2. Highlights of activities from 1961 to 1973

In this second article to mark the fiftieth anniversary of the World Health Organization in 1998, ***World Health Forum*** *briefly reviews the work of the Organization, highlighting some of the wide range of activities carried out or promoted by WHO from 1961 to 1973. This period covers the remaining years of Dr M.G. Candau's tenure as Director-General and the appointment of Dr Halfdan T. Mahler who succeeded him on 21 July 1973.*

Activities in 1961–1965

Fourteenth World Health Assembly in New Delhi, India

Delegations from 99 of WHO's Member States attended the Fourteenth World Health Assembly from 7 to 24 February 1961 in New Delhi, India. The Director-General, Dr M.G. Candau, in his report to the Health Assembly drew attention to the emergency action taken by WHO to meet the crisis in the Republic of Congo (Leopoldville) immediately after that country's independence in July 1960 (see below). The Prime Minister of India, the Honourable Mr Jawaharlal Nehru, in his address to the Health Assembly welcomed the new Members from the independent states of Africa and, commenting on the assistance given by WHO to the Republic of the Congo, he said:

"The success of this help ... shows how the work of the World Health Assembly, lacking as it does the political motive, is much healthier than the work of other Organizations. And I hope it will always keep away from these political motives and political conflicts and deal with the problems in the spirit of a common humanity. Till that spirit prevails all over the world, in all our problems there will be difficulties and conflicts."

The Health Assembly discussed a wide range of WHO's activities and approved an effective working budget of US$ 23 607 180 for 1962, which included $2 million for malaria eradication field operations.

Aid to newly independent states

As a result of decolonization, the number of WHO Member States and Associated Members increased significantly during the early 1960s. In 1960–1961, for example, 20 new Members and 10 new Associate Members were admitted to the Organization. All these newly independent states had need of WHO's assistance in the

The material for this article was gathered by Dr Ali Hussein, former Editor of the *WHO Chronicle* (1977–1982), the *Bulletin of the World Health Organization* (1983–1995) and *World Health Forum* (1992–1996).

public health field with regard to both health manpower requirements and health services for the population. The Fifteenth World Health Assembly, in 1962, therefore accelerated this programme, particularly for the emerging countries in Africa, concentrating on national health planning, medical education and training of local staff, and operational assistance in basic health care. A Special Account for Accelerated Assistance to Newly Independent and Emerging States was established as part of the Voluntary Fund for Health Promotion.

Of all the countries in need, the Republic of the Congo (Leopoldville) in 1960 faced a particularly serious crisis when the exodus of expatriate European health workers led to a situation where there was not a single Congolese doctor or graduate nurse in the whole country. The first two Congolese doctors were expected to graduate in 1961 and the first four Congolese nurses in 1962. International action was swift and, in the framework of the United Nations emergency programme, 28 WHO staff members were immediately assigned to the Congo and within a few weeks 28 medical teams had been sent through the League of Red Cross and Red Crescent Societies and the International Committee of the Red Cross. WHO also coordinated longer-term needs, such as providing facilities and funds (guaranteed by the United Nations) for Congolese *assistants médicaux* to train in France and qualify as doctors after three years, and helping Congolese students to study medicine, dentistry and nursing or receive training as medical technicians in France and Switzerland. Early in 1962, the number of WHO-recruited staff in the Congo was 146, which was the minimum for maintaining certain basic services. Their functions were advisory to the central and provincial health ministries, teaching of medical subjects at the Lovanium University, and operational (as physicians, surgeons, anaesthetists, laboratory and X-ray technicians, pharmacists, etc.).

Medical research

The Advisory Committee on Medical Research (ACMR) was established by the Twelfth World Health Assembly and first met in 1959 and at intervals thereafter. It was composed of around 20 eminent medical and other scientists, including Nobel Prize laureates, whose function was to provide the Director-General with the necessary scientific advice in relation to research involved in WHO's work and programmes. A Special Account for Medical Research was also set up to receive voluntary contributions.

Although the promotion of research had always been an integral part of WHO's work, it was not until 1958 that an "intensified" programme was started. In the following years, these activities were of three types: (1) collaborative research undertaken at the request of the Organization by investigators in national institutes and, for the most part, implementing the recommendations of the ACMR; (2) services to research, including the work of international reference centres, the establishment of biological standards, standard nomenclatures, techniques, substances and preparations; and (3) training and exchange of research workers, which started in 1961. From 1958 to 1962, for example, 344 collaborative projects were initiated and, in a 15-month period till the end of 1964, nearly 200 more were started. The areas covered by these projects included malaria and other communicable diseases, cancer, cardiovascular diseases, nutrition,

immunology, and environmental health. In 1963–1964, 20 new reference centres were established in auto-immune disorders, vibrio (cholera) phage-typing, histopathology of bone and ovarian tumours, etc. In the same period, 46 scientific groups and other research groups were convened to review the present state of knowledge in various biomedical fields, indicate gaps in research, and recommend subjects for WHO collaborative investigation.

Malaria eradication

In the early 1960s there was further progress in malaria eradication programmes in different parts of the world and several pre-eradication programmes were established, especially in Africa.[a] By 1964, the areas where final eradication or cessation of malaria transmission had been achieved covered a population of over 102 million. Compared with the situation in 1960, there was an increase of 50% in the population of areas in the maintenance phase of the eradication programme, and a fivefold increase in the population living in areas in the consolidation phase.

In 1964, countries in the maintenance phase were Israel, Jordan, Lebanon and Syria, and parts of Bulgaria, China (Taiwan), Greece, India, Romania and the USSR; on the other hand, owing to setbacks, progress in Albania, Brazil and Yugoslavia was slower than expected. Countries in the consolidation phase included the whole of Ceylon and parts of Afghanistan, Argentina, Colombia, Costa Rica, Ecuador, Mauritius, and South Africa; setbacks in Honduras, Iraq, Mexico and the Philippines led to a reversion from the consolidation to the attack phase. The population of areas where eradication programmes had not yet started amounted to 393 million, including 195 million in countries where pre-eradication programmes were being undertaken (i.e. in 13 Sub-Saharan African countries, Algeria, Morocco, Ethiopia, Saudi Arabia, Somalia, Sudan, Yemen, Brunei, Cambodia, Democratic People's Republic of Korea, Malaya and Viet Nam). It was recognized that very considerable assistance, both material and technical, would be required for malaria work in Africa for some years to come.

Of the estimated population of 1560 million in the originally malarious areas of the world, 1168 million (75%) lived in areas where malaria had been eradicated or where eradication programmes were in progress; 800 million (51%) lived in areas in the maintenance and consolidation phases of eradication.

Cholera

A classic monograph of over 1000 pages on cholera was published by WHO in 1959 – *Cholera* by R. Pollitzer (two chapters written in collaboration with W. Burrows and S. Swaroop), Geneva, 1959 (WHO Monograph Series, No. 43). Based on this book, a series of five articles bearing the title "International work in cholera" appeared in the *WHO Chronicle* in 1961 (Vol. 15). The articles dealt with the past and present [1959] distribution of cholera, the cholera vibrio (the causative

[a] The aim of a *malaria eradication programme* was to end transmission of malaria and eliminate the reservoir of infective cases; the campaign was planned to be limited in time and to be carried to such a degree of perfection that, when it ended, there was no resumption of transmission. It comprised four phases: preparatory, attack, consolidation, and maintenance. A *pre-eradication programme* was a preliminary operation in a country whose general administrative and health services had not yet reached a level to enable it to undertake a full eradication programme.

The study of man and disease – by WHO

"The detection and study of the physical and psychological causes of disease, and the study of the nature of man and of the mechanisms of disease in present-day society – a most important task of science, which in our century has become the mighty force for the development of mankind – are to an ever-increasing extent devolving on the World Health Organization."

– Dr S.V. Kurashov, Minister of Health of the USSR and President of the Fifteenth World Health Assembly in Geneva, 1962

organism), the cholera patient (clinical forms of the disease, diagnosis and treatment), the principles of control (rise and fall of epidemics, importance of environmental sanitation), and practical control measures (quarantine, vaccination, management of epidemics, and prospects for eradication).

Despite these efforts, the seventh cholera pandemic began in 1961 when the El Tor biotype of the causative agent spread from its endemic focus in the Celebes (Indonesia) northwards to China and eastwards. In 1964, it appeared in new areas in the Western Pacific Region and spread west to the Indian subcontinent. The disease continued in Indonesia and the Philippines, and there were widespread epidemics in the Republic of Korea and Viet Nam where there had been no cases for many years. Further outbreaks occurred during 1964 in Burma, Cambodia, Hong Kong, Macao, Malaysia and Thailand, and Japan reported its first non-imported case of cholera since 1946.

Yellow fever in Africa

Between 1960 and 1962, the largest recorded epidemic of yellow fever in Africa and the first to occur in Ethiopia led to more than 200 000 cases and over 30 000 deaths. WHO supported the epidemiological, serological and entomological surveys, as well as virus and other laboratory investigations, which showed that *Aedes simpsoni* was the vector. The main responsibility for this work was assumed by the Pasteur Institute in Addis Ababa.

Although yellow fever had been reported in Senegal since 1778, no outbreak occurred after 1953 until 1965 when an epidemic – transmitted by *Aedes aegypti* – spread through Diourbel, 140 km from Dakar, and led to several hundred deaths, mostly among children. As the vaccination campaign had lapsed during the period of no outbreaks, children were the most vulnerable group. Among subjects for elucidation by research were the relationship of urban and jungle yellow fever in Africa, the animal reservoirs, and the differences between virus strains in East and West Africa and those in the Americas.

Notifiable diseases in the Americas

Cases of quarantinable diseases in the Americas have been published in statistical reports of the Pan American Sanitary Bureau (WHO Regional Office for the Americas). The figures for 1965 were: *plague* (845 cases, mainly in Ecuador, Peru, Bolivia and Brazil, including 8 in the

USA); *louse-borne typhus* (461 cases, mainly in Ecuador, Bolivia and Peru, but also in Mexico (34) and Chile (11)); *smallpox* (3367 cases, mainly in Brazil (3152), with small numbers in Colombia, Paraguay, Peru and Argentina); *yellow fever* (87 cases, mainly in Peru (45), with a few in Bolivia, Brazil, Venezuela, Colombia and Argentina). There were no cases of *louse-borne relapsing fever* in the period 1963–1965 or *cholera* (except for two laboratory-acquired cases in the USA in 1965) for over fifty years.

Cases of *malaria* in 1965 totalled 247306 in the Region, a 6% decline from the number in 1964; 62% of the cases were reported in South America (mostly in Brazil) and 38% in Middle America (i.e. Mexico, Central America, Panama, and Caribbean islands). From 1953 to 1965, the mortality rates from *tuberculosis* showed a downward trend in all areas: from 12.4 to 4.0 (per 100000 population) in North America, from 32.4 to 19.9 in Middle America, and from 48.1 to 28.7 in South America. Reported cases of tuberculosis (rates per 100000 population) showed a decline in North America, a less marked downward tendency in South America, and fluctuations with no overall decline in Middle America.

Other notifiable diseases in most of these countries included dysentery (amoebiasis), typhoid fever, paratyphoid fever, and tetanus.

Other communicable diseases

Progress was made in most countries, during the early 1960s, against the principal communicable diseases, which remained the greatest obstacle to health in many areas. Mass campaigns against yaws, endemic syphilis, leprosy and trachoma continued, but there were some setbacks like the reappearance of cholera, yellow fever and trypanosomiasis in countries where they had been absent for some time, and an increase in infectious hepatitis, syphilis and gonorrhoea in many countries.

■ ***Tuberculosis.*** Most of WHO's activities in this field were directly related to the effective application of existing knowledge to the tuberculosis problem. By providing medical officers, sociologists, statisticians, public health nurses, and laboratory and X-ray technicians for varying periods, the Organization helped 39 countries (by 1964) to assess the extent of the problem, plan and test nationally applicable control programmes, and train key personnel.

■ ***Leprosy.*** Technical advice and guidance were given by WHO to 35 countries (21 in Africa, 7 in Asia, 6 in the Americas, and 1 in Europe) in the planning and operation of their leprosy control programmes. At the start of 1964, UNICEF/WHO-assisted projects covered over 2.8 million registered leprosy patients, of whom over 1.8 million were attending for treatment (not all of them regularly). Since regular treatment may have to continue for as long as six years, the Organization continued to stress the need for constant supervision and follow-up.

■ ***Smallpox.*** By the end of 1964, intensified vaccination programmes had been developed, especially in Afghanistan, Burma and India, and the campaigns in Sudan and East Pakistan made progress. WHO assisted the production of freeze-dried vaccine in India, Indonesia, Thailand, and in three laboratories in the African Region where the vaccination campaign was moving more slowly. Good progress was made by programmes in the Americas, and

WHO's commitment to "dirty work" in the field

"We should not fall for the temptation to withdraw into the detached, clear, and academic air of the scientific world. We must continue to throw the whole weight of the Organization behind those who fight disease where it exists, in the field everywhere. WHO must continue as in the past to identify itself with what you might call the dirty work, the rats' nests in farms and harbours, the slums and narcomaniacs of the large cities, the mosquito swamps and sewage systems in the rural areas."

– Dr Karl Evang (Norway), in his speech accepting the Léon Bernard Foundation Medal and Prize awarded by the Nineteenth World Health Assembly in 1966

the supply of freeze-dried vaccine was sufficient for all the countries in this Region.

Nutrition activities

In the period 1961–1964, WHO assisted a number of countries in field projects in the following specified areas of public health nutrition:

- Short nutrition surveys and/or advice to the government: Mauritania (1962), Central African Republic, Tanganyika and India (1963), Chad, Congo/Brazzaville, Gabon, Mali, Northern Rhodesia, Nyasaland, Sierra Leone, and Swaziland (1964), and all American countries through PASB (WHO Regional Office for the Americas).
- Comprehensive nutrition surveys and recommendations to governments: French Polynesia and Philippines (1960–1962).
- Comprehensive nutrition surveys and aid in developing programmes: Kenya (1961), Algeria (1963), and Philippines (1964).
- Advice on hypovitaminosis A to Jordan (1963), and on dietetics to Portugal (1962).
- Aid to nutrition departments, nutrition institutes, or university units: Haiti (1961), Indonesia, Malaysia and Thailand (1963), Cuba, Nigeria and Senegal (1964).

WHO's activities in the field of nutrition education and training included training courses in Dakar, Senegal (1962) and Bangkok, Thailand (1964); and seminars or conferences in Guanajuato, Mexico and San Juan, Puerto Rico (1961), Pointe Noire, Congo/Brazzaville and Manila, Philippines (1962), Cairo, Egypt and Hyderabad, India (1963), and Manila and Kampala, Uganda (1964). A survey on education and training in nutrition in Europe was carried out in 1961.

Research in mental health

The WHO Expert Committee on Mental Health, in its report published in 1961 (WHO Technical Report Series No. 223), identified the following priority areas for research: study of brain function by neurochemists and neurophysiologists; coordinated biological, psychological and social studies on groups of patients by scientists from these disciplines; epidemiological studies of mental disorders using standardized terminology for case definitions; social studies in different countries on the effects of industrialization on the community (family life, individual behaviour patterns, incidence of mental illness,

etc.); transcultural studies on personal relations within groups; ecology of mental illness; effects of ageing and of nutrition on mental health; and genetics research that could contribute to prevention and treatment of psychiatric illness. It was recognized that progress in these studies required a great increase in international cooperation.

Activities in 1966–1969

International Agency for Research on Cancer

The initiative to create a world research agency for cancer came from a number of eminent people in France in 1963. They appealed to countries with the largest national defence budgets to appropriate 0.5% of those budgets for such an institution, and pointed out that the balance of forces would not be changed. Thus, at no extra cost to taxpayers, funds could become available for cancer research. The President of the French Republic agreed to this proposal, which was submitted to the governments of selected countries.

After discussions by these countries and the WHO Executive Board, the Eighteenth World Health Assembly in 1965 approved the establishment of the International Agency for Research on Cancer (IARC) to promote international collaboration in all phases of cancer research, including education and training of personnel. Professor John Higginson was appointed Director in July 1966. The Agency was located in Lyons, France, and one of its main tasks was to concentrate on the relationship of environment to human cancer, in this way laying the foundation for future prevention. Countries participating in the work of IARC at this time were Australia, Federal Republic of Germany, France, Israel, Italy, Netherlands, the United Kingdom, the USA, and the USSR.

New WHO headquarters building

Delegates to the Nineteenth Word Health Assembly in Geneva were greeted by the flags of 126 Member States outside WHO's new headquarters building, which was inaugurated on 7 May 1966. Already in 1955 it was realized that the growing Organization could no longer carry on its work in the Palais des Nations and would need its own premises. From a dozen plans for the new building the jury selected that of Mr Jean Tschumi, a Swiss architect from Lausanne.

The Director-General, Dr Candau, after thanking the United Nations for the hospitality WHO had enjoyed in the Palais des Nations, said in conclusion: "the building we are inaugurating today is more than a tribute to past and present efforts. It is a promise for the future, a symbol of our determination to concentrate our energies, resources, and all our knowledge to help the countries of the world in providing for their children, and for all the generations to come, a healthy, prosperous, and peaceful future."

Dental health

Despite the wide prevalence of dental disease there was little international coordinated research in this field. A WHO Scientific Group, which met in March 1965, therefore listed some areas for such research, e.g. in the classification of dental and oral diseases, and in standardization of methods and techniques, dental education, and public health practice.

Studies conducted by WHO, since 1957, on the epidemiology of periodontal

WHO's "heredity": greater potential for less effort

"The growth and development of individuals depend on the interactions of heredity and environment. The same can be said of nations, and also of organizations. Let us look at WHO's "heredity". Its forebears include the International Office of Public Health in Paris, the League of Nations here in Geneva, and the United Nations Relief and Rehabilitation Administration (UNRRA). From each, WHO derived some of its endowments. ... Yet WHO is undoubtedly greater than the sum of what it inherited. The very fact of combining in one organization all the functions of its predecessors meant greater potential for less effort."

– Dr Brock Chisholm, Director-General of WHO (1948–1953): address at the inauguration of WHO's new headquarters building in Geneva on 7 May 1966

diseases in Ceylon, India, Iran, Nigeria and Sudan pointed to a close association between periodontal disease and the presence of tartar due to poor oral hygiene. Community studies were recommended to ascertain the relative value of periodical dental prophylaxis and of health education in the prevention of periodontal disease. The Organization continued assisting individual countries in improving dental education.

The *World Directory of Dental Schools*, first published by WHO in 1961, has been a source book on world dental education and trends in dental health. A new, updated edition was published in 1967. Apart from listing the dental schools, the Directory compared their numbers worldwide (371 in 1963) with those of medical (656), veterinary (182) and pharmacy (470) schools, and gave the dentist/population ratios for most countries (varying from one per 1310 persons in Sweden to one per 435 000 in Pakistan).

The controversial question of the addition of fluorides to water supplies to prevent dental caries was carefully examined by the Organization and by experts as well as delegates from Member countries to the Twenty-second World Health Assembly in 1969. Finally, after much discussion the Health Assembly passed a Resolution (WHA22.30) recommending that Member States:

". . . examine the possibility of introducing and where practicable to introduce fluoridation of those community water supplies where the fluoride intake from water and other sources for the given population is below optimal levels, as a proven public health measure; and where fluoridation of community water supplies is not practicable to study other methods of using fluorides for the protection of dental health."

Twenty-second World Health Assembly in Boston, USA

Most of WHO's 131 Member and Associated Member States sent delegates to the Twenty-second World Health Assembly in Boston, Massachusetts, USA, from 8 to 25 July 1969. In a telegram, the President of the USA, Mr Richard Nixon, greeted the Health Assembly and said: "The splendid cooperation you represent in the field of health care is one of the surest roads towards the kind of progressive prospering society that we all persistently seek ...".

Two points from the Director-General's report on the work of WHO in 1968 were the concern of many governments about

the effects of increasing population trends on living and health standards, and the urgent need to improve the health manpower situation in both the developed and developing countries. The Health Assembly adopted an effective working budget of US$ 67 650 000 to finance WHO's programme in 1970, an increase of $5.5 million from the preceding year's budget.

Research on viruses

The achievements in the first ten years of WHO's intensified medical research programme (see above) were described in two publications – for the period 1958–1963 and for 1964–1968. In the latter, the communicable diseases section presented the principal advances in virology, e.g. in our knowledge of the fundamental structure of viruses and cells and of their interrelationships and interactions, the natural behaviour of viruses as infectious agents, the pathogenesis of virus diseases, and the means of controlling many virus diseases by improving existing vaccines or developing new ones. Research also strengthened the hypothesis that at least some malignant diseases like leukaemia might be associated with virus infection.

In 1969, the use of the computer at WHO headquarters in the collation of data on viruses allowed better storage and retrieval of information and facilitated the analysis of data amassed since 1963. This technology allowed WHO to collate a list of virus laboratories containing 507 addresses in 84 countries.

Alcohol and drug dependence

A WHO Expert Committee report on services for the prevention and treatment of dependence on alcohol and other drugs, published in 1967, called for a unified approach embracing the social context in which the abuse occurred. "Dependence" replaced the older terms "addiction" and "habituation". In the mid-1960s, countries identified as having a serious alcohol problem included Australia, Belgium, Canada, Chile, Denmark, France, South Africa (white population), Sweden, Switzerland, USA, and USSR. Narcotics abuse was important in Hong Kong, India, Iran, Japan, Thailand and the USA. While the abuse of sedatives and stimulants was widespread in several industrialized countries, some traditional substances were confined to a few areas (e.g. coca-leaves in Bolivia and Peru, and khat in East Africa).

As treatment and rehabilitation of alcohol and drug dependence were difficult, their prevention was an important task for the public health services. Legislation regulated the sale of alcohol in the Netherlands and the United Kingdom through a licensing system. In other countries (Finland, Norway and Sweden), the State had a complete or partial monopoly of the production and distribution of alcohol, and there were State-organized agencies to prevent and treat problems arising from over-consumption. Alcoholism programmes existed in other European countries and the USA.

The main approaches in the prevention of drug dependence were to reduce the opportunities for easy access to such drugs and to instil in users or potential users an awareness of the hazards of drug-taking. Prevention was complicated by the fact that an increasing number of these drugs – barbiturates, tranquillizers, analgesics and anorectics – were prescribed by doctors. In addition to well-organized preventive

Technical competence versus constitutional responsibility?

"The decision whether or not fluoridation, as a measure of public health designed to protect the dental health of the young, should be put into force in this State [Tasmania] should not be left to local authorities. It is a matter for decision by Parliament. A referendum as a means of arriving at this decision is not only without constitutional warrant but is highly unsuitable as well ... To refer the matter to a forum both technically incompetent and constitutionally incapable would constitute an abrogation of Parliament's responsibility."

– Dr R.R. Winton (Australia), quoting a statement from the report of a Royal Commission appointed by the Government of the State of Tasmania, during a discussion of water fluoridation by the Twenty-second World Health Assembly in July 1969

educational programmes, the need to control advertising was also envisaged.

Pharmaceutical quality control

International specifications for pharmaceutical preparations and requirements for biological substances (e.g. vaccines) recommended by WHO have been published in the *International Pharmacopoeia* and in reports of expert committees. Since the quality of drugs was a matter of concern from the beginning of manufacture, production control was the principal method of maintaining desired quality levels in pharmaceutical products. Following recommendations by the Twentieth and Twenty-first World Health Assemblies in 1967–1968, the WHO Expert Committee on Specifications for Pharmaceutical Substances (in its twenty-second report published in 1969) presented an outline of "good practices in the manufacture and control of drugs", which Member States were requested to adopt and apply. With the assistance of expert consultants, WHO also developed a "certification scheme on the quality of pharmaceutical products in international commerce". It was realized that technological progress could bring new developments in this area in the form of more precise and economical control procedures.

Global smallpox eradication programme

In the first half of this century, smallpox had been eradicated in the countries of Europe and North America by extensive vaccination and energetic containment. A regional eradication programme for the Americas, which was started in 1950, succeeded in eliminating smallpox from all countries except Brazil and Colombia; during the same period several countries of North Africa, Asia and the Eastern Mediterranean were freed from the disease. Decisions by the World Health Assemblies in 1958 and 1959 led to the launching of the global smallpox eradication programme, although there were considerable financial, logistic, technical and administrative problems that had to be overcome.

In 1966 there were over 92 000 cases of smallpox in the world, compared to about 112 000 in 1965, 75 000 in 1964, and over 132 000 in 1963. The majority of the cases in 1966 were reported from a small number of countries in the South-East Asian region. In the Americas, Brazil was

the main endemic focus with some cases from neighbouring countries. In the African Region, most of the cases were confined to three areas – Guinea, Mali and Sierra Leone; Dahomey (now Benin), Niger, Nigeria and Togo; and Burundi, Congo (Democratic Republic), Malawi, Uganda and the United Republic of Tanzania. In the Eastern Mediterranean Region, Ethiopia and Pakistan were the chief endemic foci, with cases reintroduced into Saudi Arabia, Somalia, Sudan and Yemen.

The WHO "intensified" programme of smallpox eradication was started in January 1967 and led to a steady decrease in the number of cases (world total for 1969, under 54 000). On the technical side, the bifurcated needle for multiple puncture vaccination, which soon became the most rapid and economical method, started to replace the older vaccination devices. Major efforts were made to ensure that freeze-dried vaccine was available for use in all programmes.

Activities in 1970–1973

Health manpower and hospital utilization

Statistics on health manpower and hospital utilization in different countries and areas of the world were obtained by WHO statisticians and published in 1970 (*World Health Statistics Annual, 1967, Vol. III: Health personnel and hospital establishments.* Geneva, World Health Organization, 1970). It covered physicians, medical assistants, dentists, pharmacists, and nursing personnel, and the numbers and types of hospitals in each country. The extremes within each continent are shown by the following examples:

- Population number per physician. Africa: 71 460 in Chad and 6950 in Tunisia. Americas: 13 150 in Haiti and 620 in Argentina. Asia: 60 980 in Yemen and 420 in Israel. Europe: 1700 in Albania and 450 in the USSR. Oceania: 2400 in Fiji and 850 in Australia.
- Population per dentist. Africa: 1.7 million in Chad and 12 870 in South Africa. Americas: 25 770 in Brazil and 1720 in Bermuda. Asia: 1 million in Burma and 1400 in Israel. Europe: 126 780 in Portugal and 1260 in Norway. Oceania: just over 3000 in Australia and New Zealand.
- Hospitals: The number of beds in all hospitals taken together, per 10 000 people, varied from 20 or less in many developing countries to more than 100 in most industrialized countries.

The only certain conclusion one can draw from such figures is that the developing countries and areas remained deprived in almost every respect, compared to the more privileged countries.

Medical education

Since its inception, WHO had devoted a substantial part of its programme and funds to promoting the education of health workers at all levels in Member States through courses, seminars, consultations, fellowships, appointment of teachers, and research. After some years it was recognized that both quantitatively and qualitatively the gulf between what was needed and what was being done was wide and deep. For example, to prepare candidates in health sciences required about 10 years of schooling, a doctor some 20 years, and teachers of doctors even longer. As the doctor-to-population ratios in different areas varied from 1:500 to 1:50 000 or

The "brain drain"

"The problem [of shortage of health personnel] becomes more acute since doctors and nurses, trained at the expense of the State, have been lured to developed countries by the higher remuneration and other attractive facilities given to them, which they cannot obtain in their own country. However, the Ministry of Public Health of Thailand has developed training programmes for auxiliary health workers ..."

– Dr S. Phong-Aksara (Thailand), addressing the Twentieth World Health Assembly in Geneva, May 1967

more, a sustained effort by individual countries and by WHO on an expanding scale was needed.

"Education for the health professions – regional aspects of a universal problem" was the topic for the Technical Discussions during the Twenty-third World Health Assembly in 1970. Among the subjects discussed were health planning, coordination between health agencies and educational institutions, teamwork, adaptation of curricula, complementary and post-basic education, teacher training, and evaluation. In their conclusion, it appeared to the participants that the best way of extending health coverage, despite shortages of funds and manpower, was to adapt the education of health workers to local needs and resources and to distribute the duties of health teams judiciously between physicians, paramedical workers, and auxiliaries.

Community water supply and wastes disposal

From its inception, WHO had accorded the highest priority to environmental sanitation, and Member States had responded to various resolutions of the World Health Assembly on this matter. As time passed, however, it was clear that the rate of progress was insufficient and that the situation was becoming worse each year as a result of population increases. For example, a survey of 90 selected developing countries in 1970 showed that only 23% of their total population had a safe water supply. In urban communities 50% of the population had a domestic supply and 20% used communal water taps; in rural areas 88% of the population in the survey did not have a safe water supply. Surveys of the sewerage and waste disposal facilities in 61 developing countries showed that only 28% of the urban populations were served by a public sewerage system and 43% had their own domestic systems. In rural areas, 92% of the population had inadequate facilities for excreta disposal, and primitive practices were responsible for unnecessary illness, debility and death.

The WHO community water supply and wastes disposal programme was providing Member States, particularly the developing countries, with the information and knowledge they needed for the construction and operation of sanitation systems. For this purpose, two international reference centres were established by WHO: the International Reference Centre for Community Water Supply at the Government Institute for Drinking Water Supply in the Hague, Netherlands, and the International Reference Centre for Wastes Disposal at the Federal Institute for Water

A lesson to developing countries

"First, largesse in the form of hand-outs will achieve little in the long term. To my mind, the greatest indictment against the colonial powers is not that they did nothing for the people of the colonies, but that they did not teach them to do things for themselves. The second point I would emphasize is that the greatest lesson to be learnt in developing countries is how to cut your coat by your cloth. For this purpose, integration, in the widest sense, is essential. Thirdly, I would stress that the need for scientific and realistic planning must be recognized. ... Fourthly, my country has long recognized the importance of nutrition to national health ...".

– Dr L.M. Commissiong (Trinidad & Tobago), addressing the Twentieth World Health Assembly in Geneva, May 1967

Resources and Water Pollution Control in Dübendorf, Switzerland. Another important aspect of the WHO programme was to help overcome the problems of inadequate financial resources for improvements in environmental sanitation – e.g. by ensuring cooperation with international and bilateral bodies including UNDP and UNICEF.

World rabies situation in 1970

A survey for the year 1970 showed that only 33 countries out of 132 were free of rabies. Dogs continued to be the animal most frequently found to be rabid in Africa, Central and South America, Asia, and some European countries (Greece, Turkey and Yugoslavia). Foxes were mainly affected in Canada and in most countries of Europe, and cattle in Egypt, El Salvador, Guyana, Morocco, Panama and the USSR. Cattle took second place to foxes in Canada and the Federal Republic of Germany, and to dogs in South and Central America, Greece, Israel and Nepal.

Skunks continued to be the principal vector species in the USA (where they were responsible for two human deaths) and were also important in Canada. Bats were implicated in Canada (with one human death), the USA, and several South and Central American countries. The mongoose was the main vector in Puerto Rico and was implicated in the Dominican Republic, India, Rhodesia and Sri Lanka. The species most affected in South Africa was the meerkat (with one human death).

In nearly all countries, dogs continued to be the principal source of bite wounds or contact infection that required prophylactic treatment in man, followed by cats – except in some countries where jackals, raccoons, rodents, squirrels and cattle were implicated.

Expanded research programme in human reproduction

From the early 1960s WHO's research programme in human reproduction had been concerned with all aspects of reproduction that had clinical or public health applications. There was special emphasis on problems related to fertility regulation and birth control methods and to the study of sterility. In June 1970, WHO convened a meeting of agencies – including national medical research councils, technical assistance agencies, family planning departments, and private foundations

– concerned with promoting research in human reproduction. The meeting noted that existing knowledge of human reproduction was inadequate and called for intensified research at the fundamental, clinical, pharmacological, and epidemiological levels. WHO was to coordinate these research efforts, for which contributions of over US$ 4.5 million were pledged for the first year of the programme. Support at this level was expected to continue in the ensuing years. Thus was created WHO's Expanded Programme of Research, Development, and Research Training in Human Reproduction.

New International Health Regulations

On 1 January 1971 the new International Health Regulations (1969) came into force, replacing the International Sanitary Regulations (1951). The main points in the new regulations are given below.

- Only four diseases (cholera, plague, smallpox and yellow fever) remained as quarantinable, since louse-borne typhus and relapsing fever were no longer considered a threat to international health. However, these two, together with influenza, malaria and poliomyelitis, formed part of WHO's international surveillance programme.
- WHO could be requested by national health administrations to certify that the sanitation in ports and airports fulfil the conditions laid down in the new Regulations with regard to drinking-water, food storage, and the control of rats and insects.
- Disinsection of aircraft had to be effected using methods recommended by WHO.
- WHO could be asked, with the consent of the government concerned, to investigate any disease outbreak that might constitute a threat to international health.
- WHO, under its surveillance programme for communicable diseases, had to study and report annually on the trends of cholera, plague, smallpox, yellow fever, louse-borne typhus, relapsing fever, influenza, malaria, and poliomyelitis.

Twenty-fifth World Health Assembly in 1972

Two matters considered by the Twenty-fifth World Health Assembly, which met in Geneva in May 1972, are described below.

■ ***Prevention of blindness.*** After studying a report on this subject, the Health Assembly recognized the need for a generally accepted definition of blindness and visual impairment. It also called on WHO to promote further studies on the most efficient and economical means of preventing blindness, and to assist Member States in educational programmes and national programmes for the prevention of blindness, particularly those concerned with trachoma, onchocerciasis and xerophthalmia.

■ ***Representation of China in WHO.*** The Health Assembly adopted a resolution recognizing the Government of the People's Republic of China as the only government having the right to represent China in the World Health Organization. The resolution was proposed by the delegations of 19 countries. The voting was 76 in favour, 15 against, and 27 abstentions.

Malaria situation in 1972

Progress in malaria eradication, at the end of 1972, in the WHO Regions varied

Dr Marcolino Gomes Candau of Brazil (1911–1983) was born in Rio de Janeiro, Brazil. He received his medical degree at the school of medicine, State of Rio de Janeiro, and specialized in public health at the University of Brazil and the Johns Hopkins University in Baltimore, USA. From 1934 to 1943 Dr Candau was in charge of various health services in the State of Rio de Janeiro, ultimately becoming Assistant Director of that State's Department of Health, and between 1943 and 1950 he was Director of Division, Assistant Superintendent, and later Superintendent of the Serviço Especial de Saude Publica. Dr Candau also held teaching positions in Brazil: in 1938 he was appointed Assistant Professor of Hygiene at the School of Medicine, State of Rio de Janeiro. Dr Candau joined the staff of the World Heath Organization in Geneva in 1950 as Director of the Division of Organization of Health Services; within a year, he was appointed Assistant Director-General in charge of Advisory Services. In 1952 he moved to Washington as Assistant Director of the Pan American Sanitary Bureau – the WHO Regional Office for the Americas. In 1953 Dr Candau was elected, at the age of 42, WHO's second Director-General, and he was re-elected for successive terms of office in 1958, 1963 and 1968. As Director-General, Dr Candau witnessed the growth of the Organization from 81 Members in 1953 to 138 in 1973. At the end of his last term, in

recognition of his outstanding services to international health, the 26th World Health Assembly formally declared him Director-General Emeritus of the World Health Organization. Dr Candau was an Honorary Fellow and Member of a number of public health societies and medical associations in both industrialized and developing countries. He died in Geneva on 24 January 1983.

considerably. While in the European Region more than 80% of the originally malarious areas were in the maintenance phase (see footnote on page 142), almost 90% of the population in the African Region were not yet protected by any antimalaria measures. The situation in the other regions were in between these two extremes, which could to a large extent be explained by geographical and socioeconomic factors.

Most of the 270 million people unprotected by antimalaria measures were living in Africa in areas with the highest malaria endemicity rates in the world. Here, the immediate aim had to be alleviating suffering and preventing loss of life by making antimalarial drugs widely available to all who were seriously threatened by the disease. Comparatively modest financial resources were needed for this goal. A different problem was the threat of re-

importation of malaria into areas in the maintenance or consolidation phases as a result of increased travel and tourism; continued surveillance and vigilance were therefore necessary.

A realistic appraisal of ongoing programmes showed that malaria eradication remained an attainable goal in the majority of countries that were operating such programmes. In the other countries, an assessment of the available financial resources and basic health services, and the presence of technical problems indicated that the immediate aim of these programmes could only be malaria control, with eradication as a possible future objective.

Twenty-sixth World Health Assembly in 1973

Twenty-fifth anniversary of WHO. The occasion was celebrated on 7 May 1973 in Geneva during a plenary session of the Twenty-sixth World Health Assembly. Messages and good wishes were received from many Heads of State and a large number of international organizations. Professor Julie Sulianti Saroso (Indonesia), President of the Assembly, listed some of the problems challenging the Organization and referred to their international implications:

"It would be neither in harmony with this occasion nor in my capacity to indulge in listing the multitude of factors which shape our destiny and condition health developments. Nevertheless, we should not miss this solemn occasion to express our concern over the inadequacy of resources for health action. This inadequacy is even more striking when compared with the astronomic figure of over 200 billion dollars spent each year on armaments, a sum equal to the total incomes of all the developing countries on this earth ...".

After speeches were made on behalf of all six WHO Regions, the Director-General, Dr M.G. Candau, spoke of the Organization's achievements and shortcomings. At the conclusion of the celebrations, the Health Assembly passed a resolution which called upon "all countries to maintain or increase their cooperative efforts within the extent of their resources with a view to improving the health and health services of the world".

New Director-General: Dr Halfdan T. Mahler. The Health Assembly appointed Dr H.T. Mahler (Denmark) to succeed Dr M.G. Candau as Director-General of WHO from 21 July 1973. Dr Mahler, who was born in 1923, had served the Organization over many years, first spending nearly 10 years in India while attached to the national tuberculosis programme, then from 1962 in headquarters where he occupied successively the posts of Chief Medical Officer of the Tuberculosis Unit, Director of Project Systems Analysis, and Assistant Director-General.

Tributes to Dr M.G. Candau and Dr P.M. Dorolle. The Health Assembly expressed gratitude to the outgoing Director-General, Dr Candau, and Deputy Director-General, Dr Dorolle, who had served the Organization in these posts for 20 years and 23 years, respectively. Many delegates gave high praise to both men for their exceptional contribution to the cause of international health. ■

Editor's Note

Part 3 in this series will appear in the next issue of *World Health Forum*.