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HEALTH SERVICES AND ACTIVITIES IN THE NON-SELF-GOVERNING TERRITORIES

Report prepared by the World Health Organization

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NOTE: The following symbols are used:

Three dots	(...)	data not available
Dash	(-)	magnitude nil or negligible
Slash	1948/1949	crop or financial year
Hyphen	1948-1949	annual average

INTRODUCTION

1. In the year 1946, when the nations were beginning to emerge from the struggles of the Second World War, the planning of new health services had already taken place. A considerable number of the Non-Self-Governing Territories shared in this movement, partly because their health administration was included in the general programme of the Administering Authority, and partly in consequence of a wide-spread advance, fostered by international organizations, towards a broader concept of health functions at all levels of government. It would not be reasonable to attempt any assessment comparing one Non-Self-Governing Territory with another in terms of its health administration and services. This would be especially fallacious following a war which had disrupted some well-developed services, as in the case of Guam. Other services were halted or seriously damaged by an occupying Power, and many were temporarily divorced from their union with the Administering Authority. Furthermore, the origins of the public health services in the Non-Self-Governing Territories varied greatly, and their state of development at the beginning of the ten-year period under consideration depended on many factors, including the resources of the Territory itself and the extent to which it relied on the central government. These limitations, however, do not preclude a consistent review of the health status and services of Non-Self-Governir Territories and of their achievements in the health field up to the present time.

2. In this report the principal aim has been to present a picture of health achievements in its historical frame, but with special reference to health activities as an index to future progress. The subject has been divided into certain broad headings, covering accounts of administration and legislation, the existing health establishments and the needs they serve, and their main activities and achievements. Special attention has been paid to the training of indigenous populations in health work, and to the participation of the people themselves in community health development.

3. Throughout the whole range of Non-Self-Governing Territories there are striking differences in health administration. In some other cases the health service of the Territory is wholly under metropolitan control. In an increasing number of Territories, especially the more populous and developed countries,

a devolution of health administration, planned in stages, has taken place and is regarded as a series of ineluctable steps towards full self-government. Some, indeed, such as Tunisia, the Federation of Malaya, and Ghana, have acquired full powers, and others are being developed administratively with the same end in view. Similar diversities occur in the provision of health establishments. One Territory may have an elaborate hospital at the centre, and a chain of health centres or out-patient departments - a legacy, perhaps of war needs - while another depends for its major services upon establishments set up beyond its boundaries, as in the case of a number of the Pacific Islands. In the more widely scattered areas, such as the great rural stretches in tropical Africa, the health establishments consist largely of small village stations, sometimes with mobile health units attached to them.

4. The actual health activities which have been organized in a given Territory are often a useful index of the stage of development in the direction of self-sufficiency. In this connexion may be cited as examples a school health service, a system of health education, or the existence of a well balanced scheme for the collection and transmission of vital and health statistics. The evaluation of health achievements is of course related to the basic resources of a territory; yet there are certain indices of wide application that assist greatly in the process. In terms of figures the reduction in death rates, notably in infant mortality, and in deaths from certain communicable diseases, offer valuable data for comparison year by year in a single area; the same considerations apply to the progress of environmental sanitation, to which the absence of major epidemic diseases and increase of the population served are often good testimony.

5. Finally, as has already been noted, the arrangements for training the indigenous population in the various branches of public health service are of vital importance, not only as an index of progress in the attainment of self-sufficiency within the Territory, but also as a health achievement in the provision of an adequate scheme of medical and health care. It is not only in the strictly professional aspects that advances may be recorded: a matter of increasing importance is the extent to which the people on the spot take part in local voluntary work. The future of community development, in health as well

as other local efforts, depends, in the last analysis, on the keenness and understanding of the people themselves. On that self-reliant service the larger governmental authorities can build, but without enlightened local support they build in vain.

I. HEALTH ADMINISTRATION

6. Health administration in the Non-Self-Governing Territories shows, as one might expect from the diversity of origins, a bewildering variety of patterns. The majority of these are determined by the needs of the inhabitants, the stage they have reached in progress towards self-government, and the resources in personnel and material which they can enlist in their own Territory. During the period under review a number of Territories have achieved full self-government, and in these cases it is instructive to trace the earlier steps. In this connexion, the experience of Morocco, Tunisia, Ghana and the Federation of Malaya should be particularly interesting. Other Territories are already established with a limited, but progressive measure of independence in health administration. In some, as in Nigeria, and Northern Rhodesia and Nyasaland, there is an increasing devolution of responsibility for the health services, while in others, such as Sierra Leone and a number of the French Territories, the tendency has been towards centralization.

7. A large number of the non-self-governing peoples occupy island Territories which are individually so small or scattered as to require some form of federation in their health services. This is well brought out in the establishment of a medical school at Suva in Fiji to serve a wide island area. This in no way conflicts with the paramount need for maintaining and strengthening the local community centres, which serve the purpose of consolidating voluntary effort and enthusiasm in joining forces with the appointed health workers. Indeed, local community services gain strength by being associated with the officially organized health services of the Territory, for the people at the local level feel that they are partners in the enterprise. To take a single example, routine maternity and child health work is best dealt with in a fairly restricted area, because its teaching is intimate and personal; but the administrative boundaries of a maternal and child health scheme must be far wider. So in environmental sanitation many of the local needs can be met by keen voluntary organization within the narrow compass of a village or rural group, but there is an overriding need for effective links with specialized authorities, in order to secure prompt help from experts in the case of emergency as well as advice on the larger aspects of planning and practice. The development of rural health centres has made

a notable contribution to prevention and protection in Territories in tropical Africa, and in some of the more isolated islands of the Pacific.

8. In Territories where there is a marked centralization of health administration, this may be because the rural areas are sparsely populated, the people widely scattered and the natural flow of communications from the remote areas is towards the recognized centre. In other cases the reverse is the cause: centralization has been maintained because the whole area is compact, and subdivision would be uneconomical. In every case the efficiency of the service against the background of communications and resources is the crucial test of self-government in matters of health.

Types of general organization

9. The most common pattern of health administration in the Non-Self-Governing Territories in one in which the services are the responsibility of a director of medical services, acting as executive officer to a central board of health. In some cases he is himself chairman of the board, while in others he acts in an advisory capacity so far as policy is concerned. In the more populous areas - such as Jamaica - it is usual to appoint a general director, under whom medical and public health services are administered by specially qualified deputies. Various kinds of division are in operation, but the broad distinction is usually between medical services, including hospitals, on the one hand, and public health work, including district services, on the other. There is growing evidence of close liaison between the curative and the preventive services at both central and local levels - a development which is in harmony with the general tendencies in the nations of the world, and has been keenly promoted by the World Health Organization.

10. In the Territories administered by the United States the prevailing pattern closely resembles the essentials of a state health service. Apart from Guam and a few other special Territories, the services are administered by a Board of Health to which the Commissioner of Health acts as adviser. Within his own sphere of activities he has fully executive functions in organizing a territorial service. The division of responsibility is to a considerable extent a matter of communications and administrative convenience. In the more compact areas the responsibility is commonly shared between a group of departmental officers, such as sanitation, maternal and child health, mental health, nursing, preventive services,

and administration. Where communications are more difficult it may be necessary for the division of functions to be maintained on a geographical basis, with an assistant commissioner responsible for a given district. In these cases the more specialized services have to be maintained at a centre, but it is usually feasible for specialist teams to travel from district to district.

11. In the Territories under French administration central responsibility lies with the Ministry of Public Health of Overseas France. In the territorial areas the public health services consist generally of a central directorate at the main capital - Brazzaville, Dakar, or Tananarive, for example - and territorial or provincial health directorates in each of the principal sections of these vast areas. The public health services in French Equatorial Africa consist of the African Medical Assistance Service (AMA), which provides hospital and specialist services at Brazzaville and other curative services at locally established centres, while the preventive services are made available by the General Mobile Health and Preventive Medicine Services (SGMPH). The health organization comprises a federal directorate-general at Brazzaville, and a local directorate in the chief town of each of the four Territories. The Director of the SGMPH co-ordinates the public health services and the local director of health in each Territory directs all the medical personnel, health institutions and mobile health units in the public health districts.

12. Similar arrangements exist in the Territories comprising French West Africa. There is a central directorate-general at Dakar and a directorate in each of the Territories. Medical care is provided by the permanent establishments of the services - hospitals and treatment centres of various types. In addition, the General Mobile Health and Preventive Services are responsible for mass campaigns, as well as the control of endemic diseases such as leprosy, trypanosomiasis, treponematoses, malaria, and communicable eye diseases. In accordance with a law promulgated in 1956 the directorate-general of health will disappear at the federal level and a minister of health will become responsible for the health service of each Territory. The directors of health of these Territories will be subordinate to the minister. In general, the medical services are reinforced by a number of scientific institutions such as the Tropical Ophthalmology Institute of French West Africa, the Federal Blood Transfusion Centre, and the Pasteur

Institute, all of which are centred on Dakar. In this way there is a strong link between the central health service and the Territories.

13. The pattern of health administration in Madagascar represents the form adapted to the more compact type of territory. The public health service consists of a central directorate at Tananarive and a main office in the capital of each province. The provinces are divided in their turn into medical districts, each of which is under the charge of a medical officer. There were thirty-one such districts in 1956.

14. In the Belgian Congo, the Central Health Department in Leopoldville is administered by a chief medical officer assisted by a deputy chief medical officer, health inspectors and a chief pharmacist. The department is responsible for the organization and co-ordination of health and pharmaceutical services, medical laboratories, health inspection services and medical training. In each province, the provincial medical officer, assisted by a deputy, acts as director of medical services and as adviser to the provincial governor. Each provincial medical department consists of: (a) a division for the administrative co-ordination and guidance of all sections or institutions engaged in medical and public health work; (b) a medical assistance section, responsible for the organization and management of medical establishments (general hospitals, clinics, maternity homes, rural medico-surgical centres and dispensaries, special units for tuberculosis, mental disorders and leprosy), and of mobile medical units which undertake detection of the main endemic diseases in rural areas; (c) a public health section in charge of environmental sanitation, insect control, examinations of a preventive order, and enforcement of international and internal public health regulations; (d) medical laboratories responsible for routine analyses, scientific medical research, and the preparation of biological products for use in curative or preventive medicine; (e) the medical training schools in the area. In 1956, the medical and health staff of the Territory consisted of 643 physicians (or one per 120,000 population), 62 pharmacists, 37 dentists, 13 biologists, 581 medical auxiliaries and health workers, 1,084 female nurses, 1,161 male nurses, medical assistants and orderlies, 283 midwives and midwifery aids, and 3,256 auxiliary male nurses.

15. The Non-Self-Governing Territories administered by the United Kingdom present wide variations in the scope and general organization of their public

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health services according to size, stage of development, ease of communications, natural resources, and many other factors. Their public health administration follows a well-developed Commonwealth tradition, supported and enlarged by long experience, rather than the usual local government pattern of the United Kingdom, although there are many features in common.

16. It would be almost impossible to make any logical distinctions between the varying types of health administration in these Territories. Perhaps the simplest compromise of convenience is to accept two broad divisions into the "island group" and the continental Territories. An immediate subdivision would be useful - between the more highly organized groups which have moved far in the direction of training and supporting local administration, and the less developed Territories which still need material and other support. Among the continental groups one would at once think in terms of such Territories as Kenya, Nigeria, Uganda, and Northern Rhodesia and Nyasaland; while the island Territories suggest names such as Jamaica, Trinidad and Tobago, Fiji, and Cyrpus. These distinctions, however, are merely convenient for analysis and have no other significance.

17. Kenya has a Central Medical Department under a director of medical services, which is responsible for formulating medical policy, for the control and treatment of communicable diseases, and for the administration of government, provincial, and district hospitals. There is a deputy director, two assistant directors, seven senior medical officers, and ten specialist officers. In 1956 the number of medical officers was increased by twelve, bringing the total to ninety-one in the employment of the Department. In recent years a good deal of progress has been made in the extension of rural health services through the establishment of rural health centres. There are two types, the first being the main health centres, twelve in number, integrated with selected district hospitals; and the second, the "locational" health centres built with the co-operation of the local authorities, chiefly the African district councils. The latter, of which there are now thirty-three, are staffed entirely by Africans. The staff objective is that there shall be in each one an African medical assistant in charge, with an assistant health inspector, a

midwife and health visitor as a minimum. Facilities at these health centres include a domiciliary service for maternity and child welfare clinics.

18. The Federation of Rhodesia and Nyasaland consists of the self-governing colony of Southern Rhodesia, together with the Non-Self-Governing Territories of Northern Rhodesia and Nyasaland. The National Public Health Service of the Federation provides medical and public health services for all areas outside the municipalities, and this is also the pattern in the Non-Self-Governing Territories. The Federal Ministry of Health appoints, a regional director of medical services in each of the three areas comprising the Federation. Each director has a staff of provincial medical officers in charge of the areas outside the municipalities. In Northern Rhodesia and Nyasaland these officers have full health responsibilities but also supervise the curative and hospital facilities of their areas.

19. The health work of Uganda is the responsibility of the Minister for Social Affairs. The Assistant Minister is an African. The departmental administration is carried out by the director of medical services, who has one deputy director, two assistant directors, one specialist medical officer, nine senior medical officers, and 121 general medical staff, of whom sixty-seven are African. In each province a senior medical officer is responsible for health administration in general, and he, together with the provincial commissioner and other senior officers, forms a provincial team. The Kampala municipality employs its own medical officer of health and inspectorate staff, but in all other townships the government medical staff acts on behalf of the township authorities. The health administration reaches the rural areas through the district medical officers who, besides being in charge of the larger hospitals in their areas, also control the rural medical centres and act as medical officers of health.

20. In Nigeria the regional governments are now responsible for the medical services of their respective regions, and in this way devolution has gone further. Each region has a Ministry of Health with a Minister and a Permanent Secretary as lay administrators, and a team of technical staff headed by the director of medical services. The older post of director-general of medical services was abolished in 1954, and the officer - who is an African -

became chief medical adviser to the Federal Ministry of Health. In each region the unit of administration is the medical area which usually corresponds to one or more administrative divisions. This area is based on a general hospital and the medical officer in charge deals with both medical and health work in his area. These areas are grouped into medical divisions, covering two or more provinces and are under a senior medical officer. The northern region has senior medical officers in charge of its leprosy and sleeping sickness services and its medical field units. The health work in general is reinforced by local authorities and voluntary agencies, which may receive grants-in-aid. In the eastern region the Ministry of Health is encouraging the local authorities to take over many of the local health services, with special emphasis on rural preventive and curative work.

21. Similar administrative arrangements exist in the less fully developed continental territories. In Bechuanaland, for example, the medical department is under the charge of a director of medical services who is responsible to the Resident Commissioner whom he advises on health matters and medical policy. The health inspectorate staff consists of three European inspectors, five local health inspectors and five health assistants. Public health activities are largely centred on preventive measures against communicable diseases rather than on general hygiene and sanitation. This represents an earlier stage in health progress than in the Territories considered above; and indeed the health staff is small and insufficient to cope with the full range of health problems. In planning for the future, however, a new emphasis will be placed on the expansion of rural health services and the improvement of environmental hygiene by increasing the number of dispensary units or health centres throughout the Territory. It is important to observe that at this stage of development in health administration the close union of curative and preventive medicine is indispensable to progress, and the major emphasis should first be laid on the curative side, as this increases the confidence of the people and allays suspicion.

22. In British Guiana the Central Board of Health administers all health matters under a director of medical services and the Medical Department. Public health work is carried out in Georgetown and New Amsterdam by the town councils,

and in the rural areas by their local authorities. Similar arrangements exist in British Honduras, where the medical and health services are administered by the director of medical services, with a senior staff consisting of a medical officer of health, a surgeon, and ten medical officers. Both of these Territories lay stress on health education and the close liaison between the health and the social services. In this respect they tend to approach more closely to the Latin American design of health and social administration.

23. The more advanced island groups have developed in considerable numbers in the past decade, and it is hard to make a selection. In the fully organized groups Jamaica may be chosen because it presents the problems and opportunities of a populous area with a long tradition of public health. The medical and public health services are headed by a chief medical officer, with principal medical officers, in charge of health administration and of the medical section, including hospitals and personnel. The public health section has divisions with specialist officers in charge: notably for tuberculosis, venereal disease, yaws, quarantine, health education, malaria eradication, maternal and child welfare, industrial health and epidemiology. A Central Board of Health directs the work of the local boards. Each of the fourteen parishes has its own local board of health, which includes a public health department. These departments have a medical officer in charge, and sanitary inspectors, public health and district nurses. The main functions are environmental sanitation, latrine construction, mosquito control, inspection of food and water supplies, and personal hygiene.

24. Health administration in Trinidad and Tobago follows a similar pattern. The Minister of Health is responsible for the policy of the Health Department. The health and medical services are in the hands of the director of medical services assisted by two deputy directors and a technical staff. There is a Central Board of Health consisting of nine members appointed by the Governor. The medical director is chairman, and the Board has powers to make regulations and to exercise general supervision and control. The Territory as a whole is divided into sanitary districts under local health authorities. There are municipal health authorities in the capital, Port-of-Spain, and in San Fernando,

St. George, and Victoria. The Non-Self-Governing Territories of the West Indies in general are associated with this pattern, with minor variations appropriate to local conditions.

25. Hong Kong is one of a number of administrations in which vital and health statistical information has been fully develcped. At the national level the director of medical and health services, acting with the Department of Urban Services and the New Territories administration is responsible for general health. Hong Kong, Kowloon, and the New Territories are divided into five health districts, each with a health officer and a senior inspector. Each district in turn is divided into sections, each under a health inspector. In a relatively small, crowded administrative area of this kind it is natural that a good deal of supervision must be undertaken by the central department, and the broader issues of health education and the control of the major diseases are constantly watched from the centre. Like conditions prevailed in Singapore, and in some of the Territories situated on the great trade routes, such as Aden, Gibralter and Cyprus.

26. Among the smaller island groups, especially those which are widely scattered and thinly populated, there is usually an administration similar in essentials to the larger neighbours. One of the most valuable developments, as may be seen more and more, is a kind of informal federation for health purposes, notably for affording mutual assistance in case of emergency and disaster. In the Gilbert and Ellice Islands, for example, there is an adequate local health administration under a senior medical officer. He has an assistant, a qualified pharmacist, and two nursing sisters. The staff have to spend a great deal of their time in touring the islands - some thirty-seven small units scattered over the central Pacific. The headquarters are at Tarawa, and there are about twenty dispensary-hospitals in the islands, twelve of which are staffed by medical graduates from Fiji. The islands participate in the South Pacific Health Service which has its headquarters in Fiji. Questions of policy and any extension of the services are formulated in consultation with the Inspector-General. Expert advice on health matters, as in clinical medicine, is obtained from specialists stationed at Fiji, and surveys are carried out from that centre as required.

27. Some of the more isolated island groups have developed a very complete health service, partly on account of their relative distance from specialized help. Among these the Seychelles group stands out in its own sphere. The medical services are under a director whose staff includes a senior medical officer of health, a public health educator, a senior health inspector with ten assistants, and six public health nurses. A separate medical officer has been designated to take charge of the preventive services and the principal islands have been divided into health districts. Another example is St. Helena and its dependencies, which include Ascension, 700 miles to the north-west, and Tristan Da Cunha 1,500 miles to the south-west. In St. Helena the public health department is administered by a senior medical officer advised by a Board of Health. The Medical Department has to deal with all emergencies arising on the island, and has also to be ready to undertake the care of surgical emergencies and serious cases of illness on ships that call at the island.

Health expenditure

28. In the study of health administration in the Non-Self-Governing Territories over a ten-year period and in trying to assess development, an interesting approach would be to examine any special features of expenditure as various plans begin to mature. It is not possible from the existing records to secure full and accurate returns, but there are a number of useful indications, such as the proportion of the annual budget spent on public health measures.

29. Budgetary information on public health is sometimes presented as a proportion of the total expenditure of a Territory and sometimes as a proportion of the medical expenditure. In French Equatorial Africa, for example, about 60 per cent of the total medical budget is devoted to the public health services, whereas in French West Africa the information is not available. In other cases a special campaign raises temporarily the relative cost of the preventive services, while the construction of a new hospital throws the balance on the other side of the scale. In Alaska the total expenditure of the Health Department for the fiscal year 1953-54 was 6.4 per cent of the entire budget, compared with 6.8 in the previous year. The cost of the service amounts to

about $US1.00 per head. In Guam, on the other hand, it is reported that about 25 per cent of the total budget is devoted to the Department of Medical Services, but in that area a very large quantity of constructive work has had to be done on account of the destruction of hospitals and other medical stations during the war. American Samoa, which is more representative of the general island group economies, shows a proportion of 28 per cent of the government budget devoted to the health services, out of which 8 per cent goes to public health, and the remainder to administration and medical care. It is difficult to be sure how far figures can be compared, because a number of authorities include housing under health expenditure, and this obviously swells the total. In the New Zealand Territories of Niue Island and the Tokelau Islands the proportional expenditure on health out of the total budget was 15 and 21 per cent respectively, but there was no obvious medical reason to account for the difference.

30. In the Non-Self-Governing Territories under United Kingdom administration the budget trends are fairly complete, but the differences in presentation are considerable. In Aden, for example, the health expenditure for the area is given as 25 per cent of the total budget for 1953-54, representing £5.4.0 per head. Antigua gives 11 per cent and BWI$10.00 per head; and the Bahamas 8.9 per cent and £3 per head; and Barbados 11.3 per cent and BWI$6.9 per head. When we come to the continental Territories there are some changes of note: in British Guiana the health budget represents 9.6 per cent of the total - $6.8 per head. The corresponding figures for British Honduras are, for the same year 1954, 7.6 per cent and BH$5.4 per head. In the Federation of Rhodesia and Nyasaland the health budget for the first year represented 11.3 per cent of the total.

31. A note from the report for 1956 in the Seychelles shows that 19.5 per cent of the government budget was allocated to public health, and of that sum 2.5 per cent went to administrative and public health services and 17 per cent for medical care, representing a total cost per head of $3.75. It is of interest that in the British Virgin Islands, and for all four presidencies of the Leeward group the allotments for public health amounted to 11.8 per cent of the total budget, representing BWI$10.00 per head. For the same year 1956,

7.6 per cent of the total budget of Uganda was expended on the health services - amounting to 5/- shillings per head of population. The corresponding figure in Zanzibar was £1 or 11 per cent of the total budget.

32. These figures have been quoted at some length, partly with the object of indicating the extent of the variations and partly to show the proportion actually spent on health. The most difficult task is to estimate how much was devoted to the really preventive services, excluding housing and town planning, and how much on curative medicine. On the whole the preventive services are subject to less fluctuation than the curative, probably because long-term budgeting is easier, and costs can be spread over a longer period. Nevertheless, the suspicion remains that in many Territories priority is given to the more spectacular curative institutions. International schemes, on the other hand, are more directed towards preventive campaigns such as the eradication of malaria or yaws, and less to constructional work. It is doubtful how far valid comparisons can be drawn between the relative expenditure in the Non-Self-Governing Territories and in the highly industrialized countries with a long tradition of self-government. The patterns and proportions of spending do not necessarily follow those of the administering authority, and indeed the needs may be quite different.

33. During the past ten years the most notable expenditures on the health services have been, first, to repair the havoc of war and actual destruction, as in Territories which had been occupied by hostile forces; secondly, on wide-spread campaigns sponsored by international authorities, for the eradication and control of diseases like malaria, yellow fever, yaws, trachoma, and smallpox; and thirdly, on special efforts by international bodies to support self-help in local government, to introduce community development in appropriate areas, or to support pioneer work and research of significant health importance.

Health legislation

34. In the great majority of the Non-Self-Governing Territories, legislation on matters of public health corresponds closely to the laws of the Administering Authority. Adaptations necessary for application to individual Territories

are commonly dealt with through the medium of regulations within the terms of the fundamental statutes. During the period under review specific legislation has been directed especially to the control of the major communicable diseases, supplementing the existing restrictive laws by providing the essential authority for the conduct of campaigns and their financial support.

35. In many cases, the apparent deficiencies of legislation in a Non-Self-Governing Territory today may be accounted for by the fact that most of what is necessary can be covered effectively by regulation under an existing statute, or by the adaptation of a law of the Administering Authority to the new conditions. For this reason it is difficult to judge from the outline of statutory provisions exactly how much real public health activity is being carried out, without specific legislation, by what might be described as departmental or administrative action.

36. The most striking statutory changes have taken place in Territories which have become self-governing countries. In such cases the general rule is for the legal advisers of the new country to take the opportunity of redrafting and codifying the entire public health laws, and so bringing them up to date. This improvement has been made in several countries, with the result that the new code is simpler and more effective than the corresponding legislation of the retiring authority. Recent examples of this are to be seen in Ceylon and the Federation of Malaya, and the situation is being dealt with in some countries either by a succession of "five-year plans" or by a series of measures with a similar effect. On the whole, however, it is rather surprising to find how few changes have taken place in statute law during the decade.

37. Health legislation in one form or another exists in all Territories. During the years under review there has been a considerable expansion, especially in the direction of meeting the challenge of new conditions. Statutes dealing with vital and health statistics in many of the Territories were limited to selected urban areas only when they were framed. Some progress has been made in the ten-year period in extending the "vital registration areas". Laws and regulations requiring permits for burial provide a reasonably accurate account of the number of deaths a year, but a great deal has still to be done before the collection and presentation of vital statistics becomes a legal

requirement in most of the Territories with large rural areas. For many years to come the development of an appropriate sampling technique for the basic rates, and the estimation of a proportional mortality rate, are the most feasible answers to the statistical questions that lie at the foundation of public health.

38. Among the oldest forms of legislation are of course the basic laws governing the maintenance of order and good government. Some legal provision had to be made at an early date for the control of the more dangerous communicable diseases; these have been extended to meet new hazards, such as poliomyelitis, which has become a menace in Kenya and certain other Territories. The extent to which provision has been made varies from the simplest rules for a few prominent diseases like leprosy to the all-inclusive legislation passed in the Belgian Congo in 1954. The latter created "measures for the control of quarantinable, epidemic, endemic, and other communicable diseases, including food poisoning and deficiency diseases". The statutes include detailed descriptions of the steps to be taken in each of the diseases listed. Trinidad and Tobago made laws for the control of yellow fever in 1954, when a few cases of jungle yellow fever were reported for the first time in that Territory.

39. In addition to the general legal requirements, most Territories have "infectious disease orders". Some have separate acts dealing with malaria, while the control of the disease is generally incorporated in the public health law. The general law usually contains specific environmental measures dealing with drainage and with spraying with insecticides. In the prevention of trypanosomiasis compulsory provision is usually made regarding the migration of cattle and the movements of human beings. There are also sections providing for resettlement.

40. Practically all the Territories have taken legal action to secure compulsory vaccination against smallpox; and some have included similar provisions against yellow fever. This may be illustrated from French West Africa where combined vaccination is compulsory at four-year intervals. A few Territories have recently passed legislation in respect of diphtheria: Morocco made the immunization of all school children compulsory in 1954, just before her independence.

41. In the Territories where leprosy occurs registration and treatment of the sufferers is now mandatory. During the past few years, however, frequent amendments have been made, to bring the law into line with new developments in the treatment of this disease. Rules for institutions dealing with leprosy patients have been set up or improved, and requirements for detention in hospital relaxed, as in Hawaii in 1950, in Papua in 1952, and in Jamaica in 1953.

42. A number of Territories have special legislation for the control of venereal disease, when it is not included in the general public health law. Statutes for this purpose were amended in the Seychelles in 1952. As a rule venereal disease is notifiable, and the present regulations may well be widened in scope, after the surveys and mass treatment campaigns which have been planned in a number of Territories have been carried out.

43. Tuberculosis is a notifiable disease in most of the Territories. The general public health law usually makes provision for isolating the patient and supervising the contacts. In practice, however, many of these requirements cannot yet be fully carried out. In some Territories specific legislation for the control of tuberculosis is in operation; this often includes the organization of preventive services, treatment centres, and institutional care; in addition it may make provision for compulsory BCG vaccination of school children. Legislation for the organization and functioning of tuberculosis control, for example, was passed in Tunisia in March 1949, and amended at later dates.

44. Legal enactments dealing with mental health are more recent in origin. In earlier times the only legislation that existed was for the establishment of lunatic asylums and the application of strict rules concerning admission and discharge. Amendments have been passed in a number of Territories, for example, the Gold Coast in 1947, and Tunisia in 1954. The effect of these amendments was to make the rules less rigid and to offer opportunities for voluntary treatment.

45. All the Territories have legislation on environmental sanitation, usually applicable to certain areas only, as well as provision for the minimum sanitary requirements of housing in urban areas. Water supplies and methods of refuse disposal in urban areas are also established by legislation.

46. In a number of the towns which are rapidly becoming industrialized it has been necessary to revise sanitary codes and to strengthen building regulations. It is to be hoped that increasing attention will be given to forward planning, including the layout of streets and open spaces. In sudden urban expansion there has been a growing danger of falling into the worse types of mushroom development, and new legislation ought to be directed to planning on a large scale to meet the probable requirements of a quarter of a century and not the urgencies of a few months. It is particularly important to design at the outset an adequate water supply and arrangements for the removal of wastes which can be expanded without abandoning immediate schemes. In cities which have suffered a rapid influx of population, such as Hong Hong, it has been difficult to promote effective housing legislation on account of sheer overcrowding and the virtual impossibility of controlling the flow of families in search of both work and shelter. In areas where the development is more orderly, many of the advances can be foreseen, and forward planning is an investment of notable value. This is especially true, when a new industry attracts the younger and more active elements of a population; yet it is an unfortunate fact that many of the lessons of over-rapid urbanization, which had been learnt at great subsequent cost by the local authorities of the nineteenth century have already been forgotten or ignored in the twentieth. The penalties are heavy and lasting.

47. Statutory measures for the protection of food supplies sold in public places, as well as specific rules governing the slaughtering of animals and the handling of meat have been introduced in many Territories.

48. Rules and orders covering the sale of milk have been gradually amended and improved upon in most Territories in the years under review (e.g., Hawaii, 1947, Morocco, 1949 and 1951, Tunisia, 1950, French Equatorial Africa, Jamaica and Papua, 1952, Belgian Congo, 1952 and 1953, Trinidad and Tobago 1953). Local councils as well as municipalities usually have the right to pass bye-laws with regard to housing and sanitation. Laws for the control of drugs and narcotics have been passed and amended so as to bring them into conformity with international standards. This is a gradual process and various Territories are at different stages of progress.

49. Laws dealing with the training and registration of medical personnel in the Non-Self-Governing Territories have undergone changes and improvements in the years under review. As more applicants became available for training as auxiliary personnel, courses have been upgraded and trained staff have been protected by the introduction of compulsory registration. The duties of registered staff are explicity laid down, resulting in a general improvement in the medical services. It is interesting to observe here that the creation of nursing and midwifery councils has generally been a condition precedent to the improvement of training in these professions. The councils have been effective in raising the status of nurse and midwife, and this in turn has meant a larger number of applicants. Examples of legislation dealing with nurses and midwives are to be found in laws passed in the Seychelles in 1950, in Trinidad and Tobago and Uganda in 1950 and 1951, in Tunisia in 1951 and 1953, in Morocco in 1951, 1954 and 1955, in the Belgian Congo in 1951, 1952, 1954 and 1956, in Hong Kong in 1952 and 1956, and in Fiji in 1954. Training and registration of other types of auxiliary medical staff is also controlled by legal provision. Sanitary inspectors, physiotherapists, and dispensers, for example, have derived benefit from the general advance in legislation during the period under review.

50. Registration of doctors, dentists and pharmacists is carefully regulated by statutes which have been amended in many Territories. Registration and practice of the "near doctor" in Africa as well as in the Territories of the Pacific have now been carefully regulated and supervised. In certain Territories good progress has been made in legislation protecting the industrial worker. Northern Rhodesia, for example, amended its Silicosis Ordinance in 1950, and the Belgian Congo amended its existing law on silicosis two years later. Most Territories today have measures providing for compensation in respect of occupational accidents and illness; some provide for medical examination of workers, and prescribe a minimum standard of hygiene and fitness; others have introduced specific regulations for "dangerous industries and trades". Provision for medical services in industry has been made in most Territories, at least in industries employing more than fifty persons. Legislation of this kind has been passed in the Belgian Congo, French West Africa, the Gold Coast, Jamaica, Madagascar, Morocco, Nigeria, Tunisia and other Territories.

51. Where private nursing in maternity homes exists, regulations for the establishment and supervision of these institutions have been introduced, including provision of equipment required for the operation of private nursing homes, as well as strict requirements for the qualification of staff employed. Amendments to these laws were passed recently in Cyrpus, Hong Kong, Jamaica, Singapore and Tunisia.

52. Hawaii in 1947 amended its 1945 legislation to provide for a child guidance clinic. A number of other Territories have passed laws on school hygiene and regulations requiring the medical examination of school-teachers.

II. HEALTH ESTABLISHMENTS

Hospitals

53. The great majority of the hospitals which have been established in the Non-Self-Governing Territories are of the general type - that is, they admit all kinds of cases without specialization. Most of the hospitals listed are small units set up locally to serve the needs of villages and settlements. In the larger towns and in the densely populated compact Territories, like Hong Kong, Jamaica and Singapore, there has been a growing tendency to develop a certain amount of specialization. The earlier examples of this trend were to be seen in the leprosy units, and in the construction of large mental hospitals. In recent times, special units have arisen for maternity and paediatrics, and the modern treatment of tuberculosis has given an impetus to the creation of further specialized departments. One recent advance which is being watched with keen interest is in the field of rehabilitation. The appearance of poliomyelitis in epidemic form, as in Kenya, has emphasized the need for early steps towards restorative treatment.

54. In a considerable number of Territories, as in Hong Kong and in many parts of Africa, such as Nigeria and Uganda, the earliest medical care units were run by missions. The missions to this day make a fine contribution to medicine, and in a number of Territories they are subsidized through government grants, or are regarded as integral with the government services.

55. A striking form of hospital integration lies in the promotion of grouping in the services for an area. This system cannot as a rule be represented by figures showing an extension of services because it often has the effect of actually reducing the number of beds. The underlying principle of grouping is a regional development in such a manner that one of the larger hospitals can serve a number of smaller units by providing more specialized care, or the more elaborate forms of diagnosis and treatment. This important development follows naturally on the recent advances in scientific method, and the constantly growing need for intricate and costly apparatus in medical diagnosis and treatment.

56. A closely related feature of modern hospital service in an increasing number of the Territories, such as Fiji, Hong Kong, Jamaica, Nigeria and Uganda, is the

creation or expansion of a medical school. In these areas the hospital forms an educational centre, and this in itself tends to improve greatly the available clinical services. Further, some of the medical schools established in the more scattered areas are helping to bind together the medical and nursing care services, and they contribute notably to the training of the indigenous population.

57. In the more concentrated areas the hospital services have been highly organized; this applies especially to areas in which the support of a medical school has created a fine tradition of advanced medical and nursing care. In areas where no medical school has been established, there has been a healthy tendency to set up at one recognized centre a comparatively large government hospital under the immediate control of the director of medical services for the Territory. From this general hospital as a centre, consultant services are radiating to the smaller hospitals so as to cover the Territory as amply as possible.

58. In Hong Kong, the first government hospital was founded as early as 1859. At the present time, Hong Kong has eleven main hospitals, two of which have been equipped and staffed to deal with every kind of acute and emergency case. There are also special units for obstetrical work, tuberculosis, and infectious diseases. In addition to the public hospitals, there are sixteen private units with a total of 3,288 beds, of which 2,280 are financially assisted by the government. Nine of these hospitals have become more or less specialized for such conditions as tuberculosis, mental disorders and communicable diseases. In addition, twelve maternity centres which comply with hospital standards have been constructed with a total of 105 beds. A new mental hospital has been built and was due for occupation in 1958.

59. The improvement and expansion of hospital services was one of the aims of the Post-War Development Plan in Fiji. The General Hospital in Suva, three district hospitals and fourteen rural hospitals, four small private hospitals which receive a government subsidy, a tuberculosis hospital, a mental hospital and a leprosy hospital, provided altogether in 1947 about 1,000 beds; in 1955 they provided 2,164 beds. The buildings were considerably improved and extended, their services increased, and annexes for tuberculosis patients were added to three provincial hospitals.

60. In the Caribean area, the Territories of Trinidad and Tobago have eighteen hospitals with a total of 3,751 beds, including four general hospitals with 1,176 beds; three tuberculosis bospitals with 484 beds; one mental hospital with 1,032 beds, and ten other hospitals with 1,059 beds. Eight of the latter are district hospitals with about 240 beds.

61. In the West Indies generally there has been no great change in hospital facilities or staffing during the period under review. It is interesting to note that in Antigua there is a large institution for the aged with 150 beds and another hospital with 120 beds. The number of health centres throughout the island has grown considerably and there has been a better distribution of health services. Medical qualifications are normally obtained in the United Kingdom or Jamaica. Nurses and midwives are locally trained.

62. In the Territories of the continental type in Central and South America, the hospital provision approaches more closely the combined medical care unit, providing both treatment and preventive services. In British Guiana, for example, there are three types of hospitals, the largest being provided from government sources - the public hospital at Georgetown with 683 beds; the public hospital in the Berbice district with 170 beds; and a private hospital at Georgetown (St. Joseph's Mercy Hospital) with 135 beds. The Bauxite Mining Company provides one large hospital at Mackenzie with 134 beds; the remaining estate hospitals are small and range from 40 up to 100 beds. The other large units in the Territory are a mental hospital of 744 beds, a leprosy unit of 411 beds and the Best Tuberculosis Hospital with 176 beds, all of which are government units.

63. The senior medical staff is usually qualified in the United Kingdom and the public hospital in Georgetown is approved by London and other universities and medical schools as a pre-registration hospital, taking six interns at a time.

64. In British Honduras a similar development has taken place. The main general hospital at Belize, seven small district hospitals and a hospital for mental patients, altogether provide some 480 beds, including 55 for tuberculosis and 100 for mental patients. Nurses, midwives and junior dispensers are trained in the hospital at Belize.

65. In the African areas, some of the larger continental Territories may be taken as examples. In Kenya, hospitals can be divided into four groups: (a) African government hospitals (of which the main one is King George VI Hospital in Nairobi)

staffed by specialists, registrars and interns and providing special forms of treatment; (b) provincial hospitals (of which there are four - at Nyeri, Nakuru, Kisumu and Mombasa) each staffed by a physician and surgeon with specialist qualifications, and supporting staff; (c) special hospitals, which consist of the Mathari Hospital for Mental Diseases, Nairobi, the Orthopaedic Hospital, Nairobi, the Infectious Diseases Hospital, Nairobi, Port Reitz Chest Hospital, Mombasa; and the Itesio Leprosarium, Elgoy Nyanza District. The Infectious Diseases Hospital in Nairobi has accommodation for general infectious disease, tuberculosis, and a special unit equipped to treat all types of poliomyelitis; (d) district hospitals (of which there are 52, main and subordinate). These government hospitals provide a ratio of 1.2 beds to every 1000 of the population. Further African accommodation is available in sixteen mission hospitals: six in the Central Province, two in the Coast Province, two in Rift Valley Province, one in the Southern Province and five in Nyanza Province. There are eight European hospitals provided by the European community and controlled independently, and the Government also runs one hospital for Europeans at Kisumu. There are three Asian hospitals, two in Mombasa and one in Kisumu, and accommodation is also available for Asian patients at the King George VI Hospital, the Infectious Diseases Hospital, the Mathari Hospital, (all in Nairobi) and at the Port Reitz Chest Hospital in Mombasa, as well as at three provincial and nine district hospitals.

66. In French West Africa, there are five big hospitals, with 3,500 beds, eight secondary hospitals (1,960 beds), and 82 private establishments with 600 beds. The principal hospitals are in Dakar under government sponsorship. The Hôpital principal and the Hôpital central africain together provide 1,325 beds. Medical care services are also provided through medical centres, infirmaries, dispensaries, medical posts and mobile teams, widely situated throughout the Territory, as described on page .

67. When the first development plan for the Federation of Nigeria was formulated in 1946 there was approximately one hospital bed for every 5,000 people. At that time there were 53 government or Native Administration general hospitals. By 1956 there were 157, with plans at various stages for many more. An encouraging development has been the recent interest shown by a number of communities who are

building their own rural hospitals with the help of government grants. In 1955, five grants were made, totalling £50,000, to which the communities added a further £58,000.

68. In Uganda the main European hospitals are government institutions at Kampala, Entebbe, Jinja and Mbale; the African and Asian district hospitals are also government institutions: altogether twenty-four general hospitals and two mental hospitals with a total of 3,378 beds, as well as two leprosaria with 1,700 beds. Mission bodies, with hospital beds amounting to some 1,000, provide a strong reinforcement to the medical services.

69. In the Belgian Congo, it was estimated in 1956 that there were 5.6 hospital beds for every 1,000 inhabitants. Medical facilities included 293 hospitals with 42,910 beds; 115 clinics (government, mission and private) with 1,139 beds; 1,952 dispensaries and infirmaries with a total of 15,362 beds, and 179 specialized institutions for the treatment of leprosy, tuberculosis and trypanosomiasis. Valuable assistance in medical and public health matters is given by philanthropic organizations, large industrial concerns and religious missions.

70. It is not possible, in a brief account to give detailed figures representing increases of hospital beds in every Territory. The statistics presented do not permit of a year-by-year assessment; nor do they give an accurate picture in many areas of exactly what the expression "hospital bed" denotes. Definitions exist in many cases but the real difficulty is to apply them to statistical information derived from a large number of Territories in which the people have entirely different backgrounds and are in varying stages of development. A number of different authorities have attempted to offer definitions of the various expressions used in descriptions of the health services. 1/ These definitions are

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1/ The following definitions are based on recommendations made by the WHO Expert Committee on Organization of Medical Care (WHO Technical Report Series No. 122, Geneva, 1957), by the Sub-Committee on Hospital Morbidity of the French National Committee for the study of statistical problems concerning public health, and in the Handbook on Accounting, Statistics and Business Office Procedures for Hospitals published by the American Hospital Association (United States of America, 1950):

Hospital. An integral part of a social and medical organization, the function of which is to provide for the population complete health care, both curative and preventive, and whose out-patient services reach out to the family in its home environment; the hospital is also a centre for the training of health workers and for bio-social research.

(Footnote continued on following page)

(Footnote continued from preceding page:)

Regional hospital. Located in the chief town of a region, and may be working in collaboration with a medical school; it gives a high standard of service in general medicine, general surgery and midwifery covering all the needs of the local inhabitants; it is also fully equipped with highly specialized departments, such as those of neuro-surgery, plastic surgery, radiotherapy, etc., capable of handling all the patients of the entire region needing such services.

Intermediate hospital. Responsible for a smaller district. In addition to departments of general medicine, paediatrics, surgery and obstetrics, it has a number of departments dealing with more common specialities, for example, otorhinolargyngology and ophthalmology. An X-ray department under a well-qualified specialist is indispensable.

Local hospital. Provides general medicine, surgery and obstetrics for the day-to-day needs of a small localized group.

Out-patient clinic or department. A structural and functional part of a general hospital, in which the various specialities of the in-patient services of the hospital have their counterpart for ambulatory care; it advises upon and supervises home treatment and undertakes detailed clinical investigation of non-urgent cases prior to admission; it is responsible for the follow-up of patients discharged from the wards. It should provide a comprehensive diagnostic service and specialized treatment beyond the capacity of a general practitioner or health centre; it should become the medium for promotion of health and prevention of disease through ante-natal and post-natal clinics, industrial health and school health services; it should form the link between the hospital wards, the organized local health services and the community, and become the meeting-place where co-operation between the clinician and the health officer develops for the benefit of the individual.

Special hospital. An establishment accommodating or treating subjects whose state calls for diagnostic means or treatments adapted to their disease, to affections of an apparatus or system, or to their age; an establishment intended to treat, with or without board and lodging, special categories of patients.

Dispensary or polyclinic. A medical establishment where patients may attend for consultation and treatment not necessitating hospitalization. It may either be exclusively for out-patients, or have beds for lighter cases to be referred to the general hospital but not for treatment.

(Sometimes a distinction is drawn between "polyclinic" and "dispensary" in that the term "dispensary" denotes an institution where out-patients are offered free consultation and treatment, and "polyclinic" one where patients are charged fees. This distinction probably does not apply to the Non-Self-Governing Territories.)

Convalescent home. An establishment where convalescents are given board and lodging and treated if necessary.

Rural health unit. An organization providing or making accessible, under the direct supervision of at least one physician, the basic health services for a community.

reasonably concrete and satisfactory, and indeed it would be difficult to put forward any sound amendment. When we come to the less precise terms, however, troubles come in battalions. The hospital bed, for example, is defined as follows: "A hospital bed represents the general facilities offered by staff, premises, equipment and material necessary for the hospitalization of a patient". Even with the assistance of this flickering candle of guidance, it is not possible to differentiate the varying numbers of beds reported in one Territory or another. In fact, it has not been possible to construct a table which would be either accurate or intelligible. Before a satisfactory account can be given of progress in medical care, it will be necessary to find some simple categories which can be easily noted and differentiated from one another. These categories should, for example, distinguish clearly between a temporary and a permanent bed, between a hospital bed which is part of a well-defined and properly constituted ward and one which is put up perhaps in a corridor, or some other emergency accommodation. It is also necessary to distinguish between the bed capacity of an institution and the bed occupancy. Some hospitals, especially those reserved for mental cases, are liable to show an occupancy far beyond their capacity. For example, in one Territory a mental hospital, recorded in one year as having 800 beds, gave a number of nearly 2,000 in the following year. It was clear from the record that beds had simply been crowded into an insufficient space.

71. In an estimate of bed accommodation in hospitals, the records obtained from the various Territories do not as a rule draw any sharp distinction between general and special bed accommodation. This often means that no permanent specialization has been designed and that beds are used in different periods for wholly different purposes. An outbreak of poliomyelitis, for example, would greatly increase the figures recorded for special bed accommodation. It may be mentioned even further that in the presence of a sudden epidemic or other emergency, three or more patients may occupy the same bed; or, alternatively, beds can be multiplied by laying mattresses on the floors.

Dispensaries, out-patient departments, etc.

72. Some of the most characteristic examples of the out-patient system are to be found in the more populous Territories, such as Hong Kong, Singapore and some of the Caribbean islands. Dressing stations and mobile units, associated with

scattered populations, are also dealt with under the same heading because the information does not permit definition.

73. It is seldom possible to draw a sharp distinction - with regard to individual Territories - between out-patient departments and dispensaries on the one hand and health centres on the other. The reports from Non-Self-Governing Territories indicate that during the past five or six years there has been a general tendency to combine curative and preventive work, so that the term health centre is probably more applicable than out-patient department to the great majority of recently created units.

74. The concept of the modern health centre in rural areas has been dealt with in some detail by the WHO Expert Committee on Public Health Administration.[2/] Many of the comments and recommendations of the Committee apply to the conditions in Non-Self-Governing Territories, especially the notes on basic services for a rural health unit. The principles set out are widely applicable to the less-developed continental areas but there are similar developments in some of the smaller island Territories, especially in the Caribbean and Western Pacific.

75. Dressing stations and medical posts are as a rule smaller than health centres and serve as local extensions to them. They are generally staffed by nurses and sanitarians, but arrangements are made for regular visiting by a qualified medical officer. It is not really possible to give an accurate estimate of the number of dressing stations in many of the larger continental Territories or even to indicate with any degree of precision to what extent they have extended in number and size during the years under review. A careful study of the records for the years 1946-1950 in comparison with those for the year 1956 reveal discrepancies which can be accounted for only by changes that take place from time to time, in the location of centres and in response to specific needs. An emergency, for example, may occur in a comparatively extensive area (e.g., an outbreak of one of the major epidemic diseases). In response to the demand, "health centres" may be set up in considerable numbers only to be dismantled when the emergency is over. The

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2/ WHO: Methodology of Planning an Integrated Health Programme for Rural Areas, Second Report of the Expert Committee on Public Health Administration, Geneva 1953, WHO Technical Report Series, No. 83.

inevitable result of this is the presentation from year to year of a series of conflicting figures, some of which give a spurious impression of accuracy.

76. Mobile units are of course still more difficult to record with any statistical meaning. These units, however, serve two purposes; the first is to render medical care, including maternity care, to isolated areas, especially where the terrain is difficult for field transport or where water is the only possible means of communication. In the second place mobile units serve as a compact organization of medical care; their staffs are prepared to carry out visits over a wide area, e.g., for immunization or the control of an actual outbreak of communicable disease. In this way they have both a regular and a specialized or emergency function. Some of these units are transported by water either from island to island or along rivers, as in North Borneo and Brunei, where access by road is extremely difficult. Others travel along rough tracks from village to village.

77. One may take as a first example a widely scattered and difficult area - the part of Netherlands New Guinea controlled by the Administering Member. This section of the Territory is divided into twenty-three medical districts under the supervision of qualified medical officers. Sixteen of these districts have what are in effect small hospitals and the remaining seven are out-patient departments with bed accommodation for a small number of patients. Physicians from the central hospitals go on regular tours of these outlying dispensaries. Progress has consisted mainly in a steady penetration of the unsettled Territory. By the end of 1956 there were in addition thirty-two recently appointed indigenous infant welfare nurses working at medical posts in villages under the supervision of European nurses. The local nurses have wide responsibilities, ranging from what is virtually medical treatment to giving advice on nutrition and even housing. They each supervise areas with populations up to 9,000. A great part of the interior of Netherlands New Guinea is being gradually opened up in this way. The system that is being followed is to spread out mobile stations as circumstances permit and gradually enlarge them to the status of health centres. The numbers are increasing year by year and the development of air services is speeding up the process.

78. In the Territory of Papua and New Guinea the immediate objective of the Administration is to create clinics, aid posts, and widely spread isolation units,

rather than expend large sums of money on hospitals. In some respects the demand for medical services has outstripped the capacity to provide them; and it is the policy of the Government to use indigenous staff wherever possible and to extend the health centres by means of radiating rural units. Actually, at the provincial and local level (in addition to the hospitals at the main centre) nearly 1,200 aid posts have been dispersed throughout the Territory, most of them during the past ten years. These medical posts are staffed by indigenous orderlies who have been trained to give simple treatment and are at the same time able to provide transport for the seriously ill back to the hospital bases. The whole system is supported by the establishment of central medical stores at Port Moresby, Lae and Rabaul, each with its own pharmacist. In the larger villages health centres have been much more fully developed and each one takes part in maternal and child health work. There has been a gratifying increase also in coverage of the Territory during the past ten years. In addition to services provided by the Administration there are 38 religious mission organizations in the Territory which provide small hospitals and dispensaries for medical work.

79. In the Territory of Guam, the United States Administering Authority appointed a full-time physician in the public health division in 1956 and regular health clinics are now being held in all the outlying villages. These village health centres concentrate on preventive work with infants and school children, but owing to transport difficulties the physician accepts patients requiring minor medical treatment.

80. In the Territories under the administration of the United Kingdom there are considerable variations in out-patient services, etc., according to the period at which the health organization was first made available. In many of the smaller islands there is little reference to outlying dispensaries and medical posts, but the areas are small and the hospital centre as a rule accessible.

81. In Fiji, the number of rural dispensaries increased from 34 to 47 during the period under review and their accommodation was greatly improved from thatched wooden huts to modern concrete buildings. A much felt need for motor vessels to ease communications with outlying areas has been filled to a limited extent by the maintenance of four vessels from 1955.

82. The continental type of health service is generally in addition to hospital facilities. It covers an increasing number of MCH centres and clinics which differ considerably in size and scope.

83. The Territory of Brunei, in addition to its three hospitals, has two permanent out-patient dispensaries, at Tutong and Dumburang, and there are five travelling dispensaries, eight health and maternity centres and eighteen rural clinics. Maternal and child health services are associated with hospitals and clinics, and in addition there are travelling nurses and midwives.

84. Hong Kong and its surrounding areas have a considerable number of public dispensaries distributed all over the area. These are supplemented by two travelling units for the smaller villages. A launch with medical supplies visits the outlying islands. There are in addition twelve maternity centres with a total of 105 beds and 18 midwifery centres doing public health preventive work. The population of Hong Kong has been increasing enormously and is now estimated at two and a half million.

85. In French Equatorial Africa the preventive services are made available by the General Mobile Health and Preventive Medicine Services (SGMPH). In addition to the main medical centre at Brazzaville, there are medical centres in the principal towns of the larger districts and a number of dispensaries in the villages. In 1956 there were 365 medical centres in which treatment and a limited amount of nursing could be provided, as well as thirty mobile units which travelled all over the country. The latter are engaged mainly in the control of epidemic disease but also give some general care to the sick. They have been improved in both quality and number.

86. In French West Africa, there are 1057 medical centres (13,274 beds), 204 infirmaries (2,746 beds), 870 dispensaries and 246 maternity homes (4,466 beds) established throughout the Territory. Dahomey has a number of leprosaria and sleeping sickness units, as well as about 700 dispensaries and child welfare centres, and ten posts staffed by midwives in the more remote areas. In French Guinea the hospitals and health centres are very widely distributed, many of them being maternity stations with a few beds for emergencies. Similar conditions apply to the Haute-Volta, where nearly 100 dispensaries and local stations have been established. In the Ivory Coast a similar number of small units have been established, many of them with between ten and forty beds. In Mauritania and the Niger areas a considerable number of infirmaries and medical posts; Senegal has nearly 100 dispensaries and medical posts. Soudan has three medical centres with beds (19 for Europeans, and 62 for Africans) and a

considerable number of maternity units and local centres, the former providing a substantial number of beds for maternity cases. The SGMPH is responsible for conducting campaigns throughout the Territory for the control of epidemic diseases, and during the past ten years there has been a steadily increasing demand for both the fixed and the mobile services, showing a greater confidence on the part of the indigenous population. Furthermore, a growing number of Africans are eager to join the medical and para-medical staff.

87. The health services in Madagascar provide, in addition to general and district hospitals, 277 medical centres and 314 maternity centres. These do not include the maternity departments of larger hospitals, 88 hospital dispensaries and 18 centres for the treatment of leprosy patients. There are also several mobile provincial and district health teams, but the number is not stated. All the dispensaries and health centres appear to be used for medical treatment, as well as maternity and other health services.

88. In the Comoro Archipelago, there were in 1956 six medical centres with 304 beds, and 20 dispensaries. The six medical centres include three hospitals; the other three are dispensaries in rural areas with a few hospital beds.

89. French Somaliland, with a total population estimated at 67,256, has a local director of public health. Health centres include the main general hospital at Djibouti with 521 beds, a garrison infirmary of 40 beds, and five out-patient dispensaries. There are also four health centres with a small number of beds, a maternity home, a tuberculosis centre and a psychiatric centre.

90. In Basutoland, there are 23 MCH clinics, 16 for venereal disease, two health centres, two mountain dispensaries and 47 out-patient clinics. There are in addition one leprosarium, one mental hospital and seven independent X-ray installations.

91. Bechuanaland has 23 dispensaries located throughout the Territory and one new health centre. In six of the dispensaries accommodation is provided for the regular visits paid by the medical staff, who also travel widely at certain intervals to outlying centres for medical care.

92. In 1955 a European district nurse was sent to Ghanzi, some 200 miles from the nearest medical officer. A small dispensary with in-patient accommodation was provided at this centre, enabling the nurse to include MCH clinics in her work.

93. In British Guiana, there are seventeen dispensaries throughout the Territory which receive regular visits from appropriate medical officers, as well as supervisory visits from either the medical director or the medical officer for Amerindian areas. The Mobile Dispensary River Service has developed steadily and by 1956 had nine modern motor launches in commission staffed by dispensers and medical rangers who are trained in first aid and administration of simple medicines. This service covers outlying districts which could not otherwise be reached. As a result of recommendations made by a group of experts in 1949, ambulance and dispensary services are being improved by the sugar estates for their workers.

94. In British Honduras, with a population of some 82,000, there are twenty health centres, seven in urban and thirteen in rural areas, which provide general and MCH services for the entire population.

95. In Barbados, in addition to the various hospitals there are three health centres - at Enmore, Spritztown and Six Cross Roads - which are responsible for all the public health work undertaken in the area. These centres undertake mainly maternal and child health and dental work and various other preventive services; their scope has been extended during the past ten years.

96. Jamaica has twenty-six government hospitals with out-patient departments, 123 independent dispensaries and over 400 maternal and child health centres, as well as special units for tuberculosis, leprosy, etc. The estimated total population is over one and a half million.

Staffing of health establishments

97. It is not quite so difficult to obtain a general idea of staffing arrangements in hospitals, dispensaries, out-patient departments, etc., as it is to determine the number of hospital beds (as outlined in paragraphs 70-71). There are, however, many gaps in information given in reports, and it is perfectly clear from internal evidence that some of the figures must be inaccurate. In plain words, there are some areas where the figures do not fit. A valuable advance will have been made when a measure of uniformity has been achieved in the terminology used to identify different types of personnel; in all fairness it should be stated that a slight trend in this direction is visible in the later years under

review as compared with the earlier years, but much more uniformity is still desirable. An equally important advance will have been made when it becomes possible to differentiate, by means of the figures presented, between physicians, nurses and other health staff who belong to the following categories:

(a) Those who have been trained outside the Territory and are in the full-time employment of the Government or the Administering Authority.

(b) Those who have been qualified locally, being either members of the indigenous population or others who have come into the Territory from elsewhere in the hope of obtaining suitable professional employment.

(c) Those who may be described as "medical assistants" or "assistant nurses", or a category of this kind. These officers have generally received specially designed and somewhat limited training suitable to their background of education and experience.

III. HEALTH ACTIVITIES

Medical care

98. In the course of the last decade a very important change has been taking place in the attitude of Governments towards the extent and scope of their medical care services. In earlier days, the hospital was a more or less isolated institution and in the Non-Self-Governing Territories many of these units were set up to meet a defined need in a limited area. A number of these hospitals had out-patient departments and some had even a few scattered clinics or posts, perhaps in villages at some distance from the parent institution. As a rule, however, what was described as an out-patient department was merely a hospital annex to provide advice and minor treatment for persons who did not require admission to the wards, and to a lesser degree the follow-up of patients after discharge.

99. The most striking advance in the orientation of medical care services during the past ten years is one that has now found a permanent place in the health organization of the Non-Self-Governing Territories. This is the extension of out-patient and dispensary care to cover a much wider area of service, and the increasing co-operation of individual hospitals, both general and special, to create a really balanced service of medical care throughout the community. An essential feature of this wider administration was that the smaller hospital units in towns and rural areas were no longer isolated but became partners in the general extension of both preventive and curative medicine. Further, in the remoter areas especially, the hospital has even extended its direct influence to the small community in which its dispensaries have become an essential part of community participation. Indeed, the rural centre has become, in many Territories, one of the foundations of the medical care system.

100. This development has happened in various stages. Not infrequently, at a time when construction of the hospital itself has been delayed by financial restriction, the authorities have been able to go forward in the Territories under their administration with bold plans to create chains of out-patient clinics and rural units linked with the hospital services at a centre, which may be a small town or even a village and which forms an easy focal point for communication. Many of these dispensaries and out-patient departments are closely related to a

hospital and are served by specialists from that central institution. In the more remote areas, the process goes further still: the system extends to include the services of nurses, midwives and other auxiliary staff. So far as the sick are concerned, this organization of dispensaries is often a two-way traffic, for the medical and health personnel in the more remote areas not only receive advice from specialists who come as consultants from a hospital centre, but they also send their seriously ill patients to hospital through the local dispensaries. It should be added that the smaller units also undertake some preventive work through maternal and child health and school clinics and make arrangements for promoting health education.

101. The quality of medical care and the extent to which it reaches all sections of the population is in itself a valuable test of the health services in a Non-Self-Governing Territory. It must be admitted, however, that it is by no means an easy matter to assess quality in comparative terms between one area and another. The personal factor is the ultimate judgement and there are as yet no adequate means of measuring. A further criterion of medical care is based upon an estimation of how effectively the service is able to reach the remoter areas of a Territory. In any study of the subject each Territory has to be related to its own background, as ordinary comparison would show a bias against the more remote and scattered populations. Even the larger Territories show considerable variations among themselves. In one there may be an admirable medical care provision in the municipalities but hardly any penetration to the villages and rural districts. In another a highly congested population would raise no difficulty in area distribution but might well show a marked selectivity in the sections of people served.

102. Medical care in the large Territories with widely scattered populations offers the greatest obstacles to a comprehensive service. Not only is access to towns difficult, but sheer distance adds to the hazards and cost of bringing in professional attention; and specialist care is one of the crucial tests of of a complete organization. In a similar way many of the island Territories of the Pacific suffer from difficulties of communication on account of the long voyages that have to be made.

103. Fiji is a good example of the organization of medical care at a centre having remote islands. The central public health activities are co-ordinated by a Central Board of Health of which the director of medical services is chairman. This body has extensive powers in islands where there are no health authorities. There are four main medical districts, each with a medical officer in charge, and twenty-two local health authorities. Fiji itself is divided into forty-eight areas, each with an assistant medical practitioner in charge; he is generally located at a rural hospital or dispensary and is responsible to the medical officer of health in matters of communicable diseases.

104. The number of locally trained assistant medical practitioners working in the medical services rose from 82 in 1946 to 115 in 1955. Locally trained nurses, 153 in 1946, numbered 352 in 1955.'

105. Another island Territory which has shown considerable advances in medical care is Mauritius. The Public Health Department, administered by the director of health services, has three main divisions; administrative, public health, and curative and investigative services. One of the features of medical care is the laboratory service which has three pathologists and twenty-one laboratory technicians.

106. There are eight general hospitals, a mental hospital, an orthopaedic hospital and an institution for leprosy. Sugar estates are required to provide medical care for their labour and, in fact, thirty-three estates provide hospital accommodation. In the last few years a practice has developed of building one hospital for several estates, and it has been found that this pooling of resources has substantially improved the standard of service. The number of rural dispensaries has risen during the ten years from thirty-two to forty-eight and the services they offer have been increased considerably in scope. In fact it might be said that they have been transformed into fully developed rural health centres where both preventive and curative methods are undertaken. Several centres of this kind are already in existence and the new five-year plan provides for twenty more, either by building new centres or by transforming old dispensaries. Two mobile health units were set up in 1947 and two more were added in 1951. A mobile ante-natal clinic was started in the latter year and a mobile dental clinic in 1953, to which was added a second in 1956.

107. One more example may be taken to illustrate the progress of medical care in the continental Territories. The medical and health services of the Federation of Nigeria were based, until 1951, on a central department in Lagos with Deputy Directors in charge of the medical services in the Northern, Eastern, and Western Regions. These have been completely reorganized under the new constitution. Decentralization began in 1951, when directors of medical services were appointed to each of the three regions and the Central Medical Services were brought under the Ministry of Social Services. In 1954 a Ministry of Health was formed in each of the three regions. The Federal Ministry remained responsible for research, quarantine and international obligations and health service of the Federal Territory of Lagos. Apart from this the regions have become autonomous. A Minister of Health was appointed to each region, with a director of medical services and a central staff, as described in paragraph 9.

108. A ten-year plan of development and welfare, 1946-1955, provided for health services to fit in with the new structure. In each region a number of medical divisions were organized with one or more general hospitals for each division providing full specialist services; each medical division is further divided into a number of medical areas with one smaller rural hospital in each area linking up with a network of rural health centres, village dispensaries, and mobile field units. The number of village dispensaries, which are under the supervision of the health centres, rose from 520 in 1948 to 1120 in 1955. These dispensaries are run by dispensary attendants. The aim is to have qualified male nurses of some seniority with experience in hospital work, as well as training in dispensing and laboratory work. It was by no means easy to attain this standard, and training schools have been hard-pressed to provide this type of personnel at the rate required to keep up with the rapidly growing number of dispensaries which are being built. It has been found in practice that the plan for the rural health centre to be the parent of the dispensary was a sound one; in areas where fully fledged rural health centres exist, the village dispensary services are generally of a higher standard than in areas where there is no such supervision.

109. The creation of mobile units working from health centres or dispensaries was originally devised with the object of dealing promptly with outbreaks of communicable disease, such as smallpox, cerebrospinal meningitis, trypanosomiasis

and relapsing fever. Between epidemics it was planned that they should undertake mass treatment campaigns, mass vaccination, malaria control measures, health and nutrition surveys, and so on. Three units of this kind were set up in 1948 and by 1956 twelve were in full operation. They have proved invaluable and the scope of their work is developing even beyond what was planned; it is not too much to hope that before long the preventive aspect of their work may outweigh the curative. They cover a wide range of subjects, including the treatment of leprosy out-patients and such matters as snail control and other measures of environmental sanitation. They also serve in the field training of rural medical auxiliary personnel. Valuable research work is being done through special surveys, of which many are undertaken each year, and in the capacity for which they were originally intended - the control of epidemics - they have been instrumental in preventing several epidemics from causing the ravages known in the past, by bringing help in time to treat cases which would otherwise have been fatal, and enforcing isolation measures to prevent the spread of disease, as well as by vaccination and other preventive measures.

Control of communicable diseases

110. One of the most heartening advances in health care during the ten-year period has been the initiation of great campaigns against the major epidemic diseases. The Non-Self-Governing Territories have had their full share of these poblems, as many of the reports on progress bear witness. As one would expect, the heaviest burden has been placed upon the shoulders of the continental groups of Territoriss, especially in Africa; but, with continued international assistance in personnel and material, some of the most wide-spread of the epidemic diseases are at least being held at bay. It should be noted, however, that a number of the more important programmes have been started only as recently as 1957.

111. In French Equatorial Africa mobile units are mainly engaged in the control of communicable diseases; in particular, injections are being given against yellow fever, and vaccination against smallpox is extensively undertaken. Considerable progress has been made in the last decade and especially since 1954, in mass campaigns. An interesting example of this is that at the beginning of 1954 only 56,670 cases of leprosy were officially recorded; and by the end of

1956 the number registered was 136,150, of whom 126,000 were being treated. In spite of the prolonged period of treatment necessary, 6,021 cases were regarded as no longer contagious, and twenty-one as definitely cured.

112. Yaws exists mainly in the Gabon, Congo, and southern Oubangui-Chari, all of which are hot, humid forest regions. Since 1955 penicillin has been administered to both active cases and contacts. Mass treatment has resulted in an appreciable decrease in the number of cases. In 1956 cut of the total patients treated for all diseases, 2.8 per cent were suffering from yaws, compared with 6.9 per cent in 1947.

113. Malaria, still a serious problem throughout the Territory is now being successfully controlled. A sufficient weekly dose of nivaquine has been administered to 70,387 school children and to 33,256 children of pre-school age. In 1956, 26 million square metres of walls were sprayed with DDT, and 14,447 dwellings were treated with the insecticide.

114. Venereal disease still constitutes one of the main health problems. In 1956, 79,820 cases of syphilis were treated, in addition to large numbers of other forms of venereal infection. In the same year 17,663 cases of amoebiasis were reported, as against 14,411 in the previous year. Although there are few hepatic complications and only a small number of deaths, the disease is one of the big health problems. Cases of bacillary dysentery are not frequently reported, but intestinal parasites are very numerous. Out of 140,000 cases examined in 1956, ankylostomiasis was found in 40,000. Bilharziasis and filariasis are found in the Oubangui-Chari and Chad regions, to the extent that special control operations were undertaken in 1956. A trachoma control campaign was planned in 1956, and a method of self-treatment is being tested.

115. Trypanosomiasis is decreasing; only 784 cases were found in 1956 in the course of examination of 2,258,282 persons. Only six cases of yellow fever have been reported since 1946; but in 1956 over one and a half million people were inoculated either with yellow fever or with mixed smallpox-yellow fever vaccine.

116. Tuberculosis is fairly wide-spread, although the number of reported cases is not great. In 1956, 2,759 patients were treated. A campaign of tuberculin testing and X-ray examination has now been extended to the whole Territory.

117. In French West Africa, among over five and a half million people examined, 5,334 new cases of trypanosomiasis were detected, and 22,135 old cases were checked. Out of a similar number, 44,415 new cases of leprosy were found, the total number in 1956 being 270,541. A malaria control programme has been in operation since 1952, and it is now being continued by combining the use of insecticides with schizonticides and gametocides. Smallpox vaccination has been carried out on a large scale. In 1956, vaccinations combined with yellow fever inoculation numbered 3,632,338, and smallpox alone, 1,829,564. Tuberculosis is attracting attention to an increasing degree, and large-scale BCG vaccination campaigns have been intensified.

118. The position in Madagascar is that malaria has greatly diminished as a result of the control campaign which was launched some ten years ago. Nivaquine is distributed free of charge. Twenty cases of plague, with eleven deaths, were reported in 1956, and nearly 800,000 inoculations have been carried out. Dionlone is being used for the domiciliary treatment of leprosy, and the patients are not segregated unless they are contagious. Recently a tuberculosis control service has been started through fifteen dispensaries and mobile health units equipped with mass X-ray.

119. Tuberculosis is the main problem in French Somaliland. A systematic programme of case-finding, begun in 1954, showed that 72 per cent of the children in urban areas gave a positive tuberculin reaction. Fifteen per cent of the population are reported to be infected with the disease. This high incidence is attributed partly to poor nutrition and partly to gross overcrowding. Malaria has been practically wiped out except in a few rural areas which are especially difficult of access.

120. In the African Territories under United Kingdom administration conditions are steadily improving, but much remains to be done. The reports from Bechuanaland state that malaria is difficult to control in certain areas owing to season migrations to agricultural lands, making the people more susceptible to infection. In most settlements, however, effective control is secured by residual spraying. A number of recent surveys indicate a high prevalence of pulmonary tuberculosis. The common diseases of childhood, notably diphtheria and whooping cough, are still very prevalent, and mass immunization campaigns have been started. The campaign against non-venereal treponematosis is discussed in paragraphs 310-312. In Kenya

the outstanding health problems are concerned with tuberculosis, malaria and bilharziasis. Malaria is now largely under control, and tuberculosis remains the most important communicable disease. The same is true of Northern Rhodesia and Nyasaland. In Southern Rhodesia a malaria control campaign has been in operation since 1947, and now pilot projects using the same techniques have been started in the two Northern Territories. There has also been great emphasis on the fight against tuberculosis, and special trials are being made with the vole bacillus vaccine in the copper-mining areas.

121. The most common diseases in British Somaliland are respiratory infections, malaria and tuberculosis. The control of mosquitos has presented great difficulties in many areas; in particular, the source of A. gambiae - the cause of seasonal epidemics in the Haud - has not yet been solved. Centres of breeding are sprayed with residual insecticides, and the huts, frames and mats carried on camel-back by the nomads are sprayed as often as opportunity offers. A survey of the prevalence of tuberculosis carried out in 1956 showed a high positivity rate in certain age-groups, and a programme for the control of tuberculosis has been launched since the end of the period under review, with assistance from the World Health Organization.

122. The greatest health problems in Swaziland are malaria and bilharziasis. Against the former good progress has been made by residual spraying which was started in 1947. The incidence of tuberculosis is not accurately known, but is generally believed to be high. Similar conditions apply to Uganda, where limited surveys indicate the wide-spread infection. A tuberculosis officer was appointed in 1955 to co-ordinate the measures against the disease. Malaria is the greatest single cause of sickness in Uganda. Eradication work has hitherto been practically confined to urban areas, and has met with considerable success. A good deal of progress has been made in the control of leprosy. The estimated number of cases is 70,000 of whom 30,000 are under treatment. The incidence of schistosomiasis is distributed irregularly, and direct preventive measures are difficult on account of the nature of the snail breeding grounds. Onchocerciasis is now being controlled successfully in certain parts of the Nile and other regions by a special method of dosing with DDT. Apart from poliomyelitis, of which there was a severe epidemic in 1955 with 150 cases and fifteen deaths,

there has been no serious outbreak. In 1956 there were seventy-two cases and seven deaths from the same cause. Twelve thousand, five hundred and fifty doses of vaccine were administered.

123. Tuberculosis is causing anxiety in Zanzibar. There is one tuberculosis hospital and also some beds for treatment in two general hospitals. In 1956 there were 283 admissions of patients with pulmonary tuberculosis, and 675 out-patients were seen at the chest clinic. An attempt is being made to treat all known cases and to examine contacts. Some BCG vaccination is being carried out.

124. In Nigeria among the communicable diseases, leprosy is still a disturbing problem, and it received special attention when the development planning was drawn up in 1946. At that time it was estimated that there were approximately 400,000 people suffering from leprosy in Nigeria, of whom only about 6,000 were in leprosy settlements and receiving treatment. The incidence of the disease varies from place to place but in the most seriously affected areas it is believed to be around 50 to 60 per thousand population. The development plan made provision for establishing a government leprosy service to undertake treatment, prevention and research on a much larger scale than previously. Each province was to have a central leprosy settlement of not more that 1,000 patients, and based on these settlements a network of segregation villages staffed by the local communities, and of out-patient centres. The introduction of sulfone drugs has revolutionized the treatment of leprosy and the combined efforts of the Government, Native Administrations and the missions have brought treatment and hope to thousands of sufferers. In outlying districts the medical field units provide treatment and advice on preventing the spread of the disease. The research carried out by the Leprosy Service has proved invaluable in giving a more accurate estimate of incidence, and in guiding methods of treatment and follow-up.

125. By 1954, twenty-five leprosy settlements, 202 segregation villages and 269 out-patient clinics were in existence. About 54,000 patients were under treatment. In order to increase the number of staff needed to deal with the disease a six month training course is given for leprosy inspectors and leprosy assistants. This is done at a school in the Eastern Region which also provides refresher courses.

126. Trypanosomiasis is another great problem in certain areas. The 1946 Development Plan provided for the establishment of a Sleeping-Sickness Service, which has made great progress in both treatment and prevention. The medical field units have also, as mentioned above, been of great assistance in controlling epidemics. Much has been learnt of the prevalence of the disease by numerous surveys and resurveys; drug trials and controls have been made, and large areas cleared of the tsetse fly and transformed into productive farmland.

127. Epidemics of smallpox, cerebrospinal meningitis, and relapsing fever break out annually, but most encouraging progress has been made in their control since the introduction of the medical field units referred to in paragraphs 108-109. Not only have they been able to extend the scope of vaccination campaigns and convince previously unpersuaded populations of their efficacity, but they have also collected much useful information on the incidence of the epidemics so that some degree of advance planning has become possible in anticipation of outbreaks. The epidemic cycle of cerebrospinal meningitis, for example, which reached its trough in 1953-1954, was expected to recur with great virulence by about 1957 or 1958, and it was planned to form a small mobile Medical Field Unit demonstration team to tour Native Administrations the year before and advise on measures to be taken to control a serious outbreak.

128. Vaccination campaigns have been facilitated by the development of the Vaccine Production Laboratory in Lagos, which is now able to produce thermo-stable freeze-dried smallpox vaccine and yellow fever vaccine of an approved international standard.

129. A malaria service was organized in 1949, and extensive surveys started. In 1950 an experimental eradication project was started in Ilaro, at an average cost of 5/- per head of the population protected. In 1953, with assistance from WHO and UNICEF, a pilot project was put into operation in Western Sokoto, which still continues; in 1956, after three seasons of spraying, complete interruption of transmission has not been achieved and it was felt that this project area would be a most valuable place to continue research which would provide knowledge valid for malaria control in many other parts of Africa. Accordingly, it was decided to combine the pilot project with a mass malaria control campaign, in principle of five years' duration.

130. Yaws is very prevalent, particularly in the Eastern Region where, it was stated in 1948, in some areas nearly 100 per cent of the population was either infected or had been at some time. Since 1953 a mass control campaign has been in operation, with assistance from WHO and UNICEF. The problem of tuberculosis has become more acute in recent years, with the influx of population to towns and the resultant overcrowding. In Lagos it was estimated in 1946 that tuberculosis was the cause of 9 per cent of all deaths, and the Development Plan, 1946-1956 provided for increased treatment facilities, as well as for a survey unit to obtain a truer idea of the incidence of the disease. In 1950 a chest clinic was inaugurated in Lagos, and in 1951 - on the return of two medical officers from special training abroad - the nucleus of a tuberculosis survey unit was formed. In 1955 the unit had developed its routine so satisfactorily that it was able to report a 40 per cent increase in work over the previous year. A new tuberculosis centre has been completed in Lagos, though it was not in use by the end of 1956. The various tuberculosis services of Lagos, including the survey unit, have now been incorporated into the Federal Tuberculosis Service, whose activities cover mainly the Federal Territory of Lagos, although it is also available in an advisory capacity to the Trust Territory of the Southern Cameroons as and when required. It also maintains liaison with the tuberculosis medical officers in the regions. BCG vaccination for the general population below the age of twenty was introduced in Lagos in 1955, and a WHO survey team assisted the Federal Tuberculosis Service in 1956, in Lagos and elsewhere, in investigating tuberculin indices and non-specific sensitivity and other problems. There was a significant decrease in the number of deaths from tuberculosis in Lagos in 1955, compared with 1946 - 45.0 per 100,000 deaths in 1955 and a further decrease in 1956 - 35.6 per 100,000 deaths, which it is believed may be attributed to improved facilities for treatment and prevention.

131. Intestinal diseases are wide-spread; field surveys in 1948 revealed up to 50 per cent infestation of ascaris and ankylostomiasis in some areas. Bilharziasis in a benign form is endemic all over the Northern Region and in patches elsewhere. Treatment facilities have increased with the growing number of health centres, dispensaries and mobile units and although prevention cannot be summarized in figures, continuous improvement in environmental sanitation conditions is certainly

contributing to a decrease in the prevalence of these diseases. As an example of preventive measures in bilharzia control, the planning of a large rice irrigation scheme on the shores of Lake Chad constituted a threat of major bilharziasis epidemics: the health authorities therefore have made a concurrent plan for annual treatment with sodium pentachlorophenate of all water passing through the sluice gates of the dam.

132. Trachoma and onchocerciasis are responsible for a great deal of the blindness found in Nigeria; effective control is of course dependent upon improved sanitary conditions as well as - in the case of onchocerciasis - control of simulium. Surveys have been undertaken, and the most heavily infected areas are now known. Facilities for treatment have increased with the expanding health services, and a number of specialized eye clinics have been established.

133. One of the most outstanding health achievements in Mauritius has been the battle against malaria; this disease for years accounted for the death of five to six per thousand of the population, and some 3,000 admissions to hospital annually. The post-war development plan provided for a wide-spread malaria control campaign, which started active operations in 1946. A Malaria Advisory Board was set up, legislation was passed giving the authorities wide powers for the control of malaria and for the control and maintenance of vegetation along river reserves, and spraying operations and draining of marshes all over the island wrought a dramatic change. By 1950 it could already be reported that malaria, from occupying first place among the causes of mortality up to 1945, was by then among the minor causes. A survey of 10,000 infants born since 1949 showed only 21 with the parasite of malaria in their blood, a percentage of 0.22 per cent, compared with 10 per cent in the same age-group in 1948. In 1952 malaria became a notifiable disease. By 1955 it accounted for three deaths and one admission to hospital. The following table shows the different stages of the battle:

Malaria	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Cases hospitalized	2,522	1,989	1,576	804	209	98	3	-	3	1
Number of deaths	2,908	1,782	1,580	936	388	285	188	61	-	3

134. During the same period there has been a considerable reduction in the incidence of intestinal diseases, which may be attributed in part to malaria control operations, but also to increased surveillance in food handling, improved methods of sewage disposal and safer water supplies. For example, the number of cases of enteric fever notified in 1946 was 627, of which 112 were fatal. In 1955, sixty-six cases were notified and there were eleven deaths.

135. Leprosy is well under control, and has been in regression for some time. Sulfetrone treatment was started in 1948 in the Leprosy Hospital, and there have been very few new cases; the last case detected in a child was in 1932.

136. Tuberculosis has been a notifiable disease in Mauritius since 1949; the post-war development plan included a tuberculosis control service, but its initiation was delayed by lack of funds and staff, and by lack of information about the prevalence of the disease. In 1951 tuberculin-testing and BCG vaccination was started; BCG vaccination has since been included in the regular programme of the Health Department, and by the end of 1956 more than 52,000 children had been vaccinated. At the same time, progress in treatment facilities has been made, and plans were completed in 1956 for a tuberculosis hospital and two chest clinics, one of which was already under construction.

137. There is a certain amount of bilharziasis in Mauritius, and a survey was started in 1951 to attempt to determine the causes. Collection of statistical data in laboratories and hospitals, surveys of schools, and experiments with mollusca in laboratories, point to B. forskali as the local vector, but research contines as results are not yet conclusive. Experimental treatment has been given in hospitals and dispensaries, the number of cases averaging seventy a year in the former and 400 a year in the latter during the period under review.

138. Whooping cough appears in epidemic form approximately every five years, and is responsible for a sharp increase in infant deaths in those years. Pertussis vaccine was received from UNICEF in 1953, and by 1954 a permanent vaccine

procedure had been established, which it is hoped will prevent such serious epidemics from occurring in future.

139. Epidemics of poliomyelitis have occurred fairly frequently, and improved orthopaedic services, with much emphasis on rehabilitation have received considerable attention. Lack of staff has hindered progress to some extent, but local training of orthopaedic nurses has now been organized, and in 1954 twenty-five girls qualified for the Orthopaedic Nursing Certificate.

140. The position in relation to communicable disease shows a different pattern in some of the island Territories and the smaller, more compact areas under the administering authorities. Part of the reason for this is, of course, that many of these Territories are more accessible to central control and that the collection of health statistics has been much more complete. In part also, but to a decreasing extent, the very remoteness of some of the islands has given them a certain amount of protection through lack of contact. It is a well-known phenomenon, for example, that tuberculosis, when it invades an island, tends to spread from urban areas outwards, although in many cases the rural problem is in the long run the more serious, owing to the absence of immunizing contacts in the towns and their ports.

141. In Aden Colony and Protectorate, tuberculosis, venereal diseases, trachoma, dysentery and pneumonia are considered to be the most important disease problems. Many cases of malaria are found, but analysis shows that the disease is almost entirely imported, and energetic control measures are taken. In Aden Colony, 1,967 cases were recorded in 1946, with sixty-four deaths; anti-mosquito measures are a regular routine, and a staff of twenty-one mosquito overseers makes weekly inspection of all residential quarters, organizes treatment of breeding places, and levelling of all potential breeding places. By 1955, recorded cases had dropped to 769, with fourteen deaths. In the Protectorate there was a very heavy malaria incidence in 1946, with a history of frequent epidemics. Heavy fines were imposed for mosquito-breeding, and treatment of swamps and other anti-mosquito measures have since been so successful that in 1955 it was stated that malaria was no longer considered a serious menace. With the founding of the Aden Society for Prevention of Tuberculosis, in 1946, active measures to control tuberculosis were started, including increased hospital accommodation for

tuberculosis patients, domiciliary treatment, BCG vaccination and (with the help of the Aden Society for the Prevention of Tuberculosis) a system of payment of allocations to families of tuberculosis patients which encouraged patients to seek hospital in-patient treatment if necessary, knowing that their families would not remain destitute. Deaths from tuberculosis fell from 300 per 100,000 in 1946 to forty-five in 1955. A significant decrease in the prevalence of various forms of venereal diseases, particularly syphilis and yaws, has been noted in the period under review, probably as the result of the opening of VD centre at the Civil Hospital in 1949, widespread health education campaigns, and legislation to enforce treatment.

142. In Gibraltar (population 25,000) there is one chest hospital of sixty-four beds, and one for infectious diseases with thirty beds. The disease of greatest social importance is tuberculosis, and in 1952 a scheme was started for the free X-ray examination of prospective employees with the principal object of trying to protect young children from exposure.

143. The principal health problems of Hong Kong are those associated with the severe overcrowding in the area, and tuberculosis is one of the most important. In 1951, the mortality rate was reported as 208 per 100,000, or 20 per cent of total deaths. A vigorous programme of tuberculosis control has included the introduction of ambulatory chemotherapy in the chest clinics in 1950, which has steadily increased in scope and magnitude and has now become the spearhead of the therapeutic attack against the disease, and, since 1952, a BCG vaccination campaign, with assistance from UNICEF and WHO, which places emphasis on the vaccination of newborn infants. In 1956 the mortality rate had dropped to 107 per 100,000, or 13.6 per cent of total deaths. Enteric diseases are also prevalent, but are slightly less serious as a health problem.

144. In Jamaica the relative frequency of certain communicable diseases in the years 1954-1956 was as follows:

(per 100,000)

	1954	1955	1956
Malaria	288.32	257.61	231.99
Whooping cough	142.17	18.53	80.59
Typhoid fever	26.82	29.73	48.8
Tuberculosis	47.91	45.31	38.68

The main health hazards were malaria, pulmonary tuberculosis and yaws. Malaria has diminished, no doubt owing to intensive larvicidal work.[3/] There has also been a fall in tuberculosis, but no figures are available for yaws.

145. In Brunei, the most important disease from the public health standpoint is tuberculosis. In 1955 nearly 4,000 persons were tuberculin-tested, and 1,500 children were vaccinated with BCG; the service is gradually being extended and there is some degree of local participation. Malaria is endemic, and in 1955 residual spraying of the internal walls of houses in rural areas covered nearly 300 villages, with a total population of 30,000.

146. The Island of Dominica (Windward Islands) with 60,000 inhabitants, reports a high figure of yaws infection - 1,734 cases in 1956, of whom 1,698 were treated in clinics. Tuberculosis and typhoid fever were chief causes of death from communicable diseases - fifty-one and forty-six respectively - while malaria, which used to show a high figure, caused only two deaths in 1955.[4/]

147. British Guiana started a malaria control programme in 1947, and by 1953 the number of cases had fallen from 15,490 to eighty-three.[5/] In 1956 the principal diseases were: whooping cough, (104.7 cases per 100,000 population); typhoid fever (103.0); tuberculosis (39.5); leprosy (23.3); yaws (12.1); and malaria (only 8.7). A BCG campaign with the help of WHO and UNICEF was begun in 1954.

3/ Paragraphs 319-324.

4/ Ibid.

5/ Ibid.

148. In British Honduras the incidence of communicable diseases has decreased with the exception of measles. Malaria fell sharply between 1954 and 1956 from 1,613 per 100,000 to 367. Syphilis is still causing anxiety, as out of 5,208 serological tests made in 1956, 550 were positive. As regards tuberculosis, 2,625 X-ray examinations were made in 1956, revealing thirty-eight positive cases. A BCG vaccination campaign, begun in 1953, completed 3,332 vaccinations in that year.

149. The main health problems of the island of St. Lucia in the Windward group are malaria, enteritis and tuberculosis. The malaria rate still remains high, with 2,209 cases in 1955 and 2,801 in 1956.[6/] The tuberculosis rate per 100,000 population was as follows: 1954 - 85; 1955 - 128; 1956 - 75.

150. In the Seychelles the communicable disease pattern is unusual. No malaria or trachoma cases have been reported, and rigid precautions are taken against communicable diseases. Vaccination against smallpox and typhoid is compulsory for travellers. A control scheme against syphilis initiated in 1953 seems to have made considerable progress. Immunization against whooping cough, diphtheria and tetanus was started in 1956.

151. Malaria and yaws are endemic throughout the Solomon Islands. Tuberculosis is very prevalent and in a survey carried out in 1954, 50 per cent of the people examined were found to have a positive reaction.

152. Hookworm infestation, venereal disease and tuberculosis are the most common diseases in Trinidad and Tobago. Malaria seems to be declining; its rate per 100,000 was 790.6 in 1954, 213.6 in 1955 and 21.0 in 1956.[7/] In the British Virgin Islands tuberculosis is the outstanding health problem. The incidence per 100,000 was 172.8 reported cases in 1954 and 52.1 and 90.2 in the two following years.

153. In summing up the information relating to communicable diseases in the Non-Self-Governing Territories it is clear that malaria no longer occupies its former place as the chief health problem. Its place has been taken by tuberculosis, which is giving every reason for anxiety. Venereal diseases are still a matter of grave social importance, but it is doubtful how far this is realized by the

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6/ Ibid.

7/ Ibid.

people themselves. The common conditions of childhood, including measles, whooping cough and, in some cases diphtheria, give trouble from time to time, and poliomyelitis has probably not yet reached its full force, especially in the more remote areas.

Maternal and child health

154. The development of maternal and child health services in the Non-Self-Governing Territories presents a number of special features. In the first place, many of these services were introduced by voluntary associations at a very early date in the development of public health, even in the more remote and under-developed areas. Not infrequently they operated alone for a considerable period and were well established when environmental sanitation services were introduced. It was therefore natural that some of them should form the spearhead for health work of all kinds, including campaigns against communicable diseases. The extension did not always go smoothly, as there were sometimes vested interests to be overcome; but on the whole an increasing appreciation of the value of teamwork was a sure mark of progress. In the second place, the maternal and child health services are closely linked with the provision of statistical information, because they receive their impetus from the notification of birth, and their main activities are directed towards the reduction of infant mortality. A third feature, which has much in common with other health services, has been a tendency to introduce educational and other preventive measures to Territories in which the needs of the sick were clamant. In a substantial number of the less-developed areas the most urgent demand, and indeed the only means of building a sound health service, was for the provision of an adequate curative service with hospital care for childbirth as necessary and skilled treatment for the sick child.

155. In general, it is relatively easy to establish a statistical service in a compact, populous area, because the basic figures are readily collected and interpreted. This would apply, for example, to such Territories as Hong Kong, Singapore, Guam or Gibraltar. On the other hand, some of these areas suffer from an acute housing shortage - and overcrowding is one of the greatest enemies of infant and child life. The accurate information may well be procurable, but the remedies are often hard to achieve. In this respect Hong Kong has been faced with

problems of special difficulty on account of its dense population of immigrant squatters. In small Territories where there is no serious overcrowding, such as Guam or Gibraltar, the services have a chance of operating without being hampered by continuous attention to the sick, and preventive measures have achieved success. This applies also to a number of the islands in the Caribbean, and, within certain limits, to the urban areas of some of the less-developed countries. There are Territories also in which a combined approach is followed with success, especially at the community level. In these circumstances maternity and child health work can be carried out through a team in which sanitary staff, epidemiological control workers, and social or agricultural personnel join forces in promoting keen, active interest among the members of the community. The rural areas in the larger Territories of the continental type can be reached in this way, so long as the health services are in fact in constant touch with centres at which specialized hospital and consultant attention is available. Similar considerations apply to island groups, in the Southern Pacific, for example, where widely scattered islands can be made part of a centrally co-ordinated system. Medical attention for the sick can be combined with the more strictly preventive approach. Skilled obstetric and paediatric care is the backbone of the service in both populous and widely scattered Territories.

156. From what has been noted above it follows that progress in maternal and child health cannot be measured solely by increases in the number of maternal and child health centres or the extension of public health services to new areas. The critical test is whether a combined organization is being provided on a basis of continuity of care. With this test in mind one can observe progress in terms of improved midwifery services in African Territories, and better training of midwives and nurses. Domiciliary services have been greatly extended during the ten-year period, notably in the cities of Nigeria and Sierra Leone, and in Kenya and in a number of the French Territories. Joint assistance is being given by WHO and UNICEF to promote maternal and child health services in Northern Rhodesia and Nyasaland, and the scheme is likely to continue for some years. There is a growing demand for hospital care in childbirth, for instance in the Belgian Congo, and international bodies are giving assistance in various Territories in the training of midwives. In Madagascar over 70 per cent of all deliveries are now supervised by trained staff.

157. The care of the young child, especially between the age of one and four years, is less well advanced than infant welfare. It is sometimes difficult to account for this difference, which has been observed in many countries with generally complete services. One reason no doubt is that the young child is more likely to be relegated to a second place when a second infant is born to the mother. Attention is concentrated on the baby and the pre-school child passes into a kind of dark age. Advances are being made through the co-operation of the Centre for Higher Studies at Dakar, and the Medical Schools at Ibadan in Nigeria and at Kampala in East Africa. These institutions have organized children's clinics, and are undertaking both teaching and treatment in paediatrics. Madagascar also has a children's hospital, and a training school for health nurses.

158. In the Asian and Pacific Territories maternity services are being steadily extended. It is reported that over 99 per cent of all deliveries take place in hospitals. A similarly high proportion of mothers are delivered in hospital in Singapore, and in addition a domiciliary service is being established. There is rather a sharp difference in rural areas where the urban services have not yet been extended. Special courses for training nurses have been set up in North Borneo and a number of other areas in the Asian group.

159. There is a department of paediatrics in the Singapore General Hospital[8/] but no special units have as yet been developed in the medical schools at Hong Kong or Fiji. There are good facilities for the training of both medical practitioners and nurses in child care and that in itself is a great advance.

160. The school health services are relatively well developed, but they do not take the place of skilled child care at the younger ages; and there are many rural and remote districts in which there is really no service after the first year.

161. The clinical care of the child in the Caribbean area is centred on the College of Medicine of the West Indies. There is a paediatric department at University College Hospital and teaching in clinical paediatrics is also carried out at the Kingston General Hospital. At the present time the principal need is for the extension of these facilities to other populous islands, because in the treatment of the sick child time is a factor of great importance.

8/ See also paragraphs 313-318.

162. Maternity services have long been established in the Caribbean area, and with the rise in population there is a growing demand for good maternity provision. Assistance from international bodies is provided for the better training of midwives, and for both public health and general nurses. Medical training in the special branch of paediatrics is available in Jamaica and also in the Medical School in Puerto Rico. A considerable number of advanced post-graduate students go to the United Kingdom and the United States for their training. In the meantime this should be encouraged, at least until there is in each of the areas a body of highly trained paediatric physicians, and also a group of fully experienced research workers in the scientific and medical fields.

163. One or two further examples of selected areas will serve to illustrate present activities. In the Federation of Nigeria, maternal and child health services are probably the most popular of all the services offered to the public. In the Eastern and Western Regions there is a great demand for maternity hospitals and an attempt to meet this has been made by providing many villages with small maternity wards of four beds in charge of a Grade II midwife. This solution, however, is considered as only a secondary approach to the problem, and the main emphasis is placed on the development of domiciliary midwifery, supported by ante-natal and infant welfare clinics. Maternal and child health services are offered at all general hospitals and rural health centres, and to an increasing extent in the village dispensaries.

164. Maternal and child health activities have also met with an increasing response in the Belgian Congo. Special children's wards are now attached to the general hospitals in the main centres, and a Red Cross paediatric clinic has been established in Leopoldville. An increasing number of African women attend the maternity hospitals, where 189,393 deliveries were recorded in 1956 (more than 40 per cent of all births in the Congo), as against 161,775 in 1955. The maternal and child health services include ante-natal and post-natal clinics in general hospitals and dispensaries throughout the Territory. Growing numbers of African personnel are being trained to staff these services, as described in paragraphs 237-239.

165. In Fiji the rural maternal and child health services are provided by health sisters and locally-trained nurses who instruct village committees in the principles of infant welfare. In 1947 there were seven health sisters and seventy-nine

locally-trained nurses; by 1956 the number had risen to eleven and 150 respectively. Voluntary workers who constitute the village committees supplement the training of nurses, carry out their instructions and inspect the children daily. As more locally trained nurses have become available and as the experience and enthusiasm of the village committees has increased, the prestige and value of these services has risen. Larger centres are provided with permanent clinics, and mobile child welfare clinics operate from two centres.

166. In Mauritius maternal and child health work was originally carried out by two voluntary societies in rural areas. Since 1946, it has been possible to increase the number of midwives employed by the Government from three to sixty-two and concurrently to improve the standard of their training and their status. Legislation in 1949 laid down regulations for the practice of their profession. A rural midwifery scheme was started by the Medical Department in 1955, whereby two qualified midwives were to be appointed to each of the fifteen social welfare centres being built by the Sugar Industry Labour Welfare Fund. Two of these centres had been staffed by the end of 1955. The confidence of mothers in the trained midwife, as opposed to the untrained "dai", has grown steadily, and they avail themselves increasingly of the maternal and child health services. A significant indication of this is that the maternal mortality rate has fallen from 10.39 per 1,000 births in 1946 to 1.47 in 1955.

167. In Zanzibar, at the beginning of the period, the maternal and child health clinics held weekly at the various hospitals were well attended by both mothers and infants, and attendance has improved notably during the past ten years. A clinic for schoolgirls, women and infants, opened in Zanzibar town in 1953, recorded 3,500 attendances in that year, and 10,500 in 1954. A new rural maternity centre was opened in Pemba in 1956, of great importance in raising the standard of maternal and child health services on that island, and steady progress has been made in gaining the confidence of the people, particularly noticeable in increased attendance of ante-natal clinics. There have also been signs of increased confidence in institutional deliveries, illustrated by the rise in the number of confinements in government hospitals, from 325 in 1946 to 1,536 in 1956.

168. In Madagascar, special emphasis is being laid on maternal and child health care, and in 1956 ante-natal care was provided for nearly 200,000 pregnant women, while 121,000 received post-natal care. Four hundred and twenty-eight thousand

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infants under one year of age, and 480,000 children up to four years of age, also received care in the maternal and child health services.

169. In the Comoro Archipelago, there is evidence that modern midwifery and obstetrical services are being slowly accepted. The number of hospital deliveries increased from 450 in 1954 to 690 in 1956, and similar increases took place in ante-natal and post-natal care. In 1950, 3,300 infants under one year received attention; this number had risen to 7,600 in 1956. The attendance of children from one to four years at the medical centres rose in the same period from 9,500 to 21,600.

170. In French Somaliland, progress is being made, though slowly, in the rural areas in securing the acceptance of modern maternal and childbirth care, but development has been more rapid in urban centres. About half the women now accept qualified assistance in childbirth, and this is reflected in the significantly lower infant mortality rate, which in 1948 was 141.1 per 1,000 live births, and in 1954 was 77.98.

171. In British Guiana, the Infant Welfare and Maternity League, established in 1913, works in close collaboration with the Medical Department throughout the Territory, and provides valuable services for mothers and children. In 1946, the League had five health visitors; 1,317 clinic sessions were held in that year, attended by 24,000 children and 11,400 expectant mothers. By 1956, there were 101 clinic centres, 20 qualified health visitors, and 47 League-subsidized midwives; 2,002 clinic sessions were held, and 61,500 children and 31,000 expectant mothers received attention.

172. The Territory of Granada has one urban and twenty-five rural maternal and child health centres, which serve over 72,000 inhabitants. In 1956, 3,500 mothers received ante-natal care, over 3,000 children attended clinic sessions, and more than 7,000 visits were paid to children in their homes.

173. The maternal and child health services in Bermuda are well developed and very popular. The population was estimated at some 42,000 in 1956, and in that year the three urban and six rural maternal and child health centres reported respectively 13,000 and 26,000 attendances. Among these, nearly 6,000 children under four years of age received attention, and more than 9,000 children received medical care; home visits were paid to 1,400 children.

174. The population of British Honduras also shows considerable appreciation of the maternal and child health services, which (as mentioned earlier) are provided through twenty health centres. In 1956, 2,200 mothers received ante-natal care, involving 9,700 visits, and over 53,000 attendances of children were recorded at maternal and child health clinics. As a corollary to the interest shown in the maternal and child health services, it is interesting to note that the infant mortality rate dropped from 120 per 1,000 live births in 1947, to 69 in 1956.

School health

175. The promotion of a school health service came later in time than maternal and child health. The reasons for this are clear enough: the tragedy of infant death made its earliest appeal to missionary bodies, and of all groups it is probable that young mothers are most accessible to a service and most ready to take advantage of what it can provide. In addition, there are many more forms of practical help that a nurse can offer to mother and infant than to the older child. The mother-child relationship is so much more intimate in infancy. Apart from these personal reasons there is a practical difficulty which affects especially the Non-Self-Governing Territories. A school health service is always hard to organize when towns and villages are far apart and communications difficult. This applies particularly to island communities, and to areas in which school attendance is neither compulsory nor free.

176. In Hong Kong the school health service is well developed, and a substantial amount of nutritional research is conducted through its organization. The school dental service has six officers for 50,000 school children who subscribe to it. Health education is a recognized part of the Medical Department's function, and the schools take their place in this setting. The school medical staff at the beginning of the period consisted of one medical officer in charge, four assistant medical officers, nurses, health inspectors and clerks.

177. Since the end of the war the developments in the health services in Guam have been rapid, and the general line follows that of a county in the United States. Since a full-time physician was appointed to the Division of Public Health in 1956 regular clinics for infants and school children have been widely established. A dental hygiene programme was started in 1955. After a planned training course two

dental hygienists took part in both teaching and examining at the clinic. Prophylactic fluoride has been introduced because of the high degree of caries found.

178. Well-developed school medical services have been established in a number of areas. A good example of this is British Guiana. As early as 1946 routine school medical examinations had been undertaken in the fourteen city schools of Georgetown, and in four rural schools. The children are examined in the first instance by the nurses, and about 20 per cent are referred to the school medical officer for his consideration and a more detailed examination with the parents present. The chief defects are dental caries and nutritional troubles. Many of the latter are referred to the Education Department for free meals. Children suffering from chronic malaria, anaemia, recurrent bronchitis and a number of skin conditions are treated by the School Medical Service, while those with more acute illness are sent to the general practitioner.

179. The school health service in British Honduras has developed along similar lines. There is a scheme for feeding school children, whereby meals are provided for the poorer group and a mid-morning snack for about 20 per cent of all school children.

180. In many Territories no specific school medical service has been organized, although school children receive attention as part of the routine established for the health services. In the Bahamas, for example, there is no regular school medical service, although statistical work is highly developed. Nevertheless, schools on the island are regularly inspected as part of the general preventive services, and schools in the outlying islands are also visited by the district medical officers. The health centres have already taken over the school medical services in Barbados, including preventive dental work. In 1954, free dental care was given to 6,688 children. Under voluntary schemes food supplements and meals have been given to necessitous children. The Barbados Nurses' Association, a private organization, has administered a government grant under the supervision of the director of Medical Services. They employ two nurses who visit some of the schools, and give treatment for minor ailments as well as advice in the home.

181. In the larger African Territories it is uncommon for a specific school health organization to have been started. As the schools themselves develop, the nucleus of a health service is gradually formed.

182. In the Federation of Nigeria the school medical services have been expanded with the growth of the general medical care services throughout the area. School clinics have long been an established part of the health services at Lagos, with facilities for medical, dental and ophthalmic examinations and treatment. Elsewhere school children are examined by the medical officers of the areas concerned. Pilot school health schemes have recently been started in all three regions, in some cases by the Education Department, and more time is being given to the teaching of hygiene. Numerous surveys have also been made by medical officers, and it has been found that much of the unsatisfactory health of the children is beyond the immediate reach of a school medical service. Sources of infection are mostly in and around the homes; it is hoped that the increased emphasis on the teaching of hygiene in schools will eventually be reflected in improved home conditions. In this respect the child is the father of the man. Surveys by dental officers have disclosed a high incidence of paradontal disease, which may be controlled more satisfactorily when a sufficient number of dental hygienists, for whom training courses have recently been organized, are available in the various regions.

183. In Fiji, a survey of school children which was undertaken in 1947 showed a high prevalence of dental disease; 37 per cent of the children were affected. A grant was received for research into the distribution of dental disease in Fiji, and its relation to diet. In 1955 a regular school dental service was set up for all recognized schools in the Suva area. A school lunch programme has recently been started and local women are being trained as housekeepers and as assistant dieticians in schools and other institutions.

184. School health has received much attention in Mauritius. No school medical service existed before 1946, but in that year a dental survey was made in twenty primary schools of Port-Louis, which marked the beginning of health care of school children. The dental survey showed a very high incidence of caries, and accordingly in 1947 a dental clinic was built. This clinic has continued to examine and treat school children with services which have shown an annual increase since that time. In 1952 a school medical officer and two school nurses were appointed; in addition to their medical services they have taken the opportunity to introduce teaching on cleanliness and hygiene to the children. As a result, marked improvement has been noted in the children's cleanliness. In 1954, a mobile school clinic started

to function and a third school nurse was appointed. A school medical officer also became responsible for teaching hygiene at the Teachers' Training College - an important step in securing co-ordination between the school health service and health teaching by the school teachers. An experiment in school meals was made in one area in 1947 but was discontinued on account of the high cost. A milk programme was started in its place, but the children were reluctant to take milk by itself and sugar and cocoa were therefore added. Now all primary school children receive daily rations of sugared milk with cocoa, and vitamins are also given in special cases. This has become a highly popular feature of the health programme.

185. In Zanzibar the school health and dental service has occasionally been interrupted by shortage of staff. In spite of this, routine examination of the children in the schools on both islands is maintained and cases requiring treatment are dealt with locally or sent to the nearest hospital. During the examinations it was found that the children suffered a good deal from general malnutrition and vitamin deficiencies, and in 1948 it was therefore decided to provide paludrine, cod liver oil and ferrous sulfate to school children. In 1956, of 1,724 children examined 15.9 per cent showed evidence of anaemia and 6.1 per cent were suffering from haematuria, attributable to bilharzia, although the incidence varied with the locale of the school, being much heavier in the rice-growing and other agricultural areas.

Health education of the public

186. The subject of health education has not been free from controversy and a number of different approaches are to be seen in the Non-Self-Governing Territories. In the less-developed Territories one of the difficulties facing the Administering Authority is that health education cannot be effectively carried out except in relation to some recognized service such as infant welfare or environmental sanitation. Although it follows its own principles and special techniques, it has to be integrated with some project which will readily win the confidence of a people. The health educator is a member of a team. The aim of health education is to present the subject in such a way that it will carry with it the full confidence of the inhabitants of an area. This is tantamount to saying that the

approach must necessarily differ according to the most felt need of the moment. It may be that the most promising line of approach to the people of a Territory or even an area in a part of it, is through an effective campaign against some scourge like malaria or yaws. The spearhead of the movement is cure - a visible success in overcoming a dreaded disease. Yet the finally sound lesson may not be apparent until a long period of curative strategy has been fully accepted. In such a case the health educator ought not to appear as a stranger at a late stage in the campaign; he should be a member of the team from the start. In this way he could follow the movements of the campaign and make his entry, so to speak, at the right moment for the highest degree of co-operation.

187. Specific reference to a scheme of health education is not found in the reports of a considerable number of Territories, especially the smaller ones. This may be due partly to the fact that health teaching is regarded as part of general health work, both in maternal and child health programmes and in the approach to the public. It is also in part because the main effort in some Territories has as yet been directed almost wholly to the fight against the major epidemic diseases, or to dealing with the acute problems of overcrowding, which is one of the great enemies of education in health.

188. A direct reference to health education of the public is made in reports from Cyprus, among others. It is stated that medical officers, health inspectors and health visitors are responsible for conducting a health education campaign through talks and demonstrations to different population groups. Posters, radio, press bulletins etc., are also used for the purpose.

189. In the Gilbert and Ellice Islands general education in health is given by the school teachers, but medical officers and nurses take part during their visits to various groups. Health education is part of the training for local nurses and dressers.

190. Reports from British Guiana state that particular stress is being laid on health education. Systematic lectures are now being given in health education to elementary school teachers at the Government Teachers' Training College. In relation to tuberculosis, the British Guiana Society for the Prevention and Care of Tuberculosis does similar work.

191. Health education is a recognized part of the Medical Department's functions in Hong Kong, and there is a regular programme to cover all parts of the Territory

in rotation. Special attention has been given to tuberculosis in recent years, in the educational programme, "but the position is not likely to improve very much until overcrowding is dealt with".

192. Health education is one of the divisions of the Administrative Office in Jamaica, but no special reference is made to methods of approach.

193. In Northern Rhodesia and Nyasaland all district medical officers have preventive functions, as well as curative work in their areas, and health education forms an important part of their duties.

194. One of the reports from the Solomon Islands indicates that health education is carried out by pictorial methods. The local dressers, in the course of their instruction, receive teaching in methods of approach through environmental sanitation. Health talks are broadcast by radio from time to time.

195. A health education section has been started in Uganda under a senior medical officer, and various means are being used in the approach to the public. It is noted that environmental conditions are continually improving and there is better co-operation of the people in rural housing. In Zanzibar it was reported that in the rural districts the standard of medical care had improved. Health films had been shown and health talks given at rural dispensaries, and also radio talks in rural schools. The issue of a news sheet keeps the staff in rural areas in contact with headquarters and serves the purpose of propagating health education.

196. Health educational measures have been a feature of the department's work in the Territories under the administration of the United States. In April 1956, in Guam, for example, a BCG vaccination programme was instituted with the object of dealing with the following groups: newborn babies, infants; school children starting in the first grade; all contacts of tuberculosis patients such as hospital and health staff, teachers and others. The programme was enthusiastically accepted by the people and has had considerable success as an educative measure. In general the health service in Guam has laid great stress on all aspects of health education. In addition to the main programme, several films on tuberculosis, sanitation, disease-carrying insects, etc., have been shown at village meetings and the co-operation of radio and press has been secured.

197. From French Equatorial Africa it is reported that the health education of the public is being extended to the whole population by means of radio talks, advice by

mobile units in the bush, the distribution of layettes, posters on nutrition and booklets on foods prepared with local products. There are also booklets on infant care for the use of schools and mothers.

198. Some advances have been made in Zanzibar: during their visits to houses and villages, sanitary inspectors give talks on simple health procedures such as refuse disposal, lighting and ventilation, and the construction and care of latrines. Talks are also given on infectious diseases and their prevention, the value of bush clearance and cleanliness of villages and huts. There is an information office and general health topics are included in news reports, etc. Since 1956, a "news-sheet" has been appearing every two months to keep the staff in contact with affairs at headquarters. This sheet also serves to propagate health education in rural areas and it is widely distributed to all rural health staff and village chiefs.

199. In Mauritius health education of the public is carried out through the press, radio and cinema, as well as at all health centres and hospitals. It has been noted that the people are becoming increasingly health-conscious; they are no longer willing to accept ill-health passively, but seek advice as soon as they can. This is illustrated by the fact that in 1945 about 300,000 out-patients visited the dispensaries and health centres; this figure had risen to 550,000 by 1955. A health exhibition was organized by the Medical Department in 1952. It was visited by about a quarter of the population of Mauritius, including 12,000 school children with their teachers.

200. Health education of the public is an integral part of all medical and health services provided in the Federation of Nigeria. Efforts are made to encourage local health committees to take an active part in giving health instruction to the people. Health weeks and baby shows have become popular, especially in areas where the standard of general education is at its highest. "Radio doctor" programmes and film shows also play their part in increasing understanding of health matters. Some Native Administrations have their own film units and make health films on the spot. Scenes that take place amid familiar surroundings make a deeper impression on audiences than shots taken in an environment which is strange to the people. During 1956 a Senior Health Inspector obtained the Diploma in Health Education of London University; and the Lagos Town Council public health department was planning to establish a health education unit in 1957.

201. It is not easy to define the scope of health education work, except by means of evaluations on the spot. In some of the Territories little may be put down in writing and yet the whole tendency of the health department may be moving towards a sound scheme of health education. On the other hand, the distribution of literature might equally well be a dull routine, without personal inspiration. As time goes on, it should be possible to make closer assessments of some of these essential health services with the object of ascertaining to what extent they are used and appreciated. In a sense these more personal services represent an act of faith, and their results cannot be measured in terms of falling rates as in the control of infection, or even in terms of some kind of achievement as in normal education; but they are measurable all the same, when appropriate yardsticks can be used.

Environmental sanitation

202. One of the strong, practical evidences of rising standards of social well-being in a community is the demand for improved environmental sanitation. By the same token it has been domonstrated again and again that attention to the environment of a community, be it village or city, leads surely to improved public health. It has also been shown beyond cavil that the coming of industrial development to a community resulted inevitably in ill-health, dirt, and misery if the movement was unplanned and unorganized; whereas, if the project was carefully planned in advance in such a way that housing and environmental sanitation were prepared for the influx of population that industry demanded, then the creation of slum conditions, with all the sickness and misery they involved, could be averted. These conditions are arising today and tomorrow in not a few of the Non-Self-Governing Territories. There are districts where an eager movement to the towns is already taking place, as often as not by families whose standards of living have been low - families who need education in health if they are to benefit at all by improved environment. A present-day example of this may be quoted from a report by a public health officer (1958):

> "This village was originally a hamlet too small to be shown on the maps of the area, but today it is a rapidly growing settlement. Houses of the poorest type are being erected on every piece of open land, and the roofs of many touch those of the adjoining buildings. Additional rooms are continually

being added to existing houses as the demand for accommodation increases. The ceiling height of many of these does not exceed four feet at the external wall. There are usually six to eight occupants to each room.

"The only water-supply is provided by the nearby swamp . . . There are no latrines whatsoever, and the whole area for some distance around the village is fouled by human excrement. Everyone has money to purchase canned provisions, and there are empty food tins in quantity lying around every house. These, together with the excrement, are giving rise to massive fly breeding."

203. It should be clearly understood that there is no fixed standard in environmental sanitation; the requirements vary with the size and development of the community; the density of population; the risks of polluting water courses or other sources of supply; the protection of amenities such as a sea-front, and many other factors. Nevertheless, in any given community there exists a certain minimum of efficiency below which the hazards of living are too great. For this reason, among many others, one welcomes the spread of simple community organizations which accept reasonable standards and enforce them, if only by health education and neighbourly practice. It follows from these preliminary observations that environmental standards can be criticized only in the framework of the community to which they are applied, and not in any broad, general sense. In its sphere, the provision of latrines for a hitherto neglected village is as important as an elaborate water-carriage system for a city.

204. In the course of the period under review a great deal of environmental work has been undertaken, but the very large numbers of smaller schemes especially for rural and village communities are hard to record in terms of figures; and it is doubtful if statistics of this kind would repay the effort of collection. Nevertheless it is improvement of a genuine kind, where a small community takes action to create a more healthy environment, by cleansing, protection of wells, or the construction of latrines. At the same time it is more easy to define the extent and limits of progress when the scheme is carried out in an urban area, because it is usually part of a planned and tested engineering project, such as a water supply or a sewage disposal scheme.

205. In Papua and New Guinea the development of environmental work has been a slow and irregular process, partly due to the multiplicity of languages and the difficulty of the terrain. Considerable improvements in housing are taking place in the coastal areas, but there is so far little change in the interior highlands.

Progress is mainly represented in the towns by rain water storage, with some additions from shallow wells; but in Port Moresby there is now a piped water supply, and also a small sewerage scheme. Elsewhere the town type of water supply is available to about 2 per cent of the people, and sewage disposal is on the land.

206. Niue Island has few problems of housing construction as every man is his own builder. The real difficulties are overcrowding and want of ventilation. Rubbish collections are now made weekly in the main settlements, and monthly in the outlying villages.

207. The scope of rural planning in French Equatorial Africa has broadened since 1953. It is of the local type of community development, aiming at increasing soil fertility, grouping the settlements, and improving the housing facilities. Sanitation is primitive, but there is no personal uncleanliness. Similar conditions exist in French West Africa. The town water supplies vary a good deal, and in the rural areas the immense difficulties are being tackled systematically. Methods of excreta disposal are primitive, but improvements are gradually being introduced into the towns.

208. In Madagascar a traditional village organization, the Fokon Olona is being modernized and used by the Government to encourage social and economic progress in the villages.

209. In Mauritius, housing conditions among the poorer people leave much to be desired, and the post-war Development Plan included large-scale improvements in this direction. The high cost of building houses capable of withstanding the cyclones which periodically visit the island has made progress slow, and the rapid increase in population has kept the problem of overcrowding ever-present. Garbage disposal services have been extended to a very large proportion of the island; in rural areas they are handled by the village councils, the most vigorous of which, under the guidance of the district commissioners and health officers, are doing excellent work. Outstanding progress has been made in the provision of a safe water supply. The post-war Development Plan included a scheme for provision of filtered and chlorinated water for the whole island, and this is developing according to schedule. Fluoridation is the next stage, since the waters of Mauritius are deficient in fluorine and the problem of dental caries

is a serious one; fluoridation of one of the main water supplies is expected to be completed during 1958.

210. Among the larger territories Alaska offers peculiar difficulties. The physical environment is hard except along the southern Pacific slopes. In many northern areas the ground is permanently frozen, thereby adding greatly to the difficulties of sanitary disposal of wastes. The Arctic Research Centre is engaged in improving the condition of the villages. By 1954, forty-two new water supply systems serving 62,000 people had been introduced, and by 1957 the whole of the defects had been dealt with; of a population of about 160,000, some forty urban and 340 rural areas had been served with piped supplies.

211. The housing situation in Guam is satisfactory except for overcrowding. Most of the dwellings are small wooden structures with running water and an outdoor privy. Unfortunately, in the rapidly growing villages near the middle of the island the lack of a sewage system gives rise to nuisance from overflowing cesspools. In recent years some progress has been made in sanitation through village education programmes sponsored by the Department.

212. The greater Non-Self-Governing Territories administered by the United Kingdom present difficulties similar to those of the French African Territories. In Basutoland community development has followed the indigenous pattern. A number of halls have been established at district headquarters for community activities, with the object of promoting hygiene and other social advances. Development schemes include an extensive survey for the supply of water to the western border. In Bechuanaland also social developments are being tackled successfully by joint working of tribal custom and official social welfare schemes. Community centres have been established at several of the larger settlements and funds raised through tribal initiative. A Colonial Development and Welfare allocation to the Territory is being devoted to schemes for water supplies and various other projects.

213. In Nigeria, improvement of housing conditions and provision of safe water supplies have had an important place in the post-war development plans. Town planning schemes have been proceeding at a steady pace, particularly in the Federal Territory of Lagos, since 1946. In 1950, a model village was constructed in the Northern Region, which aroused much interest among district and village

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heads, many of whom came to visit it; they were shown round and given explanations by health staff, and there is every reason to believe that it has inspired many improvements in the villages concerned. New water systems, many of them filtered and chlorinated, have been completed in several urban areas, but the complete programme will take a considerable time to reach its goal. In rural areas, the Development Plan drawn up in 1946 estimated that 18,000 new water points would have to be installed and some 18,000 existing ones improved. This programme has also been progressing slowly but steadily, and it may be estimated that some 1,000 to 1,500 wells have been constructed each year. It has been found in some cases that such newly installed water supplies have become polluted for lack of adequate maintenance and supervision which involves costs beyond the ability of the population to pay.

214. The Territory of British Guiana has made special efforts to improve its housing position. In 1954 the Central Housing and Planning Authority completed 275 houses, 80 self-help projects, and 447 houses under contract. In the same year a water supply programme was begun, and seven artesian wells were completed in rural districts. In the coastal area sixteen miles of new pipeline were laid, resulting in the supply of pure water to 80 per cent of the rural population. In addition, a substantial sum of money was provided by the Government for the promotion of social and recreational work in the villages. There are twenty-one village community centres for similar purposes. British Honduras also suffers from a housing shortage. In Belize, particularly, there is a lack of ground suitable for building and the Government is undertaking a reclamation scheme to provide more space. Under a housing and slum clearance plan, fifty houses and two tenements had been built by the end of 1954.

215. In Kenya there is a Ministry of Community Development which recruits and trains personnel for district administration of communities and promotes the organization of voluntary bodies for this work. Responsibility for social welfare rests with the Ministry of Health.

216. The urgent need in British Somaliland is for a more adequate water supply. All piped supplies are under government control; there are two fairly large systems at Hargeisa and Berbera, and smaller ones in several other townships, but generally speaking the supply is inadequate. In Swaziland, sanitation and personal hygiene are not well developed. Outside the urban areas water supplies are assured by wells and rivers, but they are greatly subject to pollution.

217. Environmental conditions are continually improving in Uganda, especially in housing and sanitation. There is an urgent need, however, for progress in rural services, in the training of local personnel and in the encouragement of community development.

218. Shortage of housing is a serious problem in Zanzibar. Since 1953 regulations on housing have been enacted to permit stricter control in urban districts, and planning schemes are being drawn up. Four towns have piped water supplies but in the rural areas the people rely mainly on wells. The development scheme includes plans to construct new wells and improve old ones, and advances have already been made. The number of sanitary inspectors has been increased, and, in consequence, some progress has been made in rural sanitation.

219. In the smaller island Territories the environmental problems are in general not so great as in the large groups and the crowded cities. Compactness, nearness to the sea, and climate are all in their favour as a rule. On the other hand, it is difficult to organize an environmental health service in a Territory consisting of a large number of scattered islands.

220. In Antigua there has, in the past, been a severe housing shortage; this has been relieved since 1954, when the Hurricane Rehousing Programme was introduced, together with a slum clearance scheme. One thousand three hundred and forty-eight houses have been built under the first scheme, and 151 families have been resettled in new homes under the second scheme. The Sanitary Service of Antigua provides, inspects and clears the latrines; and there has been a steady improvement in this service over the past decade. By 1954 there were sixteen inspectors for this work, all of whom had been trained at the Centre in Jamaica. In 1956 the Government announced that in the near future the entire island, except for a few outlying farms, would be served with a piped water supply system.

221. In the Bahamas the city of Nassau has a piped water supply and a sewerage system. There are nine water supply systems - mainly urban - in other parts of the Territory, serving some 20,000 inhabitants.

222. Overcrowding has been one of the most urgent problems in Barbados. The Housing Board has been very active in overcoming the housing difficulties; by 1955, 350 three-room stone houses had been completed and leased to poor families, and 737 families had been removed from congested areas to properly prepared sites.

By the end of 1955, also, nearly 8,000 workers in the sugar industry had received loans for building or repairing their homes, and under an aided self-help scheme for the erection of permanent houses in urban and rural areas, thirty three-roomed houses had been completed. The Government has started a programme of rural sanitation; pre-cast concrete latrine units have been supplied to local health authorities at half cost price, and the scheme is working well.

223. In Dominica roads, water mains, and sewers for a 582-house project have been completed. The water supply of Grenada is good: the island has seven systems in urban areas and thirteen in rural areas. There is one urban sewage disposal system serving 5,800; of these 4,000 are on a single connected system.

224. The Central Housing and Planning Authority in St. Vincent has built, since 1947, seven villages with a total of about a thousand houses, and housing schemes containing 250 units. Five new housing areas on which forty units are to be built privately have also been selected. There are thirty-two water supply systems providing for over 20,000 people, three-quarters of them in rural districts. Forty-two thousand people are provided with public standpipes. Sewage disposal is available to the whole population, 30,000 of whom are served by four systems. The remainder have private septic tanks.

227. The environmental health services are relatively well developed in Fiji. The township housing is controlled by the township boards, and in rural areas it is subject to the approval of local authorities on the advice of the health officer. A new development plan is in operation to meet the temporary housing need of workers who collect and cut coconuts at a great distance from their homes. Water supplies are piped to the towns and to an increasing number of villages. There is a sewage system in the capital, Suva, but elsewhere the arrangements are unorganized. All factories are subject to medical inspection and are compelled by law to instal medical and first-aid equipment.

226. In Hong Kong, as already mentioned, the prime difficulty is overcrowding and the resultant squatting. In 1954 there was an acute shortage of water, but normally the urban area has a good supply. Wells on the mainland cause anxiety, but they are carefully watched, and the water is chlorinated when necessary. A new reservoir was recently completed but the water supply is still insufficient. The water-borne sewerage system serves only a part of the urban area; and there is an extensive system for collecting and disposing of night-soil. The Government has recently entered upon a large-scale programme to provide low-cost housing.

227. In the Seychelles a project with the improvement of environmental sanitation as one of its principal aims was initiated with assistance from WHO in 1953.9/

228. Within the wide range of environmental sanitation, progress during the past ten years has not, in the whole, been spectacular, and may indeed often seem disappointing. The great divergence between one Territory and another makes it impossible to apply any standard of sanitary achievement that would differentiate between success and continued failure, and certainly many of the programmes have so far been inadequate in meeting the human needs of the populations and in preventing the continuance of diseases associated with insanitary practices.

229. The greatest difficulty in appraising sanitary development arises from sheer lack of information. Probably the best criteria of progress are the case rates and death-rates from diseases which are usually due to sanitary defects, particularly the intestinal group such as diarrhoea, dysentery, intestinal infestations and the enteric fevers. The infant mortality rate between one and eleven months inclusive is a particularly sensitive index because of the exposure of the young child for the first time to environmental influences. Unfortunately, very few data have been recorded on this subject for Non-Self-Governing Territories, and these are often obtained exclusively from hospital cases. The result is that mortality data are invariably deficient in number and accuracy and even the records of deaths are far from complete.

230. One of the technical difficulties of assessing environmental conditions from territorial reports and other sources is the lack of definition of the terms used. The expression "potable water" has a great variety of meanings and gives no indication whether the water has been artificially treated by chlorination. Similarly, the words "protected well" have interpretations ranging from a shallow pool with a fence around it, to the most elaborate type of modern cover.

231. In the estimation of sanitary progress the greatest stress should be laid on the supply of pure water in sufficient quantities for the needs of the population, both men and animals. A great deal of progress can be made by associating the water supply with other forms of community development. The provision of pure water is a health service. It is also an essential social service of the utmost importance, because the maintenance of cleanliness is one of the first steps in community development. The disposal of wastes takes a

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9/ A detailed description of this project is given in paragraphs 325-328.

second place and no doubt in most areas is dependent on a good water supply and adequate protection of that supply. In the provision of water supplies one cannot but feel that the Territories have aimed too low. More could be done in the way of regional service or at the very least the grouping of communities for a single, well-safeguarded piped supply. The cost of this is by no means high in proportion to other services which communities accept as part of the practice of living. The disposal of sewage and waste materials on the other hand is relatively expensive and one should not aim at an apparatus too elaborate for the community which it serves, especially as large populations in the Non-Self-Governing Territories live under rural conditions.

232. Emphasis is rightly laid on the importance of rural conditions in these Territories, but it should not be forgotten that many of them are on the threshold of urban development. Already in some African and Asian communities industrialization has become a reality and urgent plans to meet this new development are in progress. It is of supreme importance that environmental sanitation should be ready to meet in advance the challenge of industrial progress and that it should apply to the whole of the ordered community which ought to accompany this metamorphosis. It has, unfortunately, happened too often in the past that housing and town planning were not prepared to withstand the impact of industrialization. This was true in the last century in England and the United States and a number of other industrialized countries. It would be a pity if planning in these new communities turned out to be too little and too late.

IV. HEALTH TRAINING OF THE INDIGENOUS POPULATION

233. The development in recent years, both in quality and in quantity, of health establishments in the Non-Self-Governing Territories has brought a natural promise of better services to the populations they have been built to serve, but at the same time it has produced a demand for the personnel to staff them far in excess of the present supply, so that the promise is as yet to a large degree unfulfilled. The transformation of bricks and mortar into hospitals and health centres is far more rapid than the process of transforming boys and girls who have just left school into qualified doctors, dentists, nurses and midwives - and the problem does not end there. In most Territories the level of general education is insufficient to provide enough students who have completed a secondary school education and can immediately be accepted for higher technical training in all the fields which are opening up as a result of the social and economic development of the Territories; the medical field is only one of many in which qualified technical staff are urgently needed, and the competition is strong. Although great progress is being made in the development of general education, this is also a slow process, and it is obvious that until the level of general education has significantly improved, the shortage of suitable candidates for medical and para-medical studies will continue.

234. In the meantime, it has been found expedient to devote much attention to the training of indigenous staff for the health services on a lower level than the fully qualified doctor, dentist or nurse, that is with a less stringent requirement for general education. In some Territories, schools for medical assistants, nurses, midwives, sanitary inspectors, and so forth have been in existence for many years past, while in others training has not been formally organized but has rather been by apprenticeship or in-service training, in an attempt to meet the vast needs with very few resources. Over the last few years, however, there has been a definite trend towards more systematic training of all kinds of auxiliary staff in recognized institutions and with a formal curriculum. It is indeed from such institutions that several full-fledged medical and nursing schools have slowly evolved, and their examples might well be studied with a view to similar evolution in areas where at present no comparable facilities exist.

235. There is no doubt that noteworthy advances have been made in the Territories in both professional and auxiliary training during the past few years, although progress has perhaps been more noticeable in the training of professional personnel. Many teaching schools have expanded their facilities to a remarkable degree, and a number of them are now offering professional courses in medicine and nursing which can rival the exacting standards of the older schools in Europe and the United States. In the countries which have attained self-government during the period under review, the Universities of Malaya and Puerto Rico are outstanding, and in the remaining Territories, Hong Kong University and the medical schools now established in the Belgian Congo, French West Africa, Fiji, Kenya, Madagascar, Nigeria, Uganda and the West Indies are encering service to wide areas.

236. In the following descriptions of the development of medical education in a number of Territories, the training of auxiliary health personnel is also mentioned, since the latter is influenced by the former; the existence of a well-organized training institution in an area provides excellent opportunities for practical training for auxiliary as well as medical personnel; and furthermore, at the present stage it has been found economically expedient in many institutions, because of the great and urgent need and limited resources, to train health auxiliaries and medical personnel under the same roof.

Belgian Congo

237. The first step in the founding of a university in the Belgian Congo was taken in 1925, when a group of professors from the Medical Faculty of the University of Louvain in Belgium established a medical centre at Kisantu in the Lower Congo, and opened a school for male nurses, realizing that no lasting improvement could be made in the health conditions of the population without the participation of the Congolese themselves. In 1936, a school for medical assistants was opened, also at Kisantu. Immediately after the war, the University of Louvain started planning the foundation of a full-fledged university in the Belgian Congo, and decided that it should be located in Leopoldville where it would be more generally accessible than Kisantu. In February 1956 the Université-Lovanium came officially into existence by royal decree, a private institution subsidized by the public authorities; since 1954 special pre-university courses as well as academic courses in the Faculty of Science

had been held; in July 1956 the foundation stone of the Faculty of Medicine was laid, and the building, together with its 400-bed teaching hospital, was completed before the end of 1957. Pre-medical and medical training lasts six years, followed by one year's internship. The Faculty has departments of anatomy, histology, embryology, pathological anatomy, bacteriology, and experimental surgery; there are also eight rooms for dissection and practical work. The teaching hospital provides medical care for part of the population of Leopoldville, and for the towns of Matete and Ndjili which are only a few miles from the campus. In the 1956-57 academic year there were twenty-one medical students in the school, fourteen African and seven Eruopean; in 1957-58 there were thirty-eight, nineteen African and nineteen European. The standard of education is equivalent to that given in Belgium.

The official university at Elisabethville, created by the Decree of 26 October 1955, also includes a Faculty of Medicine, founded in October 1956.

Training for other types of medical and health personnel includes: three schools for African medical assistants (with a six-year curriculum including two years' practical training in hospitals and laboratories); eleven schools for male nurses; three schools for sanitarians, four for student nurse-midwives, thirty-three for midwifery aids, and seventy schools with a one-year curriculum for the training of auxiliary male nurses.

French West Africa

240. In 1918, the African School of Medicine and Pharmacy was established at Dakar, for the purpose of training auxiliary health workers in several medical branches such as medicine, pharmacy and midwifery. This school served French West Africa only until 1944, when it was opened to students from the French Cameroons and French Equatorial Africa as well. In 1950, however, it was considered that full professional training was henceforth indicated, and the school for the training of auxiliaries was closed in favour of the national Ecole préparatoire de Médecine et Pharmacie (Preparatory School of Medicine and Pharmacy) which prepares students for the French State Diploma.

241. The School is attached to the Institute of Higher Education of Dakar - an institution of higher learning which also provides courses in law, science and letters - and is affiliated to the Faculties of Medicine and Pharmacy of the Universities of Paris and Bordeaux. At present only the first three years, the pre-clinical course, of medical training can be taken at the School in Dakar, and the next two years, the clinical part of the medical curriculum, are taken in Metropolitan France, followed by a year's internship in Dakar, before obtaining the diploma.

242. The number of medical students in 1956 was eighty-nine, of whom seventy-five were African and fourteen European. More than 250 African students were studying at different medical faculties in France.

243. Training for nurses and midwives is provided in institutions comparable to those in France. Training of sanitary assistants (agents techniques de la santé) is also undertaken, and their duties include supervision of general sanitary measures, participation in case-finding campaigns on epidemic and endemic diseases, and assistance in programmes for their control. They are also trained to teach elementary health notions to the indigenous population.

244. In Kenya, the Medical Training School is under the Medical Department in Nairobi, and more than 400 African students are undergoing training there as dispensers and hospital and laboratory assistants. In 1956, an instructional course of three years for African health inspectors was added to the curriculum of the Medical Training School. In addition, the training of health visitors is carried out at two rural centres, and there are ten medical mission training centres for nurses and midwives. African and Asian midwives are also trained at three municipal and a number of other hospitals. A Nurses' and Midwives' Council has been established, which is recognized as the statutory body for the training and registration of nurses, assistant nurses and midwives, and a course for State-registered nurses has recently been started.

245. The Gold Coast had no facilities for the training of doctors or dentists. Africans wishing to study medicine had to go either to Ibadan in Nigeria or to the United Kingdom. In 1954, there were 124 medical students studying overseas, of whom seventy-four were in the United Kingdom under government auspices, and fifty in Germany, sponsored by the Cocoa Marketing Board. The establishment of the Gold

Coast Hosptial College led to a proposal that a medical school should be developed, and the present Government of Ghana is understood to be making plans for a complete curriculum of medical training at the unversity level.

246. The Nurses' Training College at Accra provides facilities for the full training of nurses who take the qualification equivalent to that of registered nurses in the United Kingdom. This school of nursing started to function in 1948 and has already reached a high standard. Midwives are trained by the maternity hospital in Accra and in Kumasi. The standard of training is high and is equivalen to that approved by the Central Midwives' Board in the United Kingdom. The school opened in 1945. Since May 1950 the Student Nursing Council of England and Wales has recognized the training given at Accra and the State Registration examination.

247. In 1954, students from the Gold Coast studying other para-medical subjects overseas included 21 in the United Kingdom, studying dentistry (2), hospital administration (4), laboratory technology (3), radiology (6), physiotherapy (1), ophthalmics (1) and pharmacy (4).

Federation of Nigeria

248. In 1930, the Nigerian Government established the Yaba Medical School. Its aim was to provide courses of study of limited scope, but adequate to equip its students with sufficient knowledge to carry out useful work as medical assistants in the Government Medical Service. In 1936 the curriculum was revised to bring the teaching and practice more in line with that of the medical schools in the United Kingdom; the diploma course was extended to six and a half years - one and a half pre-medical, two pre-clinical, and a clinical course of three years.

249. In 1948 a Medical Faculty was established at the University College in Ibadan which succeeded the Medical School at Yaba. The Faculty of Medicine at present provides a three-year pre-clinical course only, and medical students finish their studies abroad. In 1956, 107 Nigerian medical students were studying in the United Kingdom, and thirty-six graduated. When the installation of the Medical School - including the large teaching hospital attached to it - was completed in 1957, clinical teaching was started, and as complete medical courses are developed at Ibadan, about fifty doctors will graduate annually qualified with London University degrees.

250. The School of Dental Technology was opened in 1955, offering a six-year course (including one-and-a-half to two years of practical work) to students before qualifying them as dental technicians recognized by the Institute of British Technicians (Dental Section). In 1956 there were sixteen students in training, five from the Northern Region, four from Lagos, four from the Western Region, two from the Eastern Region, and one from Gambia.

251. The School of Nursing at University College Hospital, Ibandan, provides three-and-a-half-year courses in nursing, and its final qualifying examination is recognized for reciprocity by the Nursing Council for England and Wales. Midwives are also trained at the School. The Nigerian Nursing Council controls the standard of training and sets up the examination for registration. The Council maintains a register of all nurses in Nigeria. There are preliminary training schools for nurses and midwives at Lagos and Ibadan (two, one being that of University College Hospital) in the West, at Kano and Wusasa in the North, at Enugu, Ala and Iyi-enu in the East, and Victoria in the Southern Cameroons. Hospital training for successful student nurses is given at two hospitals in Lagos, thirteen in the Northern Region, fifteen in the Eastern Region, twelve in the Western Region, and two in the Southern Cameroons. These forty-two hospitals, which are approved by the Nursing Council and the Midwives Board, train a total of about 500 nurses and midwives annually. Two different types of courses for midwives are conducted to meet the urgent need; the first consists of a course of two-and-a-half years with some instruction in nursing. The standard is comparable with the certificate of the Central Midwives Board in the United Kingdom. In 1948, the local Midwives' Board decided to accept for training only candidates previously registered as nurses. The course now last for two years.

252. The second grade of midwives' course gives a good practical training in maternity and infant care to women who do not reach the educational standards of the above. The course extends over one year and most of the training is in the hands of missions. These Grade II midwives are usually stationed in rural areas, and a large part of their work consists of domiciliary midwifery. In larger areas, great stress is laid on their work and they fill a need by spreading knowledge of maternal and infant hygiene.

253. There are two pharmacy schools giving three-year courses for pharmacists. One of them is being transferred to Ibadan in 1958, and will form part of the Nigerian College of Arts, Science and Technology, the course will be extended to four years. In 1956, sixty pharmacists qualified from the two schools.

254. A School of Radiography was opened in 1951 in Lagos, offering a three-year course; in 1956, thirty-five student X-ray technicians were being trained there. Laboratory technicians for the whole of Nigeria are trained at the School of Medical Laboratory Technology in Lagos; in 1956 the Intermediate Examination of the Institute of Medical Laboratory Technology in London was held at the School, the first occasion on which it had been held outside the United Kingdom, and six candidates out of twenty were successful.

Makerere College, Uganda

255. The Mulago Medical School (incorporated into Makerere College) is the main centre of medical training in Uganda. This School has been providing a six-year course for assistant medical officers since 1924, increased in 1950 to seven years with the additional requirement of an internship. Students are admitted to this School on their performance in the Oxford and Cambridge School Certificate. After the basic science course of two years, a selection is made of students capable of pursuing the full medical course. There follow two years' study of anatomy, physiology, chemistry, pathology and pharmacology. At the end of this period of four years there is an examination, and those who pass proceed to the teaching hospital attached to the School for three years' clinical studies. After that they sit for their final examinations and are required to spend at least one year as interns. The Makerere diploma is recognized by a Board set up in each of the East African Territories.

256. A three-year nursing course is given at Mulago and two other schools. For midwives, a two-year course is provided at mission schools, in addition to the course given by the Lady Coryndon Maternity Training School. Both nursing and midwifery students have to pass examinations conducted by the Uganda Nursing and Midwifery boards respectively before being allowed to graduate.

257. In 1956 there were 224 Africans from Uganda studying in the United Kingdom or Eire on government scholarships; forty-eight more were in India, all but one of them with scholarships, and another seventy-one Africans were studying overseas on their own.

University of Puerto Rico

258. The University of Puerto Rico developed into a large institution at about the beginning of the century. It started as a normal school and was granted its first University Charter in 1903. The present University is at Rio Piedras, where its colleges represent the humanities, social sciences, natural sciences, education, commerce, pharmacy and law. There is also a section at Mayagüez, where courses in engineering, agriculture and the natural sciences are given. The University School of Medicine was founded in 1949 at San Juan. The building, which also provides a School of Tropical Medicine, consists of five main units with ample space for teaching and research, a library and living-quarters for students and research workers. The older portion of the School was erected by the Government of Puerto Rico, but additional units have been constructed with financial assistance from the Federal Government. In 1947, a new wing designed for teaching classes for fifty medical students was constructed and is now in full operation.

259. The University of Puerto Rico School of Medicine, together with the School of Tropical Medicine, is supported by funds allocated to the University by the Government of the Island. A complete teaching programme was established in 1950, and the first class of physicians graduated in June 1954. The curriculum for undergraduate medical training has been established on the lines of the leading medical schools in the United States and conforms to the standards adopted by the American Medical Association and the Association of American Medical Colleges. The school has an annual enrolment of fifty-two, and about forty-three students graduate each year. In the academic year 1955-56, there were 279 students in the school.

260. In addition to its undergraduate school, there are ample facilities for post-graduate training and for specialization in the various fields of medicine. Special attention is given to research on tropical diseases. Admission to the

School of Medicine requires the completion of three years of pre-clinical work. The committee of admissions to the medical college requires a reasonable degree of fluency in both English and Spanish. Formal instruction in the School of Medicine is given in English but all communication with patients is in Spanish.

261. The greater part of the clinical instruction is given in the San Juan City Hospital, a general hospital of 340 beds with cots for sixty-four infants. The University has constructed the clinical building with twenty-four examination rooms, two treatment rooms, laboratory, pharmacy and an amphitheatre with a seating capacity of 150. Clinical research facilities are also provided. Three other general hospitals (one with a well-staffed and equipped out-patient clinic only half a mile from the school), three tuberculosis hospitals, and two psychiatric hospitals, are also used for clinical purposes. The general plan of instruction includes the assignment of students during their third year as clinical clerks on the hospital wards in medicine and obstetrics and gynaecology, and during their fourth year in surgery and paediatrics. Assignment to the out-patient departments is in surgery and paediatrics during the third year, and medicine and obstetrics and gynaecology during the fourth year.

262. By agreement with the Department of Health, Department of Education, and other official agencies of the Government of Puerto Rico, their facilities are available to students for demonstration purposes and also for field experience. The Rio Piedras-Trujillo Alto Health District, serving a total population of approximately 175,000 in urban as well as rural areas, is used as the main centre for field experience. It includes a large metropolitan public health unit and a small rural health centre where integrated curative and preventive services are rendered.

263. The University of Puerto Rico offers a number of post-graduate courses in public health, and gives the qualifications of Master in Public Health Education and Master in Sanitary Sciences. The School also provides training for malaria technologists. There are also programmes in public health nursing, leading to a certificate, and a higher course leading to the qualification of Bachelor of Science and Public Health Nursing. This advanced course requires one academic year of full-time residence in the University. Its programme is intended to strengthen the scientific basis for nursing practice and to broaden the educational and professional background of the nurse.

University College of the West Indies

264. The College came into existence in 1943 when the building was formally opened, and the first principal was appointed in 1946. The College and the Teaching Hospital are situated together at Mona, in Jamaica, about seven miles from the capital, Kingston. The Teaching Hospital has 300 beds divided between medicine, surgery and obstetrics, and contributions to the teaching functions are received from the Governments of the United Kingdom Caribbean Territories: Barbados, British Guiana, British Honduras, Jamaica, Leeward Islands, Trinidad and Windward Islands. The remaining costs of the hospital are borne by the Government of Jamaica.

265. The governing body of the College is the Council, which consists of representatives of the contributing Territories, the Inter-University Council for Higher Education Overseas, the academic staff of the University College and the Guild of Graduates. In academic matters the College is governed by the Senate. The hospital is administered by a University College Hospital Board of Management. It has been approved as a teaching hospital of the University of London. Teaching in the Faculty of Medicine began in October 1948, with thirty-three undergraduates, ten of whom were women. In 1955-56 there were 192 medical students, 151 men and forty-one women. Eighty-one students were receiving clinical training at the hospital, of whom twelve were women. The general trend of the College so far as medicine is concerned is to extend its services throughout the Caribbean. It now has a full teaching staff and extensive clinical facilities; and it may be added that the University College has been accepted by the University of London into a scheme of Special Relationship by which students of the College may read for degrees in the University of London. The standard of performance required by candidates of the College is equivalent to that which is required from all other students of the London University. The medical course occupies six years.

266. The principal teaching hospitals are the Kingston Public Hospital and the University College Hospital. Both of these are also training schools for nurses, and reciprocal qualification is granted with England and Wales. The number of hospitals undertaking teaching functions increased by five during the period, and the most recent record shows twenty-six government units with out-patient departments and teaching facilities.

University of Hong Kong

267. The University of Hong Kong was incorporated under a Local University Ordinance and was opened in 1912. It is a residential University, open to students of both sexes; admission to all faculties is conditional on passing the matriculation examination of the University or a recognized equivalent. The Faculty of Medicine provides a five-year course (preceded by a cne-year preliminary course in science) leading to a degree in medicine recognized by the General Medical Council for registration in Great Britain. The students of the University are drawn from many parts of the world - as far as Java, Korea, and the Philippines on the east, and Ceylon on the west.

268. Hong Kong College of Medicine was founded in 1884, but even before that teaching and specialized hospital services were provided by the first government hospital founded in 1859. The Medical Department of Hong Kong co-operates with the University in training medical students; and the principal hospitals now constitute centres for clinical study. Many members of the government staff act as part-time lecturers in the medical faculty. After qualification, graduates are required to do one year's post-graduate work under supervision before they receive their final registration - thus following the practice of the United Kingdom. Many posts are available for this purpose in the government hospitals. There are about fifty medical graduates per annum.

269. The training of nurses and of technical assistants is also carried out locally in Hong Kong.

The University of Malaya

270. The first medical school in the Federation of Malaya was opened in 1905. After some vicissitudes the licence in medicine and surgery given by the school was recognized by the General Medical Council of the United Kingdom in 1916. In 1921 the School acquired the title of the King Edward VII College of Medicine. Four years later a grant from the Rockefeller Foundation enabled chairs to be endowed in bacteriology, biochemistry and biology. The Department of Dental Surgey was created in 1929; and in 1947 the licence in dental surgery provided by the College was recognized by the British Medical Council. After the Second World War the process of rehabilitation was begun without delay. In 1947 a commission visited Singapore and made a comprehensive report on university education. As a result

of the report of this commission, which was fully endorsed in Malaya, the University of Malaya came legally into existence on 21 April 1949. This University has grown rapidly since its foundation, and the medical school now deals with both under-graduate and post-graduate training. Up to 1955 the output of newly qualified medical officers from the University of Malaya (about fifty per annum) was insufficient to fill exsisting vacancies, largely, no doubt, because considerable numbers who qualify take up private practice. As local higher training has been extended, great attention has been given to post-graduate training. By 1955 five hospitals containing in all twenty-five specialist units have been recognized for this purpose.

271. Generally speaking, a newly qualified doctor is permitted to choose the speciality he wishes to pursue; he is attached as a "junior registrar" to a consultant for two to four years. He is then sent overseas for higher studies and on his return is promoted to a specialist grade. In this connexion it should be noted that a diploma in public health has been established by the University, and the full course is now in operation under regulations comparable with those of the United Kingdom.

272. There has in the past been a deficiency of recruits to the nursing service, but in 1950 a programme was begun to improve the standards of basic and graduate nursing education and the quality ofnursing services, to prepare local nurses for administrative and teaching posts, and to develop a training programme for midwives; there is now provision at the Regional Nurses' Training School in Penang for the training of 250 nurses and twenty-five male nurses. A one-year course for public health nurses was begun in 1955; the students have already received general nurse training.

273. The training of assistant nurses is progressing in all states and settlements. At the present time, hospital work is the main function of these assistant nurses, but they are gradually assuming an important part in the service, and as more become available, they will assume other roles - as rural midwives and assistant health nurses in the country areas.

Central Medical School, Suva, Fiji

274. In the Pacific Islands area a most notable advance has been made through the concentration of medical services around the Central Medical School at Suva, in Fiji. As early as 1886 it was decided to institute a course for auxiliary medical practitioners in the area, and a three-year course of hospital training was started. In 1928 this school was further developed as the Suva Central Medical School, and its doors were thrown open to students from many islands of the Pacific. The graduates became "assistant medical practitioners", and they give valuable service in these widely scattered areas. The medical course was extended to four years in 1931.

275. The Medical School is a Fijian institution financed by the Fijian Government. It is administered by a principal under the general direction of the Director of Medical Services who is chairman of the Advisory Board. The School has been developing continuously since funds for its improvement were made available under the Post-War Development Plan. It could accommodate only sixty-seven students in 1949, but after its installation in a new building in 1953 much larger numbers could be accepted, and in 1954 and 1955 there were 170 students in all (of whom ninety-two were studying medicine and twenty-eight dentistry) drawn from Gilbert and Ellice Islands, Solomon Islands, Niue Island, Cook Islands, Western Samoa, American Samoa, Papua-New Guinea, Nauru, Tonga, the New Hebrides, and the United States Trust Territory of the Pacific Islands, as well as Fiji. The number and scope of the courses offered have steadily increased; the four-year course for assistant medical practitioners was developed into a five-year course in 1953, and the entrance requirements for students were raised. During recent years more and more emphasis has been laid on preventive medicine, and a grant has recently been made for the establishment of a department of social and preventive medicine at the Medical School. Courses are also given for assistant dental practitioners (three years), pharmacists (three years), laboratory assistants (three years), clinical laboratory assistants (one year), health inspectors (three years), and filariasis and mosquito inspectors (six months). Post-graduate training is available in tuberculosis, leprosy, eye diseases, ante-natal and infant welfare, obstetrics, school health, nutrition, port quarantine duties, and filariasis and mosquito control.

276. Facilities for nurses' training have developed considerably. Under the Development Plan a Central Nursing School was built, which came into existence in 1954 with accommodation for about 200 student nurses. By 1955 a course of training to New Zealand registration standard was instituted.

277. From the foregoing, it is obvious that progress is being made in training staff for the health services of the Territories, and that during the period under review an important step forward has been made, even if only in laying or consolidating the foundations for medical and para-medical education. In many cases, the numerical increase in trained staff may show little improvement, but a number of the schools are but newly established and their effect is not yet startingly noticeable in the statistics. It is, however, particularly gratifying to observe in a number of Territories a substantial increase in the number of registered physicians; in Uganda, for example, from 139 in 1946 to 291 in 1956; in French Equatorial Africa, from 131 to 201; in British Guiana from 95 to 366; in Aden Colony, from 28 to 57. The position with regard to the increase in the number of senior nurses has unfortunately been less clearly reported, but the trends in such areas as Madagascar (65 in 1946, 127 in 1956), Jamaica (966 and 1,945), and Trinidad and Tobago (530 and 1,039), point to a very considerable improvement.

278. It is not possible from the figures available to determine the status of locally qualified physicians and nurses, as the figures were incomplete and did not justify any further conclusion than to indicate that there has been a substantial increase in the locally qualified nurses in many areas. French Equatorial Africa, for example, shows a rise in numbers from 107 to 1,678 in the ten-year period; Zanzibar, from 60 to 166; French West Africa, from 2,860 to 4,423. These are the most striking improvements, and no doubt the overwhelming majority of the nurses are indigenous. The position with regard to medical assistants cannot be very clearly ascertained as it has been difficult to obtain progressive figures, and to relate the earlier to the later period. It is evident, however, that in a number of the continental areas, especially in Africa, a substantial number of medical assistants are now being trained. Their service in the rural areas is unquestionably of great value.

279. The number of fully qualified senior midwives seems to show, as far as records can be obtained, some decline in a number of the smaller areas. It may be that this is accounted for by increasing numbers taking full professional qualification as nurses, but there is substantial evidence that a considerable number of locally qualified midwives are being trained in many of the Territories. Only in a few areas does there seem to be any progress in the number of assistant midwives, and it would be hazardous to draw any conclusions from these figures. A similar consideration applies to the recorded number of dentists and assistant dentists, and one can only conclude that in a substantial number of Territories figures are lamentably incomplete. It will be necessary during the coming years to obtain a series of records which will stand closer examination in a number of respects such as: (a) the actual figures for the indigenous population in each area; (b) the number of the indigenous population who have in fact gone abroad for training and subsequently entered the profession of medicine, nursing, dentistry and midwifery; (c) a more accurate appraisal of the training courses attended by the various groups, especially in the auxiliary services; and (d) a strict definition of each category so that proper comparisons can be made between one Territory and another, as well as between the Territories and the nations.

280. It has been shown in the foregoing pages that much of the development in training is of comparatively recent date, and spectacular comparisons between numbers of health personnel available in 1946 and 1956 cannot therefore be made in most Territories. With the impetus of the past ten years' efforts behind them, however, it may confidently be expected that within the next decade many Territories will be able to provide comparative figures which will really be spectacular.

V. PARTICIPATION IN HEALTH WORK BY THE INDIGENOUS POPULATION

281. In a few of the Non-Self-Governing Territories there is still a certain amount of suspicion of modern health programmes. In a still smaller number, or in limited areas within Territories there is actual resistance, and the burden of public health work consists in trying to achieve a co-operative attitude on the part of the people. It has been clearly shown that peoples who are at first suspicious of health projects can often be won over by the visible success of curative methods, before preventive work is undertaken. In the post-war period there has been an additional ally in the use of the injection for immunization or treatment. This approach has not met with nearly the same degree of resistance as, for example, the introduction of environmental sanitation or various kinds of surveys for diagnosis or preventive measures. On the whole, it may be argued that, so long as the means of approach are ethical and harmless, it is best to follow a road that can be easily opened up. In other words, it is best to accept the existing order of things, and work through what is approved by the people, instead of trying to make a new world by force.

282. The reports on the Non-Self-Governing Territories do not contain many direct references to participation in health work by the indigenous population, but it is possible to infer, from the type of work done especially on community programmes, that local co-operation is being developed. In Barbados, for example, the government has been responsible for starting a scheme for the improvement of rural sanitation, and plans of this kind are largely dependent on community participation. Another illustration is Basutoland, in which community development and welfare have followed the indigenous pattern of Basuto society. A number of halls have been established at district headquarters for communal activities, with the help of a Basuto Committee at each focal point. A Basutoland Homemakers' Association is responsible for over 150 clubs giving advice on education, domestic arts, hygiene, child care and the like. The projects include schemes for the improvement of agriculture, an extensive survey for the supply of water to the western border and, in the medical field, the construction of a new hospital at Maseru, as well as of dispensaries and health centres.

283. Similarly, in Bechuanaland, social problems are solved according to long-established tribal custom, strengthened by official welfare schemes. Community

centres and clubs have been established at several of the larger settlements and funds raised through tribal initiative for the building of dispensaries.

284. A good example of organized community effort and self-help is to be found in the Eastern Region of Nigeria, where the people of the village of Udi erected a maternal and child welfare centre at very little cost by providing free local communal labour as part of a scheme for general village betterment. A film, "Daybreak in Udi", has been prepared to describe this effort.

285. It is reported from Brunei that so far there is little direct participation by local people, but efforts are being made to interest them in health work and housing. There has been a general rise in the standard of living on account of the prosperity brought by oil, and there are now ample funds for new construction work and new health activities.

286. The South Pacific Islands offer an excellent illustration of a system of co-operation from one recognized centre, even though the individual units are far apart. In the Gilbert and Ellice Islands, for example, the Government and the missions are giving special attention to the training of women, especially in domestic duties, motherhood, infant care, and in professional nursing. In consequence of this there is a sense of increasing community of interest between the families and the health services. Family ties are strong, and it is regarded a natural duty to care for the aged relatives. On health matters the consultant headquarters are at Fiji.

287. The social organization of Fiji is arranged on a highly developed communal system, and the unit is larger than the family. The people live in groups, and their work is done and their services provided, on the group basis. The inhabitants are taking an increasing part in their health services and, particularly through the village committees, are improving environmental conditions and the care of mothers and children.

288. The considerable success of co-operation in health work has depended largely on a well-planned scheme of health education, and on voluntary campaigns against the more serious social diseases. The British Guiana Society for the Prevention and Care of Tuberculosis works along these lines and the Central Committee of the Infant Welfare and Maternity League meets quarterly at the headquarters of the Medical Department to discuss plans of development and maintenance.

289. Another example of this kind of co-operation is in North Borneo, where considerable health education work is undertaken against tuberculosis; the North Borneo Anti-tuberculosis Association is active in propaganda and spends a large part of its funds on the relief of sufferers and their dependants.

290. In Aden, also, an important contribution has been made by the Aden Society for the Prevention of Tuberculosis, founded in 1946 by the Islamic Charitable Association with the object of helping the Administration check the ravages of the disease which was assuming alarming proportions. With the Society's funds, raised from voluntary contributions, a system of payment of allocations to families of tuberculosis patients was instituted, thus encouraging the patients to seek hospital in-patient treatment if necessary, knowing that their families would not remain destitute.

291. The conditions of life in Sarawak offer a wide variety from primitive tribes to the urban life of the principal towns. Some of the local customs in the interior still provide obstacles to anti-malaria campaigns. On the other hand, support for the aged and the chronic sick is undertaken largely through voluntary organizations, in some cases with indirect government subsidy. The evidence indicates that there is a slow development towards local participation in the larger areas, especially near the coasts. One of the hospitals is named after a Chinese philanthropist who provided the funds to start it; and the anti-tuberculosis association at Simangang raised money by voluntary subscription to build a new chest clinic at Kuching.

292. In Papua and New Guinea it is evident that in the early stages there was a good deal of suspicion about the introduction of health services, but by 1951 great improvements had taken place. The village councils in the Rabaul area of New Britain and in several other places are now adopting their own medical aid posts and paying indigenous medical assistants.

293. In Niue Island it is stated that tuberculosis is still a problem but preventive work through BCG vaccinations is applied widely to children, and is a routine at school age. "The fact that there are no serious health problems on the Island is due to an increasing co-operation between an understanding people and a keen Administration."

294. Participation of the indigenous population in health work is by no means confined to special notes on individual Territorial programmes. No one can read

reports of ten years' development in the Non-Self-Governing Territories without gaining the strong impression that there has been a steady change in the attitude of people - first from hostility and distrust to acquiescence, and second from acquiescence to co-operation. This has been brought out again and again in territorial reports, not so much in explicit statements as in the assumptions which underlie the records of progress. A successful campaign for malaria eradication may well be stated in terms of staff, expenditure, and the area treated in square metres; it is important to remember that it is silently represented by increasing good-will on the part of the indigenous population. Quite apart from specific references, the evidence of increasing community development is very strong, especially in villages and the smaller island districts. This half-spoken, half-assumed record is a witness to real progress although its extent cannot be stated in numerical terms. Very often the growth of co-operation takes place for a long period as it were, underground. Suddenly it appears and produces unexpected fruit. It is of great interest to observe that in community programmes it is by no means always a health service which first appears - it may well be a simple plan for improving the physical condition of a village or the skill of its inhabitants and some necessary requirement such as housing or drainage. The community resources, once stimulated, may urge the people on towards a better water supply or the creation of a rural medical post. Each step represents an advance in the co-operation of the local people, because success depends on their understanding. The imposition of a plan for education or health if introduced from above or with any show of compulsion will almost inevitably fail. Yet, sooner or later there must be sanctions. A community development programme may show precocious success if it depends wholly on local resources, but it will not achieve fruition unless in the course of its growth it is progressively linked with other schemes in other communities. There must, in fact, be some co-ordination from the centre from both regional and national level. It is from this point of view that one judges the success of such co-ordinated schemes as the South Pacific Health Service or the developments in the Federation of Nigeria.

295. Ten years are a short period in the life of nations and Territories - it is often difficult to discern the direction and force of progress, yet the signs are hopeful.

VI. HEALTH ACHIEVEMENTS

296. An attempt to view in perspective the progress made in health in the Non-Self-Governing Territories during the period under review, gives the immediate impression that much has undoubtedly been achieved in all spheres of health activity; and yet, concrete proofs of this general impression, are often elusive, intangible, and even sometimes contradictory. The work that has been going on - as outlined in the preceding chapters - does without doubt represent a great deal of activity; but how is it possible to assert - with proof - that there has been a general improvement in the health of the people of the Non-Self-Governing Territories? One cannot depend on the statistics available in all cases - comparatively few Territories have well-developed statistical services - and in any case, as pointed out by a WHO Study Group which met in 1955 to consider the "measurement of levels of health",[10/] ... "in the light of available statistical information, only deviations from health are susceptible to measurement". It is perhaps from this negative point of departure that one can best proceed to trace a picture of positive achievement, by comparing death rates, infant mortality rates, incidence of communicable diseases, numbers of in-patients in hospitals and out-patients in dispensaries and health centres, increases in the numbers of doctors, nurses and other personnel, and in the numbers of hospitals and health centres.

297. Table 1 on page 98 contains comparative data on population, birth and death rates and infant mortality rates for a number of the Territories - selected rather for their completeness than for any other reason - showing the trend over the period under review, or in the nearest available years to each end of the period. It will be seen that many of the larger Territories have not been included simply because the information is either not available or is rather inconsistent as it appeared in different reports. Some Territories are able to present full and accurate reports for a limited part of the area only, although many of these authorities are gradually extending the area over which information can be obtained.

10/ Measurement of Levels of Health, Geneva, 1957, WHO Technical Report Series No. 137.

TABLE 1 BIRTH, DEATH AND INFANT MORTALITY RATES IN NON-SELF-GOVERNING TERRITORIES[11]

(a representative selection)

Territory	Population		Birth rate per thousand population		Crude death rate		Infant mortality rate thousand live bi	
	1946	1956	1946	1956	1946	1956	1946	1956
Central Africa								
Belgian Congo (Léopoldv.)	221,757	290,377	33.1	38.7	12.1	9.7	192.8	144.5
Fr. Equ. Africa (Brazzaville)	85,245	92,520	35.4	51.2	12.1	12.4	...	...
Indian Ocean								
Madagascar	4,154,000	4,839,885	24.6	37.1	21.4	12.8	130.8	78.(
Mauritius	427,769	568,886	38.4	43.8	29.3	11.8	145.2	66.(
Zanzibar	259,002	280,000	18.5	19.9	14.8	9.9	58.3	26.1
West Africa								
Fr. West Africa (Dakar)	221,000	180,988	40.1	69.2	15.1	19.8	130.5	100.(
Ghana (Registration area)			41.4	35.3	28.4	20.8	117.1	113.(
Nigeria (Lagos, indig. pop.)		312,000	62.0	49.2	21.7	11.9	125.7	76.3
Mediterranean								
Cyprus	447,000	527,800	32.4	26.3	8.5	6.3	70.9	31.7
Gibraltar	20,200	24,947	22.2	22.9	10.2	9.1	33.4	10.5
Caribbean								
Barbados	193,305	228,209	31.9	31.0	17.0	10.6	159.7	96.7
Bermuda (civilian pop.)	35,000	42,000	24.6	27.8	9.8	8.0	52.3	33.4
British Guiana (ex. Amerindians)	364,530	480,290	35.8	42.3	15.5	11.2	86.1	68.8
British Honduras	60,000	81,779	34.4	45.5	17.0	10.0	105.1	69.(
Jamaica	1,297,900	1,563,700	30.8	37.3	13.3	9.5	89.5	54.2
Leeward Islands	108,401	130,000	34.2	38.8	17.5	10.2	122.6	5(
Antigua	42,000	53,000	37.0	36.2	14.9	9.4	81.8	58.5
St. Christopher	46,000	55,000	32.2	44.0	20.2	10.9	156.1	52.1
Br. Virgin Islands	6,200	7,760	42.1	41.0	17.6	11.2	147.7	103.8
Trinidad and Tobago	565,950	742,500	38.5	37.0	13.7	9.6	78.5	63.9
U.S. Virgin Islands	27,000	24,000	34.0	40.7	15.1	14.8	91.6	66.5
Windward Islands	252,000	313,000	36.5	43.4	17.0	13.4	110.7	101.2
Dominica	48,500	63,777	35.7	37.9	20.6	14.5	141.0	132.8
Grenada	72,663	88,215	32.6	44.8	17.4	13.8	110.1	76.(
St. Lucia	70,000	89,006	38.3	40.1	15.3	12.7	97.7	101.9
St. Vincent	62,090	77,669	38.9	46.4	15.6	12.1	98.1	106.9
Asia								
Brunei	40,000	66,000	46.4	61.8	19.6	13.7	79.8	103.(
Hong Kong	1,550,000	2,440,000	20.1	39.7	10.7	7.9	89.1	60.9
North Borneo	335,000	382,768	13.1	32.5	11.9	10.2	136.7	84.1
Sarawak	540,000	626,223	13.7	25.2	6.2	6.6	104.5	72.2
Singapore	938,079	1,264,000	45.9	48.2	13.3	8.1	87.3	42.5
Pacific								
Fiji	257,570	351,523	40.8	40.0	13.1	7.4	58.3	46.1
Gilbert and Ellice Islands	35,000	39,000	34.1	36.9	18.5	25.6	173.3	136.3
Guam	24,100	37,600	52.0	60.3	11.6	6.5	63.7	26.9
Cook Islands	15,000	16,161	37.8	46.2	15.4	16.6	114.6	149.9
Other Territories								
Aden Colony	82,000	143,000	27.1	31.6	21.5	13.5	172.7	151.(
Alaska	103,000	209,000	22.0	35.1	11.9	5.8	70.9	37.1

11/ The figures in the 1946 and 1956 columns represent in a few cases the nearest year for which statis were available, i.e., 1951 and 1955 for Belgian Congo, French Equatorial Africa, and French West A 1947 and 1953 for Ghana (registration area); 1947 (instead of 1946) for Sarawak, Singapore, and Guam; 1955 (instead of 1956) for Windward Islands, Grenada and Alaska.

The development of a reliable statistical service is in itself a considerable health achievement, particularly as this is the most satisfactory basis on which to build an increasingly good health service.

298. The crude death-rate gives some indication of the level of health of a population, although it is deeply influenced by the age composition of the population and it will be seen that the trend in the table shows almost without exception a downward trend in the death-rate. The use of the death-rate from communicable diseases has certain advantages, but reliable certification of the causes of death is not available in many areas. A simple index which could be brought into use on a wide basis without much difficulty is the proportional mortality at the age of fifty or over to the total deaths. This indicator shows a high degree of discrimination, and would be a valuable measure of health in the Territories. Without doubt, the infant mortality rate is the most sensitive index of changes in the levels of health and there is general evidence of a fairly steady fall in this rate - in some cases indeed a spectacular fall - which in its turn provides infallible proof of the improvement in maternal and infant welfare services and environmental sanitation, among other things.

299. Progress in the control of communicable diseases has undoubtedly been made, although again the lack of reliable morbidity statistics in so many Territories makes it difficult to offer tangible proof of this progress. However, the absence of any major epidemic during the period under review is already a fact which may be considered a major health achievement. Furthermore, in most Territories campaigns have been organized against the great human scourges, such as malaria, yaws, smallpox, leprosy and tuberculosis, with increasing vigour in the years since the war, sometimes on a large scale, and sometimes with outstanding success (e.g., malaria eradication in Mauritius described in paragraph 133). In other cases results have not been so obvious or as rapid, either because of the vastness of the area and the difficulty of communication, or for lack of sufficient resources to carry out a large-scale programme. However, it is certain that in the long run the result of such efforts as the operation of mobile teams for control of communicable diseases in the remote districts of large continental areas (of which some examples have been described in Section III, paragraphs 98-132), will produce visible results which can be computed in tangible form. It is not going too far to state that the mass attacks on communicable disease have been the

first line of advance on ill-health which have cleared the way for the oncoming programme of preventive medicine. In many areas the fall in sickness is often dramatic, and there is no doubt that the reduction in the incidence of communicable diseases has raised the level of positive health to an extent that could not be revealed by figures: in many instances it is most prominent among those who probably did not seek medical attention to a great extent but whose vitality was being constantly drained by chronic malarial infection, or one of the more serious infestations, with the result that their contribution to their community was negligible.

300. Community health services and the extension of medical care in new areas are also significant indices of progress, and here again achievements can be seen. It is particularly in the years since 1946, when development plans covering a number of years were formulated and funds were provided to execute them, that there has been an increase in the number and quality of health establishments. The building or repair of hospitals, the renovation of old dispensaries or health centres and the construction of new ones, had high priority in all these plans. The work has not always advanced as quickly as planned, and frequently original estimates of costs were found inadequate in practice to carry out all the improvements originally intended, but at least the situation has nowhere remained static, and in many cases truly remarkable progress has been made. Ample evidence of this is given in Section II, paragraphs 53-97. Planning has also included making the maximum use of the increased services, by locating hospitals at strategic bases from which health centres, dispensaries, medical posts, and mobile units operate in ever-widening spheres of influence, but with the hospital as their focal point. This decentralization and extension of services was undoubtedly evolving to a limited extent in previous years, but lack of resources hindered its orderly development to a great extent, and impetus was given to the subsequent progress by the grants and planning of the immediate post-war years.

The improvement of health services, as pointed out earlier, could not be achieved without the co-operation of the people they serve. It is obvious that much has been done to win this co-operation: health education of the public has been intensified in almost all of the territorial health programmes, and it is certain that much has been done to make the people realize the value of consulting the health staff in case of illness, or following the advice given on cleanliness

and personal hygiene. The almost overwhelming influx of in-patients recorded in hospitals in many Territories in the past few years, and recent attendances at health centres, bear witness to this. It is hoped that yet morewide-spread efforts will be made in the future to win the active participation of the people in programmes for improvement of their health, by extending the practice (already used to such advantage in a number of areas) of enlisting their help in building and maintaining simple water supply systems, latrines, sewage disposal systems, etc., once they have understood the benefits of such innovations, rather than by enforcing sanitary inspection measures with the aid of regulations alone, which can never have the desired effect.

302. The extent to which indigenous medical personnel are taking senior positions in the territorial administrations, and thereby taking the lead in forming Territories' health policy, is an important yardstick by which progress may be measured. Generally speaking, this is noticeable particularly in those Territories approaching self-government, and where a comparatively highly organized health administration has been in existence for many years, so that the training of indigenous personnel (whether overseas or in the Territory) has had time to evolve. Elsewhere, senior posts are held almost exclusively by non-indigenous personnel and from all sides there are reports of chronic shortages of staff, difficulties in filling the established posts, and so forth. In short, progress in the training of indigenous professional medical and health personnel has on the whole been less encouraging than in some other fields. There is no doubt that the problems are great, and they have been discussed in some detail in Section IV, paragraphs 233-230, but in view of the fundamental importance of producing trained personnel to staff the increased health services, it is felt that even more determined efforts might have been made, even if the standard of training had to be temporarily lowered or curtailed to meet the educational level of possible candidates. To some extent this has been done, but one cannot escape the impression that it has been done hesitantly and with regret, rather than boldly and with the firm conviction that it was the only expedient possible to bridge the gap until a corps of fully-trained staff could be built up. However, the results of the increased training activities which have been developing in the past few years will begin to bear fruit in the near future; and it is to be hoped that still more determined efforts will be made to increase the numbers of trained indigenous personnel for the health services.

303. Progress in environmental sanitation is perhaps the most difficult element to assess, because of the varying backgrounds of the Territories and the difficulty of demonstrating statistically most improvements in this field. It is probable that the existence of a piped water supply, at least in the urban districts of a Territory, should become one of the criteria of progress during the coming decade. The next important consideration is housing. Town planning had a high place in most of the post-war development plans, but in many cases the schemes actually carried out have lagged far behind the time-schedule, partly because the funds originally allocated proved insufficient to complete them. Sewage and excreta disposal programmes, even in their simplest forms, have also lagged behind the plans approved on paper, partly also for lack of funds, but undoubtedly also through lack of appreciation of their importance by the majority of the people for whom they are intended. In the next decade, it is hoped that an intensified programme of health education of the public will accompany all schemes for improvement of environmental sanitation; otherwise a large proportion of the funds provided for construction of piped water supplies, construction of latrines, and sewage disposal methods, will continue to be spent without producing the desired results.

304. Finally, it is hoped - indeed it seems certain from reading many of the annual reports of Administering Members - that the practice of long-term planning which came into being with the formulation of the first development plans in 1946 and 1947 will become normal practice and that future long-term planning will take into account the shortcomings of the past. They must be realistic - bearing in mind the funds which can be relied upon in any given period, and the human element of the health staff to make them a success. They should not be too ambitious, and above all they should be based on a sound study of the existing health situation. For this, a sound statistical service and reliable recording of trends is essential. It is also essential that future plans should be based on evaluation: a considerable number of factual reports by experts who have studied conditions at first hand have accumulated during the past ten years, and these should play a most important part in consideration of future needs.

VII. ASSISTANCE BY THE WORLD HEALTH ORGANIZATION TO NON-SELF-GOVERNING TERRITORIES, 1949-1956

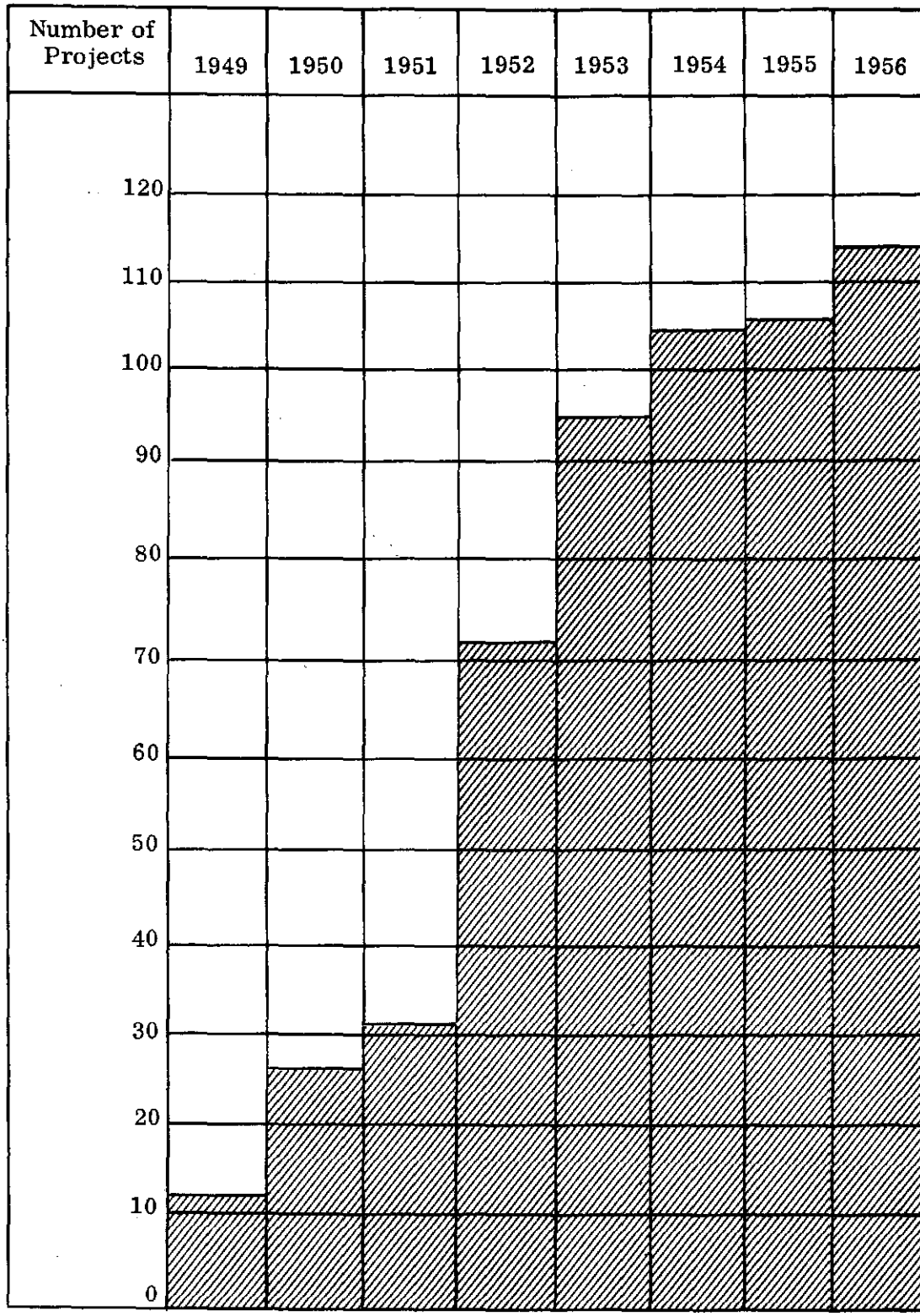
305. The World Health Organization came into being as a specialized agency of the United Nations in 1948, more than two years after the General Assembly at its first session requested the summarization in the Secretary-General's annual report of information received under Article 73 e of the Charter. The First World Health Assembly in 1948 established six regions to enable the Organization to carry out its work on a decentralized basis; the Regional Offices were established one by one during the succeeding years, to serve the Americas, South-East Asia, Europe, the Eastern Mediterranean and the Western Pacific; with the opening of the Regional Office for Africa in October 1952, full regionalization was achieved.

306. The planning and implementation of assistance to meet the vast and urgent health needs of developing countries and Territories has steadily gathered impetus during the years; this is illustrated by the increase in the number of WHO-assisted projects in Non-Self-Governing Territories (Table 2, page 104) between 1949 and 1956, from twelve to 113, and the trend is continuing upwards although the number of Non-Self-Governing Territories is decreasing as independence is reached. If the increase in assistance by the Organization has not been more spectacular, it is because limitations in available human and financial resources have checked advance to some extent: it has not always been possible to provide all the assistance needed, or to provide it as quickly as desired. Furthermore, the capacity of the Territories to absorb assistance and assimilate programmes of health improvement into the structure of their health services is of necessity a limiting factor in the expansion of activities.

307. The United Nations Children's Fund (UNICEF) continues to co-operate with the Organization to an increasing extent, particularly by providing supplies and equipment for programmes in which the welfare of children is an important element. Such programmes are not limited to maternal and child health services, but include control of certain communicable diseases and improvement of environmental sanitation; the extent of UNICEF participation in activities in Non-Self-Governing Territories can be seen in the Annex I on page 1, which gives in detailed form the information summarized graphically in Table 1.

TABLE 2

Assistance by the World Health Organization to Non-Self-Governing Territories, 1949-1956 By number of projects



308. Broadly speaking, assistance to the Non-Self-Governing Territories is planned as a three-pronged attack on their health problems: control of communicable diseases, improvement and expansion of the public health services, and education and training of health personnel to meet the increasing demands in both curative and preventive services. Table 3 on page 106 illustrates how this three-pronged attack is progressing: communicable diseases are still the chief health problem in the majority of the Non-Self-Governing Territories, as already described in Section 3, paragraphs 98-232, and efforts to control them - even to eradicate certain of them where feasible - must therefore have priority for the time being. It will be seen, however, that assistance in education and training and in services for improvement of the public health is increasing steadily within the limits of available resources, and it may confidently be expected that eventually their combined results will tip the balance of manpower and money devoted to medical and health services in favour of the promotion of health rather than merely the control of disease. It is not unreasonable to predict that a similar table summarizing WHO assistance to Non-Self-Governing Territories during the next decade - 1956-1966 - will show an upward trend in the first two columns and a downward trend in the third. A glance at the WHO budgets for 1959 and 1960[12/] will suffice to show that, while comparatively large amounts of money are still being set aside for campaigns against communicable diseases, increasing assistance is planned for development of rural health services in the widest sense (including maternal and child health, health education of the public, environmental sanitation, etc.), for improvement of the nutritional standard of the populations, and for training schools for various types of health personnel.

309. The Organization has provided the Committee on Information from Non-Self-Governing Territories with annual reports of its activities in the Territories since the third session of the Committee in 1952.[13/] In the following pages, detailed

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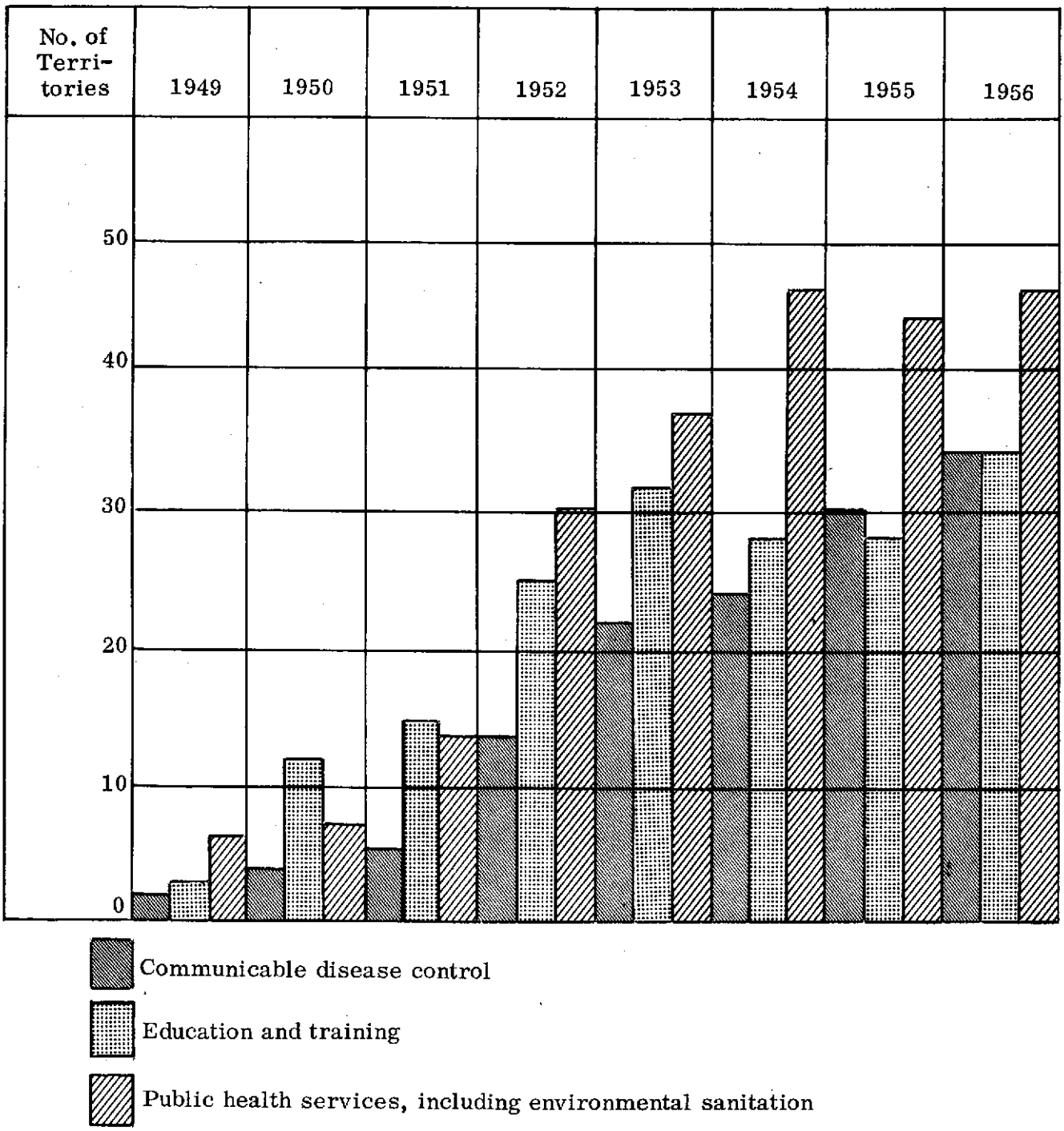
12/ WHO: Official Records No. 89.

13/ Documents A/AC.35/L.86 (1952); A/AC.35/L.129 (1953); A/AC.35/L.170 (1954); A/AC.35/L.205 (1955); A/AC.35/L.229 (1956); A/AC.35/L.251 (1957) and A/AC.35/L.288 (1958).

TABLE 3

Assistance by the World Health Organization to
Non-Self-Governing Territories, 1949-1956
By subject and number of Territories assisted



descriptions are given of a few projects representative of WHO assistance to Non-Self-Governing Territories during the period under review, while the Annex contains a summary of WHO-assisted activities by Territory and type of project.

Descriptions of some WHO-assisted projects

310. Control of non-venereal treponematoses, Bechuanaland. The aim of this project was to carry out a pilot project, to be followed by a mass treatment campaign, for the control of the local non-venereal treponematosis, dichuchwa, in Bechuanaland. This involved the training of auxiliary personnel. WHO provided an experienced medical officer, and periodically a consultant, from September 1953 to February 1956, and some supplies. Most of the supplies and equipment were provided by UNICEF, and assistance in laboratory services was given by the South African Institute for Medical Research.

311. The pilot project was started in September 1953, based on Molepolole in the Bakwena area where the population of some 35,000 was covered systematically. This was a difficult task, not only because of the great distances and inadequate roads, but also because of an exceptionally rainy season which added greatly to the transport problems. Furthermore, the population is semi-nomadic and spends much of the year away from the home village, either in the lands where the crops are grown (which may be seventy miles or more away from the village), or at the cattle posts where the herds are kept; only between the end of August and November can most of the people be found in their homes. Case-finding and follow-up was thus complicated by the separation of family members, and the conflicting information given by different members of a family who were frequently interviewed at widely scattered points. The pilot project was completed by 1955, and provided experience for the territorial mass treatment campaign which was to follow. Active treponematosis was most prevalent in the population of the desert, in the Letlakeng area.

312. The mass campaign began in July 1955, with some 250,000 people to be covered; the Administration was able to recruit and train sufficient African personnel to form three mobile teams. By the end of 1956, about two-thirds of the people had been examined and treated. The disease was most prevalent in the less accessible regions of the Kalahari desert, but the information available suggests that the

prevalence is generally decreasing, and that modern treatment can rapidly reduce the importance of dichuchwa as a public health problem to negligible proportions. Better education, improved economic status and consequent improved hygienic standards, of which encouraging signs were found in many of the areas covered, are also important contributing factors. The people appreciated the assistance given and co-operated well with the teams throughout the campaign.

313. Midwifery education and practice, Singapore. As part of a long-term programme of improvement of nursing services, nursing education and health teaching in Singapore, in which WHO has participated since June 1952, special assistance was given for the improvement of midwifery training and services, for which WHO provided a midwifery tutor from 1952 until the end of 1955.

314. The work was based on the Government Maternity Hospital, Kandang Kerbau, which in 1953 served a population of well over a million and dealt with some 18,000 births annually. Its work was steadily increasing, both because of the increasing population and because serious overcrowding in the city made childbirth at home difficult and increased the demand for institutional confinement. The number of midwives employed by the Government or in private practice was inadequate to meet the demands of such a rapidly growing population and many of them had only a low level of education.

315. Training courses were therefore organized at the Kandang Kerbau Hospital for pupil midwives and trained nurses; the courses at the outset were of one year's duration and included six weeks of practical domiciliary work at rural health centres for the pupil midwives. When the needs had been further appraised, the curriculum was revised and the pupil midwives' course was extended from one year to two. Members of the local staff were trained as teachers, first by working with the WHO nurse educator, and then by study abroad on government fellowships; they gradually took more responsibility for teaching students, and the WHO nurse educator gave more time to in-service training for practising midwives.

316. Refresher courses were started for staff midwives in the hospital and health centres and for midwives in private practice. The practising midwives recognized their need for more education and themselves suggested subjects for discussion. Domiciliary training for nurse-midwives was begun in September 1953. Courses in supervision and public health were given to the midwives who would supervise the students in their practical work.

317. In order to relieve the pressure on the hospital, and to broaden the experience of medical and midwifery students, a domiciliary service for the city of Singapore was planned, based on the Kandang Kerbau Hospital. In May 1954 a domiciliary after-care service was started, first in a limited area of the city, later extended as the service became well organized and staff became available. A year later there were sixteen midwives on the staff and 5,680 mothers had received care at home. Finally, in September 1955, the domiciliary services were expanded to include home confinements for which midwives were chosen from the domiciliary after-care service and given special training.

318. WHO assistance in the midwifery aspects of this project was officially brought to an end when the full domiciliary midwifery service came into being, but supervision by the nursing education team was maintained until the service had proved itself to be firmly established. Material aid and firm support was given throughout by the Government, and Singapore now has a well-organized midwifery service, functioning successfully and on a sound educational foundation.

319. Malaria eradication and Aëdes aegypti eradication, Caribbean area. The original aim of this large-scale programme, which was started in October 1952, was to control malaria and other insect-borne diseases and to eradicate A.aegypti in the Caribbean area. In 1955 its objective was redefined to provide also for the eradication of malaria. WHO has provided two medical officers, eight sanitarians (four at the outset and four more since 1955) and some supplies and equipment. The bulk of the supplies and equipment is provided by UNICEF.

320. Operations were in progress by 1954 in the Bahamas, Barbados, Jamaica, Leeward Islands, Netherlands Antilles, Surinam, Trinidad and the Windward Islands. The eradication of A.aegypti was completed in Bermuda and French Guiana by the end of that year.

321. In 1955, work against the mosquito was carried out in eleven of the thirteen archipelagos of the Lesser Antilles and A.aegypti was considered to be eradicated from St. Croix (United States Virgin Islands). It could also be stated during that year that endemic malaria was no longer prevalent in about half the island Territories of the Caribbean. Eradication plans were drawn up for the remaining islands and were put into operation as the appropriate stage was reached, in 1956 and 1957.

322. By 1957 malaria control had given place to eradication campaigns in almost all the Caribbean area: total coverage spraying had started in Grenada and in Trinidad; geographical reconnaissance was in progress in Jamaica; in Tobago the campaign had reached the surveillance stage; and malaria was considered to have been eradicated from the coastlands of British Guiana and in Martinique.

323. Considerable progress was made in 1956 and 1957 in the A.aegypti eradication campaigns, and, by 1957, no locality remained infested in Aruba and in British Guiana; only one was still positive in Grenada, one in St. Vincent, on Curaçao, and four in St. Lucia; the infestation had been reduced by at least half in Antigua, Barbados and St. Kitts-Nevis-Anguilla.

324. According to present plans, it is estimated that work will continue in the area until at least 1962, in order to achieve the full objectives of the campaign.

325. Public health and sanitation, Seychelles. The Administration requested assistance from WHO in 1953 in a programme for the development of public health services, including improvement of environmental sanitation, health education of the public, and methods for the control of prevalent intestinal diseases; training of auxiliary personnel for sanitation, public health nursing and maternal and child health; and preparation of public health legislation. Between mid-1953 and early 1958 WHO provided a medical officer, a sanitary engineer, a public health nurse, a laboratory technician, a number of fellowships and teaching and demonstration equipment.

326. The two main tasks in improving environmental sanitation - and thereby reducing the incidence of intestinal infections - were found to be the suppression of heavy soil pollution with human excreta, and the supply of safe drinking water. In October 1955 a scheme was recommended to the Administration - and accepted in principle - for building approximately 100 aqua-privies in Victoria every year and abolishing the existing conservancy system. For lack of funds this scheme could not be carried out immediately, but provision was made in the Administration's 1958 budget estimates (Rs.100,000) for its implementation. In 1957 a detailed proposal for improvement of the water supply for the island of Mahe was drawn up and submitted to the Administration.

327. Training of auxiliary personnel was given priority from the beginning, in order to build up the nucleus of a health department. Nine health inspectors and six public health nurses were trained and subsequently employed to develop public health work. The benefit of their presence has been felt in many spheres, not least in their contribution to the awakening of the health consciousness of the people. Fellowships for training overseas awarded during the period included a health educator, a senior public health nurse, four health inspectors and two laboratory technicians.

328. An "intestinal clinic" which was established to obtain a clearer picture of the chief intestinal diseases and to determine the efficacy of different methods of treatment, recorded almost overwhelming attendances.

329. Considerable progress was made in the improvement of services for mothers and children, particularly when the public health nursing service was established. Ante-natal clinics were opened and were well received by the population; child health clinics were organized in four village schools to serve rural populations which were otherwise far removed from health services; a school health service, started as a pilot scheme in two schools in 1955, had been extended by April 1957 to cover seventeen out of the twenty-four primary schools.

330. A health and morbidity survey was carried out in 1956 and 1957 - the first of its kind made in the Seychelles - which provided reliable information on the incidence of parasitism, anaemia, and other morbid conditions, as well as on the nutritional status of the population, heights and weights of children, etc. The data thus compiled will be invaluable as a guide in future planning of public health programmes. Furthermore, the survey gave an insight into the living conditions of the people, their problems and their health habits, which has been of great assistance in planning the campaign for health education of the public.

331. Health education of the public was an integral part of all the work done by the national and the international team, and the support of social and religious groups was enlisted to reach all sections of the population. Press articles, film shows, radio talks, health exhibitions, posters, puppet shows, and lectures and demonstrations in schools, were among the direct methods used. With the return of the health educator from a fellowship in September 1956, these activities became

part of the routine work of the Health Department. Assistance was also given to the Administration during the project period in the planning of new health legislation.

332. Although spectacular improvement in health conditions cannot be expected - many of the activities described above will take time to show results, and lack of funds will retard the development of others - it can be stated that the foundations of a health service have been laid, and that public demand for social and hygienic improvements has been kindled.

333. Field research and investigation. The activities of WHO bring it into collaboration with several of the scientific research institutes in the Territories, engaged in medical and public health research, in carrying out field research and investigation work dealing with the control of communicable disease.

334. In Africa, WHO is assisting in research problems in leprosy, bilharziasis, trypanosomiasis, onchocerciasis, relation of nutrition to helminthal diseases, in tryponematoses, particularly yaws, and in tuberculosis. In several of the Territories concerned, tuberculosis surveys have been undertaken which are scientifically planned surveys to establish the prevalence of the disease. A special research project is underway in Kenya on ambulatory drug treatment in tuberculosis control. In its campaign for malaria eradication, several of the Territories are included, and WHO is assisting in eradication and in the relevant research on vector behaviour and resistance to insecticides. Through meetings and training courses, it has assisted in the research and control of zoonoses. Assistance was also given to serological surveys for poliomyelitis, as well as for yellow fever and for entomological studies on vectors of virus diseases.

335. In collaboration with UNICEF and the Rockefeller Foundation, a number of projects have been carried out under the direction of the WHO Protein Advisory Group and the Committee on Protein Malnutrition of the Food and Nutrition Board of the United States Medical Research Council, on high protein foods for the improvement of the nutrition of populations, particularly of growing children, in food-deficient countries. In addition, WHO grants were made towards the investigation of the suitability and preparation of foods for improving the diet of African infants and children.

336. In the Caribbean area, assistance is given by WHO in research on yellow fever. Extensive campaigns for the eradication of Aëdes aegypti, forming part of the over-all attack in Central America and the Caribbean area, cover certain Non-Self-Governing Territories. Those territories where malaria is a problem are included in the malaria eradication programme and the necessary research on vectors and vector-resistance is being undertaken.

337. In many of the Territories in Asia and the Pacific, field research in connexion with malaria eradication is undertaken. Yaws campaigns in some of these Territories, e.g., Samoa, have an inherent research factor. Research into preventive treatment and prevention of mutilations in leprosy also is underway.

338. In the Seychelles field research on helminthal diseases and environmental sanitation practices has been undertaken.

ANNEX I

Assistance by the World Health Organization[a/] to
Non-Self-Governing Territories, 1949-1956

Summary by Territory

AFRICA

Basutoland
- 1956 Nutrition survey and control

Bechuanaland
- 1953-57 Treponematosis control b/
- 1955-59 Tsetse fly control
- 1956 Tuberculosis survey team b/
- 1956-59 Tuberculosis control and training
- 1956-59 Rural health services

Belgian Congo
- 1949 Medical films bibliography
- 1952-54 Nutrition (with FAO) b/

British Somaliland
- 1950 Teaching equipment
- 1953 Public health survey
- 1954 Nurses' training school (supplies)
- 1956 Tuberculosis survey b/

French Equatorial Africa
- 1952-54 Nutrition b/ (with FAO)
- 1956-57 Leprosy control

French West Africa
- 1952-59 Malaria pilot project b/
- 1953 Sociological studies

Gambia
- 1956-59 Training of nursing and auxiliary personnel

Kenya
- 1949 Training facilities survey
- 1953-54 Medical literature and teaching equipment
- 1954-59 Malaria control b/
- 1955-59 Tuberculosis control b/
- 1955-59 Maternal and child health services b/

Mauritius
- 1953 Pertussis vaccination campaign b/
- 1956-(59?) Tuberculosis control
- 1956-(59?) Nutrition survey and control
- 1956-(59?) Nursing education, Victoria Hospital

Nigeria
- 1953-54 Training school for medical assistants (supplies and equipment)
- 1953-54 Training school for medical field units (supplies and equipment)
- 1954-(59?) Yaws control b/
- 1954-(59?) Malaria control b/
- 1955-56 Maternal and child health b/
- 1955-57 Tuberculosis survey team b/
- 1955-58 Assistance to schools of hygiene
- 1956-(59?) Leprosy control b/
- 1956-(59?) Tuberculosis chemotherapy and control pilot project

a/ Excluding fellowships.

b/ UNICEF/WHO projects.

ANNEX I (continued)

AFRICA (continued)

Federation of Rhodesia and Nyasaland	
1951	Rabies vaccine production survey
1951	Health training school (supplies)
1955-(59?)	Maternal and child health services b/
Saint Helena	
1956	Environmental sanitation survey
Seychelles	
1952	Environmental sanitation survey
1953-(58)	Public health and sanitation
Sierra Leone	
1956-(59?)	Yaws control b/
Swaziland	
1956-(57)	Tuberculosis survey team
Uganda	
1949	Training facilities survey
1951	Medical literature and teaching equipment
1955-(57)	Nutrition
Zanzibar	
1954	Nurses' training centre (supplies and equipment)

Regional projects	
1951-53	Bilharziasis survey
1951-53	Yellow fever research
1952	Nutrition course (Marseilles) b/ (with FAO)
1952	Training course on malaria, Lagos
1952	Treponematoses survey
1952-53	Nursing and auxiliary training survey
1953	Conference on Nursing Education, Kampala
1952-53	Malaria survey
1953-54	Tuberculosis survey
1953-54	Vital and health statistics survey
1954	Onchocerciasis Conference, Leopoldville
1954-(59?)	Malaria Institute, Amani
1955	Malaria training course, Yaoundé
1955	Rabies course, Muguga
1955	Second nutrition course, Marseilles (with FAO)
1955	Seminar on Environmental sanitation, Ibadan
1955-(59?)	East Africa Tuberculosis survey team b/
1955-(59?)	West Africa Tuberculosis survey team b/
1956	Seminar on vital and health statistics, Brazzaville
1956	African Bilharziasis Conference, Brazzaville
1956	Yaws Co-ordination Meeting, Accra

AMERICAS

Bahamas
1952-(59?) Malaria eradication b/

Barbados
1952-(59?) Malaria eradication b/
1955-(58) Local health services
1956-(59?) Environmental sanitation

Bermuda
1952-56 Malaria eradication b/

British Guiana
1952-(59?) Malaria eradication b/
1954-55 Rabies control
1954 Tuberculosis control (BCG) b/
1956 Leprosy survey

British Honduras
1949-51 Malaria and insect control
1953-54 Tuberculosis control (BCG) b/
1952-(59?) Malaria eradication b/

Jamaica
1951-54 Tuberculosis control (BCG) b/
1952-53 Tuberculosis control
1952-(59?) Malaria eradication b/
1954-(58?) Yaws eradication b/
1956-(59?) Environmental sanitation

Leeward Islands
1952-(59?) Malaria eradication b/
1953-54 Tuberculosis control (BCG) b/
1954-(58?) Yaws eradication b/
1956-(59?) Environmental sanitation

Puerto Rico (until 1952)
1949 Tuberculosis survey

Trinidad and Tobago
1951 Mental health survey
1952-(59?) Malaria eradication b/
1952-54 Tuberculosis control (BCG) b/
1953 Tuberculosis laboratory b/
1954-55 Rabies control
1955 Leprosy survey
1956-(59?) Environmental sanitation

Windward Islands
1952-(59?) Malaria eradication b/
1954-(58?) Yaws eradication b/
1954 Tuberculosis control (BCG) b/
1956 Leprosy survey
1956-(59?) Environmental sanitation

Regional projects
1952-55 BCG statistician, Central and South America and Caribbean area b/
1952 Meat hygiene survey
1952-(59?) Malaria eradication (Caribbean area) b/
1952-(59?) Malaria eradication (Central America and Panama) b/

ANNEX I (continued)

AMERICAS (continued)

Regional projects (continued)

1953	Training course in waterworks operation, Tegucigalpa
1953	Seminar on Health Education (Mexico)
1953	Insect control training course, Barranquilla
1954-(59?)	Training in environmental sanitation
1954	Brucellosis training course, Mexico
1954-(58?)	Yaws eradication (Caribbean area) b/
1954	Training course in biostatistics, Jamaica
1955	Training course for waterworks operators, Guatemala
1955	Seminar on Sanitary Engineering, Puerto Rico
1955-(59?)	Health education (Caribbean area)
1956	Fourth Regional Nursing Congress, Mexico
1956	Seminar on Treponematosis Education, Port-au-Prince

EUROPE

Morocco (to 1955)

1953-(59?)	Communicable eye diseases control b/
1953	Venereal disease survey
1954-(59?)	Venereal disease control b/
1955	Child nutrition

Tunisia (to 1955)

1953-(59?)	Communicable eye disease control b/
1955-(57)	Nursing education, Tunis

Regional projects

1952	Malaria training course, Lisbon
1952	Zoonoses Seminar, Vienna
1953	Insect control training course, Rome
1953	Seminar on Mental Health Aspects of Public Health Practice, Amsterdam
1953	Training course on industrial hygiene, United Kingdom
1953	Seminar on Occupational Health and its Relationship to Organization of Health Services, Milan
1953	Conference on Post-Graduate Teaching of Preventive and Social Medicine, Göteborg
1953	Conference on Public Health Nursing, Vevey
1953	Travelling Study Group on School Health Services
1953	Training course on thoracic surgery, Groningen
1953	Training course on tuberculosis, Istanbul
1953	Training course on prevention of TB in children, Paris
1954	Training course for waterworks engineers, Netherlands and Belgium
1954	Conference on Water Pollution and Water Chlorination, Opatija
1954	Conference on Immunization, Frankfurt
1954	Seminar on Meat Hygiene, Copenhagen
1954	Seminar on Public Health Nursing, Istanbul

EUROPE (continued)

Regional projects (continued)

1954	Conference on School Health, Grenoble
1954	Training course on social paediatrics, Paris
1954	Training course on tuberculosis, (physicians), Istanbul
1954	Training course on tuberculosis (public health nurses), Istanbul
1954	Training course on venereal disease control applicable to maritime populations, Rotterdam
1955	Insect control training course, Rome
1955	Training course on tuberculosis, Istanbul
1955	Refresher course on occupational health, Paris
1955	Rural public health training course, Soissons
1955	Training course for anaesthesiologists, Paris
1955	Course on social paediatrics (for medical officers), Paris
1955	Course on medico-social problems of mother and child, Paris

EASTERN MEDITERRANEAN

Aden

1949	Tuberculosis survey
1950	Teaching equipment
1951	Medical literature
1952	Tuberculosis control (BCG) b/
1956	Tuberculosis control (BCG control nurse) b/

Cyprus

1949	Tuberculosis survey
1950-51	Medical literature
1954-(58)	Nursing education, Nicosia
1955	BCG assessment team b/

French Somaliland

1950	Tuberculosis survey
1953	Ophthalmology Seminar, Cairo

Regional projects

1955	Regional BCG assessment team
1955	Regional Study Group on Drinking Water Standards, Alexandria
1955	Travelling Public Health Administration Seminar, Egypt and Sudan
1956	Environmental Sanitation Seminar, Beirut

WESTERN PACIFIC

American Samoa

1956	Participated in refresher course for assistant medical practitioners, Western Samoa

Solomon Islands

1956-(59?)	Yaws control and leprosy control b/

WESTERN PACIFIC (continued)

Brunei

1950-51	Maternal and child health nursing b/
1950-51	Tuberculosis survey
1951	Malaria survey
1952-54	Nursing education
1953-54	Tuberculosis control (BCG) b/
1953-54	Malaria and insect control project
1954	Nutrition survey

Cook Islands

1956	Participated in refresher course for assistant medical practitioners, Western Samoa

Fiji

1954-(59?)	Treponematoses control b/
1955-(59?)	Assistance to Central Medical School, Fiji

Gilbert and Ellice Islands

1956	Participated in refresher course for assistant medical practitioners, Western Samoa

Guam

1955	Participated in Nursing Education Seminar, Suva
1956	Participated in Environmental Sanitation Seminar, Taipeh

Hong-Kong

1950-51	Tuberculosis control b/
1951	Health education survey
1952	Tuberculosis control (BCG) b/
1952	Venereal disease survey
1952	Trachoma survey
1952-53	Diphtheria immunization (technical advice) b/
1953-56	Maternal and child health
1954	Smallpox survey
1955	BCG assessment team b/
1956	Dental health survey
1956	Poliomyelitis survey

Malaya

1949	Malaria survey
1949	Maternal and child health survey
1950-(58)	Nursing education b/
1950-51	Tuberculosis control (BCG) b/
1953-55	Yaws control, Kelantan and Trengganu b/
1954	Smallpox survey
1954-(58)	Rural health training centre, Jitra, Kedah
1954	Mental health survey
1956-(59?)	Nutrition
1956-(59?)	Hospital administration, Penang
1956-(59?)	Hospital records, Penang

New Hebrides

1956	Participated in refresher course for assistant medical practitioners, Western Samoa

WESTERN PACIFIC (continued)

North Borneo

1949	Malaria survey
1949	Maternal and child health survey
1950	Maternal and child health/nursing b/
1951-55	Nursing education b/
1952	Venereal disease laboratory equipment (technical advice) b/
1953-(57)	Environmental sanitation
1955-(59?)	Malaria control, Keningau b/
1956	Poliomyelitis survey

Sarawak

1950-52	Maternal and child health nursing training b/
1952-53	Health education of the public
1952-(59?)	Malaria control
1952-53	Tuberculosis control (BCG) b/
1953	Treponematoses control b/

Singapore

1951	Tuberculosis control (BCG) b/
1952-(58)	Assistance to medical institutions (University of Malaya)
1952-(59?)	Midwifery training and nursing education
1952	BCG statistical consultant
1954	Smallpox survey
1956-(59?)	Urban health centre
1956-(59?)	Hospital records

Regional projects

1952	Nursing Seminar, Taiwan
1953	Regional Seminar on Mental Health in Childhood, Sydney
1953	Pan-Pacific Tuberculosis Conference, Manila
1952-53	Regional trachoma survey
1954-55	BCG assessment team b/
1954	Dental Health Seminar, Wellington
1955	Nursing Education Seminar, Suva
1956	Environmental Sanitation Seminar, Taipeh
1956	Water Standards Study Group, Manila
1956	Poliomyelitis Centre, Singapore
1956	Refresher course for assistant medical practitioners, Western Samoa

INTER-REGIONAL PROJECTS AFFECTING NON-SELF-GOVERNING TERRITORIES

1948	WHO influenza centres
1950	WHO Malaria Conference, Kampala
1950-51	Survey of bilharziasis, African and Eastern Mediterranean Regions
1951-52	Q Fever survey
1952	Yaws Symposium, Bangkok
1954	Malaria Conference, Baguio
1955	Second International Yaws Conference, Enugu

INTER-REGIONAL PROJECTS AFFECTING NON-SELF-GOVERNING TERRITORIES (continued)

1955	Second WHO Malaria Conference, Lagos
1955	FAO/WHO Seminar on Nutrition Education and Health Education, Baguio, Philippines
1955	Relapsing fever survey, Ethiopia (Pasteur Institute, Tunis)
1955	Environmental Sanitation Seminar, Kandy
1956	Seminar on Public Health and Laboratory Aspects of Virus and Rickettsial Diseases, Madrid
1956	Study Group on International Standards of Drinking Water Quality, Geneva
1956	Inter-Regional Malaria Conference and Advisory Meeting on Malaria Eradication, Athens

ANNEX II

List of institutions carrying out medical and public health research in the Non-Self-Governing Territories

In 1948 the Tsetse Research Institute at Shinyanga, Tanganyika, the Trypanosomiasis Research at Tinde and the East African Tsetse Reclamation Department were merged into one organization, the East African Tsetse and Trypanosomiasis Research and Reclamation Organization, in order to co-ordinate research and apply the knowledge gained to practical problems. In 1953 and 1954 new laboratories were built, and part of the hitherto infected area was opened for cattle.

The East African Institute of Malaria and Vector Borne diseases has made progress in the eradication of malaria and other diseases and the dissemination of knowledge and advice about them.

The East African Medical Survey and Research Institute carries out research on various tropical diseases, and studies on medicine, and on nutrition problems in East Africa are under way.

The East African Leprosy Research Centre began work on its first projects in 1956.

The East Africa Virus Research Institute originally a branch of the International Health Division of the Rockefeller Foundation, was taken over by the East Africa High Commission in 1950. Since that time its field of study has been widened and close communication is maintained with other virus laboratories in Africa, the United States of America, the United Kingdom and the Far East.

Medical research is carried out at the Medical Research Institute at Accra (and in the field) in conjunction with the medical field units. The Gold Coast participates in the work of the provisional West African Council for Medical Research.

The Institut Pasteur has many branches in Africa which carry out different types of research. For example, the Pasteru Institute of Tunis carries out practical work relating to antirabic vaccinations, bacteriological, serological, chemical, anatomopathological analysis work and the preparation of numerous vaccine

and serums. One of the diseases which has been under constant study is "Mediterranean fever" and in the fight against malaria much research was carried out on drugs which are now used all over the world. There are also several Pasteur Institutes in French Equatorial Africa, Madagascar, Morocco and French West Africa which carry out the same kind of researches, each one applied to problems of the area.

A new laboratory was opened at Kuantan in the Federation of Malaya in 1953 and staffed by an entomologist and staff from the Institute of Medical Research. A branch laboratory of this Institute carried out extensive research on filariasis in 1954/55. A third laboratory specially designed for virus disease research was opened the same year.

The Scrub Typhus Research Unit in the Federation of Malaya have been working with a research unit of the United States Army which issued a publication in 1950/51 on antibiotics in this field. The Scrub Typhus Research Unit is now based on the Institute for Medical Research and in 1952 extended its range of investigation to North Borneo. The following year research was expanded to include field virus studies. Malaria research also occupies an important place in medical research in Borneo and Malaya.

ANNEX III

WHO Fellowships Awarded to Candidates from Non-Self-Governing Territories
1950-1956

	1950	1951	1952	1953	1954	1955	1956	Total	
AFRICA									
Basutoland							1	1	
Bechuanaland				1	1	2		4	
Belgian Congo			3	2	15	11	16	47	
French Equatorial Africa	2		1		3	1	4	11	
French West Africa			4	1	3	12	6	26	
Gambia						1	1	2	
Gold Coast (Ghana)		1	3		1		2	7	
Kenya			2	1	4	9	9	25	
Madagascar			2		1			3	
Mauritius		1	1		1	4	2	9	
Nigeria	1	1	4	2	5	10	9	32	
Federation of Rhodesia and Nyasaland					5	2	2	9	
St. Helena						1		1	
Seychelles					4	1		5	
Sierra Leone			2			1	1	4	
Uganda			1	1	2	1	2	7	
Zanzibar			1	1	1	4	2	9	204
AMERICAS									
Alaska	1							1	
Bahamas				2				2	
Barbados				3				3	
British Guiana			1	2		1	1	5	
Hawaii				1				1	
British Honduras						4	3	7	
Jamaica	1	3[a]	2	5	2	7	5	25	
Leeward Islands				5	3			8	
Trinidad and Tobago		3[a]		4	2		2	11	
Windward Islands		1	7	4	3[a]	6		21	84
EUROPE									
Morocco (to 1955)	1		3	9	14	3		30	
Tunisia (to 1955)			6	11	17	9		43	73
EASTERN MEDITERRANEAN									
Aden				1				1	
Cyprus	1		3	2				6	7
WESTERN PACIFIC									
Solomon Islands		1						1	
Fiji		1		5		1	2	9	
Hong Kong	1	1	3	6	2	3	1	23	
Malaya, Federation of	6[a]	2[a]	7	3	2		1	21	
North Borneo			1	1	1			3	
Papua and New Guinea			1	2	1	1	1	6	
Sarawak			2	3				5	
Singapore	3[a]		6	3	1		3	16	
Tonga						1	1	2	
Netherlands New Guinea			1	3	2	1	1	8	94
GRAND TOTAL 1950-1956									462

a/ UNICEF