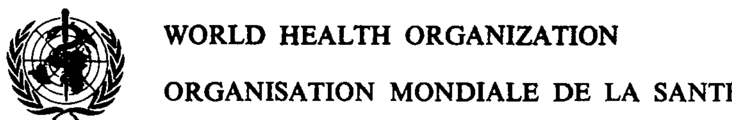
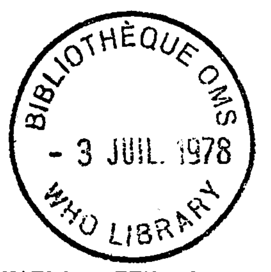


WORLD HEALTH ORGANIZATION

ORGANISATION MONDIALE DE LA SANTÉ



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RECOMMENDATIONS OF THE THIRD COORDINATION MEETING
FOR SMALLPOX ERADICATION

Nairobi, 17-19 April 1978

A coordination meeting for certification of smallpox eradication was held in Nairobi from 17 to 19 April. National and WHO smallpox eradication programme staff from four countries - Democratic Yemen, Djibouti, Ethiopia and Kenya, participated in the meeting. Participants from Somalia and Yemen were unable to attend.

These countries comprise the most critical zone for the Global Certification of Smallpox Eradication as smallpox was recorded only in Ethiopia, Kenya and Somalia during the last 24 months. Additionally, population movements between these countries occur frequently, causing potential danger for spread of the disease.

The objectives of the meeting were to

(1) review smallpox surveillance activities in the individual countries;

(2) appraise whether such surveillance activities are sensitive enough to detect hidden foci should they be present;

(3) further define operational measures required for continuation of effective surveillance;

(4) establish documentation requirements leading to the certification of smallpox eradication in these countries by the end of 1979.

The meeting

- Congratulating the Somalia eradication efforts, which had led to the successful elimination of all known smallpox foci by the end of October 1977, and the other five countries which have continued surveillance efforts to maintain their smallpox-free status;

- Recognizing that the smallpox patient who developed his rash on 26 October in Merka town, Lower Shabelli Region, Somalia is the world's last recorded case of smallpox and that no further cases have been detected during the last six months;

- Considering, however, that surveillance during the next 18 months in the six countries, as well as in other priority areas throughout the world, is necessary to prove that the Merka case is, in fact, the world's last case of smallpox.

Recommends that the six countries

- Continue and strengthen their surveillance programmes using sound epidemiological principles in collaboration with WHO and other United Nations agencies, so that residual foci, if present, can be promptly detected and that search activities in high risk areas be conducted simultaneously whenever possible;

- Continue or initiate appropriate evaluation and documentation of such activities;

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- Complete such documentation for submission to the International Commission for the Global Certification of Smallpox Eradication (Global Commission) which will fully appraise programme progress and results in late 1979 and which will report their findings and recommendations to the Thirty-third World Health Assembly in May 1980.

Requests WHO to

- Ensure that additional international support from donor countries, as required, be secured so that surveillance and certification activities can be successfully completed;

- Make arrangements for members of the Global Commission to visit the six countries in October and November 1978 for a preliminary appraisal of the progress being made by these countries;

- Consider the establishment of a global reward to the first person reporting, prior to final certification an active case of smallpox resulting from person-to-person transmission and confirmed by laboratory tests, feeling that such a reward would strengthen worldwide vigilance for smallpox in many individual national smallpox eradication programmes;

Declares

- Full commitment of the programme in the participating countries to global certification activities, in close collaboration among themselves and with WHO, knowing that the achievement of smallpox eradication will not only benefit the participating countries but the entire world, and recognizing that this achievement will constitute an unprecedented event in the history of medicine.

INTRODUCTION

The meeting was opened by His Excellency the Hon. J. C. N. Osogo, Minister of Health for Kenya. He welcomed the participants to Nairobi and stressed the importance of their work in this, the third of such coordination meetings. He pointed out that the last battle against smallpox was being fought in Eastern Africa and that it is particularly important that all four countries assembled do their utmost to bring the eradication campaign to a successful conclusion.

Dr I. Arita, read a message from Dr H. Mahler, the Director-General of the World Health Organization. He drew attention to the way in which countries have worked together to achieve the common goal of the eradication of smallpox and warned that proving the absence of smallpox might be no less difficult than the containment of outbreaks, and that evidence to this effect must have full scientific credibility.

Twenty-three participants attended the meeting (Annex 1). After adopting the working programme (Annex 2) the purpose of the meeting was considered.

Objectives

- to review progress to date in establishing the evidence on which certification would be sought;

- to plan the final stages of preparing the documentation and other evidence which the certifying commission might require.

Dr I. Arita, Chief of the Smallpox Eradication Programme, outlined the plans and timetable proposed for the certification of global eradication of smallpox. If no further case was detected, it was hoped that certification of the Horn of Africa might be completed by the end of November 1979, two years after the last recorded case at Merka in Somalia.

The meeting heard presentations of relevant background material. Dr Lundbeck discussed the future of smallpox vaccination after eradication, and consideration of some problems concerned with the maintenance of some stocks of vaccine and some necessary expertise for producing and using it should the need arise. There is no doubt that unselective vaccination should be universally abandoned after certification. Dr Dumbell discussed whether variola viruses could be maintained in non-human hosts. This problem appeared to be of negligible proportion, though vigilance must be maintained in areas where monkey-pox patients or white-pox virus had been detected. Attention was also drawn both to the need for keeping variola stocks in a few laboratories and to the need for strongest safety measures to be observed in those labroatories according to a code already drawn up under the auspices of the World Health Organization.

Dr Khodakevich and Dr Islam had prepared papers on the methodology of certification of smallpox eradication in Asia and in West, Central and Southern Africa respectively. During discussions consideration was given to differences between the six countries and other areas where certification had already been accomplished. Attention was drawn to certain special problems which the six countries would have to face in their preparations for certification.

It was clear that they had a special responsibility, as the last area to seek certification before global eradication was declared. The criteria for the absence of smallpox in the Horn of Africa would have, therefore, to be particularly strict.

Prominent among the problems in this region was the question of nomadic populations. Nomadic groups are able to maintain smallpox transmission for several months even when they are in complete isolation, and special methods have to be considered to ensure that this was not continuing.

Another difficulty arose from the fact that the smallpox recently endemic in Eastern Africa was of the minor variety, which did not leave long-lasting and identifiable pock marks. This minimized the importance of one of the objective checks on people who had suffered from smallpox and made the assessment of the nomadic groups even more difficult. This necessitated repeated, well-planned, implemented and assessed searches.

REVIEW OF SMALLPOX SURVEILLANCE PROGRAMMES AND PLANS FOR CERTIFICATION OF SMALLPOX ERADICATION (1978-1979)

Democratic Yemen

Review of smallpox surveillance

Although information about the history of smallpox in the People's Democratic Republic of Yemen is meagre, the last known outbreak is postulated to have occurred in mid-1965 in the region of Sayoon in the 5th Governorate. About 11 cases with no deaths are claimed to have occurred in this place with the help of the Aden British Government the outbreak was controlled by immunization. Despite extensive search for documentation concerning this outbreak, no information was available regarding the method of detection, source of infection, or containment activities.

Although variolation in the past and vaccination more recently have been practised for a long time, in 1970 the formal Smallpox Eradication Programme began as an independent programme centrally administered from the Smallpox Eradication section of the Department of Preventive Medicine. The programme is headed by a National Director (Chief Health Inspector), assisted by one senior supervisor, one senior assessor, four mobile group leaders, three assessors, 32 vaccinators and seven drivers. Mobile teams are organized governorate-wise. The number of vaccinations given since the inception in 1970-1977 is 1 703 941.

Passive surveillance has utilized the existing health establishments. Although complete coverage of the population by the health service has not yet been achieved, the number of facilities reporting has increased from 113 in 1970 to 295 in 1977. Reports are sent by cable, telephone, and sometimes by letter.

Active surveillance is routinely carried out during vaccination activities by the mobile teams; no record or numbers of "rash with fever" patients nor number of those investigated exists. It is assumed that the number is small as smallpox has not been known since 1965. Assessment of coverage by smallpox scar survey has shown 80% coverage. It is believed that surveillance activities are sensitive enough to detect hidden foci.

Plan for certification

Item I: Strengthening of communicable disease reporting system. Reporting of smallpox suspects will be strengthened in the framework of communicable diseases reporting system. All hospitals, all health centres and certain dispensaries will be instructed to submit monthly reports on smallpox suspects or nil reports to the Smallpox Eradication Programme.

Item II: The above-mentioned health institutions as well as all other health personnel will be instructed to report deaths caused by chickenpox to the Smallpox Eradication Programme. Investigations of these death reports will be documented.

Item III: The above-mentioned health institutions will be instructed to collect one specimen from each chickenpox outbreak and from chickenpox patients who have no vaccination scar or who have severe rash. It is expected that about 10 specimens will be collected monthly for testing by WHO collaborating centres.

Item IV: Special search in priority areas. Priority areas were defined as follows:

(a) areas where smallpox occurred in 1965 or before;

(b) international border areas;

(c) coastal areas;

(d) remote and inaccessible areas.

Special teams will visit these priority areas to search for suspected smallpox cases. Vaccinations can be combined with the search activities. This search will include survey for pock marks and vaccination scars.

Item V: The nationwide school survey. All the schools, hospitals, and dispensaries in the country will be visited by specialist teams to conduct inquiry about smallpox suspects during the last two years and to do facial pock mark surveys.

These activities from Item II to Item V can be combined when the plan is implemented.

Item VI: Phasing of the activities. Some of these activities were already initiated this year in February 1978. A new field survey, as described above, will start as soon as possible after appropriate preparation for staff including training and provision of resources, and all surveys are expected to be completed by February 1979.

It is proposed to have preliminary visit of two Global Commission members in October 1978 and the final visit by the Global Commission in June 1979.

Item VII: Miscellaneous

(a) All these activities will be fully assessed and documented.

(b) It is proposed that WHO STC will participate in these activities for three months starting in May 1978, further WHO participation will be decided later.

(c) Country final report of smallpox eradication will be completed by April 1979.

(d) A reward of US$ 150 will be granted to any person who reports a proven smallpox case, and notice of this reward will be conveyed to every part of the country.

Yemen Arab Republic

Similar activities are foreseen in anticipation of the Commission's certification process. However, since the last case was recorded in 1969, more intense searches in the priority area will be required. Important differences in the coverage and number of facilities in the two countries will require varied approaches.

Since Democratic Yemen and Yemen Arab Republic will be certified by an International Commission in June, 1979, the certification activities should be coordinated, particularly in border areas.

Djibouti

Review of smallpox surveillance

The last smallpox outbreak took place from 4 April 1973 to 17 April 1974. This was not a real epidemic but a succession of imported cases from Ethiopia with a few local secondary cases amongst these. A total of 24 patients were detected but there were no deaths. The majority of those affected were children, teenagers or young adults with a minor form of the disease. Thirteen cases were counted in Djibouti City, 10 of them in 1974. Transmission occurred within a group of young vagrant youths living communally in run-down buildings or in buildings about to be demolished - this within the town.

The Dikhil dispensary, in the south of the country, detected eight cases during the year 1973. These patients, as for three cases imported to Djibouti, came from the province of Harrar in Ethiopia, and especially from the region of Adigala. One case in the district of Tadjourah and one case in the district of Ali-Sabieh complete this list. These were also cases imported from the provinces of Harrar and Wollo in Ethiopia.

Since 1966, five rounds of vaccination have been made in the country.

1966	114 853
1969	109 239
1971	101 385
1974	118 923
1977-78	142 168

Since the last outbreak of 1973-74, there have been two vaccination campaigns, one in April 1974 and the other between February and June 1977 for the districts of Djibouti, Ali-Sabieh and Dikhil and in January 1978 for the two northern districts, utilizing vaccination teams walking on foot to reach the more inaccessible areas.

Passive routine surveillance is based on the reports sent by the 46 medical and para-medical centres made up of the Djibouti hospital, the eight urban dispensaries with doctors, the four medical centres of the district headquarters, the 12 rural dispensaries without doctors and 21 "Groupements Nomads" (mobile teams) under the direction of the military. These

reports are sent in weekly. They mention the number of cases of smallpox, chickenpox and chickenpox with deaths, and are collated by the Central Health and Epidemiology Service of the Ministry of Health of the Republic of Djibouti.

The reports prepared by the 12 rural dispensaries without doctors are initially checked by the four chief medical officers of the interior districts before being sent to the Health Service. The reports prepared by the 19 centres of the mobile group are also collated by the heads of the four companies of the mobile team - Assa-Guela, Dikhil, Ali-Sabieh, and Nagad.

The staff attached to the active programme is composed of:

(a) A nomadic (mobile) group: approximately 400 scouts distributed along 21 fixed points on the borders.

(b) Health and epidemiological service: four health officers and two drivers for the two mobile teams and 15 health officers for the town of Djibouti and the district headquarters of the interior.

(c) All the staff of the Public Health Service (hospitals, dispensaries, anti-tuberculosis services) are also involved.

About 60 rumours were detected. These were investigated and 40 proved to be isolated cases of chickenpox. The others were various types of dermatitis (scabies in particular). Thirty-six specimens of pus and crusts were sent to Geneva for virological diagnosis. None showed variola virus. Twenty-one were positive for the herpes-chickenpox group.

Plan for certification

This active surveillance will essentially be based on the surveillance of the borders by our two motorized mobile teams and by our irreplaceable scouts who lead a nomadic life seeking out:

(a) the nomads who come to Djibouti for trade,

(b) the pastoral nomads who come occasionally into the territory with their herds and;

(c) the refugees.

These border controls will enable us to vaccinate this nomadic population as well as the refugees, to visit them and to interrogate them regarding any eruptive diseases on the other side of the border.

Furthermore, we shall intensify our efforts in the surveillance of the refugees arriving in the camps of Dikhil and Ali-Sabieh through our two health officers who visit these two camps daily and are instructed to vaccinate any new arrival. The help given to us by the nomadic team is particularly effective in this respect.

In future we shall also seek out those who bear old pock marks and they will be listed and counted. Samples will also be taken of all cases of varicelliform rashes and naturally of smallpox rashes so that virological studies can be carried out. All suspect cases will be visited by the Chief Medical Officer of the Djibouti Health Service, or by his deputy, as has been done up to now. Specimens will be taken whenever necessary.

As far as the rest of the country is concerned, especially the town of Djibouti and the district headquarters of the interior, it seems to us that there is no point in continuing the active surveillance beyond the third country-wide campaign which we are undertaking as from the month of June 1978. Our previous campaigns have so motivated the population that now any case of smallpox would immediately be brought to our notice. In the case of Djibouti, however, we will continue our efforts in the surveillance of the numerous homeless refugees who take shelter in different parts of the town in run-down houses and in mosques. In particular we will continue our surveillance of Bal-Ballah, home port of the nomads who cross our borders.

In this way we shall doubtless be able to detect any case of smallpox which may be imported into the country.

Ethiopia

Review of smallpox surveillance

The last case in Ethiopia was discovered in the Ogaden desert, Bale region, Elkere Awraja in a village called Dimo. Date of onset of the last case was 9 August 1976. The patient was a three year old female called Amina Salad. The outbreak had 17 cases with no deaths. The outbreak was detected by active surveillance conducted by smallpox eradication workers. The source of infection was a known outbreak in a nearby village. Guard system with ring vaccination was used to contain the outbreak.

The vaccination policy of the programme during the last six months was as follows. In the areas of settled population routine surveillance was difficult to run because circumstances did not favour it and only short visits were possible.

In the nomadic areas vaccination was a must - always given. In areas where routine surveillance was conducted, vaccination was not given unless requested by the people. However, the Belt area operation was an exception to this general policy. All in all in the last six months a total of 1 227 689 primary vaccinations were given. Regarding passive surveillance a total of 1170 health institutions and 23 670 Farmers Associations were provided with reporting forms to be submitted to smallpox eradication programme monthly without fail, including nil returns. For 1977, smallpox eradication programme received a total of 1532 reports from health institutions and 28 834 reports from the Farmers Associations which makes 10.9% and 10%, respectively - of the total expected monthly reports for the year.

Active surveillance is performed by 798 searchers and 242 supervisors. The figure was increased during the Belt programme which took place from September 1977 to January 1978. During six months a total of 32 037 visits were made to the Farmers Associations including the localities under them. This number of visits makes an average of 45.2% primary visit coverage per quarter. During the same period 6940 rumours were recorded and 6905 were checked, with the result of 2159 chickenpox cases and 4746 other skin diseases. A total of 547 specimens were collected. Except for a few for which the result is awaited all were found to be negative.

Plan for certification

Organization of active search. To ensure adequate surveillance, different approaches for different local conditions must be utilized according to three general categories into which areas of the country may be divided (see map).

Routine surveillance areas. In these areas a surveillance system based on contacting the chairman of the Farmers Association (FA) and visiting all localities in each Farmers Association has been established. The Farmers Associations are cooperatives and involve some 500-1000 persons in a given area with the goal of improving the conditions of the group. Regular contact between surveillance teams and members of the Farmers Association will become the sensitive basic unit of the routine surveillance system. Through the works of the woreda surveillance teams in 1977 this system showed varying degrees of success.

The plan for 1978 is to assign one surveillance worker to cover between 30-45 Farmers Associations in each quarter depending on the terrain, size and population density. However, no worker will be permitted to make a repeat visit to any Farmers Association until all Farmers Associations assigned to that worker have been visited and the given round of visits correctly completed. To strengthen the supervision an ASO would be assigned for every four workers. Through 1979, during the two rainy seasons these workers would be assigned for two rounds of nation-wide urban search campaign.

To ensure appropriate assessment and improvement of the performance of the workers, the surveillance officer, coordinators and headquarters staff would conduct their own search activities and visit areas of epidemiological importance.

It is expected that the area under maintenance surveillance could be covered in three rounds, with this system by September 1979.

Priority areas. Special searches will be organized in these areas where a satisfactory routine surveillance could not be established. The special search will be of a short duration but carefully planned and executed in terms of coverage and assessment utilizing sufficient members of programme staff and a number of temporary searchers hired locally.

Areas to be covered are divided into three categories:

Category 1: (a) Gambella Awraja (Illubabor Region)

(b) Geleb and Hamer Bako Awraja (Gamo Goffa Region)

Information from these two nomadic areas bordering on the Sudan is lacking or out of date. House to house and locality by locality would be searched and vaccinated. This operation is expected to be completed in May-June 1978 and would not be repeated or put under routine surveillance.

The last smallpox outbreak in Geleb and Hamer Bako was in 1973 while Gambella was never infected.

Category 2: Axum, Shire and Adwa Awrajas (Tigrai Region)

The last smallpox case was reported in 1974 from Axum and from Shire and Adwa in 1972. Since 1974 these areas were inaccessible for security reasons and only recently have become to some extent approachable.

Since these areas are not nomadic and health facilities have already started to expand their activities, search operations under the same methodology mentioned above are being carried out and are expected to be completed by May 1978. After this search operation the area would be monitored through existing health facilities and malaria workers.

Category 3: Ogaden desert including Borena Awraja of Sidamo Region

Surveillance among displaced people who are now concentrated in major towns of Ogaden would be our priority in building up basic information before any intensive search programme in the countryside could be organized. Surveillance workers have been posted in all towns which have grain distribution centres for displaced people and which have other government services. These workers would act as monitoring posts for rumours collected from incoming people, they would also register their place of origin and vaccinate as many of them as possible. A house to house search would be organized for this purpose. Their work is expected to be completed during this rainy season (May 1978) and expansion of activities would be started from June to September 1978 but no major search activities would be conducted between October and December 1978.

A wide scale search campaign, a final one, would then be organized before and after the rainy season of 1979 (January, March and July-August 1979).

Closed area will involve the western and northern border of Gondar region and mainly Eritrea region as a whole. With some modification surveillance in these areas would be monitored through the existing health facilities and through rumour collection during the course of vaccination campaigns in all major towns. The approach in these areas will be to conduct special searches as soon as practicable and to establish routine surveillance if possible. The last indigenous smallpox case in Eritrea was in June 1972 and the area became "closed" in 1973.

Documentation of activities

A series of reporting proformas have been developed and of particular significance for documentation are:

(a) regular reporting from Farmers Association and Health Farmers;

(b) reporting of periodic active searches in localities of FA markets and schools by surveillance teams as well as of any special surveillance campaign reporting;

(c) reporting of the rash cases recorded in the "Rumour Book" and results of their investigation;

(d) reporting of laboratory investigation of a number of doubtful cases;

(e) reporting of all action taken for suspected smallpox outbreaks. These documentation are available at Awraja, regional and headquarters level.

Facial pock mark survey - so far the programme did not do a survey of pock marks but it is planned to do this.

(a) in one Awraja which is bordering south Sudan;

(b) to conduct such a survey as an integral part of EPI programme in six Awrajas from different regions.

If the result of this survey calls for further investigation then it will be done on a wider scale.

Health inquiry survey is not needed in Ethiopia simply because all are expected to submit a monthly report (even if it is nil) and they are also keeping the rumour book. Laboratory specimen collection from severe chickenpox and unvaccinated chickenpox cases will continue. Simultaneously training of searchers on specimen collection will be done at all levels in order to minimize the risk of contamination. Assessment activities are inbuilt in the search programme.

In conclusion, the future plans of activities for 1978 and 1979 calls for three rounds of rural and two rounds of urban surveillance activities in areas covered under routine maintenance phase, priority area would be covered by not less than two rounds and closed area could be monitored continuously for 18 months (see calendar of activities).

Complete documentation for presentation to the Commission is expected to be finalized in August 1979 and we believe that the International Commission for the Assessment of Smallpox Eradication can visit Ethiopia in September 1979.

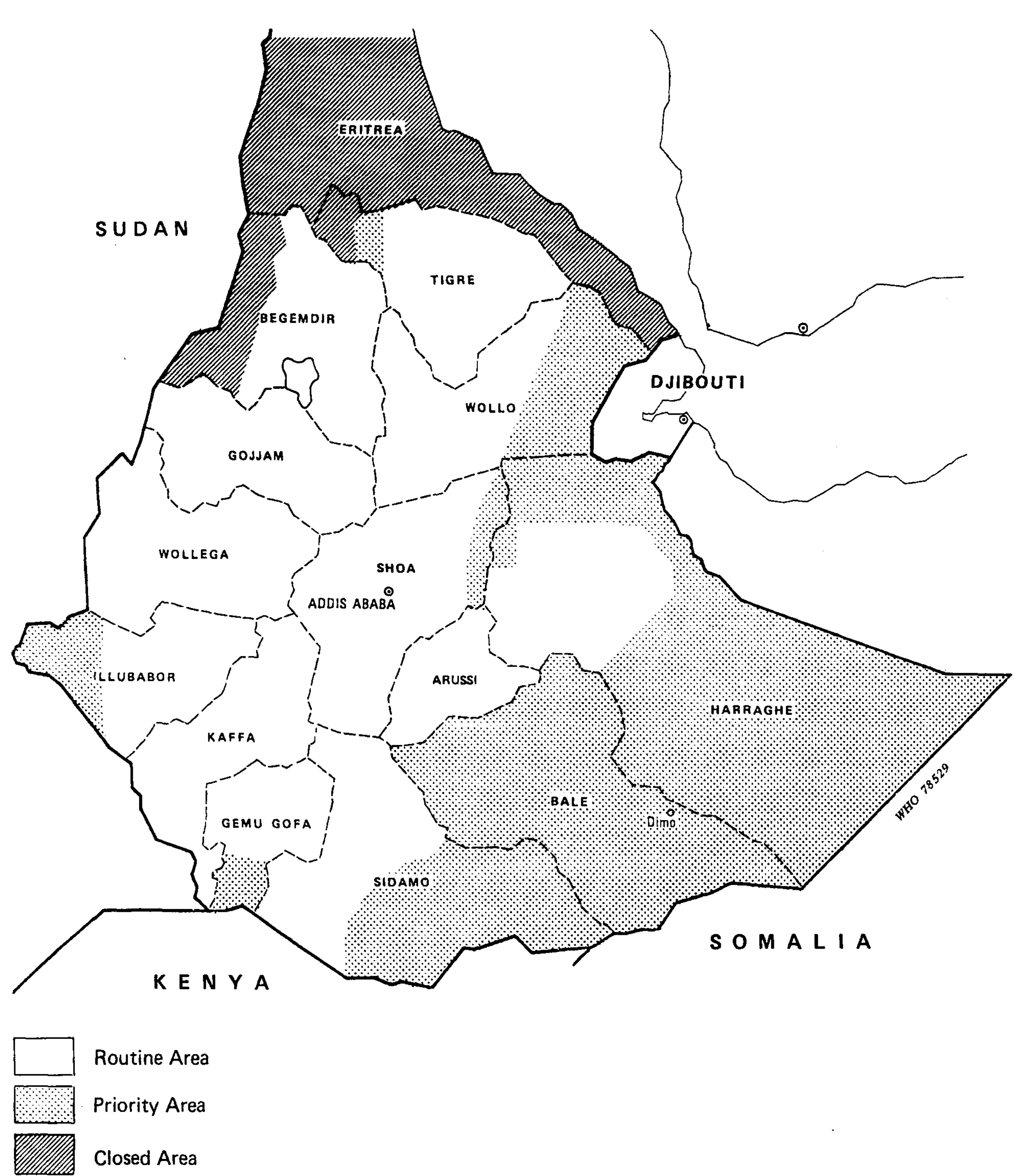
Kenya

Review of smallpox surveillance

Four smallpox cases were confirmed in February 1977 in a family group in Mandera district. The index case (thus making total cases to five) was an adult male from the area around Mogadishu who came to Mandera district around 20 December 1976 and developed mild rash on 26 December in the village of Ledhi near Arabia village. He visited his sister and returned to Somalia. The outbreak was closed in March 1977 after containment measures.

Smallpox vaccinations are given as a routine throughout the country and 326 000, 734 000 and 502 000 vaccinations were reported during 1975, 1976 and 1977. It is worth noting that additionally about 684 000 were given in high risk areas during 1977.

MAP OF ETHIOPIA



CALENDAR OF ACTIVITIES, 1978-1979

Smallpox eradication programme in Ethiopia

Areas	1978			1979					
	A J	A	O D	J M	J	S D			
North	Nation-wide search	Urban area search	Nation-wide search	"Weak area surveillance" search		Urban area search final documentation		International Commission Visit	
South-east and south-west									
Ogaden	Preparatory phase	Urban area search and possible expansion	Urban area search	Total coverage	Urban area search	Total coverage			

▭ Rainy season.

There are 1502 reporting units in the country which report to 46 designated district reporting centres. The Ministry of Health receives consolidated reports from these centres. There are 22 mobile surveillance-cum-vaccination teams throughout the country which send weekly reports. It should be noted that notification of diseases, outbreaks is regularly received from civil administration, army and police posts and community and political leaders. Notification of diseases subject to International Health Regulations, outbreaks of undiagnosed diseases or deaths due to unknown causes are notified by the quickest means possible.

During the period September 1977 to March 1978, 225 health workers participated in active surveillance activities in the north-eastern parts of Kenya. They visited and revisited about 125 000 houses, 440 000 persons, 238 tea shops, 392 water points, 82 markets and 35 ration distribution centres. Out of 242 rumours of fever and rash received, 237 were investigated (five pending) and 119 specimens for laboratory tests were collected. None proved to be smallpox.

Plan for certification

1. Programme documentation

1.1 A detailed report will be prepared which will provide past and present activities relating to national smallpox eradication programmes. Special attention will be given to the coverage, efficiency and regularity of routine weekly and monthly reporting methods. The number of reports expected and actually received at central and district levels over a given period will indicate regularity of reporting. In addition to the number of smallpox vaccinations performed by each district, the most recent studies on smallpox vaccination scar prevalence rates will be included.

1.2 Full documentation will be provided on all suspected cases as from 1971 including outbreaks due to importations recorded in 1971, 1974 and 1977. Information will also be given on cross notifications received from outside Kenya with results of investigations. For this purpose, "Fever and Rash Registers" will be maintained at each district headquarters.

2. Documentation availability

At each district level throughout the country, it is necessary that the following documents and information be readily available:

(i) district map with towns, major villages and health units;

(ii) demographic data;

(iii) number of notification posts, weekly notifications, monthly and yearly reports;

(iv) brief description of smallpox eradication programmes including all details about last smallpox case with number of vaccinations, vaccination scar prevalence rates, number of rumours investigated and results, number of specimens collected and results;

(v) results of field surveys including facial pock mark, health inquiry and chickenpox surveys (low priority areas);

(vi) results of active surveillance (high priority areas).

3. Low priority areas

These will include entire Central, Coast, Nairobi, Nyanza and Western Provinces. In addition, all parts of Eastern Province except Marsabit district and Rift Valley Province except Turkana will be included in low priority areas.

In selected localities, facial pock mark and health inquiry surveys will be conducted. Specimens will be collected from severe chickenpox cases, those without vaccination scar and at least one from each outbreak of chickenpox detected.

4. High priority areas

4.1 These are based on epidemiological criteria such as proximity to present or past smallpox foci or with population movements from the area where risk of smallpox introduction is greatest. These areas, if the present epidemiological situation remains unchanged, are North-eastern Province, Marsabit districts (North Horr, Moyale and Sololo divisions) in Eastern Province and Turkana district (Kakuma, Lokchogiyo and Loktaung divisions) in Rift Valley Province. Lamu district will have only one search.

4.2 In this area, active surveillance activities will be organized in such a way that evaluation of coverage can also be carried out in addition to the thoroughness and sensitiveness of the search activities.

Each area will be searched every six months (except one search in Lamu) so as to have three thorough and complete searches completed before October 1979.

The following information must be collected for each division one month preceding the search.

(i) Complete demographic data including preparation of map

(ii) List of areas which will include:

(a) fixed population centres, provincial, district and divisional headquarters and other villages;

(b) seasonal or temporary trading centres, if any;

(c) water points listed in order of importance of frequentation and duration of water availability, i.e. water points functioning for about 11 months should be on the top of the list while the one which is used for two months only will be at the bottom;

(d) list of semi-permanent or seasonal nomadic settlement points;

(e) listing of all areas with their local names;

(f) some information on seasonal nomadic movements, etc.

The reason for this exercise is to ensure and provide documentary proof that no area in a zone had been left out from active search. The above information is to be plotted on the sketch map of each zone.

In fixed population centres, a list of all existing schools, health units, tea shops, markets, army and police camps and ration distribution centres should be established. Customs and immigration posts at border areas should also be listed.

It is important that the Searchers Workers Schedule form should be regularly completed with the help of the supervisors.

5. Assessment of the search operation

For major towns (which are very few in priority areas) a cluster sampling technique can be applied if necessary. However, it will be useful to have the vaccination coverage of

children under five years also recorded in addition to the assessment of search activities. As far as water points are concerned, it will be advisable to identify those which are known to have a large number of visits from nomads and take a sample from these if the number is large.

6. Recording and reporting

At each level, all the required forms should be correctly completed and available for review. The active surveillance report must include, as far as possible, some denominators so as to give some idea of coverage. For example, for an area with three schools and seven water points, the searchers visited all the three schools and six water points.

Based on the above broad guidelines, a detailed plan will soon be prepared.

ANNEX 1

Third Coordination Meeting
for Smallpox Eradication

Nairobi, 17-19 April 1978

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Annex 1

8. Dr L. Khodakevich*
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c/o Smallpox Eradication Programme
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Kenya

9. Dr W. Koinange (Chairman)
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10. Dr C. L. Khamis
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11. Dr B. O'Keeffe
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12. Dr D. W. O. Olima
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13. Mr I. P. Mwatete
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14. Dr Z. Islam (co-Secretary)
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15. Mr V. Radke
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* Unable to attend.

Yemen

16. Dr M. M. Hajjar*

17. Mr R. Steinglass
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18. Dr Mohd. A. Parvez*
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WHO

19. Dr I. Arita (Secretary)
Chief, Smallpox Eradication unit
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20. Dr M. El Naggar
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21. Dr K. A. Monsur
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22. Mr John Wickett
Administrative Officer
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Temporary Advisers

23. Dr K. Dumbell (Rapporteur)
Director, WHO Collaborating Centre for Poxvirus
Virology Department
St Mary's Medical School
London
United Kingdom

24. Dr S. Foster
Director, Research Development Division
Smallpox Eradication Programme
Center for Disease Control
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* Unable to attend.

Annex 1

25. Dr H. Lundbeck
Chief, National Bacteriological Laboratory
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Sweden

26. Mr J. Magee
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Switzerland

ANNEX 2

AGENDA

Third Coordination Meeting for Smallpox Eradication

Nairobi, 17-19 April 1978

Day	Time	Item	Speaker
Monday 17 April	9.00 a.m.	Inauguration	Hon. J. C. N. Osogo Minister of Health
		Certification of Global Eradication of Smallpox	Dr I. Arita
	10.00 a.m.	Coffee break	
	10.30 a.m.	Introduction of participants	Secretary
		Election of Chairman, Vice-Chairman and Rapporteur	
	10.40 a.m.	Future of smallpox vaccination	Dr H. Lundbeck
	11.00 a.m.	Is there any source of smallpox infection other than man?	Dr K. Dumbell

National Smallpox Surveillance Programmes

Day	Time	Item	Speaker
	11.20 a.m.	Democratic Yemen	
	11.50 a.m.	Djibouti	
	12.30 p.m.	Lunch break	
	2.00 p.m.	Ethiopia	
	3.30 p.m.	Coffee break	
	3.45 p.m.	Kenya	
	5.00 p.m.	Closure	
Tuesday 18 April	9.00 a.m.	Methodology of certification of smallpox eradication on the Asian subcontinent	Dr L. Khodakevich
	9.30 a.m.	Methodology of certification of smallpox eradication in West, Central and Southern Africa	Dr Z. Islam
	10.00 a.m.	Proposed schedule for certification of smallpox eradication in the six participating countries and for global certification	Dr I. Arita
	10.30 a.m.	Coffee break	

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Tuesday (continued)	10.45 a.m.	Discussion for preparation for certification of smallpox eradication in October 1978	
		Group A	Group B
		Djibouti Kenya	Democratic Yemen Ethiopia Yemen
		Dr Foster Dr Lundbeck Mr Wickett	Dr Dumbell Dr Arita
	12.30 p.m.	Lunch break	
	2.00 p.m.	Preparation of reports by individual countries and consultations	
	5.00 p.m.	Closure	
Wednesday 19 April		Presentation of plan for certification of smallpox eradication, 1978-1979	
	9.00 a.m.	Democratic Yemen	
	9.20 a.m.	Djibouti	
	9.40 a.m.	Ethiopia	
	10.00 a.m.	Kenya	
	10.30 a.m.	Coffee break	
	10.45 a.m.	Yemen	
	11.00 a.m.	Finalization of meeting document including appraisal of smallpox situation in four countries and recommendations	
	12.30 p.m.	Closure of the meeting	

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