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GENEVA, 4-21 MAY 1965

PART II

PLENARY MEETINGS
Verbatim Records

COMMITTEES
Minutes and Reports

WORLD HEALTH ORGANIZATION
GENEVA
November 1965

MEMBERSHIP OF THE HEALTH ASSEMBLY

LIST OF DELEGATES AND OTHER PARTICIPANTS

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CENTRAL AFRICAN REPUBLIC

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Dr S. N'GARO

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Delegates:

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Dr P. DOLGOR, Chief Surgeon, Ministry of Public Health

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Delegates:

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2. Report on the Smallpox Eradication Programme

Agenda, 2.5

The CHAIRMAN invited the Committee to consider the Director-General's report on smallpox eradication.[2]

Dr KAUL, Assistant Director-General, Secretary, introducing the report, said that it had been prepared in compliance with resolution WHA17.43, in which the Director-General was asked to submit a report on the programme and to prepare a further comprehensive plan for the world-wide eradication of smallpox. The report had been difficult to prepare because of the lack of information on the state of planning, launching, progress, problems and costing, from many countries in the endemic areas. The Director-General had therefore appointed two consultants who had visited selected countries in order to assess the situation and endeavour to reach some broad conclusions on the basis of a sample survey. The report provided direct information where obtainable and presented conclusions based on the work of the consultants.

Section 2 of the report dealt with the incidence of smallpox in the world. In 1964, less than 48 000 cases had been reported, the lowest number hitherto recorded. It should be remembered, however, that although such a low figures might be due in part to the success of current intensive vaccination campaigns, especially in America and Asia, the normal cyclical variations in the incidence of the disease and variations in the proportion of cases notified might also partly explain the reduction recorded.

In recent years, some twelve countries had eradicated smallpox through eradication or control programmes, but one country which had eradicated the disease ten years earlier had met with a serious setback and had experienced severe outbreaks through reintroduction of the infection. That situation was evidence of two important points: the need for regional as well as national eradication and the need for maintaining an adequate level of protection in communities until the disease had finally disappeared.

In 1964, the largest number of cases had been reported by Asia (72 per cent. of the total). The rest had been reported from Africa and the Americas. No cases had been reported from Europe or the Western Pacific Region. There had been importation of smallpox by air and only one case by sea.

Section 3 was concerned with research projects supported by WHO. Studies on simultaneous and sequential vaccinations in persons being revaccinated had shown that there was practically no advantage in making two insertions when using high potency vaccines, but that with low potency vaccines there was some advantage in making two insertions, either at the same time or sequentially.

Recent studies on the effectiveness of jet injectors had shown a consistent success rate of over 95 per cent. for primary vaccinations when a potent freeze-dried vaccine was used in both $^1/_{10}$ and $^1/_{50}$ dilutions. The method was effective and economic when used for large groups of people, but in sparsely populated rural areas multiple pressure or scratch methods were more practical—though small hand-operated injectors might be useful.

Laboratory studies were being carried out on variations of variola strains from Africa, where the morbidity and severity of the disease showed wide variations. If the strains could be successfully differentiated, combined field and laboratory studies would be set up in order to establish the epidemiological implications. Trials had established the effectiveness of some chemical compounds in smallpox prophylaxis and new chemical compounds had been tested under the sponsorship of the national authorities concerned. The Organization was giving expert advice to the national technical committees co-ordinating such studies.

Section 4 dealt with eradication and control programmes. In the South-East Asia Region—the Region which had always reported the largest number of cases—four of the five countries where the disease was endemic were actively engaged in eradication programmes and two of them had made substantial progress. In Burma, eight million of a population of

[1] Transmitted to the Health Assembly in section 2 of the Committee's fifth report and adopted as resolution WHA18.37.

[2] *Off. Rec. Wld Hlth Org.* **143**, Annex 19.

twenty-three million had been vaccinated by the end of 1964 and it was hoped to cover the total population within the coming two years. In India, over 300 million vaccinations (representing 70 per cent. of the population) had been performed between the start of the campaign in 1962 and the end of 1964, and it was anticipated that 90 per cent. would have been vaccinated by March 1966. The Union of Soviet Socialist Republics had donated 450 million doses of freeze-dried vaccine for the Indian eradication programme. Four national laboratories in India were receiving technical advice and equipment from WHO and UNICEF for the production of freeze-dried vaccine and it was expected that sufficient quantities of the vaccine for the maintenance phase would be available before the end of 1966.

In the Eastern Mediterranean Region, Pakistan had reported that its whole population had been covered by a vaccination campaign by the middle of 1964. In West Pakistan, an eradication programme was due to start in the current year. In Sudan, the Northern Province had been covered in an eradication campaign and vaccination was being extended to other areas. Saudi Arabia was preparing a mass vaccination campaign.

In the African Region, most countries had not yet prepared eradication and control programmes. In the programme in the Ivory Coast, the attack phase of a national campaign had been completed and the maintenance phase started. Mali and Liberia had started eradication campaigns and Upper Volta was preparing to start one during the year. A priority in the African Region was the regional production of freeze-dried vaccine.

In the Region of the Americas, an eradication campaign started in 1962 was in progress in Brazil.

Section 5 dealt with the supply of vaccine. Large amounts were needed during the attack phase of eradication programmes, and as more countries launched or stepped up the pace of their programmes, requests for vaccine had increased rapidly. During 1964 and up to March 1965, WHO had distributed a total of 13 255 000 doses of freeze-dried vaccine, in response to requests from countries, in addition to the 450 million doses supplied by the Union of Soviet Socialist Republics to India. Despite the Director-General's appeals for donations, Member States had not provided vaccine in large enough quantities. Eleven countries had recently offered a total of over nine million doses of freeze-dried vaccine for the smallpox eradication programme, but about half of the vaccine offered had been unacceptable because it did not meet the required standards of sterility, potency or stability. The need for potent, heat-stable, freeze-dried vaccine for the eradication programme was urgent and acute: about fifty million doses annually would be required for the next few years. The Organization had helped a number of countries to set up centres for producing freeze-dried vaccine and assistance had also been given by UNICEF.

Section 6 summarized the comments of a team of two consultants and a medical officer from the Secretariat who had visited four countries in Africa and Asia where smallpox eradication programmes were in preparation or in progress. The reports on the four countries were attached to the report as Annexes A, B, C and D.[1] In all four countries, it had been found that the programmes were to some degree unsatisfactory and in three of them substantial changes were considered necessary if failure was to be avoided. The reports stressed the need for a proper administrative and supervisory system covering all levels of the eradication programme. In most endemic countries, national resources were insufficient to provide such organization. Other health problems demanded urgent attention and sometimes had priority over smallpox eradication. Substantial help was needed from outside sources and the team had emphasized that the speed of eradication depended on the amount and quality of the assistance from sources outside the endemic countries.

The team had also stressed the importance of the maintenance phase, which had to be taken into account when the original plans were formulated; the need for pilot projects before embarking on large campaigns; the need for independent evaluation; the fact that heat-stable freeze-dried vaccine was an essential requirement for campaigns in the tropics, and the importance of co-ordinating campaigns in neighbouring countries where there was free movement of population over frontiers.

Section 7 described some of the needs of the programme. In the Americas, the eradication prospects were good, endemic smallpox being prevalent only in Brazil and in limited areas of Colombia and Peru. Vaccine supplies were adequate, but expert staff, transport and equipment were still needed to ensure early completion of the programme and also, in some countries, for setting up maintenance programmes. With the active participation of the countries concerned and with continued international support, it should be possible to eradicate smallpox from the continent within between three and five years.

In South-East Asia and the Eastern Mediterranean, eradication prospects were good in Burma, Pakistan and India. In Afghanistan, Nepal and Yemen difficulties had been encountered in the execution of campaigns,

[1] The annexes have been omitted from the printed version of the report (*Off. Rec. Wld Hlth Org.* **143**, 19).

but adjustments were being made and it was hoped that eradication would eventually be possible. In Indonesia, although there was no formal programme in progress at the present time, the necessary health structure existed to enable a programme to be put into operation.

All the countries in these two Regions except Pakistan needed more supplies of vaccine for the attack phase and some countries would need vaccine for the maintenance phase as well. Most of the programmes needed transport and supplies. Some countries needed technical advisory services. If the programme was pursued vigorously in all countries, and if substantial international support was forthcoming, it might be possible for smallpox to be eliminated from Asia early in the coming decade.

Eradication presented greater problems in Africa than in other Regions, since most African countries had very limited health services, and training personnel to expand such services was a long process. For many countries, vaccine would have to be provided in the attack and maintenance phases and although steps were being taken to develop or expand vaccine production laboratories, it was unlikely that sufficient quantities would be produced for some time to come. There was also a greater need for help in obtaining technical advisory personnel, transport and equipment.

The Director-General had attempted to provide an estimate of the costs of the programme.[1] In his report to the Twelfth World Health Assembly [2] in 1959, the average cost per vaccination had been estimated for a number of countries at US $0.10 per head of the population. Recent estimates in India, where an intensive systematic campaign had been carried out over the past three years, showed a *per capita* cost of $0.084, including the cost of personnel, transport and vaccines. From assessments made in the three main endemic regions, the most likely figure appeared to be $0.10 per head of the population as the estimated total cost of the operation. On the basis of estimated figures for populations still to be protected in the Americas, in Asia and in Africa, the future cost of the programme was estimated at a total of $80 million of which $52 million might be expected to be met from national resources, the balance of $28 million being broken down to annual requirements for the support of the eradication programme from international sources at approximately $5 million a year for the ensuing six years. Of that $5 million, 10 per cent. would be required for vaccines, 10 per cent. for advisory services, and 80 per cent. for developing vaccine production centres, transport and equipment, other material assistance and temporary support for the expansion and training of local services.

Section 8 contained the conclusions of the study, in which the more important steps necessary for the success of the programme were listed and it was stressed that special attention must be given to the planning and development of eradication programmes. It was made very clear in the conclusions that eradication could be achieved only if national governments gave it priority and were ready to allocate sufficient money for such programmes to be carried out; and that after completion of the attack phase, covering as nearly as possible the total population, a maintenance phase with a properly organized surveillance programme must be maintained for several years until smallpox was eradicated from all parts of the world. It was admitted that the costs of the operation were high, but they were less than either the cost of annual vaccination campaigns in the endemic areas without eradication, or the cost of keeping the immunity of the populations of smallpox-free countries at a level which would control outbreaks if the disease were imported. As an example, he mentioned the case of Sweden, where the annual cost of routine vaccination was estimated at over $850 000 (including vaccinations by private practitioners and the vaccination of travellers). Additional expenditure on mass vaccination, hospital requirements and other control measures during the last outbreak, in which twenty-seven cases had occurred, amounted to $600 000. For the larger countries in Europe and North America, such figures would have to be multiplied several times. Thus a considerable amount of money was at present being spent, particularly in countries which were free from smallpox, on safeguards against imported outbreaks. Yet the risk of importation would remain as long as smallpox existed in any part of the world. Eradication programmes in countries in the endemic areas were therefore the cheapest and most effective way of dealing with the problem.

The eradication of smallpox from the endemic areas was both technically possible and practicable, but international participation in the programme left much to be desired. A substantial increase in effort and in material support was essential if the eradication programme was to be speeded up and was to achieve its goal within a reasonable time.

Professor MACÚCH (Czechoslovakia) said there had not been a case of smallpox in his country for forty years. Compulsory vaccination and revaccination cost the country more than one million dollars a year; there were always a few serious *sequelae*, and even fatal cases of post-vaccinal encephalitis. Yet, despite

[1] *Off. Rec. Wld Hlth Org.* **143**, 175.

[2] *Off. Rec. Wld Hlth Org.* **95**, Annex 18.

compulsory mass vaccination and revaccination, smallpox could be reintroduced into the country at any time from endemic areas.

Global eradication of smallpox was feasible and desirable, not only for the countries where the disease was endemic, but also for those that had long been free from it. If the smallpox eradication programme were continued as at present, much effort and money would be wasted by the diversity of method and progress from country to country: some countries had not even started on eradication programmes. If agreement could be reached, particularly among the more advanced countries, Czechoslovakia would be ready to support a well-planned and co-ordinated programme for the eradication of smallpox from the whole world.

He therefore supported the draft resolution proposed by the delegation of the United States of America which had been circulated (see page 313).

Dr HABERNOLL (Federal Republic of Germany) said that much had been done, but much remained to be done. The campaign must be kept up all over the world, for, as long as smallpox existed, it was a threat even to the countries that were free from it. His country was ready to support all efforts to eradicate the disease.

He had noted from the report that some regions were still using liquid vaccines and wondered whether that might not be one of the causes of certain unsatisfactory results in the campaign. He urged that only freeze-dried vaccine should be used, despite its higher cost, and that WHO should help the countries that needed it, to obtain supplies.

Dr SAUTER (Switzerland) said that he had been impressed by the report, and particularly the annexes, which described very clearly the problem, the means of tackling it, and the results that could be obtained where the supply of materials was maintained. The difficulty was the lack of finance and other resources which held up the extension of the programme to all parts of the world where it was needed. It was regrettable that such an important problem as the eradication of smallpox, for which the solution was available, should be held up purely through lack of finance. The delegation of Switzerland urged that increased resources should be made available for the eradication campaign, even at the expense of other programmes. His delegation therefore supported the draft resolution of the United States of America.

Dr SCORZELLI (Brazil) said that although vaccination against smallpox had long been practised in Brazil, the disease remained prevalent. Although vaccination had been introduced as early as 1804, it was only at the beginning of the present century that vaccination had been practised on a large scale and Oswaldo Cruz had won a great victory in the campaign against smallpox and had eliminated one of the most serious causes of death at Rio de Janeiro. Vaccination had been compulsory for a considerable time, but results had not always been as good as could be expected. One of the problems was that the country lacked an adequate system of recording transmissible diseases.

The smallpox eradication campaign had been carried on since the second part of 1962 under the direction of the Ministry of Health, and chiefly with governmental resources. The Pan American Health Organization, however, had helped in the production of vaccine by installing three laboratories in different parts of the country for producing forty million doses of vaccine a year—a quantity sufficient to meet the country's needs. The vaccine produced in Brazil was powerful and was almost entirely freeze-dried because of climatic conditions. Between 1 July 1962 and the end of 1964, there had been 16 700 000 vaccinations and revaccinations and it was assumed that the figure would have reached 67 million by 1968. A series of tests in vaccination techniques carried out with the help of experts from the Communicable Disease Center, Atlanta, United States of America, had produced valuable results, details of which he described. He also quoted statistics showing the results being achieved by the eradication campaign in different parts of Brazil. His country was making every effort to join in the world campaign against smallpox.

Dr WILLIAMS (United States of America) said that smallpox was both a dangerous and a preventable disease and modern techniques made it possible to eradicate it with less expense of money and time than malaria. He had been impressed by the statement, signed by the Director-General, on page 3 of the WHO magazine *World Health* for March 1965, as follows:

> ... It is outrageous that in one year there should still be 100 000 cases of smallpox and 25 000 deaths from this disease. It is equally outrageous that the world as a whole should still be constantly threatened by it. The World Health Organization in 1958 began a campaign for the eradication of smallpox from the world and I am confident that eradication can and will be achieved. Yet victory will not be attained without generous assistance from the countries free of smallpox, nor without much hard work in the countries where smallpox is still endemic.
>
> The complete eradication of smallpox would not only rid the world of a disease which at present is a constant menace, but would also provide an

example of what true international co-operation can achieve in a well defined and limited sphere...

The saving of human lives and the contribution to economic and human development would justify the expense entailed. Smallpox had been eradicated from the United States of America, but it still posed a problem. In response to a request by the Director-General, United States experts had estimated that the cost of continued vaccination procedures and quarantine procedures in the United States was some fifteen to twenty million dollars yearly. He mentioned that fact simply to underline the Secretary's intimation that smallpox was a problem for all Member countries, whether it was endemic in them or not.

The success of a smallpox eradication campaign would give a great impetus to WHO. It would remove many barriers to travel and, incidentally, it would save much time in the Health Assembly devoted to discussing the international certificates of vaccination.

He fully agreed with the main conclusion in section 8 of the Director-General's report, that the smallpox eradication programme would not achieve its objective in the foreseeable future unless it was given a very much greater measure of support than it had received in the past from the governments of the endemic countries, from the smallpox-free countries and from the international agencies. The time had come for a more definitive approach to the campaign. The Director-General's report was an admirable and comprehensive document and on that basis it would be appropriate for the Health Assembly to make known its feeling of urgency. It would be perfectly feasible to muster the requisite financial resources from both multilateral and bilateral sources. If the Director-General of WHO took the initiative, funds could be drawn from the regular budget of WHO, from the Expanded Programme of Technical Assistance, from UNICEF and from the bilateral programmes. He appreciated that there might be difficulties about all those sources, but they were not insuperable. The figure for the total amount required, estimated at US $23 500 000 to 31 000 000, seemed reasonable and would probably be far lower in the long run than the sums required for local expenditure if the countries concerned undertook campaigns of their own.

His delegation was therefore submitting the following draft resolution crystalizing its thinking on the matter:

The Eighteenth World Health Assembly,

Having examined the report of the Director-General on the present status of smallpox in the world, and the results achieved; [1]

Noting with concern that, though some recently endemic countries have eradicated the disease as a result of well-organized campaigns, progress in general is slow and major endemic foci remain in Asia, Africa and the Americas;

Noting that the Director-General has estimated that smallpox might be eradicated within ten years for an estimated international expenditure of from US $23 500 000 to US $31 000 000 in addition to the provision which the endemic countries themselves can make;

Believing that strong reaffirmation of the intent to eradicate smallpox would present a challenge and a stimulus to the world to mobilize resources to achieve the objective, and that the support required is within the international and national programmes devoted to world social and economic development; and

Recognizing the need for review of the technical and administrative requirements of programmes, the development of freeze-dried vaccine production in endemic areas, and the annual provision, for the mass phase of the campaign, of up to 50 million doses of freeze-dried vaccine in addition to supplies locally produced or already being provided in bilateral agreements,

1. DECLARES the world-wide eradication of smallpox to be a major objective of the Organization;

2. REQUESTS the countries having smallpox and without eradication programmes to initiate them and the countries with programmes to intensify them;

3. REQUESTS Member State to give the programme greater support than in the past and to provide the substantial contributions essential for its execution;

4. REQUESTS governments which carry on bilateral programmes of aid to include smallpox eradication in their programmes of assistance;

5. REQUESTS the Director-General to seek anew the necessary financial and other resources required to achieve world-wide smallpox eradication with special reference to resources that might be made available through voluntary contributions and bilateral programmes, as well as through programmes such as those of UNICEF and the United Nations Expanded Programme of Technical Assistance; and

6. REQUESTS the Director-General to make available the increased amount of technical guidance and advisory services in order to accelerate the programme as well as to assist the countries in obtaining the necessary vaccine, transport and other equip-

[1] *Off. Rec. Wld Hlth Org.* **143**, Annex 19.

ment, and to report on the progress achieved to future sessions of the World Health Assembly.

Dr EFFENDI RAMADLAN (Indonesia) observed that the report did not reflect what was actually being done in Indonesia in the way of smallpox eradication. The Indonesian Government was fully aware of the importance of communicable disease control. The Provincial Directors of the Indonesian Health Department were all persons trained in public health, mainly in the United Kingdom and the United States of America. A programme covering primary vaccination, verification and revaccination had been established with a supervisor for each sub-district with a population of 40 000. The malaria eradication teams were given training in smallpox control too. The laboratories at Bandung could produce the necessary vaccines, and 95-97 per cent. of the population could already be reached. The Government would, of course, hope to improve that record to 100 per cent.

He must take exception to the statement in section 4 of the report, to the effect that Indonesia was only concentrating on emergency vaccination programmes. As he had said, the Indonesian Government had always been aware of the importance of smallpox control; it used emergency techniques only where a sporadic outbreak had been reported—and even then started a mass vaccination campaign. He must repudiate the statement in section 7 of the report that emergency programmes only were being conducted and that eradication in the immediate future was not probable. It was equally untrue that no plans for an attack phase of the programme had been made in Indonesia, as was stated in the same section.

Moreover, in 1963 Indonesia had been accused of being the source of a case of smallpox imported into Europe (Sweden). The fact was that at that time a Swedish sailor had travelled from Australia to Sweden, having stopped over at Djakarta Airport for forty-five minutes. He had also stopped over at Calcutta and Karachi, but Indonesia had been accused as having been the source of the imported case.

Dr NALUMANGO (Zambia) said that the Zambian Government was extremely anxious to eradicate smallpox and so WHO could be assured of its co-operation. The campaign was being waged with mobile units, hospitals, clinics and rural centres throughout the country, but there were difficulties owing to its very long borders, which made it hard to check the entry of infection. The Zambian Government therefore fully appreciated the necessity for a world-wide campaign under the auspices of WHO.

Dr RAO (India) said that the work described in the Director-General's report was an excellent example of WHO's activities in the field of prevention. India had set on foot a campaign in most of its states in 1962 and 370 million of its 472 million inhabitants had already been vaccinated. India must express its gratitude to the Soviet Union, Switzerland and the United Kingdom for providing vaccine. It was arranging to produce freeze-dried vaccine itself with the help of WHO.

An eradication campaign had both short-term and long-term implications, but the maintenance phase was of basic importance. Maintenance centres should be established and the participation of the population was essential. It was hoped that the smallpox eradication campaign could be combined with the malaria eradication campaign. In the maintenance stage, special care was being taken to vaccinate newborn and immigrants, and revaccination was carried out on all children at the ages of four, eight, twelve and sixteen. It was hoped to combine the smallpox control campaign with the campaign against eye diseases.

Dr HAKIMI (Afghanistan) expressed his country's gratitude to the Regional Office for South-East Asia for its co-operation and to the Government of the Soviet Union, which had provided three million doses of freeze-dried vaccine in 1964. A mass vaccination campaign had been started under the guidance of WHO and only 157 cases had been detected in 1964. His delegation wholeheartedly supported the Director-General's report. The difficulties pointed out in that paper had been appreciated and an improvement had taken place. Control measures had been imposed in Afghanistan since 1935, when a bacteriological institute had been set up under a Turkish professor. It had since been improved with the help of WHO. Lymph vaccine had been tried, but, as the delegate of the Federal Republic of Germany had explained, it had its drawbacks. The campaign was conducted by the Directors of Health in all the provinces and teams were sent out by the Ministry of Health.

Dr EL DABBAGH (Saudi Arabia) said that a smallpox eradication campaign had been started in the southern part of his country, where the entire population was being vaccinated or revaccinated. The vaccination teams were receiving much appreciated help from the Regional Office for the Eastern Mediterranean.

The health authorities along the sea, air and land routes were paying great attention to the checking of smallpox vaccination certificates. The great number of pilgrims—many of whom were from areas where smallpox was endemic—who entered the country during the Haj constituted a real threat, although all possible measures of control and prevention were taken. WHO should give assistance to countries

where smallpox was endemic and which had not the financial means to prevent the extension of the disease.

Dr HAQUE (Pakistan) said that he must stress the importance of freeze-dried vaccine, for which his delegation had been one of the first three to vote. Formerly his country had used liquid vaccine, but experience had taught it the dangers. Pakistan was divided into two parts at a considerable distance from each other. In East Pakistan, the high figure of recorded cases in 1958 had been reduced to virtually nil, owing to the eradication campaign, which had been started with a pilot campaign and was now concentrated on maintenance. It was of course impossible to know how far complete success had been obtained, because geographical conditions made success extremely difficult. In East Pakistan, freeze-dried vaccine was now being used. In West Pakistan, where liquid vaccine had been used, a survey carried out parallel to the tuberculosis survey seemed to have shown that some 80 per cent. of the population had been vaccinated against smallpox, but there were still sporadic outbreaks.

In fact, the real villain of the piece was the liquid vaccine. Some countries which claimed that they had eradicated smallpox might have to repeat their campaigns because they lagged in maintenance and might have to repeat the vaccinations. It was no use blaming countries for secondary cases. He agreed with the Indonesian delegate that it was futile to seek the cause of smallpox carried by a traveller in the cities whence he had come; the real cause of recrudescence was the use of liquid vaccine and the report should be changed to lay the blame where it belonged. The use of liquid vaccine had modified smallpox symptoms to an extent where it was hard for a mild case to be detected.

Dr BAHRI (Tunisia) said that the Tunisian delegation had been extremely impressed by the Director-General's report on smallpox eradication, particularly by the reports on the visits by two WHO consultants to four areas where smallpox was endemic.

There had been no smallpox in Tunisia for some twenty-five years. A general compulsory vaccination had been carried out every five years, and every year for newborn infants, since 1925; that was a part of general public health measures and subject to a complete code of regulations. During vaccination campaigns, the whole population was gone through very thoroughly.

The vaccine used until 1964 had been the liquid vaccine, but in that year the authorities had started using freeze-dried vaccine. Apparently it had " taken " more frequently both in pre-vaccination and in revaccination. That was a long-range programme in which the entire medical and paramedical personnel in Tunisia had been engaged. It had to be a complete programme, providing for all stages from the manufacture of the vaccine, through storage, transport and vaccination, to verification of the results. The Tunisian delegation, therefore, wholeheartedly supported the WHO recommendations.

Dr SOW (Mali) said that he would like to thank Member States who had donated vaccine to his country, especially the Soviet Union and Switzerland, which had shown an appreciation of the need for international co-operation when faced with a public health problem which concerned all States, even those in which smallpox was not endemic.

The latter part of Annex D of the Director-General's report gave an accurate picture of the problem with which Mali was faced. A few outstanding points, however, deserved emphasis, notably the need for supervision by trained WHO staff and for help in obtaining refrigerating apparatus, adequate transport and freeze-dried vaccines. Co-ordination between States in West Africa also merited attention. The pilot area, which had been planned in February 1965 with WHO experts who had visited Mali, must be put into operation as soon as possible. He agreed with the United States delegate that WHO should concentrate on the speedy eradication of smallpox throughout the world, especially by requesting assistance from international organizations such as UNICEF. Thus, he fully supported the Director-General's report and was also in favour of the draft resolution submitted by the United States delegation.

Dr AHMETELI (Union of Soviet Socialist Republics) said that his delegation had studied the Director-General's report with interest. The report gave a good review of the results obtained and once again emphasized that the problem of smallpox could be solved only by international co-operation, for no country could consider itself safe until smallpox had been eradicated from the whole world. A great deal, however, remained to be done. It appeared from the report that 1964 had been a record year, in that there had been fewer cases reported; but as many persons —ten thousand—had died from smallpox in 1964 as in 1960. It was a bad omen that in 1962 and 1963 more than a thousand cases had appeared in one country where there had been no smallpox for a long period. He therefore endorsed the Director-General's opinion that the results of the 1964 campaign had not been as successful as might have been hoped.

His country had been the initiator of the smallpox eradication programme and, through WHO and under bilateral agreements, had assisted a number of countries in their campaigns. In the current year, the Soviet Union planned to continue substantial aid.

He might, however, sound a critical note. Malaria eradication seemed to have been the favourite daughter of WHO, whereas smallpox eradication seemed to have been treated rather as a foster child, even though the Eleventh and Twelfth World Health Assemblies had stressed the need for taking realistic steps to eradicate smallpox. That criticism might have been averted if concrete measures had been included in the 1966 programme and if the burden had not been shifted to the countries concerned. Without adequate financial resources and proper co-ordination by WHO, the eradication programme could not make substantial progress. The delegation of the USSR would support any concrete proposal for speeding up the programme, but it wished for a real programme that would make it possible to proclaim that smallpox had been merely a passing phenomenon in human history. Sufficient resources were available in the world to bring that about.

Dr QUIRÓS (Peru) said that he agreed with the United States and Soviet Union delegates. He was sure that a concentrated effort was needed to bring matters to a successful conclusion. Peru, with the assistance of the Pan American Health Organization, had been making a great effort since 1950 and had succeeded in eradicating smallpox within seven years; no case had been detected between 1957 and 1964. However, in the Amazon region, nomad tribes had again introduced a few cases of smallpox, which had not been detected in time, since they had taken a benign form, so that the disease had once again entered Peru, which was engaged in a fresh attempt to eradicate it. Undoubtedly similar circumstances had occurred in many other countries. Until the eradication campaign was universal, no final results might be anticipated.

Dr NOZARI (Iran) commended the Director-General's report and the introductory statement by the Secretary. Iran had been conducting a national programme since 1950 and about 90 per cent. of the inhabitants had been vaccinated with the liquid vaccine, which had been found as good as freeze-dried vaccine, if properly kept, delivered and applied. No new cases had been detected in Iran in the last few years except those which had been imported from neighbouring countries. Iran was now concentrating its major effort on the maintenance of the programme.

Dr SHOUKRY (United Arab Republic) said that because of his country's geographical situation an old-established, efficient smallpox campaign was carried out as part of the routine activities of the health services. Primary vaccination against smallpox was compulsory for the newly born within the first three months. Routine revaccination of one-quarter of the population was carried out every year, so the whole population was covered every four years. As a further precaution, contacts of sporadic cases of chickenpox were revaccinated if the diagnosis was not quite conclusive.

The United Arab Republic was very conservative with passengers coming from endemic areas without international health certificates.

His country produced both liquid and freeze-dried vaccines in such quantities that it could give assistance to countries which needed vaccine, and was already doing so through WHO.

At the moment, his country was using the liquid vaccine in routine vaccination in the temperate regions and the dried vaccine in hot and distant regions where transport and storage were difficult. As a result of that efficient campaign, no case of smallpox had been reported in the United Arab Republic for a very long time.

His delegation supported the draft resolution submitted by the delegation of the United States of America.

Dr WONE (Senegal) said that, although there was no antismallpox programme as such in his country, compulsory vaccination against the disease was being carried out under a four-year plan aimed at covering a quarter of the population every year. However, there were certain factors that acted as a brake upon the programme: in the first place, it was difficult to determine exactly what percentage of the population had in fact been vaccinated, since census figures were only approximate in most rural areas. Again, since dwellings were dispersed over a wide area, the population had to be summoned to a few selected villages for vaccination, which often led to poor attendance. In that connexion, he mentioned that a further handicap in eradicating smallpox in his country was insufficient means of transport, although thanks were due to UNICEF and to the French Government—which had supplied vehicles to Senegal—as well as to the United States Government whose two mobile units had carried out extensive vaccination. Thirdly, it seemed to him that the majority of smallpox cases originated in the interior of a neighbouring country, where vaccination was apparently not carried out as systematically as in Senegal. Finally, he said that his delegation would support the draft resolution submitted by the delegation of the United States of America and hoped that the bilateral and international assistance

referred to therein would be rendered particularly in the form of transport.

Dr HSU (China) expressed his delegation's appreciation of the Director-General's report and of the introductory remarks which had been made by the Secretary. It was pleased to note that the number of cases of smallpox had dropped substantially over past years, particularly in Africa, thanks to the intensive vaccination campaign carried out there, and that in India, about 70 per cent. of the population had been covered in a programme of systematic vaccination.

Although his country had been free of smallpox for many years, the threat of re-introduction of the disease had necessitated carrying out vaccination campaigns every year; in 1964, a system of simultaneous vaccination with smallpox vaccine and BCG had been initiated. His Government had decided to switch from the production of liquid vaccine to freeze-dried vaccine in the coming year and planned to make a donation of the latter to the smallpox eradication campaign. In view of the importance to the world of that campaign, his delegation supported the draft resolution submitted by the United States of America.

Dr SCHINDL (Austria) said that in his country only vaccination by the scratch technique, and not by jet injector, was allowed by law. Some years previously vaccination by shot had been allowed, but the same success rates for primary vaccinations had not been achieved and protection was not so long-lasting. Furthermore, vaccination by shot did not cause the same large scars on the upper arm, providing reliable evidence of vaccination, which was particularly important in avoiding the danger of post-vaccinal encephalitis in cases of primary vaccination of children over three years of age. A certificate of vaccination was frequently not at hand, and often the mother's reply as to whether or not her child had been vaccinated was unreliable. He would be interested to learn from the experts how such difficulties could be overcome. Finally, he expressed his delegation's support for the draft resolution submitted by the delegation of the United States of America.

Professor GERIĆ (Yugoslavia) recalled that his delegation had on many previous occasions spoken of the need for greater emphasis to be placed on the smallpox eradication programme; he was therefore pleased to note that more attention had been paid to the problem over the past year. The Director-General's report showed that good results had been achieved, but smallpox still continued to be a major health problem in four of the six WHO regions. There had been no cases of smallpox since 1928 in Yugoslavia where regular vaccination was carried out and strict measures in accordance with the International Sanitary Regulations were enforced. Furthermore, his country had improved its production of vaccines and was now producing freeze-dried vaccine. He expressed his delegation's full support for the draft resolution submitted by the delegation of the United States of America.

Dr CHARLES (Trinidad and Tobago), recalling that the vaccine against smallpox had been discovered by Dr Jenner 160 years previously, said that it was hard to conceive that in 1965 the world was still struggling against the disease. Smallpox was not difficult to eradicate: the last case in his country had occurred in 1948 and, prior to that, there had been no outbreak of smallpox for twenty years. Something was wrong, and the Organization should ask itself why the world could not be rid of smallpox. Medical research should go beyond the production of antigens and examine human behaviour, which was also important when it came to eradicating disease. He would speak more fully on the matter when the Committee discussed the medical research programme at its meeting the following day.

Dr ALI (Iraq), expressing support for the draft resolution submitted by the delegation of the United States of America, said that his country had been free from smallpox since 1959. Both liquid and freeze-dried vaccines were used and mass vaccination campaigns were carried out every three years—the next one would start in October 1965. No difficulties were encountered in carrying out vaccinations since, by law, all newborn babies had to be vaccinated. Furthermore, children entering school had to present a vaccination certificate, as did military recruits upon entering their service, and both government and commercial staff were vaccinated before employment. About 1 500 000 doses of both liquid and freeze-dried vaccines were produced annually in Iraq.

Sir George GODBER (United Kingdom of Great Britain and Northern Ireland) first asked whether the Organization had any further information about the drug Methisizone or any other similar drug, apart from the information available in the United Kingdom.

In his opinion, freeze-dried vaccine had no special magical property; an effective liquid vaccine was just as reliable. However, where proper storage and distribution were difficult, WHO should obviously endeavour to ensure that freeze-dried vaccine could be used and no chances should be taken with liquid vaccine. That applied particularly to any mass campaign.

Supporting what had been said by the delegate of the United States of America, he stated that it was true that the Organization had been engaged in small-

pox eradication for some seven years and that the programme had not met with as much success as might have been possible. However, only WHO could get down to the root of the problem. It would be far preferable for WHO to concentrate upon smallpox eradication than to turn to some more ostentatious programme which would lend only spurious prestige to the Organization—and no world research centre was needed to tell the Organization what to do about smallpox, since it already knew.

Sir Herbert BROADLEY (United Nations Children's Fund) said that he wished to state briefly the policy of UNICEF regarding smallpox eradication, since the draft resolution submitted by the delegation of the United States of America referred to UNICEF's possible contribution in that field. The matter had been reviewed by the UNICEF/WHO Joint Committee on Health Policy at its fourteenth session in February 1965.[1] At that time, it had been explained that UNICEF would be unable to participate in a world-wide mass eradication campaign against smallpox, as it had done against malaria. Collaboration would be directed at strengthening the basic health service, at initiating the production of freeze-dried vaccines by supplying the necessary equipment to certain countries where the disease was endemic and at supplying the vaccine itself for use in the basic health services. The Joint Committee had agreed that UNICEF should continue as in the past to give assistance in that form and that it would not be possible to contemplate much wider activities. Within the limits mentioned, UNICEF would give all possible help, but anything on a wider scale would be beyond its resources. That did not mean that UNICEF was unsympathetic or unaware of the gravity of the disease, but it had to determine its priorities in the deployment of its resources. In offering that explanation, he did so to ensure that the draft resolution before the Committee did not give rise to expectations which it might not be possible to fulfil. He did not wish to suggest any change in the draft resolution, however. In conclusion, he expressed appreciation of the tributes that had been paid to UNICEF.

The DEPUTY DIRECTOR-GENERAL acknowledged the statement made by the delegate of the United States of America, who had emphasized the role played by the magazine *World Health* in making the public aware of one of the major problems of world health. The comments made were gratifying and would be a great encouragement to the Division of Public Information.

The SECRETARY replying to the points raised, said that there had been some mention of mistakes in the report on the smallpox eradication programme. With specific reference to the remarks made by the delegate of Indonesia, he said that a corrigendum [2] had been issued to the document, correcting some of the information given in the part of section 7 dealing with South-East Asia. However, the Secretariat was grateful for the additional information which had been provided. He wished to point out that from Table 3 [3] of the report, listing smallpox cases reported by individual countries, it would be seen that the number of cases in Indonesia ranged from approximately 1000 to 8000, from which it was apparent that the disease was still endemic in Indonesia.

With regard to the point raised by the delegate of Austria, jet injectors permitted intradermal vaccination, not subcutaneous injection: the results of intradermal injection were very satisfactory.

It was not possible to supply the delegate of the United Kingdom with further information about the drug Methisizone. To date, nothing had been published, although further trials were under way in India.

The delegate of the USSR had referred to malaria eradication as the favourite daughter of WHO: however, it should perhaps rather be considered as the elder daughter, since the resolution on malaria eradication had been adopted by the Eighth World Health Assembly in 1955, whereas the smallpox eradication programme had been approved only in 1958.

As far as the resources for the smallpox eradication programme were concerned, the Committee's attention should be directed to the fact that, while the Director-General would do his utmost to accelerate the programme and to provide advice and assistance to governments regarding the planning and implementation of eradication programmes, it would be difficult for him to provide any extensive material support from the resources of the Organization. Vaccines, equipment and transport would have to be made available from some source, however, and the draft resolution submitted by the United States of America pointed to some of the ways in which such additional resources might be obtained. However, the Committee would realize that in the final analysis the main responsibility for according priority to antismallpox programmes rested with the national authorities. He wished to make that point quite clear.

Lastly he drew the Committee's attention to a revised version of the resolution proposed by the

[1] For report of that session, see *Off. Rec. Wld Hlth Org.* **145**, Annex 4.

[2] Incorporated in the printed report (*Off. Rec. Wld Hlth Org.* **143**, Annex 19).

[3] *Off. Rec. Wld Hlth Org.* **143**, 165.

United States delegation, containing some minor drafting changes and a new paragraph 5, proposed by the delegate of India.

The CHAIRMAN invited the Committee to comment upon the revised draft resolution, which read as follows:

The Eighteenth World Health Assembly,

Having examined the report of the Director-General on the present status of smallpox in the world, and the results achieved; [1]

Noting with concern that, though some recently endemic countries have eradicated the disease as a result of well organized campaigns, progress in general is slow and major endemic foci remain in Asia, Africa, and the Americas;

Noting that the Director-General has estimated that smallpox might be eradicated within ten years for an estimated international expenditure of from US $23 500 000 to US $31 000 000 in addition to the provision which the endemic countries themselves can make;

Believing that strong reaffirmation of the intent to eradicate smallpox would present a challenge and a stimulus to the world to mobilize resources to achieve the objective, and that the support required is available within the international and national programmes devoted to world social and economic development; and

Recognizing the need for review of the technical and administrative requirements of programmes, the development of freeze-dried vaccine production in endemic areas, and the annual provision for the mass phase of the campaign of up to 50 million doses of freeze-dried vaccine in addition to supplies locally produced or already being provided in bilateral agreements,

1. DECLARES the world-wide eradication of smallpox to be one of the major objectives of the Organization;

2. REQUESTS the countries having smallpox but no eradication programmes to initiate them and the countries with programmes to intensify them;

3. REQUESTS Member States to give the programme greater support than in the past and to provide the substantial contributions essential for its execution;

4. REQUESTS governments which carry on bilateral programmes of aid to include smallpox eradication in their programmes of assistance;

5. REQUESTS governments to take early steps to establish basic health services for the maintenance phase which would also serve the eradication of other communicable diseases;

6. REQUESTS the Director-General to seek anew the the necessary financial and other resources required to achieve world-wide smallpox eradication with special reference to resources that might be made available through voluntary contributions and bilateral programmes, as well as through programmes such as those of UNICEF and the United Nations Expanded Programme of Technical Assistance; and

7. REQUESTS the Director-General to make available the increased amount of technical guidance and advisory services necessary to accelerate the programme as well as to assist the countries in obtaining the necessary vaccine, transport and other equipment, and to report on the progress achieved to future sessions of the World Health Assembly.

Dr SOW (Mali) proposed, first, that a new paragraph should be inserted between the third and fourth paragraphs of the preamble to read:

Noting the stress placed on the malaria eradication campaign in comparison with that placed on the smallpox eradication campaign which, however, should be given priority.

Secondly, the words " development of freeze-dried vaccine production ", occurring in the final paragraph of the preamble, should be replaced by " extensive use of freeze-dried vaccine "; and, lastly, at the end of that paragraph, the words " or through voluntary contributions " should be added.

Dr WILLIAMS (United States of America) said that he was reluctant to accept the first amendment proposed by the delegate of Mali, since it apparently intended to accord higher priority to the smallpox programme than to the malaria programme.

The idea behind the second amendment proposed by the delegate of Mali, namely to ensure the extensive use of the vaccine, was entirely acceptable to his delegation. However, in his opinion, it was also important to retain the idea of encouraging the development of freeze-dried vaccine production. His delegation would, therefore, prefer it if both ideas could be included in the final paragraph of the preamble.

Finally, he said that he was fully prepared to accept the third amendment proposed by the delegate of Mali, which seemed to be an improvement.

Dr RAO (India) supported the view expressed by the delegate of the United States of America.

[1] *Off. Rec. Wld Hlth Org.* **143**, Annex 19.

Dr SOW (Mali) said that he was prepared to withdraw his first amendment.

The DEPUTY DIRECTOR-GENERAL suggested a wording which would, as suggested by the delegate of the United States of America, maintain the reference to the development of freeze-dried vaccine and at the same time incorporate a reference to its extensive use.

Dr SOW (Mali) said that that wording was acceptable to him.

Dr HAQUE (Pakistan) suggested that both points might be met if the words " to ensure the extensive use of freeze-dried vaccine and " were inserted.

It was so agreed.

Decision: The revised draft resolution, as amended, was approved.[1]

The meeting rose at 5.30 p.m.

[1] Transmitted to the Health Assembly in section 3 of the Committee's fifth report and adopted as resolution WHA18.38.