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TWENTY-SEVENTH WORLD HEALTH ASSEMBLY

Agenda item 2.2.3

DETAILED REVIEW OF PROGRAMME AND BUDGET ESTIMATES FOR 1975

SMALLPOX ERADICATION

Report of the Director-General

1. The Director-General has the honour to present the following report regarding the programme of smallpox eradication.
2. The status of the smallpox eradication programme as of 7 May 1974 is shown in the summary report published on 10 May 1974 in the Weekly Epidemiological Record<sup>1</sup> (attached).

Progress in global smallpox eradication during the past 12 months has been particularly encouraging, primarily due to a heightened interest, concern and impetus provided to the programme by governments in the remaining four endemic countries. Beginning in October, major improvements were made throughout the endemic countries of Asia (Bangladesh, India and Pakistan) both in surveillance activities and in containment procedures. In these countries which account for more than 95% of the world's cases, case detection so radically improved that field staff believe that at least 80% of cases are now known and reported in most areas of the respective countries. However, in comparatively limited but still heavily infected districts, the completeness of reporting, although significantly improved, has not yet achieved results such as this although increasing efforts are being made. Because reporting has been so much more complete during the past six to eight months, the achievements are less apparent from review of the crude data of reported smallpox incidence alone. Clearly indicative of the progress being made, however, is the notable and increasingly rapid reduction in the extent of the geographical areas afflicted by smallpox. At present, over 90% of the world's cases are occurring in an area constituting less than 15% of the surface area of the four remaining endemic countries. In size, this is approximately equivalent to Turkey, Zambia or Chile. With the decrease in size of the endemic areas, increasing resources, both national and WHO, are able to be deployed to these areas to accelerate the tempo of activity.

While the trends are encouraging, it must be emphasized that difficult problem areas remain - Uttar Pradesh and Bihar States in India, Rajshahi Division in Bangladesh, Hyderabad and Tharparkar Districts in Pakistan and certain of the central highland areas in Ethiopia. An increased level of effort is required in all.

The several important changes made in surveillance and containment activities which were introduced in October in the endemic Asian countries deserve mention:

1. Most important was the development of a systematic programme for active search for cases which was pioneered in India in the spring of 1973 and widely applied throughout both endemic and non-endemic states beginning in October. A similar programme was subsequently adopted in Pakistan and has also been utilized in a more limited manner in Bangladesh. In this scheme, health staff of all categories undertake a week-long systematic, planned search of all villages to detect smallpox cases, each worker visiting two to three villages per day.

<sup>1</sup> Weekly Epidemiological Record, 1974 (10 May).

All suspect cases so detected are confirmed as to diagnosis by special containment teams who subsequently vaccinate all in the afflicted area and search for additional cases. In the more heavily endemic areas, search programmes are conducted every four to six weeks; in areas believed to be smallpox free, search programmes are less frequently conducted. Different types of programmes are employed for the rural areas and for large urban communities. As an incentive in areas which are smallpox free or where incidence is low, workers are often given a small financial reward for the detection of previously unknown outbreaks. In both India and Pakistan, district, State and national officials meet monthly at State level to review progress and problems and to decide future strategy and plans.

2. Continuing analysis of the results obtained from this programme revealed that case detection was, in general, highly effective, but that containment of the outbreaks was less effective than had been hoped. Teams visiting the village often failed to vaccinate many of those working in the fields and subsequent visitors to the area often contracted the disease and thus continued to propagate smallpox infection. To cope with this problem, provision is now made in many areas for one or two health staff to remain and reside in the village over a period of two or more weeks to ensure vaccination of those working in the fields and of visitors as well as residents of surrounding villages. Occasionally local volunteers are employed for this purpose. With this approach, the efficacy of containment has markedly improved. In India, a further refinement has been introduced in the form of a booklet containing all requisite forms for a single outbreak. The forms specify clearly each step in the containment procedures and when properly completed, provide assurance that containment has been properly carried out. Supervision of activities is considerably facilitated.

#### Further activities

By January 1974, it was clear that the new approaches employed in Asia were meeting, in fact, exceeding, expectations. In Ethiopia, the limited health infrastructure required a different strategy, but this too was proceeding well and smallpox incidence for the third consecutive year was declining. With smallpox afflicted areas comparatively limited in extent and with a strategy which appeared to be even more highly effective than before, it was felt that additional resources effectively and quickly applied might permit an early achievement of the ultimate goal of global eradication. The Executive Board in January gave full support to the Director-General's intention to provide additional amounts for this purpose. Several of the endemic countries agreed to increase their own budgetary provisions. More recently, upon request of the Organization and the Government of India, Sweden has agreed to make available to the Voluntary Fund for Health Promotion 12.3 million kroner (about \$ 2.8 million) for use in the programme in India. The additional assistance will provide for:

1. Better transport, including additional vehicles, motorcycles and boats (for riverine areas) as well as costs for their petrol.
2. Additional epidemiologists and other personnel, both national and WHO, to provide close supervision of all activities.
3. Additional costs associated with health workers residing in infected villages over extended periods of time.
4. Additional health education material, recognition cards and forms.

These resources in addition to those provided under the regular budget and continuing contributions in the form of personnel and vaccine from many Member governments will permit this year the most aggressive attack on smallpox which has yet been possible. Still lacking and greatly needed, however, is helicopter transport to cope with smallpox foci in the remaining difficult mountainous areas of Ethiopia. At least one and preferably two helicopters are required for the period September through December.

Smallpox incidence in the endemic areas normally begins to decline in May and June as the temperature increases and summer monsoon rains begin. In past years, programme activities have usually decreased in intensity during this period. However, with the additional funds provided this year, the tempo of activity will be able to be sustained during this period throughout most of the endemic areas, omitting only those which are wholly inaccessible to surface transport. If a substantial number of the remaining foci can be eliminated during the summer months when, for seasonal reasons, the foci are fewest in number, the situation should be highly favourable for the elimination of residual foci in the autumn.

#### Confirmation of smallpox eradication

At the inception of the global programme, four areas were defined epidemiologically, each of which was geographically distant from the others and was considered unlikely to experience importations of smallpox from outside its own area. The areas were (1) South America, (2) Indonesia, (3) Africa and (4) Mainland Asia. The WHO Expert Committee on Smallpox decided that when at least two years had elapsed in such an area during which surveillance activities had been sufficiently comprehensive to detect possible remote foci, the disease could be considered eradicated. In August 1973, an international commission was convened in Rio de Janeiro, 28 months after the last case in South America, and after review of the programmes and appropriate field visits to confirm the results, concluded that the disease has been eradicated in the Americas. In April 1974, a similar commission was convened in Jakarta to review the programme in Indonesia, 28 months after its last known case. The commission, composed of epidemiologists and infectious disease experts from Australia, Japan, Malaysia, Singapore, Philippines and the United States of America concluded on 25 April:

- "1. There is no evidence that smallpox has occurred in Indonesia since January 1972, at which time it is believed that endemic transmission was interrupted. Surveillance activities since that time appear to have been adequate to identify cases had they occurred.
2. The requirements for smallpox eradication as established by the WHO Expert Committee on Smallpox Eradication (1971) have been fully met; and thus the eradication of smallpox in Indonesia is considered to have been achieved."

The achievement of eradication in each of these areas must be regarded as historic milestones in medicine.

#### Other poxviruses

In regard to monkeypox and other poxviruses and their possible relationship to variola, there is little new information available. The last case of monkeypox in humans was detected in May 1973 - no other cases have been found in the past 12 months despite a continuing active programme of surveillance especially in Zaire, when nine of the 17 cases have been found. A number of laboratories are actively engaged in continuing study of these viruses, but no significant recent findings have been forthcoming. The conclusion reached in a December 1973 meeting of research workers and epidemiologists concerned with activities in this field continues to be pertinent.

"Monkeypox and the white poxviruses do not, at present, appear to pose a threat to the smallpox eradication programme. Nevertheless, intensive surveillance activities must continue as well as further investigations in the laboratory and in the field. The most important basis for optimism is provided by the increasing areas which are now free of smallpox and the steadily increasing time that they so remain."