WORLD HEALTH ORGANIZATION
ORGANISATION MONDIALE DE LA SANTÉ

EB49/WP/13

19 January 1972

EXECUTIVE BOARD

Forty-ninth Session

Provisional agenda item 3.4

REVIEW OF THE PROPOSED PROGRAMME AND BUDGET ESTIMATES FOR 1973

SMALLPOX ERADICATION PROGRAMME

1. Status of the smallpox eradication programme

The status of the smallpox eradication programme as of 11 January 1972 is shown in the summary report (attached) which was published on 14 January in the Weekly Epidemiological Record.[1]

Between 1967 and 1970, smallpox incidence steadily declined to a record low of 33 000 cases. However, in 1971, the number of reported cases increased by 50 per cent. About 51 000 cases will have been recorded when delayed reports are received. Principally responsible for this increase is Ethiopia which, in the first year of its eradication programme, reported almost 26 000 cases compared to 722 cases during 1970. In the other countries of the world, however, there was an overall decrease of 25 per cent. in smallpox incidence. Smallpox occurred in only 17 countries in 1971, compared to 23 countries in 1970 and 42 countries during 1967, the first year of the programme.

Significant progress was made in all parts of the world. In South America, the accomplishments are particularly notable. During the past 14 months, only a single highly localized outbreak of 20 cases has been detected and no cases whatsoever have been found in more than eight months. Special area-wide investigations have been and are being conducted in Brazil and several adjacent countries to search for unrecognized foci but, to date, none has been found.

In the 20 countries of western and west-central Africa, the last recognized cases occurred over 18 months ago. Surveillance and vaccination programmes are continuing.

In eastern and southern Africa, persistent transmission is now believed to be confined to two geographical areas; Ethiopia-Sudan and Botswana-South Africa. In Ethiopia, the eradication programme which commenced in January 1971, has developed remarkably rapidly and almost 26 000 cases have been identified in outbreaks widely dispersed throughout the country; almost three million persons were vaccinated during 1971. In Sudan, where smallpox is heavily endemic in the southern provinces and along the Ethiopian border plans were made late in the year to develop activities in the south of the country and to strengthen surveillance in all areas. Programmes in both countries are receiving special attention as persistent smallpox in these countries is a serious threat to smallpox-free countries throughout Africa.

In June, smallpox was discovered in Botswana for the first time in four years and cases have continued to occur until the present. A vaccination programme is in progress but little information is available as to the origin of the first case or about the pattern and extent of subsequent spread. The area afflicted is adjacent to Transvaal Province, South Africa, where cases were reported in January 1970.

---

[1] Weekly Epidemiological Record, 1972, 2, 17-26.

In Asia, eradication programmes in Indonesia and Afghanistan have made especially notable progress. The smallpox incidence in Indonesia decreased by more than 80 per cent. during 1971 and, at present, only a single active focus is known to exist. In Afghanistan, the first phase of a well-organized systematic vaccination campaign is now concluding, smallpox incidence has fallen sharply in recent months and the interruption of transmission is foreseen within six months' time. No cases have been detected in East Pakistan for almost 18 months and none have been discovered in refugee groups. India, West Pakistan and Nepal all have recorded somewhat more cases in 1971 compared to the previous year concomitant with a strengthening of their surveillance programmes. Substantial improvements, however, are yet required before the interruption of smallpox transmission can be expected.

During 1971, no introductions of smallpox occurred either into Europe or North America. In fact, only two cases have been introduced into Europe during the past three years and no cases have been introduced into North America since 1962. Noting the decreasing risk of smallpox importations, the United States of America and the United Kingdom decided to discontinue routine smallpox vaccination.

Two problems of practical concern have become increasingly apparent, the first of which pertains to the occurrence of smallpox in non-endemic countries. With the continuing decrease in the number of countries with smallpox, each case in a country presumed to be non-endemic assumes increasing importance to the global programme as a whole. The source of infection and pattern of spread need to be carefully investigated by experienced epidemiologists to assure that the outbreak has resulted from introduction from known endemic areas and not from unknown residual foci; prompt and effective containment measures need to be applied to prevent re-establishment of infection. Without such measures, the success of the global programme as a whole is jeopardized. Regrettably, during 1971, in several outbreaks such as those in Botswana, Iran, and the Trucial Sheikhdoms, the source of infection was not accurately identified and information regarding the outbreaks has not provided the requisite assurance that the outbreaks have been promptly and thoroughly contained.

A second problem of increasing significance has been that of determining that transmission has been interrupted in areas or countries where the routine surveillance programmes are detecting no cases. Several studies in Asia and South America were conducted during 1971 in which a newly developed "Smallpox Recognition Card" was employed. Schoolchildren, health and civil authorities in specific areas were shown the card and queried about possible smallpox cases and these were investigated. Further experience with this technique is required but, to date, this approach has proved highly effective in facilitating the search for unknown foci over extensive areas with limited numbers of personnel.

Eradication programmes are now operative in all endemic countries and the Organization is providing substantial support in terms of technical aid and consultants, supplies and equipment, teaching materials, courses and seminars. Substantial international assistance is also being provided on a bilateral basis by the USSR and the United States of America and 28 additional countries have made special contributions to the WHO Special Account for Smallpox Eradication. Continuing and, in fact, increased contributions will be required as efforts are made to intensify the programmes in the difficult remaining endemic areas.

2. Future activities

An Expert Committee on Smallpox Eradication met in Geneva from 22 to 30 November 1971. The Committee reviewed in detail the status of the programme and advised in regard to the strategy and methodology to be employed during the coming years. The Committee cautioned that although smallpox was now largely confined to four countries, the persistence of transmission in these areas, while most of the world has become smallpox-free, necessarily implies special problems. It pointed out that indeed an effort equivalent to that of the past five years may be required to interrupt transmission in these areas. The Committee concluded, however, that with such a special commitment, there is every reason to believe that the goal of global eradication cound be achieved within a period of a few years.

A number of recommendations were made regarding future activities:

1. There is a need to strengthen reporting everywhere and to assure that every suspected case is investigated promptly, its source of infection traced and containment measures promptly instituted.

2. Countries sharing common borders with endemic areas should maintain special surveillance programmes which incorporate an active search for possible outbreaks as well as continuing intensive vaccination programmes.

3. Except for a few countries at low risk and with highly developed health services and surveillance, routine vaccination programmes should be continued throughout the world.

4. Because of the global nature of the eradication programme, all cases which occur in non-endemic countries are of international concern and should appropriately be investigated and contained by national staff assisted by experienced WHO smallpox staff, so as to facilitate tracing of sources of infection between countries and to assure, to the extent possible, that transmission does not become re-established in smallpox-free areas.

5. Special programmes to uncover possible residual foci of smallpox should be conducted, particularly in recently endemic countries.

6. Continuing research in a number of areas was considered vital. Although there is no evidence at present that there is a mammalian reservoir of smallpox other than man, further studies in the field and in the laboratory should be pursued. Other areas considered to be important for study include the development of simplified and improve methods for laboratory diagnosis; elucidation of the mechanisms of immunity in pox virus infections; and the development of improved methods for applying smallpox vaccine in association with other vaccines.

7. As countries become free of smallpox the programme itself might appropriately be broadened in scope to include administration of other antigens and surveillance of other diseases of national importance. It was noted that such an approach would be both logical in the scheme of development of health services and would serve to strengthen the structure necessary for a country to maintain a smallpox-free status.