to get in some parts of Sudan and people from the rural areas are often obliged to send for them through friends in the main towns. Nevertheless, there is an increase in the number of people who now want glasses. Dr Hassan explains: “Education is becoming more widespread, people are starting to work, the number of those seeking to correct their vision is on the increase and people are getting used to wearing glasses. It is quite different from what I experienced about 25 years ago.”

In 1973, a new course started at Khartoum Eye Hospital for ophthalmic operating theatre attendants. Like the OMAs, these are experienced nurses selected by means of an entrance exam, and in the six years since the course started 75 of them have graduated. During two years of training they learn about surgical instruments, sterilization, how to select instruments for an operation, and how to assist the surgeon. When they qualify they work either at Khartoum Eye Hospital or with the eye department surgeons at the provincial general hospitals.

In Khartoum itself they will certainly never be short of work since, in the unfounded belief that health care is better in the capital, numerous patients persist in travelling the long distances to Khartoum even though they could get the same operation, equally well performed, in the provincial hospitals nearer home. “Still the patients come to Khartoum Eye Hospital,” says surgeon Dr Hadi El Sheikh, Associate Professor of Ophthalmology at the University, “because they believe there is better service here. That’s why there is such a backlog—our waiting list for cataract is about 1400—and something and we can never finish that, they keep on coming. Yet there are beds available in the provinces. I think we need some sort of education of the population to convince them that they would get just the same service there.”
Cataract is very common in Sudan, and Dr El Sheikh believes this may be in some way related to the flatness of the country. "Definitely it has a geographical distribution—very common in the north, where it is very sunny and the country is flat, and rare in the south. It is also common in Pakistan and India, with the same latitude and the same sort of geography, so it may be related to the reflection of light, the amount of illumination, the flatness—no one knows for certain."

In-patients at Khartoum Eye Hospital are cared for by nurses who take a one-year specialization in ophthalmic nursing before going out to the districts. The women's, men's and children's wards each have two sections, one for "clean" cases—juries, operations—and the other for infectious conditions. In the children's wards, mothers stay with their children throughout the treatment, and every child's cot has a bed beside it for the mother.

Sister M.M. Ibrahim, the Deputy Matron, says the children's wards get very crowded in summer during the epidemics of eye infections. "We receive the patients from out-patients and I make arrangements for the mother to feel comfortable in this hospital, because most of them come from outside Khartoum. Many of the eye problems of children seen here are due to malnutrition, so we check the child's condition, weigh it to see if it needs supplementary feeding, tell the mother how to prepare milk, and instruct her how to apply the medication to the eye when she leaves. We also tell her to keep the home environment clean and not let the child use the same towel as other children."

In one cot lie twin boys only one month old, with opaque green eyes. Sister Ibrahim explains that their mother noticed something wrong when they were only one day old, and the local medical assistant advised her to see a consultant. "She is very intelligent, so after two weeks she came here and the babies were admitted as cases of congenital glaucoma. Their eyes were examined under a general anaesthetic and in a month she will come back to check their progress. The doctor has given her some drops for them and I have told her to come back in good time."

Another patient is a chubby little girl of eight months from the Gezira area, bouncing happily on her mother's knee. "This lady noticed when her daughter was one month old that she wasn't looking round in the proper way, but her relatives and neighbours told her she would grow out of it. After two months the mother was certain it was abnormal; she saw the medical assistant and he advised her to go to hospital. You see, the child is blind, she can't see anything. Her mother doesn't remember having taken any drugs during her pregnancy. The little girl is under observation but she is well, active, has a normal weight, and smiles all the time!"

Sister Ibrahim hopes to set up a nursery here for the children of the staff. One nurse actually has her tiny baby, born prematurely and now three months old, here with her in the ward, as she has no one to leave it with at home. Such a
nursery will also provide jobs for women experienced with children. This is another demonstration of the "family" atmosphere in this friendly hospital, which also has a mosque in the garden—"to help the patients feel at home", as Sister Ibrahim says.

Since eye diseases are so common in Sudan, Dr El Sheikh, responsible for undergraduate and postgraduate training, feels that trainee doctors in general medicine should get a much better preparation in this field. He regrets that during their hospital-based training they do not always see the actual conditions present in the community outside. "They should go out and diagnose cases in a village with a minimum of equipment and realize that they have a service to offer outside the hospital", he says. The curriculum is already being modified: when they come to the Eye Hospital in their fifth year, some of the undergraduates do small research projects, on the rate of blindness in the community, for example, or on the training of paramedical eye staff to improve eye care.

The modern development of Khartoum Eye Hospital, to the point where 80 per cent of its effort goes into training of staff for eye departments around the country, goes back to its foundation in 1955 in rather dramatic circumstances. Until then Sudan had only an eye department, headed by Dr Hussein Ahmed Hussein, which was located in the outpatients' section of the civil hospital. The present site was at that time the base hospital for British troops. "I had the approval one evening at 11 o'clock", recalls Dr Hussein. "I rang the Chief Clerk to hire souk (market) lorries and we began at first light to evacuate the female wards and bring the equipment and patients here. By 8 a.m. everything was finished—we had occupied at dawn!" This was how Sudan's Eye Hospital began its existence, with Dr Hussein as its founder-director.

He has never really retired and still works with undergraduates in the company of such former pupils as Dr Hassan, the present director. Dr Hassan is proud of the decentralization he and his colleagues have achieved, but would like to take it still further, so that there would be two or three other eye-care centres of equal importance competing with the capital. Already Wad Medani, the second largest town, has a really good eye department and Dr Hassan would like to establish others in the far west and the far east. Finance is the main problem, not staffing, since nowadays eye health workers are not interested in staying in big towns and prefer to live the calmer life of the provinces.

Khartoum Eye Hospital is a living proof of what can be done with willpower and enthusiasm. The Ministry of Health pays for the basic running of the hospital, including food and salaries. Everything else—training, research and development—comes from private benefactors or large firms. Their generosity, and the dedication of both the staff and the many hundreds of trainees who have passed through the Hospital's doors, have created an efficient and far-reaching service for eye patients all over Sudan.
In the June issue of World Health, Ruth Seitz described the part that women are playing in developing their communities in Laos. This month, she shows how the authorities in Laos are building up a health delivery system from scratch, with the village health centre forming the cornerstone of a national network.

Village Life in Laos

by Ruth Seitz

Even in the tropical noon heat, Pak Ou is pleasant. In this rural Lao village of 200 homes, life-sustaining activities go on under the shade of the tamarind trees. A woman deep-fries food to sell while her neighbour arranges smooth clay pots for dry­ing. Underneath a house on stilts, an old man hammers out a cutting tool hot from the forge. A woman weaves cloth that will become a sinh, the long skirt that is the national dress in Laos.

Sounds from the boat landing are a reminder that this Indochina village or ban is still linked to the outside world. The wide, muddy Mekong River is its highway to Luang Prabang, the provincial capital about 30 miles downstream. There Pak Ou’s teacher and health worker were both trained, and there the village goods are sold for the cash that is necessary to buy oil, salt and matches.

Much of Pak Ou village life is healthful. Work proceeds without industrial noise and pollution. The setting supplies a wholesome diet—fish and crabs from the river, vegetables and rice from the earth, and fruits from the village trees. Pigs and poultry give additional protein. Piped spring-water flows by gravity from the mountains to several faucets.

But medical services in Pak Ou are conspicuously undeveloped. When a hacking cough or fever drains the strength of a child, there are no phar-

maceuticals at the health centre. Since only aspirin and some weighing scales are available to the newly trained health worker, babies are not immunized, and people fight malaria, the leading disease, through body resistance.

In Laos, Asia’s only underpopulated country, 80 per cent of the people are rural dwellers, many of them living in settlements like Pak Ou. The plight of the health services in Laos can be traced to several causes—war, poverty and underdevelopment. As a result, the Lao People’s Democratic Republic is today expanding the health delivery system beyond the cities which are well-provided with hospitals.

The aim of the four-year-old Government is to provide a network of community health and referral services. The Cabinet of the Ministry of Public Health provides supervision and support at all levels. The World Health Organization stands by “to give technical support to the primary health care aspect and to devise methods that will have greater output from local resources”, according to the WHO Programme Coordinator in Laos, Dr Roger Leclercq.

The cornerstone of the national system is the village health centre. In a village like Pak Ou, the Ministry of Health is selecting one to three volunteers for between three and six months’ training in basic health care. They will serve through 9,300 health centres where villagers go for first aid, health education and referrals.

In 1977 there were 2,900 of these ban health centres. But even at the end of 1979 many were still as poorly equipped as the thatched one at Pak Ou, which boasted of only an examining table, the rusty weighing scales and a few health education posters. By 1981, UNICEF assistance will have equipped 3,100 centres for emergency and symptomatic out-patient care.

At the next level is the tasseng dispensary of five to seven beds, which serves the 6,000 people in an average commune. Here people can receive treatment, immunizations and pre- and post-natal care. Three nurses—trained respectively in general nursing, midwifery and traditional medicine—observe patients, make diagnoses and run the preventive programme. Such a dispensary is primarily an MCH centre.

The staff forms the commune health committee which is responsible for coordinating public health activities within the tasseng’s 10-15 villages. Members of the commune, who farm collectively, pay their salaries.

The Ministry has plans for a 30-bed hospital in each of the country’s 130 districts or muongs, which average 30,000 inhabitants. Besides providing basic laboratory services, these institutions will give in-patient and out-patient care for referrals from the district’s tasseng dispensaries.

Eventually, a complete staff will comprise up to three assistant doctors and one nurse; 15 auxiliary nurse-midwives (with two years’ training after primary school); one sanitary agent, one assistant laboratory technician and one traditional medical practitioner.
However, many muong hospitals are functioning with fewer skilled personnel. One of which I visited had only one employee, a nurse, who had had formal medical training. No assistant doctors were available to fill those other slots. In 1979, UNICEF supplied equipment—124 items ranging from a kerosene refrigerator to suture clips—for 11 district hospitals.

At the top of the institutional totem pole are three central hospitals for referred patients and teaching purposes. (At present Laos has one medical school from which doctors can graduate and three institutions which train assistant doctors.) There had been 15 provincial hospitals, one in each of the 13 provinces and two additional ones in the capital, Vientiane. However, seven were bombed and need major construction work. For example, patients receive treatment under a partial roof at Xieng Khouang in the Plain of Jars. All except one of the existing hospitals are very old.

In Laos, there are compound difficulties in organizing and standardizing a health delivery system from scratch. Thirty years of war displaced people, destroyed property and curtailed training. The absence of a transportation system still hinders the flow of services and goods. There is no railroad, and seasonal climatic conditions often make the few roads impassable.

Drug shortages are common. Under a policy of "state medicine with community participation," the Government controls the supply of pharmaceuticals. However, several factors make it difficult for the Ministry of Public Health to maintain an adequate supply—the lack of funds for imported medicines, long distances to the ports used by this landlocked country and the slow process of manufacturing plant-based medicines.

One of the greatest drawbacks to developing a health delivery network has been the departure of thousands of health employees. In one weekend four nurses from one hospital left the country to become refugees. However, other health professionals are committed to nation-building despite the odds. Today 89 physicians serve the 3.3 million population.

The most prevalent diseases—parasitic infections and bronchopulmonary ailments—stem from a poor environment and unsafe water, conditions that have existed for many decades. Children are hit hardest. Forty-nine per cent of the people who will die this year in Laos will be infants aged less than one year. Malaria is a major cause of child mortal-
An important item at Phone Hong is the teaching of record-keeping skills. Two months after the inauguration of death certification in the district, tasseng nurses and ban health workers were already recording half of the known deaths. The Health Ministry looks to this small beginning as a means of eventually establishing national infant and maternal mortality rates.

The objective at Phone Hong is to build a practical model rather than a showpiece. For example, the health technology remains at a level that is manageable for the staff and the budget. Dr Kheo Phimpachanh, Cabinet Chief of the Health Ministry, persuaded muong leaders to accept a US$ 250 cart and horse instead of a $9,000 jeep. After a few days of training by the previous owner, a driver began hauling cartloads of medicines and supplies from the district hospital to the tasseng dispensaries. The "H/C unit", as it is dubbed in reports, also transports personnel for teaching and supervision. It will be used to haul construction materials for digging wells and latrines around the district.

A WHO adviser explained the rationale behind the focus on the muong. "To reach the rural areas, you must have intermediate levels functioning for supervision and evaluation." The concerted effort at Phone Hong is already paying off. A survey in three communes revealed that the malaria parasite rate had been "reduced considerably". Vigilance in health matters has improved at the ban, tasseng and muong levels.

In traditional medicine, the Ministry has found a valid resource. The Government has integrated its practitioners, regardless of how much formal education they have had, into the primary health care system. Plans call for one to be posted at each dispensary and at least one at each hospital. Their knowledge is being woven into health education at all levels. During a nine-week training course in Muong Hatsaifong, cooperative health workers learned traditional remedies for fevers, diarrhoea, snake-bites and colds.

WHO has requested a 68-year-old professor at Vientiane's Institute of Traditional Medicine, Dr Thit Noan Dam, who also directs the Phone Hong Traditional Medicine Hospital, to provide a list of medicinal plants that can be cultivated at dispensary sites. Since its opening in 1976 by the Government, the Institute has manufactured several medicines including an expectorant, a tonic and an anti-diarrhoeal agent.

Of all the services included in health delivery, education is one of the most difficult, especially to such a dispersed population. Some of the teachings of health workers who teach on a volunteer basis may sound strange to their pupils because they are contrary to long-held cultural practices. They insist, for instance, that the water from soaking the day's rice should be used in cooking instead of being thrown away. According to a nutrition survey, throwing away that water causes 80 per cent of the thiamine, 70 per cent of the riboflavin and a significant amount of niacin to be lost. This contributes markedly to a lack of B vitamins in the Lao diet.

In spite of numerous and complex obstacles, Laos is steadily establishing a health delivery system. The real situation still lacks many of the drawing-board plans that were formulated a few years ago. But the structure is sound and intact, while the substance grows stronger with each day that passes.

Editor's Note: We have been asked to point out that the AKAP movement in the Philippines, referred to by Ruth Seitz in her article "Self-help in the barrios" (January 1980 issue of World Health) is not a church organization, although it works in close cooperation with health projects of both the Catholic and Protestant churches.
THE CONSCIENCE OF THE OCP

by John Madeley
River-blindness control in West Africa involves massive spraying of chemicals in the waterways to kill off the blackfly pest. How can we be sure that the chemicals do not grossly disturb the ecology?

**OCP**, the Onchocerciasis Control Programme in the Volta River Basin area of West Africa, has been widely acknowledged as one of the most ambitious and encouraging development programmes of the present day. Results are already beginning to come through from this seven-nation programme which began six years ago and might last for up to another 14 years.

The aim of the programme is to eliminate the blackfly, *Simulium damnosum*, which breed in the waterways of the Volta River Basin and which have caused over 100,000 people in the affected areas to lose their sight. In biting the people living near the waterways, these little hump-backed pests transmit a parasite which eventually causes blindness—hence the common name for onchocerciasis—"river blindness". Jointly sponsored by WHO, the Food and Agriculture Organization (FAO), the UN Development Programme (UNDP) and the World Bank, the programme was launched in 1974 by the governments of Benin, Ghana, Ivory Coast, Mali, Niger, Togo and Upper Volta.

Up to eight helicopters and two small aircraft fly weekly circuits over the waterways to spray the insect larvicide "Abate" on rivers, lakes and streams where the blackfly make their breeding grounds. Since the spraying began, the blackflies have been controlled successfully over 80 per cent of the programme area. People are now coming back to the fertile valleys that they abandoned because of the flies. But are there any side-effects from spraying chemical on the rivers?

When the programme began in 1974, it was considered vital that side-effects should be monitored. If, for example, it was found that the chemical killed fish in the rivers and led to a lower fish catch, then the consequences could be severe. It would mean less food for the people in the Basin and so could adversely affect the economies of the seven countries.

WHO therefore agreed with the Institute of Aquatic Biology in Accra, Ghana, and the ORSTOM Hydrobiology Laboratory in Bouaké, Ivory Coast, to carry out the aquatic monitoring. These institutes have now been studying the effects of the application of the insecticide in the Onchocerciasis Control Programme (OCP) area since 1974.

I spoke with Dr Martin Odei, Director of the Accra Institute, and asked him about these activities.

**QUESTION**: Dr Odei, why do you consider that a monitoring programme is essential?

**ANSWER**: Monitoring is absolutely essential, since it seeks to ensure that any adverse effect arising from the application of pesticides into our water systems will be detected in good time and thus ensure the safety of all life dependent on such water sources. It will also ensure the safety of the aquatic eco-system in the areas subjected to the treatment.

**Q**: How is the OCP monitoring coordinated?

**A**: The monitoring of the sprayed waterways is carried out independently in the different countries by hydrobiologists who regularly meet and compare findings. Results are submitted to an independent ecological panel which was set up in 1973, before the Programme started, to monitor the environmental effects of OCP operations. This panel is what you might call the conscience of the Onchocerciasis Control Programme. It is composed of specialists of world renown and does not include any personnel who are actually engaged in OCP itself.

**Q**: What are you specifically trying to find out in the monitoring programme?

**A**: We are trying to find out what is happening to our rivers as a result of the spraying of chemicals. We are assessing and measuring environmental side-effects, in particular the effects of the chemicals used on fauna and flora of these waterways. Our concern is to see what happens to the water ecology and to assess what damage if any the chemicals are causing.

**Q**: How do you go about this work?

**A**: We use various techniques. One thing we are doing is to put solid blocks in sections of the water that are being sprayed so that over a period organisms will settle on them. We collect them at regular intervals to see what is happening. We take samples of the invertebrate fauna drifting down the river and examine them. We also collect fish which are carefully measured and weighed.

**Q**: Where exactly do you monitor?

**A**: We in Ghana are monitoring principally at the points where the rivers enter Lake Volta (the big lake that runs for about half the length of Ghana). And because of the fish in the lake we are naturally concerned about the possible effects on them. We monitor three principal areas, one in the Black Volta, one in the White Volta and one in the Oti River. We regularly monitor these points once a month.

**Q**: Do you think the chemical being sprayed is safe?
A: That is, of course, what we are trying to find out! When the OCP began in 1974 we had an open mind about the Abate to be used. Tests carried out by WHO in association with IAB and other institutions had indicated that it was relatively harmless to most aquatic organisms in the short term. The long-term effects can only be satisfactorily measured in the rivers in the course of the control operations. One handicap, however, has been that we did not know too much about the tropical aquatic fauna itself.

Q: And what are your findings so far?

A: We have to distinguish between what we call the catastrophic and non-catastrophic points of application. The point (on the waterway) where the chemical is applied we call a catastrophic point. There is more likely to be damage here. We are finding that at these catastrophic points, a lot of organisms are adversely affected. There are probably about 45 different types, biological groups, or taxa as we call them, of invertebrate organisms (insects, beetles). Some of these are more susceptible to chemicals than others, and when the chemical is put in the rivers some of these groups are temporarily removed. Eventually, about a week after the spraying, they recover. So there is no permanent damage. We have not lost any taxa yet. We find that downstream, away from the points of application—in what we call the non-catastrophic areas—the organisms do not suffer as much. Overall, although no taxa have been destroyed, it does seem as though they are in the rivers in fewer numbers than they were before.

Q: Do you think it likely that the life of the river will be seriously affected in the long run?

A: No, I don't think so. One encouraging factor is that the OCP is already achieving some success. This means that in some areas the application of chemical is less frequent than had been planned. Obviously if you pump it into the same stretch of water once a week every week for 20 years you are likely to see damage. But the success of the spraying means that your objective is being achieved with less chemical. So success in killing the blackfly means success in not damaging the ecology so much. Again, we must remember that it is not the whole river system of the seven countries that is being treated. Only selected waterways, those infected with the blackfly, are being sprayed. So I am not too worried. I think the organisms can replenish themselves. It is of course important to spray all the infected areas if the blackfly is to be controlled effectively. If you miss even a few infected areas, there could be a rapid build-up of blackfly population.

Q: Are you satisfied that there are no damaging side-effects for the fish?

A: We have not been able to pin down anything that has happened to the fish. There is little evidence of fish dying as a result of the chemicals. In the catastrophic areas where the chemical is put down, fish have been knocked out but have eventually recovered. Where there is a pool in the bank of a river where some chemical has collected, you can have a high concentration of chemical for a short time and this can pose a risk.

Q: Have fish catches from the lake been affected?

A: There has been no reduction in the overall fish catch from the lake. There are seasonal and even weekly variations. Sometimes catches are heavy, sometimes light, but it is not easy to pin down the reasons. Fish often migrate upstream in order to spawn. There is no proof that the chemical spraying has affected the fish either way. For many years before the Control Programme began we have measured what we call the coefficient of condition of the fish. This tells us about their health. We have detected no change in the health of fish since the OCP started.

Q: Do you see any problems in the very long term?

A: Well, I have no doubt that the OCP will affect the ecology of the river in
If the chemical sprayed killed fish in the rivers, the consequences for local populations would be severe. So far there is little evidence of fish dying as a result of the chemicals. (Photo WHO/D. Deriaz)

The blackfly larvae prefer fast-flowing water, like this below a small dam in the Volta River Basin. (Photo WHO/E. Mandelmann)

Careful monitoring to check on the effects of chemical spraying on the river ecology has been going on ever since the onchocerciasis control programme began in 1974. (Photo WHO/E. Mandelmann)

Some way. Any chemical spraying that continues over a long time will obviously have some effect. It is possible that the effect might be scaled down by slightly changing the composition of the chemical in a few years' time. One thing we are watching very carefully is the floating plankton. At first we left these plankton out of the monitoring programme. But in 1978 we began to monitor them as they are an important part of the food chain in the biology of the rivers. Some of the fish are dependent on these plankton, and we are finding a noticeable change in their structure. They are tending to break up into microscopic sections. This does need watching since it could mean less food for the fish and lead to fish deaths and eventually to a lower fish catch.

Q: In your view do the benefits of the OCP outweigh the drawbacks?
A: Yes, definitely. It is of course right that people are aware of the ecological side-effects. But the OCP is a marvellous programme and results are clearly coming through. There are ecological side-effects but the benefits outweigh the drawbacks. It is our job to continue the aquatic monitoring and let OCP and the ecological panel know if we find any adverse side-effects from the chemical spraying. And one spin-off from the programme is that we in this Institute are being offered a unique opportunity to study the tropical aquatic fauna and flora!
Warming a Mental Ward

Winters are chill in Srinagar, northern India. Keeping mental patients warm without risk to themselves or the hospital staff was one of those local problems that called for a local solution.

by Erna M. Hoch

The term "developing countries" suggests regions with a warm or even hot climate, where needs for housing and clothing are modest and there is no necessity for elaborate heating arrangements to get through the winter. Yet even in developing countries there are places where the winter months bring heavy snow, icy winds and frost. One of these is Kashmir, the northernmost part of India. The broad main valley, some 5,000 to 6,000 feet (1,600-1,800 metres) above sea level, is ringed by mountain ranges. Access to the plains of India is possible only by plane or by a 200 mile (300 km) road journey over high passes, and during winter the valley itself may be buried under layers of snow or lashed by heavy rain.

The Kashmiris' traditional method of keeping warm is to carry about within their wide gowns an earthen pot filled with charcoal or hot ashes, neatly encased in a willow-basket with a convenient handle. This individual heating system limits readiness for action with one's hands. There is, in fact, a legend that the custom was introduced long ago by a foreign ruler, who was concerned to curb the hot temper and the fighting spirit of the Kashmiris of that period. A cunning minister advised him to prescribe, as a new clothing fashion, the "pheran", a wide gown worn with the sleeves hanging down empty while the arms and hands are kept warm inside its folds. To this was added, for winter, the fire-pot or "kangri" just described. The idea was that, with this outfit, the Kashmiris would be less likely to resort to violence.

If "normal" citizens could consider such misuse of their heating apparatus, what about psychiatric patients in a mental hospital? When I started work eight years ago in Srinagar's 100-bed Mental Hospital—the only one for the whole State with its 2.5 million inhabitants—I found that the use of kangris, although only by reliable patients, had been allowed. But obviously any other patient, perhaps one with homicidal tendencies, could snatch it away, and there was no guarantee against having bedding and clothing set on fire. We therefore agreed to discontinue this unsafe method of keeping our patients warm.

The locally accepted alternative is a "bukhari", a small, flimsily built stove shaped like a barrel, which can be heated either with hard coke or wood. The smoke passes along lengths of tin-pipe and out through a hole in the window. Once fuelled and ignited with a small quantity of wood, the stove burns for about four hours.

In our hospital, these bukhariis are fitted for the winter months, not only in the offices but also in the patients' wards. Again this arrangement is none too safe. Apart from our patients' habit of crowding around any source of heat and thus sustaining burns, there is still the risk of having the whole flimsy thing torn down and scattered about, if a patient should suddenly go into a fit of violence. Furthermore, if the pipes are not fitted tightly, poisonous gases can escape into the air, or unless a vessel of water is kept on top of the stove for evaporation, the air can get too dry. So the system only works with continuous supervision.

Various suggestions, such as central heating or electric radiators fitted to the ceiling, were ruled out as costly and ineffective, not least because of frequent power breakdowns, particularly in the winter.

Then someone proposed a "hamam", and this appeared to be just the right idea. Before saying their prayers, particularly in a mosque, Muslims are required to wash their hands and feet. In hot countries, this needs no elaborate ar-
hamam installed, a furnace fuelled and only does it heat a big copper boiler for my hot-water supply to the bathing cabins, of winter, our Section Officer from the Public Works Department and some of his workmen took me down to the shore of the lake, where a small mosque was just being built, and the inner “anatomy” of the hamam was still lying open to sight. I could see the three wide channels leading in different directions from the round furnace, and the low-lying area of the floor from which small brick pillars would rise to support the natural stone-flags that would absorb the heat and radiate it into the room. Subsequently, I was taken to a mosque built a long time ago. There, I was able to see the pipes and taps which distribute hot water from the boiler at a level close to the floor of the small bathing cabins, and the heated area where the men, after bathing, relax and chat before or after going for their prayers.

These excursions gave me sufficient “practical education”, and I was able to ponder over a hamam-type heating system for our patients. Eventually there seemed some hopes of obtaining funds for construction at our Hospital, and the plan was discussed with the engineers of the Public Works Department. What was needed was a Hamam-Ward, which would combine the urgently needed hot-water supply with a large area of heated floor, where our 20 to 30 most helpless and most destructive male patients would be able to sleep in comfort on a layer of straw or mats.

But we hoped for a “package deal” that would solve some of our other problems. For instance, our female patients had no verandah where they could sit in the shade on hot summer days, nor had we a wood-shed to store fuel for our kitchen hearth or for the hamam. The Hamam-Ward would also have to house some small isolation rooms for temporarily isolating excited patients. Our nurses and nursing orderlies tended to be extremely reluctant to remain inside the wards with the patients during the night or on cold, cloudy days. This resulted in poor supervision and nursing care. So we thought of fitting into the planned Hamam-Ward a staff-room, from which the ward itself and other hospital areas could be conveniently supervised, and which would serve as a centrally situated spot for emergency services and for distributing medicines. If the room was to be heated, the staff would be sure to stay in it. Another small room near the bathing area would house the barber and also store clean clothing for the patients. So with the main features, a heated Ward and a hot-water bath, the scheme would incorporate at relatively small cost seven much-needed facilities.

After some trial and error, all these requirements were fitted into a compact building. Once the plan was on paper, it acted like magic. The funds came forth, not only for this project but also for a boundary wall around some land which we wanted to use for vegetable cultivation, thus providing facilities for occupational activities by and rehabilitation of our mostly rural patients.

Officers of the Public Works Depart-
Dental caries on the increase in developing countries

Dental caries is “very low” or “low” in most developing countries, but is increasing rapidly, particularly in the urban areas, an analysis of information in WHO’s Global Oral Data Bank shows. In the developed countries, on the other hand, where caries has been “high” or “very high” in the recent past, a declining trend can be discerned.

Data on periodontal diseases—invoking the gums and tissues that support the teeth in the jaws—present a different picture. Many developing countries show high disease levels and industrialized countries tend to have a rather low level, although there are exceptions.

Under its oral health programme WHO collaborates with 20 to 30 countries each year in the planning of surveys and summarization of data. Data from all surveys which receive assistance, as well as from others using WHO methods and criteria, are included in the oral data bank. WHO’s services also include the development and testing of manuals and methodology for use in countries.

The incidence of oral disease is assessed on the basis of the average number of “decayed, missing or filled teeth” (DMFT) at 12 years of age. Global levels of caries are characterized according to DMFT averages as follows:

- 0.0-1.1 very low;
- 1.2-2.6 low;
- 2.7-4.4 moderate;
- 4.5-6.5 high; and
- 6.6 and above very high.

The rising trend of dental caries in the developing countries is indicated by such figures as the following. In Ethiopia, for example, the DMFT average for 12-year-olds in 1958 was 0.2; in 1975 it was 1.5. In Kenya the figure rose from 0.1 in 1952 to 1.7 in 1973. The northern province of Nigeria recorded a rise from 1.1 in 1963 to 2.5 in 1973. The trend indicates that the disease increased from “very low” level to “low” level.

A much higher incidence and sharper increase is found in some countries, such as Japan where the DMFT average for 12-year-olds was 2.8 (moderate) in 1957 and 5.9 (high) in 1975; for urban Italy the corresponding figures are 3.0 (moderate) in 1966 and 6.9 (very high) in 1977.

In low-income countries such as India, the mouth of a 12-year-old child is often filled with decayed teeth beginning at an early age. In the majority of developing countries, dental caries has become a major public health problem.

Some countries such as Norway and Canada show very little change in the DMFT averages for 12-year-olds over long periods of time: Norway 12.0 (very high) in 1940-12.6 (very high) in 1973; Canada 8.5 (very high) in 1958-8.0 (very high) in 1977.

A different picture is seen in some developed countries where dental caries is known to have prevailed at very high levels but where successful oral health programmes have resulted in a dramatic decline. Examples of the effectiveness of such preventive programmes as water and salt fluoridation, topical application of fluoride, and regular oral hygiene and health education for 10 to 15 years and even longer, are furnished by Switzerland and Australia.

In Switzerland, for instance, the DMFT average for 12-year-olds in 1963 was “very high” for the entire country; by 1974-75 many parts of the country with preventive programmes came in the “low”, “moderate” and “high” categories. A similar trend is noticeable in Australia where in 1956 all areas were in the “very high” category but the picture changed to “high” and “moderate” in 1974-77.

What are the implications of the rising incidence of dental disease for the WHO Member States’ goal of health for all by the year 2000? WHO is proposing “3 DMF teeth at 12 years by the year 2000” as the global goal in oral health. This “moderate” level is found in the vast majority of the developing countries, and it is considered a realistic goal for many countries that already have preventive programmes in oral health.

The crucial question, of course, is how to achieve the 3 DMF teeth goal. The present strength of preventive programmes is only 25 per cent of the global goal, and no new programmes can be started. The remaining 75 per cent will require 100,000 dental operators to provide the necessary preventive and curative care. The developed countries, with their higher levels of dental disease but one quarter of the population—700 million—will also need the same number.

If preventive programmes are successful in lowering the global level to 3 DMF by the year 2000, the developing countries will need approximately 667,000 dental operators and the industrialized countries 167,000.

The present strength of dental manpower in the world is about 91,000 in developing countries, and 490,000 in industrialized countries.

The need for integrated planning of preventive and curative programmes and projects in the best way possible, within the framework of national, regional and global development policies.

The objectives of the Charter include improvement of the levels of health in the

Asian countries sign Charter for Health Development

Indonesia became the fifth country in WHO’s South East Asia Region to put the official seal of approval on the Asian Charter of Health when Health Minister Suwardjono Surjaningrat signed it at a ceremony in Djakarta last April, along with Dr V.T.H. Gunaratne, WHO Regional Director.

The Charter, which expresses the aspirations of the peoples of the Region for health improvement as an integral part of their national drives for social and economic development, was signed by Bangladesh, India, Sri Lanka and Thailand at separate ceremonies in their respective capitals last February. The document, which has already been endorsed by the countries of the Region at the thirty-first session of the Regional Committee in 1978, is expected to be signed by the remaining governments later this year.

The purposes of the Charter, as set out in Article 1, are:

- To serve as the declaration of principles and expression of the consensus of the peoples and the governments of the countries on common health problems considered by them as having high priority and requiring urgent and concerted action, and to focus national, regional and international attention on these needs;
- To facilitate and rationalize the mobilization, provision and utilization of adequate national funds and resources to tackle priority health problems;
- To promote international consultation and collaboration and to foster close international cooperation, and
- To provide a common basis for formulating health plans, programmes and projects in the best way possible, within the framework of national, regional and global development policies.

The objectives of the Charter include improvement of the levels of health in the
agreed priorities of: primary health care, appropriate manpower development, provision of safe water and sanitation, promotion of maternal and child health, control of communicable diseases (especially malaria and the diseases against which effective immunization agents are available), and the improvement of nutrition.

Strategies to secure health for all/2000

The Declaration of Alma-Ata, adopted by the International Conference on Primary Health Care at Alma-Ata, USSR, in September 1978, called for a revolution in health care designed to ensure an acceptable level of health for all citizens of the world by the year 2000. This call is being answered by many countries now engaged in formulating their strategies for health reform and many have embarked on their implementation.

Political commitment to the proclaimed goal has been high—evidence of it may be seen in numerous statements by national leaders, the signing of regional health charters affirming people's right to health, and in the call of the UN General Assembly, urging countries to give due recognition to health promotion as an integral part of social-economic progress.

Many countries have set up or revitalized national health councils to ensure a multisectoral approach to health improvement. Despite limited resources, some countries are stepping up health spending on the rural and urban poor.

In a world in which confrontation and conflict often characterize international relations, Dr. Halfdan Mahler, WHO's Director-General, notes the "refreshing contrast" of cooperation in the field of health. In his report on the Work of WHO, 1978-79, he says much goodwill to cooperate in social and economic development has been generated by the drive towards Health for All. If only politicians and economic planners could capitalize on this goodwill, he states, recent events in national and international health work, with their emphasis on multi-sectoral action for development, could help to establish a true New International Economic Order.

Africa: PHC needs mass media support

A "glaring deficiency" in most African countries in the provision of communication and information support to Primary Health Care (PHC) was noted by a working group of African journalists and educators convened by UNICEF and WHO in Gabarone, Botswana, last autumn to consider the role of the mass media in promoting PHC.

In its report recently made available, the group underscores the deficiency at two levels: firstly, decision-makers and policy-planners generally lack the information that would motivate them to commit themselves to the PHC approach and allocate more resources to meet the health needs of the rural majority; secondly, the communities themselves have not yet received the stimulation of ideas that would release their energies and enlist their participation in solving their own health problems through a workable PHC system.

The group is of the view that the situation cannot be rectified without a special effort at "educating" those working for the mass media as well as technical staff in the health and other fields of development. The development of a PHC communications strategy and creation of national task forces to coordinate use of mass media for development purposes has been recommended.

Mass media personnel should be involved in planning PHC activities, it is suggested, not only as reporters but as active participants. They should also be given facilities to work with and support the communities by helping them to clarify their needs, identify ways of dealing with these needs, and give publicity to community achievements. To ensure the accuracy and public appeal of the health messages there should be a continuous dialogue between the media people and the health officials.

Due to a low level of literacy, transport difficulties and limited use of television, radio should be given special priority in communicating with the rural population, the working group recommends. Radio programmes should be coupled with listening groups, prepared leaders, and supplementary written and visual material.

Commercial advertising through the mass media, one of the recommendations says, should be "censored" so that it may not be used to promote bottle-feeding, smoking, alcohol, and unnecessary patent medicines.

WHO, UNICEF and other international agencies are urged to help strengthen national efforts in communicating the PHC message through the mass media.

In the next issue

Prime Minister Indira Gandhi of India contributes an outspoken introduction to the August-September issue of World Health, which looks forward to the launch of the International Water Supply and Sanitation Decade. Between 1981 and 1990, a global effort will be made to attain the goals of the Decade. Other contributors to this double issue of the magazine describe how these goals may be reached.
A smiling village girl in Laos fishes for crabs in the Mekong River. See page 21. (Photo B. Seitz ©)