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OUTLINE OF THE MALARIA ERADICATION PROGRAMME IN TURKEY

by

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1. Progress report on malaria eradication with a stress on the measures taken against frontier malaria problems

The malaria eradication programme in Turkey started in 1957, converting the several and dispersed control measures which had been practiced in many parts ofthe country into a consolidated and country-wide effort, supported by UNICEF and WHO. About half of the country, on the basis of epidemiological investigations, was considered from the outset as in consolidation phase with DDT spraying to be carried out only in residual foci of transmission, but the rest of the country was subjected to total coverage by insecticides. All malarious and potentially malarious areas were included under surveillance by active case detection. To illustrate the progress of the campaign, the following summary of slides examined and cases found is given:

Year	Slides examined	Slides positive	%
1957	906 943	5 536	0.61
1958	1 283 534	11 213	0.87
1959	1 473 007	7 305	0.50
1960	1 675 657	3 092	0.18
1961	1 982 292	2 479	0.12

With training, experience and increased funds available, there has been a marked improvement in the quality of surveillance andcase-finding activities in the last two years. Although certain important

foci of transmission still persist, a large part of the country is now considered to be free from malaria transmission. In problem zones, the continuance of transmission appears to have stemmed more from administrative difficulties (shortage of personnel, vehicles and funds giving rise to imperfect coverage) than from technical shortcomings, and the campaign is now progressing along the lines described in the latest addendum to the Plan of Operation.

Turkey has common borders with the following countries: Greece, Bulgaria, USSR, Iran, Iraq; Syria. No cases of malaria have been identified as imported from any of these territories in the past two years, and, while recognising that the possibility of importing cases from neighbouring countries exists, Turkey does not consider that the problem is a very serious one. The situation as it affects each of the above-named countries is briefly described as follows;

Greece: Turkey has an agreement dating from 1955 for joint operations along the common frontier, particularly in the Maritza River Valley. This agreement covers periodical interchange of information and consultation between the two parties, more particularly on larviciding measures to be adopted. In fact, though meetings have not been regularly held, the framework for them is still valid if necessary and no difficulties are foreseen.

Bulgaria : Very little traffic passes between Bulgaria and Turkey. No special measures are adopted to control possible importation of cases but no serious problem is anticipated.

USSR : As with Bulgaria, the traffic is limited and no problem exists.

Iran : The frontier is largely mountainous and sparsely populated. In 1962, the Turkish programme envisages complete coverage by active case detection and by DDT spraying of the bordering provinces. No special procedures are adopted but surveillance agents normally

take slides for laboratory examination from recently arrived visitors who are encountered in their tours of active case detection.

Iraq : There is a possible danger of nomads carrying malaria parasites crossing this frontier. Geographical and logistic difficulties impede the establishment of efficient control measures, but the area concerned is confined and general introduction into the rest of Turkey is considered improbable. All these frontier areas are expected to be under surveillance by active case detection in 1962.

Syria : This frontier is mainly an arid, sparsely populated area except close to the Mediterranean Sea where a certain risk is apparent. However, the absence of reported cases in this zone, which has been under reasonably efficient active case detection for the last two years, indicates that the problem is not a large one.

3.3 Radical cure of malaria and operational difficulties in implementation

In the Turkey programme radical treatment with primaquine is administered to all confirmed cases of malaria with the exception of infants below the age of six months and patients who are very anaemic. In 1960, cases found in A Group of regions (consolidation phase) and B Group of regions (attack phase) received treatment, and this was extended in 1961 to cover the whole territory under surveillance (see attached map). The treatment is carried out with primaquine given daily over fourteen days in association with chloroquine during the first three days, the adult dose used being 15 mg base daily of primaquine and a total of 1500 mg base of chloroquine.

Operational difficulties have been encountered in some zones owing to a large number of cases having to be treated. As the incidence of malaria recedes this difficulty is naturally diminished. Principal problems have been:

a) lack of funds and facilities to enable patients to be treated under supervision at a health centre over 14 days;

b) shortages of personnel to administer treatment daily to patients in their homes;

c) difficulty of locating, over the full period, patients who are migrant or agricultural workers.

In general, treatment is carried out by sector chiefs, or by agents under their supervision, surveillance/ in the homes of patients. No resistance to the taking of the drugs is reported andno cases of toxicity have been encountered despite the administration to young children. In the few cases where relapses were recorded in 1961 of patients reportedly given radical treatment in 1960, investigation has shown that in each case the treatment was not in fact completed.

4.1 Patterns of health services provided for rural communities, contributing organizations, plans for future development

The organization of the administration of public health in Turkey is made up of a health directorate in each province, government doctors in the "kazas" (districts) and a certain number of rural health stations, usually with an auxiliary rural midwife and a sanitary agent. Some specialized services, such as malaria eradication, tuberculosis control, maternal and child health, operate as separate units in parallel with the other public health services. However, the curative and preventive medical services are not available to all parts of the country through lack of personnel andinsufficient specialized training.

A new law was passed at the beginning of January 1961 setting up a nationalization of health services to be started in March 1962, and in practice a pilot province will be organized by the beginning of 1963. The principal features of this nationalized service will be the following:

a) the decision to be made by doctors between working full-time in private practice or full-time for the government; this will mean an increase in salaries for government employees;

b) the strengthening of the directorates in each province to include a provincial general hospital, the extension of district services including hospital facilities to all districts, the integration of curative and preventive medical services, the creation of mobile units comprised of a doctor, a nurse and a sanitarian responsible for a group of villages containing from seven to ten thousand inhabitants, and the upkeep of rural health stations where necessary:

c) the reorganization of training facilities for all categories of personnel, and the establishment of a permanent system of supervision at all levels.

6.3 The development of a Central Malaria Eradication Epidemiological Unit in the Department of Preventive Medicine of the Ministry of Health

When malaria is finally eradicated from the country, it is certain that a central malaria service will be maintained in the Department of Preventive Medicine of the Ministry of Health, but it is not yet possible to say whether it will be independent, separate or integral with the other services in this department. No plans have yet been formulated in this direction.

7.2 The need for increasing the training in epidemiology for the existing professional staff as the malaria eradication programme advances towards the consolidation phase

This need has been recognised in Turkey. From the autumn of 1959, and in the winter of 1959-1960, courses were held for all existing professional staff, many of whom had been working many years in earlier malaria control programmes. These courses emphasized the theories of malaria eradication and the importance of epidemiological investigation as well as the technical and practical methodologies involved Similar courses have been held each year since to include doctors who have more recently joined or been transferred to the malaria eradication service. With more than half the zones of the country now in the consolidation phase, the value of this training is apparent and importance is attached to the periodical conferences of zone and region doctors at which reports of epidemiological investigations and the results achieved are discussed, and advice and instruction can be disseminated from the central office.

7.3 Coordination of training activities between Malaria Eradication Training Centres and other institutions in the field of health and sanitation as the programme advances

This principle of coordination is one which is accepted and which should not be difficult to put into practice in Turkey. The training centre at the Institute of Malariology of Adana has been mainly concerned with malaria, but no doubt it will participate with the School ofHygiene in Ankara (under reorganization since 1958) and the School of Sanitarians (created in 1961) in this coordination.