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Special Feature

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HEALTH FOR ALL BY THE YEAR 2000

World Health Day, observed on 7 April each year, commemorates the coming into force of the World Health Organization's constitution in 1948. The following presentations relate to the WHO goal of "Health for All by the Year 2000," which is the theme of World Health Day 1981.

MESSAGE FROM DR. HALFDAN MAHLER
Director-General of the World Health Organization

Only those who celebrate World Health Day in the year 2000 will be able to judge if those in the generation that preceded them were realists or dreamers when, in 1977, they decided in the World Health Assembly to launch the movement for "Health for All by the Year 2000." Few could have foreseen then to what extent this move would fire the imagination of people throughout the world. That it did showed how timely the call was to bring about a social revolution in community health. Old ways of dealing with health problems had proved to be highly inadequate in countries at all stages of development, and the inequalities in health status and in the distribution of health resources throughout the world were intolerable.

What is "Health for All"? The World Health Assembly referred to it as the attainment by all the people of the world of a level of health that will permit them to lead a socially and economically productive life. This means simply that the level of health of individuals and communities will permit them to exploit their potential economic energy, and to derive social satisfaction from being able to realize whatever latent intellectual, cultural, and spiritual talents they have.

"Health for All" does not mean that in the year 2000 doctors and nurses will provide medical repairs for everybody in the world for all their existing ailments; nor does it mean that in the year 2000 nobody will be sick or disabled. It does mean that health begins at home, in schools, and in factories; for it is there, where people live and work, that health is made or broken. It does mean that people will realize that they themselves have the power to shape their lives and the lives of their families, free from the avoidable burden of disease, aware that ill health is not inevitable. It does mean that people will use better approaches than they do now for preventing disease and alleviating unavoidable illness and

disability, and better ways of growing up, growing old, and dying gracefully. It does mean that there will be an even distribution among the population of whatever health resources are available. And it does mean that essential health care will be accessible to *all* individuals and families, in an acceptable and affordable way, and with their full involvement.

That is what primary health care is all about. An International Conference on Primary Health Care that was held in Alma-Ata, USSR, in 1978 issued a declaration which stated that primary health care is the key to attaining "Health for All by the Year 2000." That same conference called for urgent and effective national and international action to develop and implement primary health care throughout the world, and particularly in developing countries, in a spirit of technical cooperation and in keeping with a new international economic order. The Member States of WHO were quick to respond to the call. They are now engaged in working out strategies to attain the goal of "Health for All" by means of a new type of health development based on primary health care. They are doing so individually for their own countries, and collectively to ensure regional and global support to their national strategies. But this is only the beginning of the road. These strategies will be converted into plans of action, and they in turn will be progressively carried out over the next two decades. The highest United Nations forum, its General Assembly, has welcomed these efforts and has called on other sectors to support them.

All this augurs well for the growing national and international movement to attain "Health for All." In spite of the difficult security situation in many parts of the world and the disturbing economic climate, the widespread political commitment of governments and the enthusiastic support of people everywhere can turn the dream into a reality. We *can* succeed. We *must* succeed. If we do not, the children of today, and those who have not yet been born but who will comprise more than one-third of the people living in the year 2000, will never forgive us.

MESSAGE FROM DR. HECTOR R. ACUÑA
Director of the Pan American Sanitary Bureau

More than ten years ago the Governments of the Americas set as a goal for the decade of the seventies the extension of health coverage of their populations.

This declaration proved to be prophetic, for in 1977 the World Health Assembly resolved that the principal social target of its Member States would be the attainment by all the citizens of the world, by the year 2000, of a level of health that would permit them to lead a socially and economically productive life.

In 1978 it was further decided that the key to achievement of this goal, now known as Health for All by the Year 2000, would be access to primary health care services through total coverage.

Following these decisions by the World Health Assembly, the United Nations General Assembly formally declared that health was an integral part of social and economic development. This resolution emphasized that Health for All is a target not only for the health sector,

but for all sectors. It demands political will, difficult decisions, and the participation of every citizen and every community. It will require a reordering of priorities and a redeployment of resources, both human and financial.

In the Americas there is wide diversity of health conditions, and of the capability to improve them. In a sense, each country has its own unique situation to confront and resolve. The Pan American Health Organization, at the request of its Member Governments, has cooperated with the countries in formulating strategies to achieve their national goals of Health for All. Twenty-four countries have already developed national strategies. The Organization has assigned the highest priority to the integration of these national components into realistic regional strategies. A Plan of Action is now being formulated for presentation to the Governing Bodies of the Organization this year. This plan will, of course, be refined in the light of experience over the coming years.

The year 2000 is less than two decades away. The goal of Health for All challenges the Americas at a time of economic adversity and continuing population growth. But just such a challenge has been met before. This Hemisphere was the first to eradicate smallpox. The spirit which made that possible is alive today, strengthened by the knowledge that a start has already been made through programs targeted at high risk groups—mothers and children, workers, and the elderly.

To some, Health for All may be dismissed as a slogan. To the nations of the Americas—individually, and collectively through their own Pan American Health Organization—it is a call for sacrifice, determination, innovation, new ideas, self-reliance, sharing of experiences, and for cooperation, the fruits of which promise a level of well-being for all the people in the Hemisphere that will allow them to lead socially and economically productive lives.

MENTAL HEALTH GIVES VALUE TO LIFE

N. Sartorius[1]

The fact that millions of people frequent health services mainly because of emotional problems illustrates an important truth about health care: it is essentially a human endeavor in which interaction between people should be paramount. New approaches in the use of mental health knowledge can help communities avoid many of the harmful effects of rapid social and economic change. Community-based mental health programs can also significantly improve the lives of mental patients and their families.

Economic growth and social change exert significant influences on the mental health of individuals and the structure and functioning of families. When insufficient attention is given to this fact, the cost of progress, in terms of diminished quality of life, may be unnecessarily high. The application of mental health knowledge could help to prevent harmful psychosocial consequences of socioeconomic

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change and to foster harmonious development.

A striking example of the use of mental health expertise to encourage community self-help is provided by the Santa Eduviges initiative in Honduras, where the scope of the country's mental health program was seen as being wider than merely administering conventional mental health services. The greatest need existed among the poverty-stricken inhabitants of the city *barrios,* where living standards were extremely bad and violence, unemployment, family instability, and alcohol abuse abounded. A community mental health project was undertaken in the *barrio* of Santa Eduviges to examine the social and cultural dynamics of a shantytown and to promote mutual support and self-help.

Instead of applying professional technical solutions separately to each problem, the project sought to build up the community's own strength and capacity to react. It used mental health techniques to promote active participation by the people. As their level of social consciousness was raised, they came to understand the need to organize themselves and cooperate with their neighbors in solving the community's problems. People who had previously suffered with resentment their apparently hopeless predicament were persuaded to begin to work together. Thus, a women's group led by the project's psychologist learned not only about hygiene, health care, and household management, but also about how to deal with behavior problems and the highly prevalent psychosocial ills of the community. It then went on to work with the community at large to improve nutrition and to set up an active community organization which eventually transformed the physical environment and way of life of the *barrio.*

The Honduras project shows the practical benefits that a community can derive from the application of mental health knowledge and skills. In WHO's view, this kind of technology is too rarely used, and too infrequently supported by appropriate legal measures.

Health as a Motivating Factor

Mental health skills can also help in persuading social sectors to adopt health as a motivating factor for community development. A mental health perspective toward general health care can also counter the dehumanization of medicine and make health services more effective and less costly.

Epidemiologic studies have shown that as much as one-fifth of all patients who frequent general health services suffer mainly psychological problems. This is so in industrialized and developing countries alike. The notion that psychological illness occurs only in people exposed to the stresses of urban living in industrialized countries is unfounded. Psychological problems are widely prevalent and strikingly similar in quite varied cultures. There is now sufficient evidence to show that their management along similar lines helps patients, regardless of culture. Fortunately, the knowledge and skills necessary can be learned by various categories of health workers; and the rules for action—from first contact to diagnosis and management—can be "operationalized" to a considerable degree, so that even health auxiliaries can apply them. There is now indisputable evidence that this approach is effective, that it permits extensive coverage and is much less costly than the usual way of dealing with such problems.

Millions of people who visit health services mainly because of emotional problems illustrate an important truth about health care: it is an essentially human endeavor in which interaction between people should be paramount. However, most training for health workers, as well as most medical and nursing textbooks and journals, give a different picture, in which drugs and technical procedures rather than human interactions predominate.

The psychosocial dimension is neglected not only in the training of health staff but also in the organization and day-to-day management of hospitals and other institutions.

Treatment and Preventive Measures

At least 40 million people suffer from severe forms of mental and neurologic disorders such as schizophrenia, brain damage, and dementia; and 200 million more are incapacitated by less serious mental and neurologic conditions such as severe neuroses, mental retardation, and peripheral neuropathy. When to these are added the numbers affected by alcohol, by drug-related problems, and by mental disorders associated with physical disease such as depression, the magnitude of the problem becomes staggering in terms of individual suffering, the burden on the family, and the loss to the community. That such a situation should exist today clearly demonstrates that conventional medical or mental health care alone can have no significant impact on a problem of such dimensions.

The following are some of the new approaches being advocated by the World Health Organization:

Although the causes of many mental and neurologic disorders are still unknown, the application of already available knowledge could significantly decrease the incidence and prevalence of these disorders and the impairments and suffering they cause. Even severe disorders such as psychosis can be dealt with simply and effectively. Many epileptics can be treated with drugs that cost as little as two US dollars per year; but ignorance, prejudice, and the low priority given to the problem result in only a fraction of an estimated 10 million people with epilepsy receiving any treatment at all.

On a national and international scale, legal measures can reduce or at least contain present levels of alcohol consumption, levels that are linked to the prevalence of alcohol-related problems. At the same time, efforts are needed to utilize the technology now being developed to enable at least certain categories of problem drinkers to be treated by general community health workers, even those with little training.

The situation faced by the effort to control drug dependence is somewhat different. Although the use of nearly all drugs of dependence is either illegal or strictly controlled, epidemics of drug abuse occur in many parts of the world. The countries with the strictest legal controls appear to be no more immune than the others.

Opiate abuse has traditionally been—and remains—a focus of concern. The new drug problem of today is the abuse of psychotropics. In developed countries they are prescribed more often than any other group of drugs; one person in five takes psychotropic medication in any given year. In developing countries their use appears to have become equally widespread, often without prescription or health service control. Psychotropics have their legitimate uses, but clearly they are overprescribed and indiscriminately used.

The wide application of new approaches to mental health care can improve significantly the lives of patients and their families. Ignorance, old stereotypes and prejudices about mental disorders—also held by many health workers—and public apathy are the main obstacles to humane and more effective mental health care. These obstacles can be overcome in the foreseeable future by various means, which include providing training in mental health skills to various categories of health and social welfare personnel, education of the public, and a clear policy backed by appropriate administrative, legislative, and financial provisions and, where necessary, by research directed at the acquisition of knowledge needed to improve mental health and the quality of life.

PEOPLE'S HEALTH IN PEOPLE'S HANDS

Ilona Kickbusch[2]

Most people today see self-reliance in health as basically possible, and realize the value of giving back to people confidence in their own knowledge, skills, and experience in order to help them help themselves. In general, people are dissatisfied with the health care system, which has become impersonal, technologically oriented, and highly specialized.

We are at present witnessing a change in the provision of health care in the United States and Western Europe that may have far-reaching consequences. This change has arisen from self-help activities by people taking care of their own health, and from professional acceptance of the positive role of lay self-care.

Twenty years ago, health care was seen as involving a doctor-patient relationship that was clearly defined: the doctor treated and the patient acquiesced. Ten years ago this hierarchic medical model was transformed into an "exchange" model based on the service economy: the doctor was termed the "provider" of health care and the patient the "consumer"—and it was up to the consumer to cooperate with the provider to ensure optimum results.

At the beginning of the eighties we have again changed the terminology, speaking of the doctor as the health care professional and the patient as the lay resource. Now, all of a sudden, health experts have begun to realize what had been happening before their eyes all the time—that an overwhelming proportion of health care is provided by nonprofessionals. It is becoming increasingly clear that health care is not just something that doctors provide for patients, it is a total care resource. People are not just consumers of health care, they provide it themselves.

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Lay Health Care

Health care provided by people can be seen in the way they take care of their individual well-being; in the treatment, advice, and care they give to each other in the family, neighborhood, and community; in the social and emotional support they give to one another; and in the experiences they share in self-help groups. To put this in medical terms, people provide treatment for minor illnesses and injuries such as headaches, coughs and colds, skin disorders, or small accidents, and provide care in the management of chronic diseases such as rheumatism, hypertension, or varicose veins. They practice health education, health promotion, and disease prevention in observing sound family hygiene or good nutritional habits. It is important to keep this broad picture in mind, lest we should be led to think of care as separate from cure, leaving care to the families and curative measures exclusively in the hands of the physicians.

The Doctor's Prerogative

While doctors, medical sociologists, and health planners are beginning to recognize the large amount of care provided by nonprofessionals, their views usually contain two basic value judgments. Lay care is seen as supplementary to the professional system, and it is supposed to be the doctor's prerogative to

define its extent and content and to evaluate it. In other words, doctors are quite willing to allow their patients certain areas of self-care; they are even willing to admit that this can be safe and relevant care, and that very often the patients could not do without it, but they wish to retain what the sociologists call "the power of definition." They must have their say in what goes on where and who can do it.

This assumption on the part of the physician is challenged by the self-help movement. That movement questions medical definitions of health and illness as well as the stigma attached to many conditions such as alcoholism, obesity, or cancer. It seeks to reclaim areas of normal life such as pregnancy, for example, which have been defined as medical. It argues for a holistic approach to health problems. It supports the patient's wish to be treated as a whole person and not as the kidneys in room 202. It presents a plea for the patient's right to make decisions—for instance, in the choice of treatment.

Self-help Groups

Self-help groups have existed since the 1920s, the prototype being Alcoholics Anonymous. People with a common problem get together and try to solve it jointly. This helping process works two ways: by helping themselves, people help each other; and by helping others, people help themselves. Therapy groups offer examples of the first process: the individual describes his or her problem and the others show a willingness to share it, to discuss it, and to take it seriously. The approach used by chronic illness groups tends to emphasize the second process: group members exchange information and experiences and give each other social support. When a woman in a mastectomy group says "I go to the group meetings to help others," she is at the same time helping herself to cope with her own problem.

Self-help groups can differ enormously in their methods, direction, and outlook. Some develop because there are no services for their members' kind of problem, some because the services available do not really help, some because the members want completely different kinds of services. They have spread in areas with and without national health services. They have sometimes been very aggressive and anti-professional and sometimes very willing to cooperate. A large number of groups founded by professionals now go back to them for advice, while others prefer to steer clear of professional expertise. Some groups have very strict, authoritarian rules, while others have adopted a more open-minded, flexible approach.

It is estimated that about 500,000 self-help groups representing 15 million members exist in the United States. Their members share experiences in a wide range of such problem areas as disability, cancer, multiple sclerosis, psoriasis, and obesity. There are mutual aid groups for nearly every disease category listed by WHO, as well as groups concerned with a wide variety of psychosocial problems associated with such things as being single parents, parents of terminally ill children, and emotionally disturbed people. These groups have multiplied so rapidly over the last 10 years that the *New York Times* in its New Year's Day editorial of 1 January 1980 termed the seventies the "Decade of Self-Help Groups." In the last few years, there has been a similar development in some European countries—especially in the Federal Republic of Germany, the Netherlands, the United Kingdom, and Belgium.

The Women's Movement

A clearly political concept of self-help was advanced by the women's health movement in making the assertion that a woman had a right to her own body. Women had come to realize that many aspects of their lives were determined and controlled by medicine, and that medical and scientific knowledge—allegedly free from prejudice—contributed to their

dependence. This view of medicine, based on women's experience in the health care system, led to the creation of self-help groups, advice centers, and self-help clinics.

The most prominent creation of this movement was the women's self-help manual *Our Bodies, Ourselves,* which by now has been translated into several languages. This publication can be regarded as a milestone of the self-help movement, as well as the starting point for many activities in the United States and Europe. Many of the radical ideas first voiced by women are now commonly accepted by the self-help movement as a whole. In addition, most people today see self-reliance as basically feasible, and realize the value of giving back to people a confidence in their own knowledge, skills, and experiences that will help them to help themselves and their fellows.

Public Dissatisfaction

In both the United States and Europe there is a noticeable trend toward increased public awareness of health issues. People are not satisfied with health care—which has become impersonal, technologically oriented, increasingly bureaucratic, and specialized—because the curative care system makes them feel they are losing control over their lives. They hope to counteract some of that loss by trying to solve problems together—in a group, in the family, or in the community. How people define health, what kind of care they want, and how they view professional help have all become important questions.

It is widely recognized today that health is not merely a medical problem but a social problem. How people look at health depends on their social circumstances and their emotional state. And, as has been said, there are as many different notions of health as there are of beauty and happiness. Also, there are many ways of dealing with health problems, and it should be within the power of the people concerned to decide which ways they prefer. In short, the concepts of self-care and self-help are creating a new understanding between professionals and people. This augurs well for the "Health for All by the Year 2000" movement, which assigns crucial importance to health systems based on primary health care provided by the people served.

NEW HEALTH GOALS REQUIRE NEW TECHNOLOGIES

Eliane Israel[3]

The search for "appropriate" technology for health has come with an awareness that trying to solve the health problems of the developing countries by wholesale adoption of health technologies found workable in the special circumstances of the richer nations is a mistake. This search constitutes an assertion of faith in community action and in the infinite capacity of the human mind to find solutions to apparently unsolvable problems.

Our century has seen the birth of many technological marvels in the health sciences. Highly sophisticated computer-controlled instruments are able to scan, measure, and record the inner workings of the human system with undreamt-of accuracy. Laboratory automation, particularly in the fields of clinical chemistry and hematology, permits quick and

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efficient performance of hundreds of investigations per day by a single operator. And one can find many examples of recently invented instruments and gadgets that have added new dimensions to chemotherapy, surgery, or rehabilitation over the past few decades.

These products of human genius have undoubtedly raised the level of diagnosis and treatment of many diseases and have contributed to patient comfort and well-being. But one other result of their dramatic impact is that in the mind of the public—and of the health professionals—health care has become equated with sophisticated health technology.

The flaw in this attitude has been obvious for some time. Running and maintaining these sophisticated machines involves costs only the rich countries or the very small elites in the developing countries can afford. Indeed, even the richest countries today are chafing under the burden of the ever-increasing costs of health systems characterized by hospital-based care and expensive technology. Obviously, these technologies can hardly answer the needs of the developing countries, where the shortage of resources is matched only by a multitude of problems arising from poverty and ill health.

Appropriate Technology

The choice of a correct health technology has particular relevance to the goal embraced by national and international communities of "Health for All by the Year 2000." Whatever means may be adopted to enable the deprived communities of the world to achieve an acceptable level of health, it certainly cannot be the wholesale transportation of the health technologies that have evolved—and been used successfully—in the developed world. Such a solution simply will not work in a world where two-thirds of the inhabitants lack any kind of organized health service.

A new way of thinking has therefore emerged which places maximum emphasis on development of technologies that are in keeping with socioeconomic realities and that the countries and communities can afford. In research, the focus is shifting increasingly toward devising, adapting, or developing what is known as "appropriate" technology for health—"appropriate" meaning suitable for the given situation, taking into account local disease patterns, socioeconomic conditions, and resources (including trained health workers and community support).

According to the "appropriate technology for health" (ATH) concept, only such technologies should be introduced into a community that are suited to local conditions. A technology should not only be effective and safe but acceptable to the community, the health services, and the decision-makers. It should fit the local cultural pattern and should be amenable to further adaptation and development. It should be simple enough in design and execution to ensure efficient use and proper maintenance by communities with limited technical skills. And it should be possible to manufacture the requisite equipment locally at reasonable prices.

This thinking closely parallels the primary health care approach, which advocates essential health care based on practical, scientifically sound, and socially acceptable methods, and a technology made universally available to individuals and communities with their full participation and understanding.

Self-reliance

As the primary health care movement has gained momentum, it has increasingly been realized that, as a first step toward meeting their health goals, developing countries should put an end to their psychological and physical dependence on imported and often inappropriate technologies. This can be done by mobilizing all possible local health resources in a spirit of self-reliance and self-determination.

How does this work in practice? Take a close look at any traditional community, and

it is easy to see how it has in its particular environment used its inventive capacity and collective wisdom to tackle day-to-day problems of life. The Persian wheel, the baked brick, the spinning wheel, the windmill, the adoption of the camel as the "ship of the desert," the use of medicinal herbs are all examples of the community's response to the environment. The first task in developing or adapting a suitable health technology is to get in touch with the community itself, understand its ideas and beliefs about a given problem, and collect information on the existing technologies.

Often solutions already exist, and all that is required is some adjustment. For example, bamboo piping has long been used in many parts of the world to supply water. It is an inexpensive and practical method, but there is one snag: the water is exposed to contamination. The solution was found in 1974, when a WHO sponsored research project showed that some varieties of bamboo could be successfully used as pressure piping. Methods were developed for avoiding potential contamination by removing the septa (which completely close the stem of the bamboo at the culm points along its length) and making pressure-tight joints between adjacent lengths of bamboo.

Establishing Appropriate Technology

The first important task is thus to collect information on existing technologies of proven value and to disseminate that information to the possible users. The next task is to assess areas requiring new tools and methods, and to promote research that will find the answers. The final task is transfer of technology—not the slavish imitation by one country of a technique developed by another, but the well-thought-out adaptation of a valid technology, taking fully into account local economic, social, and cultural conditions.

WHO attaches great importance to the gathering and dissemination of information on health technologies. This task is being carried out in partnership with a worldwide network of 15 participating institutions and two collaborating centers. The setting up of an appropriate health technology information system is being considered, and as a first step WHO has begun putting out a publication known as the *ATH Newsletter.* This newsletter describes new developments in the ATH field and serves as a forum for exchanging the ideas of health workers in various parts of the world.

Rehydration Therapy

WHO is keenly interested in finding practicable technological answers to problems with some of the major programs on which it is collaborating with its Member Countries. Control of the diarrheal diseases that cause millions of deaths among young children every year is a case in point. The cause of death in severe diarrhea is dehydration; and if lost fluids and salts can be replaced in time, death can be prevented. In the past, the only way this could be done was through the intravenous drip—an expensive treatment method that could only be administered by a skilled worker in a hospital. The development of oral rehydration therapy—in which a solution of three salts and glucose or sugar is given by mouth—makes it possible to treat most patients at home, the treatment being given by primary health care workers or, better still, by members of the patient's family after simple training.

This is an excellent example of appropriate technology which has come after years of research and trials. However, there are still constraints to be overcome—including ones involving availability, manufacture, distribution, packaging of the ingredients, and the composition of the solution—all of which are the subjects of research projects. Research is also seeking to determine the best methods for introducing oral rehydration therapy on a national or regional scale, taking into account specific cultural, economic, climatic, and epidemiologic conditions.

The "Cold Chain"

Another important subject of research is the "cold chain"—the network of refrigerators, cold boxes, and vaccine-carriers needed for storage and transportation of the vaccines required for immunization programs in tropical countries. Since biological products such as vaccines spoil easily if exposed to heat or sunlight, the cold chain is the very lifeline of an immunization program. Refrigerators being produced today are generally intended for domestic use in moderate climates and are unsuitable for storing biological products under tropical conditions.

Research is now being carried out to determine whether such refrigerators can be modified easily to answer the needs of the immunization program. Efforts are being made to improve the design of refrigerators for use in areas without electricity or where the supply of electricity is intermittent. Production of cold boxes and other cold chain equipment in areas where they are to be used is being actively promoted, and the design and production of such equipment is making varying degrees of progress in Brazil, Ghana, India, Indonesia, Pakistan, the Philippines, Thailand, and Sweden.

To cite only one example, a refrigerator recently introduced keeps vaccines at a safe temperature even in the event of lengthy power cuts. Electricity need be supplied only eight hours a day to keep the vaccines at a temperature below 8°C (46°F). Also, large cold boxes are now in use that can keep vaccines cold for periods up to one week with no power supply at all. Small vaccine-carriers, which can be used by primary health care workers, can keep vaccines at a safe temperature for up to three days.

The vaccine cold chain does not, of course, end with the production of appropriate equipment; one of its most critical elements is the people involved—who must know how to use and maintain it. An important part of the program, therefore, consists of training courses in cold chain management and maintenance of cold chain equipment.

Diagnostic Flowcharts

In the search for a simple and safe patient screening method for use by primary health care workers in remote areas, the technique of diagnosis by flowcharts is developing into a promising tool. This method, which WHO is sponsoring, is being tested in Guinea-Bissau and Sudan with good results. One survey showed that intermediate-level health workers aided by the flowcharts were able to correctly diagnose well over 90 per cent of more than 200 illnesses in their area. In the next stage, the flowcharts will be modified for use by village health workers with an even more limited training. The method also undoubtedly has its uses in the industrialized countries, where physicians are inundated with routine work that could be effectively handled by other health team members.

Technology Transfer

These are all examples of technologies applicable to more than one country, and therefore the question of their transfer is important. No matter how successful a technique in one country, it may need to be substantially modified when applied to another country or another area of the same country. In some cases the transfer may necessitate further applied research and testing in the country adapting the new technology, or it may require training or reorientation courses for staff members, or it may entail the use of a different raw material for the production of some drug or piece of equipment. Overall, however, the most important consideration in the transfer of technology is its acceptability to the community.

No matter how valid a technology, it will prove useless if the people are unconvinced of its value and fail to find it practicable. One can expect resistance, not only from commu-

nities unprepared for a sudden technological change, but also from the medical establishment—which tends to look upon change and innovation as a threat to its interests. The transfer of technology has therefore to be handled with considerable care and circumspection.

The search for appropriate health technology has come in the wake of the realization that attempts made in the past to promote health in the developing countries by indiscriminately borrowing the technology of the richer nations was a mistake. It is also an assertion of faith in community action and in the infinite capacity of the human imagination to find solutions to seemingly unsolvable problems. Evidence of this capacity can be seen in a wide range of products and processes already in use. Small inventions such as a safe water jar, a clay fetoscope, a more efficient water pump, or a simple solar heater have today become symbols of hope and of new confidence in life for communities that have suffered neglect, poverty, and ill health for countless years.

INFLUENZA VACCINE RECOMMENDATIONS

The World Health Organization convened a meeting of influenza experts at Geneva in February 1981 to advise about the composition of vaccines for use in the coming year. The experts recommended that the antigens A/Bangkok/1 (H3N2), A/Brazil (H1N1), and B/Singapore should comprise the inactivated influenza vaccines for use in the 1981-1982 influenza season, as was the case last year.

People under 27 years age without a history of vaccination or infection with the Brazil-like strain in the past three years may require two doses of inactivated vaccine (given at least four weeks apart) to induce significant antibody levels. For all other people, the experts felt, one dose of vaccine should suffice.

Epidemics associated with viruses of the A/Bangkok subtype reached a peak in North America in January 1981. This influenza activity, which was at a low level in the two preceding winters, first occurred in communities of elderly people in North America in October-November 1980. Then, during the subsequent epidemic, the infection occurred among the general population. The disease was reported to be unusually severe in Canada, and in the United States mortality (primarily among the elderly) reached levels not reported since the 1975-1976 epidemic. Strains similar to A/Bangkok also caused much milder outbreaks in several European countries (Denmark, Norway, Sweden, the Federal Republic of Germany, Italy, and Spain) as well as in India and Pakistan.

Widespread or regional influenza outbreaks associated with viruses of the Brazil subtype occurred among young people in three European countries (Finland, Hungary, and the United Kingdom) and in Israel.

Outbreaks of influenza B (Singapore) were reported mainly among children in the USSR during December 1980 and January 1981. The outbreaks were generally prolonged and lasted seven to eight weeks in many areas. Other outbreaks were reported in Romania, Egypt, and Japan during this period, and sporadic cases were reported from some European countries (including Denmark, Finland, and France) and from the Far East (China, Hong Kong, Malaysia, and Singapore). [*Source:* WHO, Press Release No. 7, 1981.]