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FEDERATED MALAY STATES.

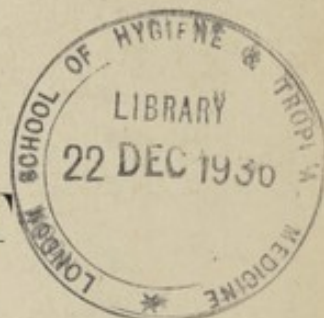
ANNUAL REPORT
OF THE
MEDICAL DEPARTMENT

FOR THE YEAR

1935

BY

R. D. FITZGERALD (M.C.), M.D.,
Adviser, Medical Services, Malay States.

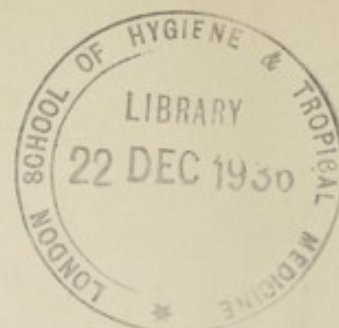


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CONTENTS.

	Page.
INTRODUCTION	1
I.—ADMINISTRATION.—	
A.—Staff	1
B.—Legislation	2
C.—Finance	2
II.—PUBLIC HEALTH	3
Population	3
Births	4
Deaths	5
Infant Mortality	5
III.—HYGIENE AND SANITATION.—	
1.—Special Diseases :	
(i) Malaria	6
(ii) Plague	8
(iii) Cholera	8
(iv) Smallpox	8
(v) Typhus	9
(vi) Enteric Fever	9
(vii) Dysentery and Diarrhœa	9
(viii) Cerebro-spinal Meningitis	9
(ix) Diphtheria	9
(x) Leprosy	10
(xi) Tuberculosis	11
(xii) Acute Poliomyelitis	11
2.—General Measures of Sanitation :	
(i) Sewage Disposal	11
(ii) Refuse Disposal	12
(iii) Water Supplies	12
(iv) House Inspections	12
(v) Health on Estates	12
(vi) Mine Sanitation	13
(vii) Railway Sanitation	13
(viii) School Hygiene	14

	Page.
(ix) Labour Conditions :	
A.—On Estates	14
B.—On Mines	16
C.—In Government Departments ...	16
(x) Housing and Town Planning	16
(xi) Food in Relation to Health and Disease :	
(1) Hawkers	16
(2) Bakeries	16
(3) Milk	17
(4) Aerated Water Factories	17
(5) Markets	17
(6) Food Factories	17
(7) Restaurants and Eating Shops ...	17
(8) Piggeries	17
(9) Samples under the Sale of Food and Drugs Enactment	17
(10) Deficiency Diseases	18
(xii) Measures Taken to Spread Knowledge of Hygiene and Sanitation	18
(xiii) Training of Sanitary Personnel	20
IV.—PORT HEALTH AND ADMINISTRATION	20
V.—MATERNITY AND CHILD WELFARE	21
VI.—HOSPITALS, DISPENSARIES AND SPECIAL CLINICS.—	
(1) Hospital In-patients	22
Notes on Prevailing Diseases among Hospital Patients :	
(i) Malaria	24
(ii) Venereal Diseases	25
(iii) Pneumonia	25
(iv) Pulmonary Tuberculosis	25
(v) Dysentery	25
(vi) Diarrhœa and Enteritis	25
(vii) Beri-beri	25
(viii) Anaemia	25
(ix) Chronic Ulcer	25

Notes on Other Diseases:

(i) Leprosy	...	...	...	...	26
(ii) Enteric Fever	...	...	...	...	26
(iii) Tropical Typhus	...	...	...	...	26
(iv) Leptospirosis	...	...	...	...	26
(v) Japanese River Fever	...	...	...	...	26
(vi) Cancer	...	...	...	...	26
Racial Incidence of Certain Diseases among Hospital In-patients	...	...	...	...	26
Hospital Admissions and Deaths by Races, for all Diseases	...	...	...	...	27
(2) Out-patients	...	...	...	...	27
(3) Laboratory and Post-mortem Examinations in Hospitals	...	...	...	...	28
(4) Diseases among Europeans	...	...	...	...	29
(5) Surgery	...	...	...	...	29
(6) Radiology	...	...	...	...	31
(7) Ophthalmology	...	...	...	...	31
(8) Dental Surgery	...	...	...	...	32
(9) Social Hygiene	...	...	...	...	33
(10) Hospitals for Women	...	...	...	...	34
(11) New Buildings	...	...	...	...	35

VII.—INSTITUTIONS FOR MENTAL DISEASES AND
LEPROSY.—

A.—Central Mental Hospital	...	...	...	35
B.—Leper Settlements:				
1. Sungei Buloh Settlement	...	...	...	38
2. Leper Asylum, Kuala Lumpur	...	...	...	42

VIII.—PRISONS, CRIMINAL VAGRANT WARDS AND DECREPIT SETTLEMENTS.—	
A.—Gaol Hospitals and Criminal Vagrant Wards	42
B.—Decrepit Settlement	42
IX.—INSTITUTE FOR MEDICAL RESEARCH	43

TABLE I.—STAFF OF THE MEDICAL AND HEALTH DEPARTMENT	45
„ II.—STATEMENT OF REVENUE AND EXPENDITURE	47
„ III.—RETURN OF DISEASES AND DEATHS (IN-PATIENTS)	48
„ IV.—RETURN OF DISEASES (OUT-PATIENTS) . .	60

FEDERATED MALAY STATES.

ANNUAL REPORT OF THE MEDICAL DEPARTMENT FOR 1935.

INTRODUCTION.

The year under review may be described as a quiet year. No outstanding event so far as the Medical Department is concerned presented itself.

The policy of decentralisation so far as it affects the Medical Department is an accomplished fact. The financial situation although brighter than in the previous years of the slump necessitated strict economy.

The difficulties which presented themselves as the result of financial restrictions, involving as they do restriction of staff and an almost complete hold up in special expenditure, prevented an attempt being made to undertake all the work which was considered either necessary or desirable. The difficulty was increased by greater demands made for both indoor and outdoor relief.

One outcome of the policy of decentralisation which obtrudes itself is the necessity of providing for a greater number of medical officers specially qualified in the various branches of medicine and surgery.

The manner in which all branches of the staff of the Federated Malay States Medical Department has carried out its duties during, not only the past year, but throughout the slump period is worthy of special praise.

I.—ADMINISTRATION.

A.—STAFF.

APPOINTMENTS.

Dr. M. L. Bynoe was appointed Medical Officer on the 15th February, 1935.

Dr. L. F. Day was appointed Medical Officer on the 29th March, 1935.

Dr. (Miss) C. B. Smith was appointed Lady Medical Officer on the 12th April, 1935.

Dr. J. C. Niven was appointed Malaria Research Officer II, on the 26th April, 1935.

Dr. (Miss) E. M. O. Will was appointed Lady Medical Officer on the 24th May, 1935.

Dr. P. E. F. Routley was appointed Medical Officer on the 5th July, 1935.

Dr. I. D. Gebbie was appointed Health Officer on the 19th July, 1935.

Dr. G. M. Graham was appointed Medical Officer on the 19th July, 1935.

PROMOTIONS.

Dr. H. R. Dive, Superscale Officer, Grade B, was promoted to Superscale Officer, Grade A, on 14th September, 1934.

Dr. W. Young, Medical Officer, was promoted to Superscale Officer, Grade B, on 24th March, 1934.

Dr. H. P. Hodge, Medical Officer, was promoted to Superscale Officer, Grade B, on 14th May, 1934.

RESIGNATIONS AND RETIREMENTS.

Dr. D. T. Skeen, Superscale Officer, Grade A, retired on the 6th January, 1935.

Dr. G. F. West, Health Officer, resigned on the 2nd March, 1935.

Dr. A. K. Cosgrave, Superscale Officer, Grade A, retired on medical grounds on the 26th October, 1935.

Dr. (Miss) S. M. Bernard, Lady Medical Officer (temporary), resigned on the 1st October, 1935.

B.—LEGISLATION.

The following Enactments referring to the Medical Department were amended during the year 1935:

The Lepers (Amendment) Enactment No. 7 of 1935.

The Mental Disorders (Amendment) Enactment No. 8 of 1935.

C.—FINANCE.

The total expenditure of the Medical and Health Department for the year was \$3,903,997 (£455,466). Of this sum \$2,181,801 (£254,543) was incurred under the heading of "Personal Emoluments"; \$1,679,151 (£195,901) under "Other Charges" Annually Recurrent and \$43,044 (£5,022) was "Special Expenditure".

In addition to the amount directly expended by the Medical Department, the Public Works Department expended \$131,060 (£15,290) on maintenance of hospitals and other institutions, upkeep, repairs, etc., in respect of Federal and State Services. A sum of \$359,708 (£37,799) was expended on anti-malaria measures from Sanitary Boards and other Government funds.

The revenue of the department was \$379,381 (£44,261). The total revenue of the Federated Malay States for 1935 was \$62,364,264 (£7,275,831). The expenditure of the department was \$3,903,997 (£455,466). The total expenditure of the Federated Malay States was \$51,119,943 (£5,963,993).

II.—PUBLIC HEALTH.

As pointed out in last year's report, the resumption of immigration both from India and China, consequent upon a return towards prosperity, has led to an increase in the incidence of disease and a slight rise in the number of deaths.

The increased infant mortality, which occurred during 1934, from 146 per mille to 163 per mille, declined during 1935 to 144 per mille.

If the infantile mortality rate may be regarded as a sensitive index of general health conditions, then the health of the year under review may be considered satisfactory. It is pleasant to be able to record this, as in 1934 it was anticipated that there would be a greater decline in the standard of health than that which has actually occurred, and which is mainly the result of an increase in the incidence of malaria fever.

To some extent the increase in the number of cases of sickness is due to the influx of labourers but it is noted that it is proportionately greater in sections of the population not employed on estates.

The general health of the community remained satisfactory during the year in spite of a marked increase in the incidence of malaria.

The number of admissions to Government hospitals, after a steady decrease since 1932, showed an increase over the three previous years:

1932	...	...	...	...	...	85,978
1933	...	...	...	...	...	76,297
1934	...	...	...	...	...	75,916
1935	...	...	...	...	...	92,276

The rise to some extent was caused by an increase in immigration, and the ceding of the Dindings to the State of Perak. This transfer gave rise to an increase of approximately 20,000 of population.

POPULATION.

The method formulated by the Registrar-General of Statistics, known as the "balancing equation" method, has again been adopted and will continue to be used. The figure thus arrived at is reached after making due allowance for the excess of births over deaths and the difference between the records of emigration and immigration during the year.

The population of the Federated Malay States estimated at the middle of 1935 was 1,777,421. Compared with the previous year, the population for the year under review shows an increase of 145,693 over the previous year's figure of 1,631,728. This is accounted for by an increase of 22,561 births over deaths, the excess of immigration over emigration and the inclusion of the population of the Dindings territory formerly in the Straits Settlements.

Immigration has had an important influence on the vital statistics of 1935. The estimated population has increased by the balance of immigration over emigration, to the extent of over 100,000.

The racial distribution was as follows:

(Figures for estimated population at the end of year 1935.)

ESTIMATED POPULATION IN THE FEDERATED MALAY STATES
AT THE END OF 1935.

State.	Malays.	Chinese.	Indians.	Europeans.	Eurasians.	Others.	Total.
Perak ...	301,054	336,544	167,944	2,820	1,395	5,275	815,032
Selangor ...	135,268	252,021	163,530	3,359	2,328	7,961	564,467
N. Sembilan...	94,954	94,752	51,150	994	754	2,496	245,100
Pahang ...	118,138	54,123	14,958	444	158	1,294	189,115
F.M.S. ...	649,414	737,440	397,582	7,617	4,635	17,026	1,813,714
Percentage of population..	35.7	40.6	21.9	.42	.25	.94	

BIRTHS.

Sixty-three thousand seven hundred and twenty-one births were registered during the year, an increase of 6,024 or 10.4 per cent. over the previous year. The birth-rate was 35.9 per mille compared with 35.4 in 1934. More than 60 per cent. of the increase in the number of births occurred amongst the Chinese. The birth-rate for Chinese increased in every State, due to the greater proportion of women of Chinese race. Births of children of Chinese race now exceed those of Malays in the Federated Malay States. Of the total births, 33,286 were males and 30,435 were females, giving a birth sex ratio of 109 males to 100 females. The ratio for the year 1934 was 110 males to 100 females.

The following table shows the racial distribution:

COMPARATIVE TABLE SHOWING BIRTHS AND BIRTH-RATES
ACCORDING TO RACE.

States.	Malays.	Chinese.	Indians.	Non-Asiatics.	Others.	Total.	Birth-rate.
Perak ...	11,415	11,397	4,918	31	106	27,867	34.9
Selangor ...	4,954	9,912	5,367	61	97	20,391	37.0
N. Sembilan...	3,466	3,381	1,667	7	26	8,547	35.6
Pahang ...	4,260	2,169	483	2	2	6,916	37.1
Total ...	24,095	26,859	12,435	101	231	63,721	35.9
Birth-rates, F.M.S. ...	37.5	37.4	32.1	14.1	10.6	...	35.9

DEATHS.

Thirty-five thousand three hundred and sixty-seven deaths were recorded in 1935 compared with 34,985 in 1934, an increase of 382 or 1.1 per cent. over the previous year.

The crude death-rate was 19.9 per mille compared with 21.4 per mille in 1934 and 20.2 per mille in 1933.

The increase in birth-rate and decrease in death-rate are due to two factors, influx of adult population and improvement in public health. It is impossible to estimate accurately the effect of each factor.

The death-rate for Malays was 21.0 per mille as compared with 23.7 per mille for 1934, and again proved highest in Pahang and lowest in Selangor.

Notwithstanding the general improvement there was an apparent deterioration for all races in Pahang, and for Indians and Chinese in Negri Sembilan, but this may be due to defects in the method of estimating the distribution of population to States.

COMPARATIVE TABLE SHOWING DEATHS AND DEATH-RATES
ACCORDING TO RACE.

States.	Malays.	Chinese.	Indians.	Non-Asiatics.	Others.	Total.	Death-rate.
Perak...	6,406	6,396	3,187	11	48	16,048	20.1
Selangor	2,404	4,810	2,870	7	38	10,129	18.4
N. Sembilan...	1,908	1,775	1,096	6	9	4,794	20.0
Pahang...	2,779	1,215	401	...	1	4,396	23.6
Total...	13,497	14,196	7,554	24	96	35,367	19.9
Death-rate...	21.0	19.8	19.5	3.4	4.5	...	19.9

The Registrar-General draws attention to the high maternal mortality which was 9.5 per 1,000 births.

INFANT MORTALITY.

After an alarming rise last year, infantile mortality declined to 144 per mille, a rate slightly lower than that for 1933 and much lower than the rate for 1934 which was 163 per mille. The improvement was most marked amongst Malays in Perak, who showed the greatest increase last year. The infantile mortality for Malays in Perak dropped from 192 to 144 per mille, and the mortality rate for Perak as a whole from 168 to 138 per mille.

The lowest rate, 128 per mille, recorded in 1935 was for Chinese in Perak, and the next 131 per mille for Malays in Selangor. There is no evident explanation of this improvement. Much as one would like to claim it as a result of improvements in sanitation, infant and children service and maternal benefits, there is no definite justification for doing so. Although it coincides with improvement in economic conditions, these conditions were improving in 1934 when infantile mortality increased. A possible explanation may be that the shortage of labour last year caused the employment of mothers. This year, however, labour conditions are more stable, as evidenced by the slowing up of immigration, and this has led to the employment of mothers in industry to a less extent than last year.

A comparison of the infant mortality rates of the five large towns in the Federated Malay States offers an index of health conditions which is derived from known and reliable data:

INFANT DEATHS PER MILLE.

	1935.	1934.	1933.
Kuala Lumpur	133	147	146
Ipoh	96	95	98
Taiping	161	186	151
Seremban	158	177	170
Kuala Lipis	187	139	129

III.—HYGIENE AND SANITATION.

1.—SPECIAL DISEASES.

(i).—Malaria.

The number of deaths recorded under the general heading of malaria and fevers of undefined origin, and the percentage of deaths so recorded to deaths from all causes, are shown in the following table:

Diseases.	Perak.	Selangor.	Negri Sembilan.	Pahang.	Total.
Malaria	411	215	258	139	1,023
Fevers of undefined origin ...	6,579	2,648	1,547	1,917	12,691
All causes	16,048	10,129	4,794	4,396	35,367
Percentage ratio of deaths from malaria to deaths from all causes	2.5	2.1	5.3	3.1	2.8
Percentage ratio of deaths from malaria and deaths from fevers of undefined origin to all causes	43.5	28.2	37.6	46.7	38.7

There was an increase in the number of recorded cases of malaria in all four States. The total number of cases admitted to Government hospitals during the year was 21,975 compared with 15,790 cases in 1934 and 17,130 cases in 1933. The increase was greatest in Negri Sembilan where nearly two thousand more patients were admitted than last year.

All cases admitted to hospital are accurately diagnosed and the number of such cases may be regarded as a reliable index of the disease. To some extent the increase is due to the influx of labourers to estates but it is proportionately greater in sections of population not employed on estates.

It is a tribute to the value of preventive work on estates that in spite of a general tendency towards an increase in malaria and the added risks caused by the influx of a large number of new labourers, there has been no marked deterioration of health amongst estate labourers.

The rise is not alarming and the relatively small increase in deaths from this disease indicates that it is under control. It is unlikely that an epidemic of a serious type will occur in Malaya. It is clear, however, that anti-malaria work not only must be maintained but intensified if this tendency towards a rise in the incidence of malaria is to be checked.

As recorded last year *A. barbirostris* was found to be the carrier in an outbreak that occurred at Batu Gajah in Perak. During the year under review it was considered that *A. barbirostris* was the principal factor causing a rise in the incidence of malaria at Taiping, Perak. In the Krian district of Perak the results of an investigation point to this mosquito as also being the principal vector. *A. barbirostris*, which had not previously proved to be a carrier except in isolated cases, has now become of importance as such.

In the Sitiawan district of Perak, which has been comparatively free from malaria, a definite increase took place in the latter part of the year; apparently this was due to more intensive breeding of *A. maculatus* combined with the presence of a larger number of carriers in this area. From the few records available it seems likely that *A. maculatus* has recently made its appearance in this district for the first time.

In the State of Selangor the greatest rise in the incidence of malaria occurred in the coastal districts where the principal carrier is *A. umbrosus*.

The figures for monthly admissions to hospital for malaria show that the usual seasonal wave which has its peak in May was spread over a longer period than last year, commencing with a sharp rise in April and lasting until August. The second peak in November was well marked whereas there was little evidence of it in 1934, a year remarkably free from malaria.

Anti-malaria work was carried out in Sanitary Board areas on the same lines as last year and the areas controlled by oiling were extended. The free distribution of quinine through the agency of schools, village headmen and departmental staff was carried out on a larger scale.

(ii).—**Plague.**

No case of plague has occurred in the Federated Malay States since 1928.

(iii).—**Cholera.**

No case of cholera occurred during the year. The last case occurred in 1927.

(iv).—**Smallpox.**

Two cases of smallpox occurred with one death. One case occurred in the State of Selangor and the other in the State of Negri Sembilan. The former case was an immigrant recently arrived from India, who had been detained at the quarantine station for the usual period and had been vaccinated before leaving India. This appears to have been a case of abnormally long incubation period, or of infection acquired on the ship a few days before arrival at Port Swettenham. The case in Negri Sembilan was an adult female Chinese who had recently arrived with 59 other immigrants.

The following table summarizes the number of routine vaccinations performed during the year:

VACCINATIONS.

State.	Total vaccinations.	No. of recorded results.
Perak	28,847	17,396
Selangor	33,589	27,216
Negri Sembilan	12,646	9,823
Pahang	7,984	3,648
Total	83,066	58,083

In view of the danger of infection being introduced from Singapore, where smallpox was endemic for a period of five months, a campaign of vaccination was carried out which proved highly successful. The total number of vaccinations and re-vaccinations effected in Pahang reached 47,341 in a population of 186,473.

(v).—Typhus.

Twenty-five deaths were recorded as due to tropical typhus, this is eight more than was recorded last year. The number of cases treated in Government hospitals was 240, an increase of 14 over the number treated during 1934. There has been a gradual increase in the number of admissions diagnosed as tropical typhus; this increase is explainable to some extent by improved methods of investigation and diagnosis.

(vi).—Enteric Fever.

Fifty-five deaths were recorded as due to enteric fever as compared with forty-six deaths in 1934. In all the four States there has been a serious increase in the number of cases notified.

In the State of Selangor there were 80 cases compared with 30 cases last year; towards the end of the year there was a localised outbreak in Klang, Selangor. So far as could be ascertained the disease was spread by hawkers of food.

The cases occurred mainly in the large towns. A large number of serological examinations was carried out in order to trace carriers.

(vii).—Dysentery and Diarrhoea.

There was an increase in the number of deaths recorded under these headings. One thousand six hundred and sixty-five deaths occurred compared with 1,393 deaths in 1934 and 1,184 in 1933.

Selangor continues to record the highest number of deaths due to these diseases which accounted for 774 deaths in that State. The higher incidence of these diseases may be due to the resumption of immigration of Indian labourers which greatly increased during the year under review.

(viii).—Cerebro-spinal meningitis.

No case of cerebro-spinal meningitis was reported during the year. Malaya has remained very free from this disease. Only six cases occurred in the previous two years, two in 1934 and four in 1933, all of which ended fatally.

(ix).—Diphtheria.

Seventy-four deaths were recorded as due to diphtheria as compared with 82 for the previous year. The number of cases recorded was 181 as compared with 177 in 1934.

The number of deaths was again highest in the State of Selangor where no less than 40 of the 74 deaths occurred. Bacteriological examination for the organisms of diphtheria is made on material from the bodies of all children who die in Kuala Lumpur town when no medical certificate has been granted as to the cause of death. During the year 16 bodies were found to be infected.

(x).—Leprosy.

SUNGEI BULOH SETTLEMENTS.

There were 1,320 patients in the settlement at the beginning of the year as compared with 1,104 at the beginning of 1934. The number increased to 1,593 by the end of the year, an increase of 273. The total number treated in the settlement during the year amounted to 1,841.

There has been a disappointing decline in the number of patients discharged as bacteriologically negative and free from signs of active lesions. The number is 51 compared with 163 last year. The most important factor in the reduction in the number of cases discharged is that it has been found necessary to retain at Sungei Buloh burnt out cases of leprosy, who are no longer infective, but who are marked with the scars and crippled with the deformities of the disease. In former years such cases were transferred to places of detention for decrepits or set at liberty; the great majority of them cannot earn a living and have no relatives willing to maintain them, this being so they have to remain at Sungei Buloh swelling the residue of cases who do not benefit from curative treatment.

Another factor is that the standard of fitness for discharge has been raised. Every patient now discharged must have remained bacteriologically free from leprosy for at least six months, and must also satisfy the examiners that he is likely to be able to support himself or has relatives who will accept him. During the year 30 patients who had been discharged during the previous four years relapsed and were readmitted.

The return of relapsed cases and the raising of the standard for discharge have tended to depress the spirit of optimism that prevailed in the settlement, but the morale of the patients is still very good. There has been an increase, however, in the number of patients who have left without permission; during the year 202 patients absconded. Some of these merely took leave in order to have a holiday or to attend to private affairs, seventy-two of them returned.

A large proportion of the others were early cases of the disease or patients fit for discharge who were too impatient to wait for official sanction to leave. In spite of the number of persons discharged and absconding, the number of patients continues to increase.

LEPER ASYLUM, KUALA LUMPUR.

This asylum contains a diminishing number of incurable lepers who are opium smokers. No additions have been made to their number since 1931. The population was 268 at the beginning and 219 at the end of the year.

(xi).—Tuberculosis.

Tuberculosis in various forms was responsible for 1,441 deaths compared with 1,394 deaths in 1934 and 1,409 in 1933; 109 were due to non-pulmonary tuberculosis giving a percentage of 4.0 per cent. of the total deaths. The problem of how best to combat pulmonary tuberculosis continues to engage the earnest attention of the Health and Medical Authorities. Every effort is made by educational means to bring home to the people the necessity of cleanliness and personal hygiene with a view to avoiding infection and preventing the spread of the disease.

Cases admitted to hospital are, as far as possible, reported to the Health Branch whose duty it is to investigate and supervise them after discharge from hospital, but the greatest measure in combating the disease would appear to lie in better housing with improved education in sanitary measures.

The racial incidence indicates that as regards hospital in-patients this disease is most prevalent amongst the Chinese who, however, as in other diseases tend to be admitted only when the disease is far advanced and they can no longer work.

(xii).—Acute Poliomyelitis.

There was an increase in the number of cases of poliomyelitis during the year. A total of twenty-five cases was notified. Of these, seventeen were notified in Selangor.

Owing to the increase in incidence it was considered advisable to make poliomyelitis a notifiable disease under the Prevention of Disease Enactments in Perak and Selangor.

2.—GENERAL MEASURES OF SANITATION.**(i).—Sewage Disposal.**

The two systems of sewage disposal relied upon in the large towns are:

- (a) Small septic tank installations to serve one dwelling or a small group of houses in residential areas. Encouragement is offered to private owners to instal these tanks wherever they are feasible. Legislation has been introduced to enable Sanitary Boards to exercise control over private sewage purification plants.
- (b) The pail system of night-soil collection and disposal is employed in all towns. The use of rubber buckets for this purpose is proving successful and is steadily superseding the use of metal buckets.

The use of tube latrines in suitable localities was continued, especially in villages, and full opportunity was taken to introduce this simple and effective method of sewage disposal wherever applicable.

(ii).—Refuse Disposal.

Refuse disposal in the larger townships continued to be effected by the removal of all rubbish from house and street bins by covered lorries to a central incinerator. In the larger centres the collection of refuse is carried out daily. Progress has been made in the substitution of concrete street bins for the old metal ones formerly in use.

In most towns and villages incinerators are provided and in many motor transport is available for the collection of refuse.

Forced draught refuse destructors are installed at Kuala Lumpur and Ipoh.

(iii).—Water Supplies.

Routine bacteriological and chemical samples were taken regularly throughout the year and analysed; the results of analysis show that a high standard of purity exists at most of the water works.

In November, at Pekan, in Pahang, a new system was used to rid the water of the high iron content which was a constant source of trouble and which aeration, etc., failed to remedy. The water is pumped from a well and passed over a simple improvised aerator; it then flows along a channel where alum and lime are added, and thereon passes into a settling tank, after settling the water is filtered; so far this method has proved highly successful in removing the iron. The apparatus in use is at present largely improvised and experimental but it is hoped to consolidate the plant next year. Existing water supplies in villages, estates and mines are generally satisfactory.

(iv).—House Inspections.

House to house inspections were carried out regularly in all Sanitary Board areas. The maintenance of sanitary dwellings is engaging the constant attention of the Health Branch, more especially in relation to the problem of badly ventilated and ill-lighted cubicles.

(v).—Health on Estates.

Estates have been visited regularly throughout the year by officers of the Health Branch.

On the majority of estates the managers have gladly co-operated with their visiting medical practitioners and the Government Health Officers in an endeavour to obviate a rise in the sick rate particularly that of malaria fever usually accompanying the influx of new labour.

The following table gives the estate population for 1934 and 1935:

State.	1935.		1934.	
	Labourers.	Total estate population.	Labourers.	Total estate population.
Perak	54,252	81,759	51,048	75,282
Selangor	58,026	88,353	52,609	78,683
Negri Sembilan	41,852	53,027	38,532	46,936
Pahang	13,124	15,940	11,109	13,068
	167,254	239,079	153,298	213,969

(vi).—**Mine Sanitation.**

In continuation of the policy adopted in 1933 and 1934, more attention has been devoted to the inspection of mines by officers of the Health Branch during the past year and greater pressure has been brought to bear on mines where possible in regard to sanitary conditions. The same routine inspections as applied to estates were carried out and the maintenance of a reasonable standard of health measures insisted upon. More thorough supervision of health on mines is desirable.

(vii).—**Railway Sanitation.**

Health conditions on the Federated Malay States Railways are under the control of the Railway Health Officer and his staff of Health Inspectors, Anti-Malaria Inspectors and Dressers.

The railway population consisting of employees dwelling along the railway lines at the end of 1935 was 11,643. The general health was good. Anti-malarial measures were carried out regularly.

Atebrin treatment was given in a few places in conjunction with oiling and found most promising; its use will be further extended in 1936. In a number of places it will be used instead of oiling, particularly where anti-malarial work is uneconomical or where it does not give complete protection.

An investigation in the risk of infection of railway passengers by anopheline mosquitos carried on trains was carried out by the Health Officer, Kuala Lumpur, during the first half of the year. Two hundred and forty anophelines were taken by hand-catching on the mail trains arriving in Kuala Lumpur from Penang and Singapore; about 170 were dissected and one *A. aconitus* was found infected with oocysts. This investigation indicates that the risk of infection of malaria to railway passengers is very slight.

The Health Officer's staff is responsible for the medical treatment of the Railway employees. Ten full-time dispensaries are maintained; these are at the larger centres and 27,027 were treated.

The water supplies were examined frequently and were maintained at a satisfactory standard.

There was no outbreak of epidemic disease.

(viii).—School Hygiene.

School medical inspections are carried out by Health Officers, Health Inspectors and Lady Medical Officers. During the routine visits to schools in addition to the medical examination, school premises are inspected and such recommendations made as thought necessary to improve sanitary and health conditions.

1. Number of schools inspected	723
2. Number of visits to schools	932
3. Number of scholars examined	45,472

The table below gives a summary of the common conditions found in the schools visited with the percentage of each:

	Perak.		Selangor.		Negri Sembilan.		Pahang.	
	1935.	1934.	1935.	1934.	1935.	1934.	1935.	1934.
Dental diseases	29.4	28.2	33.16	38.3	49.0	33.4	40.98	34.7
Skin disease	3.9	4.9	8.76	6.1	13.02	7.5	9.66	12.8
Eye defects	0.2	0.2	1.01	1.0	3.33	0.5	3.93	3.7
Spleen enlargements	6.1	6.9	11.4	4.5	11.73	14.1	10.53	13.03
Pediculosis	3.5	4.8	13.17	5.3	10.75	7.6	4.48	6.2

The Dental Surgeon, Selangor, is chiefly engaged on the treatment of school children and children of the pre-school age. In addition to his duties in Selangor, he visits Negri Sembilan and attends the Malay Colleges at Tanjong Malim and Kuala Kangsar in Perak.

The inspection of schools was carried out on the same lines as last year but more attention has been paid to schools in rural areas.

(ix).—Labour Conditions.

(A).—ON ESTATES.

The total labour force in 1935 was 167,254 compared with 153,298 in 1934 and 134,705 in 1933. Immigration of Indian labourers which was resumed during the second half of 1934, continued during the first half of 1935 and accounted for the increase in the total labour force on estates from 134,705 in 1933 to 167,254 in the year under review. The death-rate for all diseases for estate labourers slightly increased, due to the unsettled conditions following on the increase in immigration and to the increase of malaria. The death-rates for the past four years are as follows:

Year.	Death-rate.					
1932	...	...	...	...	...	5.4
1933	...	...	...	...	...	5.5
1934	...	...	...	...	...	5.4
1935	...	...	...	...	...	6.4

The following table shows the distribution by districts of the labour force, and the death-rate in each district:

District.	Average labour force.	Number of deaths.	Death-rate per mille.
Perak—			
Krian	7,103	42	5.9
Selama	1,700	11	6.5
Larut and Matang ...	5,223	43	8.2
Upper Perak	409	5	12.2
Kuala Kangsar	7,528	45	6.0
Kinta	6,928	36	5.2
Batang Padang	8,671	39	4.5
Lower Perak	11,678	68	5.8
Sitiawan	2,857	16	5.6
Dindings	2,155	28	13.0
Selangor—			
Kuala Lumpur	6,611	37	5.6
Ulu Selangor	11,000	76	6.9
Ulu Langat	6,952	26	3.7
Klang	12,393	66	5.3
Kuala Selangor	10,968	82	7.5
Sabak Bernam	1,297	4	3.1
Kuala Langat	8,805	44	5.0
Negri Sembilan—			
Seremban	13,900	82	5.9
Tampin	8,124	67	8.3
Kuala Pilah	9,543	90	9.4
Port Dickson	9,132	51	5.6
Jelevu	1,153	10	8.7
Pahang—			
Kuala Lipis	2,929	24	8.2
Raub	1,399	13	9.3
Bentong	2,938	20	6.8
Temerloh	3,185	24	7.5
Kuantan	2,634	27	10.3
Pekan	39	—	—
Total	167,254	1,076	6.4

Comparison of death-rates in the four States for 1933, 1934 and 1935:

				Average death-rate among labourers.			
				1933.	1934.	1935.	
Perak	...	...	6.1	...	5.2	...	6.1
Selangor	...	...	4.7	...	5.1	...	5.8
Negri Sembilan	...	...	5.3	...	6.1	...	7.2
Pahang	...	...	5.7	...	5.7	...	8.2

Further details of vital statistics of estate labourers will be found in the report of the Registrar-General of Births and Deaths.

(B).—ON MINES.

The great majority of labourers on mines are Chinese. There is no close supervision of health and sanitation on mines as there is on estates but Health Officers continued to visit as far as is permitted by the Labour Code. Admissions to Government hospitals did not indicate any abnormal incidence of disease, but more thorough supervision of health and sanitation on mines is very desirable.

(C).—IN GOVERNMENT DEPARTMENTS.

In common with other classes of labour the general health of Government labourers was satisfactory. Free hospital treatment is provided and the travelling dispensaries attend to the needs of the sick in outlying areas. Periodic visits of inspection of coolie lines were made by officers of the Health Branch.

(x).—HOUSING AND TOWN PLANNING.

Meetings of the Town Planning Committees, of which the respective Health Officers are members, were held during the year. The plans of all buildings to be erected were submitted to the Health Officers for scrutiny. In the towns the work of demolition of insanitary houses and their replacement by houses of an approved type is progressing but this has to be done very gradually.

(xi).—FOOD IN RELATION TO HEALTH AND DISEASE.

(1)—HAWKERS.

The number of licensed hawkers of cooked food is being reduced because experience has proved that they are a danger by spreading bowel diseases, particularly typhoid fever.

With the co-operation of the school authorities, hawkers have been removed from the vicinity of several schools and food stalls under the control of the schools have been provided.

The sale of ice-cream and sweetmeats by itinerant hawkers has been prohibited in the town of Kuala Lumpur, Selangor.

(2)—BAKERIES.

All bakeries within Sanitary Board areas were regularly inspected and were reported to be satisfactory. The staff of a large number of bakeries were medically examined.

(3)—MILK.

All dairies and cows were regularly inspected but the conditions under which milk is supplied are still far from satisfactory.

The Central Experimental Station at Serdang, Selangor, continues its endeavours to provide a first class milk supply. The anticipated improvement in the reduction of the bacterial content in the milk by the use of vacuum churns, was less than expected; it is evident that a more efficient cooling plant is necessary.

In Negri Sembilan the supervision of all dairies and cowsheds is now undertaken by the Veterinary Department.

The Ipoh Government dairy continued to maintain the production of good milk.

Eighty-eight prosecutions were instituted for adulterated milk during the year.

(4)—AERATED WATER FACTORIES.

Aerated water factories were kept under close supervision and inspected regularly.

(5)—MARKETS.

These have been under constant supervision by the Health Branch during the year and conditions have generally improved.

(6)—FOOD FACTORIES.

Food factories were inspected regularly and the recommendations made by Health Officers carried out before licensing. The supervision of pineapple factories under the provisions of the Pineapple Industry Enactment which came into force in 1934 has resulted in an improvement in the standard of cleanliness in the cutting and sorting of the fruit and in the maintenance of a supply of pure water.

(7)—RESTAURANTS AND EATING SHOPS.

Regular inspections of restaurants and eating shops were made as far as possible. In Sanitary Board areas the standard of cleanliness is gradually being raised and the number of insanitary outdoor food stalls is being steadily reduced. Outside Sanitary Board areas, restaurants and eating shops are licensed by the Health Officer but the control of these still leaves much to be desired.

(8)—PIGGERIES.

The policy of prohibiting the keeping of pigs in Sanitary Board areas has been continued and extended. Piggeries elsewhere have been closely supervised.

(9)—SAMPLES UNDER THE SALE OF FOOD AND DRUGS ENACTMENT.

Special attention was paid to the examination of tinned foods that are in common use by the poorer sections of the community.

Among the articles condemned as unfit for use in Kuala Lumpur were over 7,000 tins of milk, 766 tins of fruit and vegetables and 500 tins of sardines.

In Perak 54,855 tins of various foodstuffs were destroyed.

(10)—DEFICIENCY DISEASES.

BERI-BERI.

The number of deaths from beri-beri was 322 compared with 340 in 1934 and 254 in 1933.

The deaths were distributed throughout the States as shown in the following table:

State.	Deaths.		
	1933.	1934.	1935.
Perak	49	69	45
Selangor	97	135	138
Negri Sembilan	51	75	64
Pahang	57	61	75
Total	254	340	322

(xii).—Measures Taken to Spread Knowledge of Hygiene and Sanitation.

The lecture van of the Committee for Public Health Education toured the country giving exhibitions of the films "Aminah" (infant welfare), "Rescue of Swee Kim" (tuberculosis) and "Malaria". A new van has now been supplied and is satisfactory. The films continue to attract large audiences despite the fact that they have been exhibited on several occasions previously.

Selangor.—Exhibitions illustrating infant welfare work and elementary sanitation were presented at the Agricultural Show in Kuala Lumpur where over 17,000 persons visited the Public Health exhibit. Exhibits were presented at the district shows at Kuala Kubu and Telok Datoh in Selangor. At these shows the exhibits are explained to small groups of people by health nurses and health inspectors.

The kampong (village) sanitation competitions were followed up by regular visits of inspection and it seems probable that these competitions will achieve some permanent benefit.

Perak.—Two hundred and thirty lectures were given by Malay Health Inspectors in the kampongs. Reports from Health Officers indicate that these lectures are appreciated, particularly in those areas where the Penghulu (headman) is sufficiently energetic to encourage appreciation of the advice given.

Advantage was taken of Sunday fairs at Tanjong Malim and Kuala Dipang, where permanent health stalls are kept, to send Malay Inspectors to display models and photographs, to distribute literature and to give health talks and demonstrations on matters appertaining to hygiene and sanitation.

A health exhibition and baby show were also held during the year in conjunction with the Lower Perak Agri-Horticultural Exhibition. Explanatory talks in which the models displayed were used as illustrations were given to groups of visitors by officers in charge. Literature dealing with health subjects was also widely distributed. It is estimated that approximately 10,000 persons visited the exhibition, nearly all of whom interested themselves in this form of health propaganda.

During the year 9,035 kampong houses were inspected by Health Officers and their staffs throughout the State. A special feature of this work was the "house-holders certificate" scheme introduced by Yang Teramat Mulia the Raja Muda. Briefly, this was a special certificate of an attractive design awarded to all house-holders whose houses and compounds attained a high standard of cleanliness and showed an intelligent observance of such health matters as had already been explained to them by means of health talks. Of the 9,035 houses examined by Health Officers and their staffs, 641 house-holders qualified for these certificates which were greatly appreciated by the recipients. Only 297 certificates could be issued during the year, the remaining 344 will be issued in 1936.

Negri Sembilan.—Lectures were given in the kampong areas and the subjects included water supplies and diseases associated with them, lighting and ventilation, mosquitoes and malaria, hookworm, yaws, and the advantages of treatment by dispensaries and hospitals.

A baby show was included in the programme of a Village Industries Fair which took place in Rembau on the 21st November. There were 88 entries in five classes, and Malays, Chinese and Indians were represented.

The following details were noted in awarding marks: weight, general condition, condition of ears, nose, mouth, etc., whether breast fed or not, condition of bones and teeth and of the circulatory system and general cleanliness.

The Honourable the Undang of Rembau presented a championship cup for the best Malay baby and Towkay Lee Pun presented one for the best Chinese baby.

Exhibits were shown and short lectures given on the care of infants.

Pahang.—The public health education films were screened in various towns and kampongs and on the whole were very successful. The films were shown at 44 places and were seen by an estimated total of some 16,860 spectators, mostly Malays.

The infant welfare centres continued their good work in improving the health of mothers and children and to disseminate health propaganda and many visits were paid to the homes for this purpose.

Propaganda concerning venereal diseases was issued from the social hygiene clinics.

(xiii).—Training of Sanitary Personnel.

Facilities are available in Singapore for candidates who desire to obtain the certificate of the Royal Sanitary Institute, London. The course extends over a period of approximately six months with a terminal written, practical and oral examination in various subjects. Students who pass this examination are recommended for the certificate.

Three health inspectors in the Subordinate Sanitary Service were sent from Perak to Singapore for the Royal Sanitary Institute course.

IV.—PORT HEALTH AND ADMINISTRATION.

Port Swettenham.—During the year under review 1,945 ocean-going vessels, comprising 6,165,547 tons, and 920 vessels exclusive of native craft, comprising 485,438 tons, entered and cleared this port.

One hundred and seventy inspections were made by the Port Health Officer. A statement showing the nature of work carried out is given below:

Total ships.	Total tons nett.	Total passengers.		Total examined.		Passengers.		
		Cabin.	Deck.	Crew.	Passengers.	U.	Q.	R.
170	642,042	3,418	61,645	9,303	50,195	675	22,837	40,527

U.—Granted undertaking. Q.—Quarantined. R.—Remaining on ship.

Immigrant ships.—Twenty-nine ships from infected ports, included in the above total, transported 13,794 State-aided immigrants and 9,045 ordinary immigrants. They were all admitted to quarantine in order to complete the appropriate period of observation.

Pilgrim ships.—Nine pilgrim ships passed through the port, of these four were outgoing and five incoming. No embarkation or landing took place.

During the year 24,791 persons were detained in quarantine, of these 1,952 remained from the previous year.

There were no cases of smallpox, plague or cholera.

Examination for early leprosy amongst immigrants was commenced in February. The Immigration Department and shipping companies were warned that immigrants found to be lepers would be repatriated. Fifteen thousand three hundred and ninety-five persons were examined, of these 36 were diagnosed as suffering from leprosy. The incidence, after inspection in India, is therefore approximately 2 per 1,000. Twenty-two were sent back to India.

Quarantine Station Hospitals.—The hospitals remained open during the year. There was no serious outbreak of disease but there was a fairly high incidence of influenza and broncho-pneumonia, of which there were 362 cases and 8 deaths, and of measles with 71 cases and 2 deaths. Amongst 758 patients treated in the hospitals, there were 24 deaths.

Four thousand and eight adults and 740 children were treated for hookworm. A comparative statement showing the number of vaccinations performed during the past three years is given below:

	1933.	1934.	1935.
State-aided immigrants ...	—	...	454
Ordinary immigrants ...	310	4,451	880

Perak.—No case of suspected infectious disease was reported during the year at either Port Weld or Teluk Anson.

V.—MATERNITY AND CHILD WELFARE.

The training of midwives for work in villages was continued. They are trained in Government hospitals but, in Kuala Lumpur, Chinese are also trained at the Chinese Maternity Hospital. Qualified Malay midwives are gradually taking their place in the kampongs, and with help and supervision from infant welfare centres, are gradually eliminating the untrained Malay midwives (bidans). The Chinese population is already fairly well provided for with midwives, but mortality statistics indicate an urgent need for better midwifery service for Tamils on estates.

Maternity cases are received into all Government hospitals. In addition to Government hospitals there are maternity hospitals in Kuala Lumpur, Klang, Seremban and Ipoh supported by the Chinese community. In the maternity wards for Malays attached to the General Hospital, Kuala Lumpur, fifty-four cases were delivered compared with 52 last year and 16 in 1933.

The infant welfare centres continued their good work throughout the year. Attendances at these clinics numbered close on 200,000.

The centres are under the control of a Lady Medical Officer or Health Sister. Midwives practising in the towns are registered and supervised from the centres. The principal activity of these centres is infant welfare, and special attention is given to this side of the work; lectures, demonstrations and district visits are all directed with this object. Work at these centres embraces vaccination, physical and laboratory examination, treatment of minor ailments, ante-natal and post-natal advice and when possible, dental treatment.

The special efforts made to induce Malay mothers to come to the centres are bearing fruit and attendances have greatly increased.

The centres still continue to function, to some extent, as out-patient departments for women and children and it is difficult to dissociate this work from their principal function.

VI.—HOSPITALS, DISPENSARIES AND SPECIAL CLINICS.

(1).—HOSPITAL IN-PATIENTS.

The following table shows the hospitals maintained by the Medical Department of each State, the average daily number of patients in each, the total number of patients admitted during the year, the total number of deaths, and the death-rate per hundred admissions:

Hospitals.	Average daily No. of patients.	Total No. of patients admitted.	Deaths.	Deaths per 100 admissions.
I.—PERAK.				
Ipoh, District	316	9,177	856	9.33
Taiping, General	81	2,555	280	10.96
„ District	178	4,634	301	6.50
Batu Gajah	149	3,863	270	6.99
Kuala Kangsar, District	79	1,914	172	8.99
„ „ Women's	67	1,755	127	7.24
„ „ Malay	22	751	25	3.23
Teluk Anson, General	113	3,004	305	10.15
Kampar, District	176	1,376	*214	15.55
Tapah, District	143	3,636	250	6.88
Parit Buntar, District	54	1,934	118	6.10
Tanjong Malim, District	33	1,330	79	5.94
Klian Intan, District	18	602	29	4.82
Lumut District	85	3,099	190	6.13
II.—SELANGOR.				
Kuala Lumpur, Bungsar	17	609	8	1.31
„ „ General	542	12,018	1,180	9.81
„ „ Malay	78	2,453	66	2.69
Klang, District	178	4,256	348	8.17
Kajang, District	67	1,803	134	7.43
Kuala Kubu Bahru, District	59	1,644	114	6.93
Serendah, District	18	479	36	7.51
III.—NEGRI SEMBILAN.				
Seremban, General	384	8,152	633	7.76
Kuala Pilah, District	142	3,026	164	4.72
„ „ Women	55	1,235	125	10.12
Tampin, District	8	379	13	3.43
Port Dickson, District	88	1,800	91	5.05
Jejebu, District	54	1,300	74	5.69
IV.—PAHANG.				
Kuala Lipis, General	118	3,160	178	5.6
Kuantan, District	100	2,348	127	5.4
Bentong, District	83	2,209	198	8.9
Raub, District	82	2,413	129	5.3
Mentakab, District	57	1,851	109	5.9
Pekan, District	21	421	10	2.3
Kuala Rompin	1	16	2	12.5

* Note.—Tuberculosis cases are transferred to this hospital.

This table excludes patients in gaol hospitals and criminal vagrant wards (*vide* section VIII) which are included in the return of diseases shown in Tables III and IV on pages 48 and 60.

Many patients were transferred from one hospital to another for special treatment; each patient transferred has been recorded as one case in Table III, which is a return of the total number of in-patients in Government hospitals.

The total number of in-patients admitted during 1935 was 92,353 with 6,960 deaths. The corresponding figures for 1934 were 75,916 patients with 6,030 deaths.

The distribution in the four States was as under:

	Admissions.			Deaths.		
Perak	...	...	39,890	...	...	3,219
Selangor	...	...	23,992	...	...	1,886
Negri Sembilan	...	...	15,976	...	...	1,102
Pahang	...	...	12,495	...	...	753

The existing hospital accommodation at the end of the year, and the average daily number of in-patients during the year, in the four States are shown hereunder:

		Total number of beds.		Average daily number of patients.	
		1935.	1934.	1935.	1934.
Perak	...	2,283	2,856	1,523	1,230
Selangor	...	1,481	1,550	982	880
Negri Sembilan	...	1,001	1,001	731	601
Pahang	...	665	683	462	382

Table III sets out the full return of all cases treated as in-patients. As an indication of the comparative incidence of those diseases or groups of diseases which were responsible for a large number of admissions, the following summary is here included:

Prevailing Diseases Among Hospital Patients.

Diseases.	Admissions.		Deaths.		Mortality.
Malaria	...	21,975	...	677	3.08
Venereal disease	...	3,761	...	72	1.91
Influenza	...	4,779	...	11	.23
Chest Affections—					
Bronchitis	...	2,981	...	51	1.71
Pneumonia and broncho-pneumonia	...	2,480	...	1,198	48.30
Pulmonary tuberculosis	...	1,871	...	789	42.17
Intestinal Affections—					
Dysentery	...	1,225	...	205	16.73
Diarrhoea and enteritis	...	1,899	...	344	18.11

Diseases.	Admissions.	Deaths.	Mortality.
Other Affections—			
Helminthic diseases ...	2,086 ...	13 ...	.62
Beri-beri ...	506 ...	53 ...	10.47
Anaemia ...	1,189 ...	194 ...	16.31
Surgical Conditions—			
Chronic ulcers ...	2,699 ...	3 ...	.11
Wounds ...	4,265 ...	26 ...	.60
Fractures, etc. ...	2,146 ...	69 ...	3.21
Abscesses, etc. ...	2,023 ...	24 ...	1.18

Notes on Prevailing Diseases Among Hospital Patients.

(i) *Malaria*.—There was an increase in the number of cases of malaria admitted to Government hospitals in all four States. The total number of admissions for this disease was 21,975 compared with 15,790 in 1934.

Of the 21,975 cases recorded the diagnosis was confirmed by microscopic examination in 17,873 and the specific infections so found were:

Sub-tertian infection ...	63.40
Tertian infection ...	30.55
Quartan infection ...	2.46
Mixed infection ...	3.36

Fourteen cases of blackwater fever were admitted to hospitals of whom six died compared with eight cases and two deaths in 1934 and nineteen cases and seven deaths in 1933.

Malaria admissions, for each of the twelve months, to the hospitals of the four States, are shown in the following table:

Months.	Perak.	Selangor.	Negri Sembilan.	Pahang.	Total.
January ...	556	186	243	173	1,158
February ...	503	151	208	658	1,020
March ...	666	296	354	223	1,539
April ...	945	615	552	370	2,482
May ...	1,148	628	667	491	2,934
June ...	993	501	538	369	2,401
July ...	833	365	395	398	1,991
August ...	751	341	323	370	1,785
September ...	648	247	248	293	1,436
October ...	788	226	302	317	1,633
November ...	825	309	314	373	1,821
December ...	795	319	288	375	1,777

Racial incidence among hospital patients is shown in the table on page 26.

Research at the Institute for Medical Research into the relative therapeutic value of atebirin musonate, atebirin and quinine in the treatment of malaria was continued during the year. The findings are reported in the annual report of the Institute for Medical Research for the year 1935.

(ii) *Venereal Diseases*.—The total number of cases treated in hospitals was 3,761 with 72 deaths compared with 3,675 cases and 101 deaths in the previous year. Further details regarding these diseases will be found under Social Hygiene section on page 33.

(iii) *Pneumonia*.—The pneumonias continue to take a heavy toll of life. The number of cases diagnosed as pneumonia and broncho-pneumonia was 2,480, of which 1,198 were fatal giving a case mortality rate of 48.30.

(iv) *Pulmonary Tuberculosis*.—The number of admissions to hospitals was 1,871 of which 789 were fatal compared with 1,641 admissions and 752 deaths in 1934. The racial incidence indicates that as regards hospital in-patients this disease is most prevalent amongst the Chinese, who, however, tend to be admitted only when the disease is far advanced and they can no longer work, or so far advanced that there is little or no response to treatment.

This accounts for the high mortality rate as comparatively few early cases seek admission to hospital or remain long enough under treatment. Early cases are found only amongst the better educated classes and it is exceptional for them to take advantage of the facilities which hospitals afford.

(v) *Dysentery*.—The number of patients recorded under dysentery was 1,225 and the number of deaths was 205 compared with 1,003 cases and 177 deaths in 1934.

(vi) *Diarrhoea and Enteritis*.—There were 1,899 admissions with 344 deaths recorded under these headings. In 1934 there were 1,412 cases and 286 deaths recorded.

(vii) *Beri-beri*.—The number of cases recorded as beri-beri was 506 of which 53 died compared with 470 cases and 70 deaths in the previous year.

In the year 1933 there were 384 cases of beri-beri. This steady rise following a decline during the slump years is probably due to the fact that with increasing prosperity labourers, particularly Chinese, purchase polished rice.

(viii) *Anaemia*.—There were 1,189 cases recorded as suffering from anaemia with 194 deaths. Many of these cases were in all probability the terminal stages of other diseases such as malaria and ankylostomiasis. In addition there were recorded 62 cases of anaemia of pregnancy with 37 deaths.

(ix) *Chronic Ulcer*.—The number of cases of chronic ulcer reported was 2,699 as against 2,238 in 1934 and 3,486 in 1933.

Notes on Other Diseases.

(i) *Leprosy*.—The recorded number of new cases of leprosy detected and segregated during the year was 443 compared with 436 in 1934 and 378 in 1933. Leper settlements are dealt with in section VII (B), page 38. Modern treatment has been continued at the Sungei Buloh Settlements but it is disappointing to note that the number of patients discharged was only 51 compared with 163 discharged last year.

This is due partly to the fact that "burnt out" cases of leprosy, although no longer infective, have to be retained in the settlement because they cannot earn a living or have nowhere to go. Formerly some of these cases were transferred to the decrepit settlements. Full details of the work done will be found in the report on leper settlements on page 38.

(ii) *Enteric Fever*.—The number of cases diagnosed as enteric fever was 282 compared with 178 in 1934. There were 64 deaths compared with 40 deaths in 1934.

(iii) *Tropical Typhus*.—The number of admissions during the year was 190 with 16 deaths compared with 225 and 18 deaths in the previous year. The disease is now widely distributed over the country. The decreased incidence has not yet been explained.

(iv) *Leptospirosis*.—There were twenty cases diagnosed with four deaths. These cases were distributed in Perak, Selangor and Pahang. No case occurred in Negri Sembilan.

(v) *Japanese River Fever*.—Four cases of Japanese river fever occurred with one death. Two of these were Europeans, both recovered; in one of the European cases the eschar was on the forearm, an unusual site.

(vi) *Cancer*.—The number of patients in Government hospitals recorded as suffering from malignant tumours was 475 of whom 175 died as compared with 423 of whom 162 died during the year 1934.

RACIAL INCIDENCE OF CERTAIN DISEASES AMONG HOSPITAL
IN-PATIENTS.

Diseases.	Chinese.		Indians.		Malays.		Others.	
	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.
Malaria	6,448	389	13,654	269	1,594	1	285	10
Dysentery and diarrhoea	896	250	1,893	283	232	14	107	3
Pneumonia and broncho- pneumonia	936	591	1,472	595	89	21	37	16
Pulmonary tuberculosis ...	1,037	504	665	256	143	21	261	8
Cirrhosis of liver	245	97	70	30	22	4	10	6
Chronic ulcer	1,327	2	874	—	448	1	48	1
Beri-beri	426	50	22	2	56	1	2	—
Appendicitis	89	3	138	3	19	—	47	—

HOSPITAL ADMISSIONS AND DEATHS BY RACES, FOR ALL DISEASES.

Race.	Admissions.	Deaths.	Case mortality per cent.
Chinese	31,350	3,850	12.28
Indians	49,704	2,822	5.67
Malays	9,183	185	2.01
Others	2,116	93	4.39
Total	92,353	6,950	7.52

(2)—OUT-PATIENTS.

The total number of out-patients treated during the year is recorded as 653,615. This comprises those treated at all Government hospitals and dispensaries, including travelling dispensaries, as well as patients visited in their own homes; it does not include those treated at infant welfare centres or at school inspections, nor does it include attendances at special clinics, e.g., social hygiene and ophthalmic clinics, all of which are recorded elsewhere in this report.

Out-patients are classified under three headings:

	Male.	Female.	Total.
I.—At Hospitals	185,194	62,596	247,790
II.—At Stationary Dispensaries ...	172,049	54,143	226,192
III.—By Travelling Dispensaries ...	129,297	50,336	179,633
Total	486,540	167,075	653,615

The figures for the four States are shown below:

(1)—PERAK.		Male.	Female.	Total.
I.—At Hospitals		56,759	19,845	76,604
II.—At Stationary Dispensaries ...		75,196	23,404	98,600
III.—By Travelling Dispensaries :				
(a) Road		40,223	16,119	56,342
(b) River		15,988	5,086	21,074
Total		188,166	64,454	252,620

(2)—SELANGOR.		Male.	Female.	Total.
I.—At Hospitals		44,741	13,072	57,813
II.—At Stationary Dispensaries ...		70,670	22,817	93,487
III.—By Travelling Dispensaries ...		34,641	12,625	47,266
Total		150,052	48,514	198,566

(3)—NEGRI SEMBILAN.		Male.	Female.	Total.
I.—At Hospitals		32,976	11,689	44,665
II.—At Stationary Hospitals ...		16,826	4,353	21,179
III.—By Travelling Dispensaries ...		14,874	6,473	21,347
Total		64,676	22,515	87,191

(4)—PAHANG.				Male.	Female.	Total.
I.—At Hospitals	...	...	...	50,718	17,990	68,708
II.—At Stationary Dispensaries	...	...	...	9,357	3,569	12,926
III.—By Travelling Dispensaries :						
(a) Road	...	...	...	15,092	6,322	21,414
(b) River	...	...	...	8,479	3,711	12,190
Total	...	...	...	83,646	31,592	115,238

A return of the diseases of out-patients is given in Table IV.

(3)—LABORATORY AND POST-MORTEM EXAMINATIONS
IN HOSPITALS.

Laboratory.

(a).—BLOOD FILM EXAMINATIONS.

State.	Number of patients examined.	Number positive for malarial parasites.				Total number of examinations of blood films.
		Sub-tertian.	Benign tertian.	Quartan.	Mixed infection.	
Perak ...	57,882	7,056	3,703	347	306	121,830
Selangor ...	31,557	3,149	3,657	198	134	55,815
Negri Sembilan ...	19,904	3,109	1,100	155	168	40,694
Pahang ...	15,026	2,586	1,229	112	193	45,588
Total ...	124,369	15,900	9,689	812	803	263,927

(b).—MICROSCOPICAL EXAMINATION OF FÆCES.

State.	Number of patients examined.	Positive for entamoeba histolytica.	Positive for ova.			Total number of examinations.
			Ascaris.	Ankylos-tome.	Mixed infection.	
Perak ...	48,259	593	12,600	3,476	1,488	82,957
Selangor ...	25,316	69	5,900	2,647	841	34,748
Negri Sembilan ...	12,671	94	2,555	1,209	360	23,392
Pahang ...	12,747	129	3,168	1,787	822	39,673
Total ...	98,993	885	24,223	9,119	3,511	180,770

(c).—POST-MORTEM EXAMINATIONS.

	Medico-legal.	Clinical.
Perak ...	381	366
Selangor ...	350	163
Negri Sembilan ...	164	56
Pahang ...	99	64
Total ...	994	649

(4)—DISEASES AMONG EUROPEANS.

The figures for in-patients which follow may be taken as indicative of the incidence of serious disease amongst the general European population, since Government hospitals are open alike to Government servants and the general public, and no other hospitals or nursing homes are available.

In-patients.—The total number of admissions, exclusive of 71 cases of normal labour, was 878; there were sixteen deaths. The number of admissions shows an increase of 20 over the figures for the previous year. The cause of death in the sixteen cases was:

Myocarditis	...	...	...	...	...	1
Sub-tertian malaria	...	...	...	...	...	1
Septicæmia	...	...	...	...	...	1
Appendicitis	...	...	...	...	...	1
Cancer	...	...	...	...	...	2
Pneumonia	...	...	...	...	...	1
Diabetes mellitus	...	...	...	...	...	1
Disease of liver	...	...	...	...	...	1
Fracture	...	...	...	...	...	2
Encephalitis	...	...	...	...	...	1
Concussion	...	...	...	...	...	1
Intestinal obstruction	...	...	...	...	...	1
Alcoholism	...	...	...	...	...	1
Cæsarian section	...	...	...	...	...	1

Out-patients.—

			Male.		Female.		Total.
Perak	...	...	550	...	186	...	736
Selangor	...	...	1,241	...	657	...	1,898
Negri Sembilan	...	...	375	...	186	...	561
Pahang	...	...	695	...	629	...	1,324

The figures for out-patients refer mainly to Government servants and their families, as other European patients are usually treated by private practitioners. The large number of European out-patients shown under Pahang is due to the inclusion of the Gap and Fraser's Hill dispensaries in the figures of that State.

(5)—SURGERY.

The following are the figures returned for surgical operations, excluding ophthalmic surgery, in all the hospitals in the four States:

				Major operations.		Minor operations.
Perak	...	...	...	798	...	4,494
Selangor	...	...	...	762	...	1,555
Negri Sembilan	...	...	...	466	...	2,198
Pahang	...	...	...	31	...	959
				2,057	...	9,206

The number of major operations performed in the larger hospitals was as follows:

PERAK.

District Hospital, Ipoh	...	...	...	379
General Hospital, Taiping	...	2		
District Hospital, Taiping	...	124		
			...	126
District Hospital, Teluk Anson	...	...		30
European Hospital, Batu Gajah	...	...		36
District Hospital, Batu Gajah	...	...		122

SELANGOR.

General Hospital, Kuala Lumpur	...	...	601
Bungsar Hospital, Kuala Lumpur	...	...	119

NEGRI SEMBILAN.

General Hospital, Seremban	...	...	445
European Hospital, Seremban	...	...	19

Comparative figures for the major operations performed in 1934 and 1935 are shown below:

			1934.		1935.
District Hospital, Ipoh	...	...	524	...	379
European Hospital, Batu Gajah	...		32	...	36
			556	...	415

The figures shown below record the number of major operations performed in the two hospitals at Kuala Lumpur in 1934 and 1935:

			1934.		1935.
General Hospital	...	...	436	...	601
Bungsar Hospital	...	...	120	...	119
			556	...	720

The figures below give the return of major operations performed in Seremban:

			1934.		1935.
General Hospital	...	...	221	...	445
European Hospital	...	...	12	...	19
			233	...	464

(6)—RADIOLOGY.

COMPARATIVE TABLE OF WORK PERFORMED DURING THE LAST TWO YEARS.

	X-Ray examinations.		Treatments.	
	1934.	1935.	1934.	1935.
Kuala Lumpur (Selangor) ...	1,122	1,550	689	1,091
Ipoh (Perak) ...	1,655	1,603	248	178
Total ...	2,777	3,153	937	1,269

In this table the X-Ray examinations represent the number of patients examined, repetitions being excluded, the treatments refer to the total number of attendances for treatment.

(7)—OPHTHALMOLOGY.

Special clinics for treatment of diseases of the eye were in operation at the following centres:

I.—Perak: (a) Ipoh Hospital.

(b) Taiping Hospital.

II.—Selangor: Kuala Lumpur, General Hospital, Tanglin Out-patient Department.

III.—Negri Sembilan: Seremban Hospital.

IV.—Pahang: Kuala Lipis Hospital.

The total number of patients treated in the four States was 11,663 of which 1,537 were in-patients and 10,126 out-patients (the figures record new cases, excluding repetitions and routine examinations).

TABULATED RETURNS.

	Eye diseases proper.	Eye injuries.	Refraction.	General diseases affecting eyes.	Disorganised eyes.	Total.
PERAK.						
(1) Ipoh, In-patients ...	362	40	3	16	3	424
" Out-patients ...	2,050	157	226	18	11	2,462
(2) Taiping, In-patients ...	182	18	13	...	...	213
" Out-patients ...	1,665	120	187	...	...	1,972
SELANGOR.						
Kuala Lumpur, In-patients ...	454	45	11	18	8	536
" Out-patients ...	2,034	315	559	145	3	3,056
NEGRI SEMBILAN.						
Seremban, In-patients ...	252	22	1	13	8	296
" Out-patients ...	576	86	255	7	3	927
PAHANG.						
In-patients ...	62	2	2	2	...	68
Out-patients ...	141	6	25	...	...	172
Total In-patients ...	1,312	127	30	49	19	1,537
" Out-patients ...	6,466	684	1,252	170	17	8,589
GRAND TOTAL ...	7,778	811	1,282	219	36	10,126

				Major operations.		Minor operations.
Ipoh	...	...	...	136	...	158
Taiping	...	...	...	86	...	84
Kuala Lumpur	...	...	...	273	...	376
Seremban	...	...	...	132	...	144
Pahang	...	...	...	4	...	7
Total				631	...	769

Amongst nationalities the Chinese again preponderated to an extent of over 50 per cent.

A comparison between the work done in 1934 and 1935 is set out below:

Ipoh—				1934.		1935.
In-patients	...	...	...	457	...	424
Out-patients	...	...	...	2,180	...	2,462
Taiping—						
In-patients	...	...	...	144	...	213
Out-patients	...	...	...	1,904	...	1,972
Kuala Lumpur—						
In-patients	...	...	...	433	...	536
Out-patients	...	...	...	2,974	...	3,056
Seremban—						
In-patients	...	...	...	240	...	296
Out-patients	...	...	...	904	...	927
Pahang—						
In-patients	...	...	...	39	...	68
Out-patients	...	...	...	206	...	172

(8)—DENTAL SURGERY.

There is at present only one Government Dental Surgeon in the Federated Malay States, this officer is stationed at Kuala Lumpur, Selangor. His staff consists of one dental mechanic and one nurse. The principal work of the Dental Surgeon is the treatment of school children and of children of pre-school age. In addition to his work in Selangor, he pays periodic visits to the State of Negri Sembilan and attends the colleges at Tanjong Malim and Kuala Kangsar in Perak.

The State of Pahang was visited for the first time by the Dental Surgeon in October when he spent a week on inspection. He examined scholars at Raub, Kuala Lipis, Kuantan and Pekan, in addition to affording treatment and advice at the hospitals. His report upon the dental condition of the school children indicates the urgent need of a dental service in Pahang.

Recruits at the Federated Malay States Police Training Depot were systematically examined and treated and emergency work was carried out in the hospitals. The Dental Surgeon officiated as a member of the Malay States Regiment Medical Board and examined the teeth of recruits joining the regiment.

The work of the Dental Surgeon in the vernacular schools was extended during the year. He visited the Bernam River by steam launch and treated the children in Sabak Bernam and the riverside kampongs on two occasions during the year.

Under the Registration of Dentists Ordinance, 1933, inspections of the premises and equipment of registered dentists were carried out.

The following table shows the total work done by the Dental Surgeon, Selangor, during 1935:

State.	Number of patients.	Number of attendances.	Fillings.	Extractions, temporary.	Extractions, permanent.	Scalings.	Dressings.	Gas cases.
Perak ...	309	343	353	62	104	39	6	
Selangor ...	4,624	5,132	1,037	4,243	2,541	394	129	1,159
Negri Sembilan	1,265	1,285	254	1,355	564	30	14	
Total ...	6,198	6,760	1,644	5,660	3,209	463	249	1,159

(9)—SOCIAL HYGIENE.

The number of patients treated for venereal diseases in hospitals and clinics is still declining. The total number treated was 18,422 compared with 19,704 in 1934. The total number of cases treated at Government hospitals and clinics during the past seven years is shown in the following table:

Year.	Total cases treated.
1929 ...	40,802
1930 ...	35,734
1931 ...	31,817
1932 ...	25,207
1933 ...	23,176
1934 ...	19,704
1935 ...	18,422

It might have been expected that the increased immigrant population, and the improvement in economic conditions, would have caused an increase in the incidence of venereal diseases. That the contrary is true seems to indicate that the work done during recent years in the way of education, legislation and treatment is producing good results.

It is significant that the decline in the number of cases has been consistent and progressive since the policy of closing the known brothels was first introduced.

The following table shows the nationality, disease and number of those treated throughout the Federated Malay States for the years 1934 and 1935:

Nationality.	Syphilis.		Gonorrhoea.		Soft sore.		Total number.	
	1934.	1935.	1934.	1935.	1934.	1935.	1934.	1935.
Chinese	5,579	4,764	2,491	2,513	636	513	8,706	7,790
Tamils	3,474	3,185	2,560	2,691	813	766	6,847	6,642
Malays	1,581	1,645	941	859	109	98	2,631	2,602
Sikhs	400	314	315	321	106	85	821	720
Eurasians	45	47	54	55	22	19	127	121
Europeans	8	15	45	50	4	7	57	72
Others	316	269	166	164	39	30	521	463
Total	11,403	10,239	6,572	6,653	1,729	1,518	19,704	18,422

A total of 48,069 injections of arsenical and bismuth compounds were given.

Propaganda.—The importance of this side of social hygiene work has been impressed on all those in charge of State medical institutions. Posters in English and the vernacular languages are displayed at all hospitals and dispensaries and pamphlets in these languages are distributed. Lantern lectures were continued during the year.

(10)—HOSPITALS FOR WOMEN.

There are three hospitals reserved exclusively for the admission of women patients. They are situated one each at:

Kuala Kangsar;

Kuala Pilah;

Pekan.

At other centres women are admitted to the female wards of Government hospitals.

The hospitals in addition to treating in-patients and out-patients serve as centres for medical work amongst women in the surrounding districts. The hospitals are also utilised for the training of Asiatic midwives who when trained, return to their villages to practise. The number of such midwives is steadily increasing and they are gradually replacing the untrained women in rural areas.

(11)—NEW BUILDINGS.

No new buildings were erected during the year.

VII.—INSTITUTIONS FOR MENTAL DISEASES
AND LEPROSY.

(A).—CENTRAL MENTAL HOSPITAL.

Dr. J. W. Murdoch, Medical Superintendent, was in charge during the year. The following is compiled from his report:

The general health of the patients was good throughout the year. The incidence of dysentery was low. The number of cases of malaria for 1935 was 95. This figure is six less than 1934 and 99 less than 1933.

At the beginning of the year the number of patients in the Central Mental Hospital was 2,550 and at the end of the year 2,620, an increase of 70 on the previous year.

The number of admissions for the year under review totalled 663, an increase of 82 on the previous year; of these, 58 were criminal patients.

The discharges numbered 677, of these 282 were discharged as recovered and 290 as relieved. One hundred and five were sufficiently improved to be discharged to the care of relatives. The total number recorded as recovered and relieved gives a percentage of 16.28 on the total number treated. Most of the cases discharged were new cases admitted during 1935. Of the 677 cases discharged, 397 were recorded as recovered or relieved amongst new admissions for 1935. This gives a percentage of 41.23 which approximates the figures for previous years.

Thirty patients absconded during the year. The majority of those who absconded had worked and lived on the farms where they were allowed considerable liberty. In many cases the patient by absconding merely anticipated his discharge from hospital.

The deaths totalled 186. This figure is four less than in the previous year and gives a death-rate of 5.29 per cent. on the total treated and 7.21 per cent. on the daily average number of patients in the hospital.

The rates for the year 1934 were 5.61 per cent. and 7.25 per cent.

The most common forms of mental disorder were:

			F.M.S. patients only.		All admissions.
Confusional insanity	...	...	360	...	413
Senile dementia	...	...	181	...	196
Dementia præcox	...	...	100	...	101
Mania	...	...	48	...	52
Melancholia	...	...	45	...	54
General paralysis of the insane			40	...	43

The most common aetiological factors that could be ascertained were:

Syphilis	...	...	...	...	...	162
Malaria	...	...	...	...	...	92
Other bodily affections	...	...	...	...	...	70
Alcohol	...	...	...	...	...	55
Mental stress	...	...	...	...	...	40

Difficulty in obtaining an accurate history in the majority of cases makes it difficult to indicate other causative factors with any degree of reliability.

Of the 963 admissions 485 were found to be infected with intestinal worms. This figure gives an infection rate of 50.36 per cent. as compared with 23.72 per cent. for 1934. The increase in the positive results is due to improved methods in technique and more careful examination.

The treatment of patients was carried out as thoroughly as possible.

Occupation as a therapeutic measure is still being carried out as in previous years. A large number of patients who are physically strong are given occupation either on the hospital farms or employed on other outdoor work in the grounds. The highest recovery rate is amongst the working patients.

The volume of foodstuffs produced on the farms was satisfactory. Patients are supplied daily with fruit and vegetables produced on the farms, none being bought from outside. All pork required for hospital consumption was reared on the hospital farms, surplus stock was sold and the proceeds paid to Federal revenue. The production of eggs and poultry was increased.

The revenue for the year amounted to \$53,958.05. This is an increase of \$2,876.48 on the previous year. This increase of revenue is due to the introduction of new hospital fees for Federated Malay States third class patients.

Expenditure for the year amount to \$273,470.14. This is an increase of \$4,899.27 on the previous year.

The maintenance rate per patient works out at \$105.97 per annum (exclusive of Public Works Department costs). This is a reduction of 42 cents per patient on the rate for 1934.

Diagnosis.	Remaining at end of 1934.			Admitted.			Discharged.		
	M.	F.	T.	M.	F.	T.	M.	F.	T.
A.—CONGENITAL.									
1. Intellectual—									
(a) With epilepsy ...	5	18	23	2	3	5	2	...	2
(b) Without epilepsy ...	62	41	103	29	11	40	18	6	24
2. Moral ...	5	...	5	1	...	1	1	...	1
B.—INSANITY OCCURRING LATER IN LIFE.									
1. Insanity with epilepsy ...	51	16	67	11	1	12	11	1	12
2. General paralysis of the insane	54	3	57	34	9	43	6	1	7
3. Insanity with gross brain lesion	7	...	7	...	...	...	1	...	1
4. Confusional insanity ...	247	68	315	331	82	413	273	56	329
5. Manic depressive—									
(a) Simple ...	9	...	9	...	...	...	...	...	...
(b) Mania ...	63	91	154	18	34	52	14	26	40
(c) Melancholia ...	245	108	353	28	26	54	15	26	41
(d) Alternating insanity ...	16	6	22	...	...	...	...	...	...
6. Delusional insanity—									
(a) Systematised (paranoia)	48	6	54	12	...	12	9	1	10
(b) Non-systematised ...	42	2	44	16	...	16	9	...	9
7. Dementia—									
(a) Primary ...	583	232	815	55	46	101	33	44	77
(b) Senile ...	193	48	241	173	23	196	86	17	103
(c) Secondary ...	165	39	204	1	8	9	8	2	10
8. Not insane ...	1	1	2	9	...	9	10	1	11
9. Under observation ...	62	13	75	...	...	...	...	...	...
Total ...	1,858	692	2,550	720	243	963	496	181	677

Diagnosis.	Absconded.			Died.			Remaining at end of 1935.		
	M.	F.	T.	M.	F.	T.	M.	F.	T.
A.—CONGENITAL.									
1. Intellectual—									
(a) With epilepsy ...	...	...	...	3	...	3	2	21	23
(b) Without epilepsy ...	4	...	4	2	5	7	67	41	108
2. Moral ...	...	...	...	...	...	...	5	...	5
B.—INSANITY OCCURRING LATER IN LIFE.									
1. Insanity with epilepsy ...	...	...	...	2	3	5	49	13	62
2. General paralysis of the insane	1	...	1	29	8	37	52	3	55
3. Insanity with gross brain lesion	...	...	...	...	...	...	6	...	6
4. Confusional insanity ...	9	...	9	15	7	22	281	87	368
5. Manic depressive—									
(a) Simple ...	...	...	...	...	...	...	9	...	9
(b) Mania ...	...	...	...	5	3	8	62	96	158
(c) Melancholia ...	1	...	1	5	3	8	252	105	357
(d) Alternating insanity ...	...	...	...	...	...	...	16	6	22
6. Delusional insanity—									
(a) Systematised (paranoia)	...	...	...	1	...	1	50	5	55
(b) Non-systematised ...	3	...	3	1	...	1	45	2	47
7. Dementia—									
(a) Primary ...	4	...	4	17	11	28	584	223	807
(b) Senile ...	6	...	6	34	7	41	240	47	287
(c) Secondary ...	2	...	2	20	5	25	136	40	176
8. Not insane ...	...	...	...	...	...	...	...	...	...
9. Under observation ...	...	...	...	...	...	...	62	13	75
Total ...	30	...	30	134	52	186	1,918	702	2,620

M=Males. F=Females. T=Total.

(B).—LEPER SETTLEMENTS.

The control of the leper settlement was transferred from the Adviser, Medical Services, to the State of Selangor at the beginning of the year. Dr. G. A. Ryrie was in charge of the settlement until August, when he went on a study tour to Australia and the Philippines, after which he went on leave.

The number of patients increased by 273 in the course of the year and at the end of the year the leper population was 1,593. In spite of the extra accommodation provided last year by the inclusion in the settlement of the wards formerly allocated to decrepit patients, the settlement is now full. Further accommodation for some 400 patients will be provided during the year 1936.

The following are the statistics for the year 1935:

Sungei Buloh Settlement.

Patients remaining on 31st December, 1934 ...	1,320	Discharged ...	51
New admissions ...	443	Died ...	55
Transfers from Singapore ...	48	Absconded ...	202
Readmission of discharged patients ...	30	Balance of transfers between Kuala Lumpur Camp for opium-smoking lepers and Sungei Buloh ...	12
Readmission of absconding patients ...	72	Remaining on 31st December, 1935 ...	1,593
	1,913		1,913
Less returned absconders ...	72		
Total patients treated ...	1,841		

POPULATION—SUNGEI BULOH, ON 31ST DECEMBER, 1935.

Nationality.	Men.	Women.	Children.		Total.
			Over 10.	Under 10.	
Chinese ...	886	248	64	9	1,207
Malays ...	70	31	9	1	111
Indians ...	229	28	2	2	261
Others ...	9	5	...	...	14
Total ...	1,194	312	75	12	1,593

The number of new admissions is somewhat alarming. They amount to 443, and even allowing for the fact that some of them came from outside the Federated Malay States the population of the territory from which they come is a little over two millions, which means that the admission rate per annum is equivalent to 1 in 5,000 of the population. If the average stay in the settlement for each patient is likely to be 10 years, a conservative figure, Government will be faced within the next ten years with the burden of maintaining at Sungei Buloh a leper population of four or five thousand. Actually the incidence of leprosy is not so heavy as these figures suggest. The admissions represent not the occurrence of leprosy in a permanent population but to a considerable extent the residue of lepers left by the population that flows through Malaya. At least 70 per cent. of the lepers at Sungei Buloh were born in China and India.

Intensive treatment has had no effect in reducing the numbers in leper settlements. A number are cured, but the great majority who are maintained in a state of comparatively good health are still active and infectious lepers.

It seems that Government may be faced with the financial burden of maintaining four or five thousand lepers in the Federated Malay States in the next ten years.

The number of patients who left the settlement without permission is 202, a greater number than in previous years. This is due to some extent to a more strict standard of fitness for discharge, which has had an effect on the official discharge figures. Some of the absconders were patients who might have been discharged as free from infection if they had waited a few months longer. Some of them merely required a short time in which to arrange their private affairs and then come back; there were 72 in this category.

The death-rate has decreased further. There were 55 deaths, giving a death-rate of 29.8 per 1,000 patients treated.

The actual causes of death show only four cases where leprosy or its direct results are recorded as the cause of death: 15 deaths were due to nephritis, 13 to pulmonary tuberculosis, and the remainder to a variety of conditions which may be found in any community.

Results of Treatment.

It is disappointing to note that the number of patients discharged has fallen to 51 compared with 163 last year. This is due partly to the fact that burnt-out cases of leprosy, although no longer infective, have to be retained in the settlement because they cannot earn a living or have nowhere else to go. Formerly some of these cases were transferred to the decrepit settlement. The proportion of early cases in the settlement is less, and it is possible that the criterion of fitness for discharge is more strict. The need for this is indicated by the return of thirty cases who had relapsed after discharge, twenty of whom had been discharged during 1934 and 1935.

In assessing the results of treatment in patients who do not come up to the standard of fitness for discharge, the points which are considered are the patient's clinical record throughout the year, his condition at the time of examination, and his own statement. It is obvious that the personal factor must enter largely into this method of estimation, and until it is possible to have an accurate periodic assessment of the condition of each patient under treatment, the figures can only be taken as a rough guide.

The results, for all methods of treatment, estimated on 1,306 patients who had all been in the Settlement for more than five months at the time of assessment were:

Much improved	...	...	44 patients—	3.3%
Improved	...	...	923	„ —70.6%
Stationary	...	...	261	„ —19.9%
Worse	...	...	78	„ — 5.9%

Methods of Treatment.

As far as possible an attempt is made to treat every patient as an individual. Before specific treatment for leprosy is started he is examined and treated for any other disease from which he may be suffering. The course of his treatment is adjusted to his individual condition as far as possible, but with a large number of patients and a small qualified staff, routine treatment is unavoidable, though it is recognised as being unsatisfactory.

The method of treatment which is used for nearly all cases is intramuscular and intradermal injection of iodised esters of hydnocarpus oil. This has given consistently better results than other methods of treatment. The following extract is taken from a recent memorandum on treatment written by Dr. G. A. Ryrie, which may help to put the views on treatment with hydnocarpus preparations into proper perspective:

"The therapeutic effects of esters are painfully slow. Hydnocarpus has been used in leprosy from immemorial times. In the late nineteenth century Egyptian doctors used the crude oil by injection method. Injection treatment reached India and the Philippines during the first twenty years of this century. The crude oil was diluted with various substances to allay irritant effects. . . . Then began a campaign of wide publicity and gross exaggeration of hydnocarpus derivatives. The cure had come. Leprosy was to be wiped out in this generation, tuberculosis too. . . . It seems pathetic now . . . The truth is that hydnocarpus oil and esters have a vague therapeutic effect if given with constant solicitude, and combined with constant reinforcement of general health . . . Both doctors and laymen are still affected by echoes of the 'cure' era."

But the hydnocarpus preparations are still the best means of treatment available, and they were used extensively at Sungei Buloh. During the year 49,730 injections of iodised esters were given intramuscularly and 10,621 intradermally. Almost all the injections are given by patients who are trained to work as dressers. A recent development has been the use of a non-iodised ester containing 2 per cent. anaesthesia. This preparation is specially suitable for intradermal work because it is painless and does not stain the skin.

Fluorescein was used extensively in the form of a 2 per cent. solution, given intravenously in doses of 10 to 20 c.c. It was used as an auxiliary in the interval between courses of esters, and as a means of treating lepra fever and the more erythematous types of the disease; 4,504 intravenous injections of fluorescein were given during the year. The improvement caused by fluorescein is transient, but in a considerable proportion of cases is very rapid. The lesions tend to return again, and there is evidence that in some cases the disappearance of the cutaneous lesions is accompanied by no decrease, or even an increase in the bacilli in the skin. There is a serious risk of injury to the kidneys from the use of fluorescein, and its position must be regarded that of an adjuvant, which has to be used with caution, and which may be of value, especially from the psychological point of view, in carefully selected cases.

Experimental Work.

Following on the results of treatment with fluorescein, experiments have been carried out with other derivatives of phthalic acid and resorcin. The results on the whole have been disappointing. In a few instances there were dramatic, but temporary improvements, but these preparations must be regarded still as the beginning of a series of experiments which do not yet justify a more extended trial.

"Dettol", a proprietary antiseptic, has been given intravenously in a few cases, and was well tolerated. It seemed to do some good, but this experiment also has not gone far enough to justify any conclusions.

General.

About a hundred members of the British Medical Association visited the settlement in October. The patients continued to organise social activities, and the paid leper staff carry out all the routine work of the settlement. An increasing amount of work in the way of tailoring and carpentry is being done by the inmates. The cultivation of fruit and vegetables, and keeping goats and poultry occupy a number of them but the problem of employing the other able-bodied inmates on useful work, without making them members of the paid staff is still unsolved. The ideal to be aimed at is a self-supporting colony. Discipline and morale are good, but at present the institutional atmosphere still lies heavily on the settlement.

Leper Asylum, Kuala Lumpur.

This contains a diminishing number of chronic incurable lepers who are opium smokers. No additions have been made to their number since 1931, except for leper staff temporarily transferred from Sungei Buloh. The population was 268 at the beginning of the year and 219 at the end of 1935.

VIII.—PRISONS, CRIMINAL VAGRANT WARDS AND DECREPIT SETTLEMENTS.

A.—GAOL HOSPITALS AND CRIMINAL VAGRANT WARDS.

	1935.			1934.		
	Admis- sions.	Deaths.	Case mortality per cent.	Admis- sions.	Deaths.	Case mortality per cent.
PERAK.						
Taiping Gaol	115	2	1.7	130	3	2.3
Decrepit Settlement, Taiping ...	31	1	2.94	—	—	—
Batu Gajah Gaol	229	2	0.9	152	—	—
SELANGOR.						
Kuala Lumpur Gaol and Cri- minal Vagrant Ward	173	...	...	161	4	2.75
NEGRI SEMBILAN.						
Seremban Gaol and Criminal Vagrant Ward	84	2	2.62	74	1	1.35
PAHANG.						
Kuala Lipis Gaol and Criminal Vagrant Ward	25	...	...	12	—	—
Kuantan Gaol and Criminal Vagrant Ward	52	...	...	25	—	—
Total ...	709	7	.98	554	8	1.45

B.—DECREPIT SETTLEMENTS.

Decrepit settlements are maintained in Taiping, Kampar, Kuala Lumpur, Serendah, Kajang and Tampin.

The total average daily number of inmates during the year was 588 of which number 277 were accommodated in the decrepit settlements in Selangor.

Inmates of these settlements who become ill are transferred to the hospital wards and are recorded along with the hospital patients.

IX.—INSTITUTE FOR MEDICAL RESEARCH.

A great deal of research work has been undertaken during the year under review, notably that of Dr. J. W. Field in collaboration with Dr. J. C. Niven. These officers have made a comparison of the therapeutic value of atebirin musonate, atebirin and quinine on a series of acute malaria cases. The findings indicate that atebirin musonate is a valuable drug particularly for benign tertian infections. There are indications, however, of recurrence of infection after the completion of treatment. Another investigation carried out by these officers is an extensive trial of atebirin and quinine as a clinical prophylactic.

Further progress is recorded in the researches on tropical typhus by Dr. R. Lewthwaite and S. R. Savor. The important discovery has been made that *X. cheopis* is a carrier from guinea pig to guinea pig of rural ("K") virus. It is considered improbable that this vector is of epidemiological importance.

The all important question of nutrition with its practical bearing on the health of the community continued to receive attention. Dr. I. A. Simpson is now making investigations regarding palm oil. This oil has a large carotene content, considered to be a precursor of vitamin A. The investigations now proceeding bear on the effect of refining on carotene content and on the methods for the isolation of carotene.

Dr. Simpson has experimented extensively with the cryoscope for the detection of added water in milk samples. The test has now been accepted on several occasions by local Courts.

The investigations as to the effect of the Mohammedan fast on carbohydrate metabolism were commenced, the results indicate that there was no derangement of sugar storage capacity amongst young adults; further investigations will be undertaken next year.

DIVISION OF CHEMISTRY.

Routine examinations which have to be undertaken by this division are a serious burden. The total number of samples of water examined chemically was 2,980. No less than 184 exhibits were sent for toxicological examination and 210 coin exhibits were received for examination.

The chloramine treatment of the impounding reservoir supply at Kuala Lumpur had to be stopped owing to increased growth of algae in the open service reservoir. The supply now receives chlorine treatment only and the algae growth has returned to normal.

As already mentioned investigations were carried out on the use of atebirin musonate. The Institute collaborated with the Malaria Commission League of Nations on the use of synthetic drugs for the control of malaria.

LYMPH STATION.

One hundred and twenty-six thousand tubes of lymph were issued during the year as compared with 57,000 last year.

The rabbit-calf-buffalo cycle has been continued as far as possible during the year.

MALARIA RESEARCH.

The Malaria Advisory Board reports that :

"The Federated Malay States has entered upon a period of increasing malaria incidence and the height to which peaks may attain within the next four years can only be conjectured. In Ceylon the intervals between maxima are said to be between five and ten years. But here periodicity is more irregular for it is likely to be modified by the 'booms' and 'slumps' that determine the tides of human migration. It is unlikely that a wide-spread epidemic of very serious nature and explosive type will occur in Malaya. Intensification of larval control on the first sign of danger is easy of application within the Sanitary Board areas and on large plantations and mines. But in kampong areas the powers of the health authorities are limited and the control of malaria by anti-larval measures under the existing legislation difficult or impossible."

A Bill to provide for the destruction of mosquitoes will be introduced and it is hoped will become law next year.

R. D. FITZGERALD,

*Adviser, Medical Services,
Malay States.*

TABLE I.

STAFF OF THE MEDICAL AND HEALTH DEPARTMENT ON
31st DECEMBER, 1935.

- 1 Adviser, Medical Services
- 1 Secretary to Adviser

MEDICAL BRANCH.

- 4 State Medical and Health Officers
- 2 Deputy State Medical and Health Officers
- 2 Surgeons
- 1 Anæsthetist
- 15 Medical Officers—(duty posts)
- 4 Lady Medical Officers—(duty posts)
- 2 Pharmaceutical Chemists
- 3 Senior Deputy Medical Officers
- 9 Deputy Medical Officers
- 37 Assistant Medical Officers
- 1 Financial Secretary
- 435 Hospital Assistants and Dressers (including X-Ray Assistants)
- 5 Matrons, Grade I—(duty posts)
- 6 Matrons, Grade II—(duty posts)
- 40 European Nursing Sisters (including those at Infant Welfare Centres)—(duty posts)
- 1 Lady Assistant to Radiologist
- 169 Asiatic Nurses (including those at Infant Welfare Centres)
- 29 Asiatic Midwives

HEALTH BRANCH.

- 15 Health Officers (including one in Railway Department)—(duty posts)
- 4 Lady Medical Officers
- 1 Lady Assistant Medical Officer, Infant Welfare Branch
- 1 Dental Surgeon
- 1 European Steward at Quarantine Camp, Port Swettenham
- 4 Assistant Health Officers
- 53 Health Inspectors (including 3 in Railway Department)
- 1 Vaccinator
- 1 Dental Mechanic
- 1 Assistant Storekeeper
- 22 Health Visitors

INSTITUTE FOR MEDICAL RESEARCH.

- 1 Director
- 1 Bacteriologist
- 2 Pathologists
- 2 Malaria Research Officers
- 1 Entomologist
- 1 Chief Chemist
- 3 Chemists
- 3 Assistant Medical Officers
- 4 Laboratory Assistants, Grade I
- 15 Laboratory Assistants, Grade II
- 4 Laboratory Assistants, Grade III
- 1 Probationer
- 1 Shorthand Typist
- 1 Storekeeper

CENTRAL MENTAL HOSPITAL.

- 1 Medical Superintendent
- 2 European Male Nurses
- 1 Senior Assistant Physician (Senior Deputy Medical Officer)
- 2 Assistant Physicians (Assistant Medical Officers)
- 1 Inspector
- 1 Assistant Inspector
- 3 Dressers, Grade II
- 1 Dresser, Grade III
- 3 Nurses
- 1 Work Mistress
- 1 Farm Overseer

SUNGEI BULOH SETTLEMENTS.

- 1 Medical Superintendent
- 2 Assistant Medical Officers
- 1 Matron, Grade II
- 1 Lady Health Inspector
- 2 Dressers, Grade II
- 5 Dressers, Grade III

TABLE II.

STATEMENT OF REVENUE AND EXPENDITURE UNDER
"PERSONAL EMOLUMENTS" AND "OTHER CHARGES", 1935.

Expenditure Detailed.	Personal Emoluments.	Other Charges.	
		Annually Recurrent.	Special Expenditure.
	\$ c.	\$ c.	\$ c.
1. Adviser, Medical Services, Malay States	24,323 20	3,857 16	
2. Director, Institute for Medical Research, F.M.S.	117,565 89	41,280 13	576 00
3. College of Medicine, Singapore	90,847 95	16,386 31	5,791 43
4. Medical Superintendent, Central Mental Hospital, Tanjong Rambutan ...	59,957 36	211,663 27	1,849 51
5. State Medical and Health Officer, Perak	718,893 39	463,151 14	25,892 31
6. State Medical and Health Officer, Selangor	577,830 00	377,739 00	880 00
7. State Medical and Health Officer, Negri Sembilan ...	309,178 00	208,612 00	7,876 00
8. State Medical and Health Officer, Pahang	256,287 71	156,561 07	179 30
9. Medical Superintendent, Sungei Buloh Settlements, Sungei Buloh	26,918 00	199,901 00	
Total ...	2,181,801 50	1,679,151 08	43,044 55

Revenue for 1935.
Hospital fees,
licences, etc.

	\$ c.
1. Adviser, Medical Services, Malay States	1,500 00
2. Director, Institute for Medical Research, Federated Malay States	33,492 82
3. College of Medicine, Singapore	—
4. Medical Superintendent, Central Mental Hospital, Tanjong Rambutan	53,958 05
5. State Medical and Health Officer, Perak	95,715 02
6. State Medical and Health Officer, Selangor	115,355 00
7. State Medical and Health Officer, Negri Sembilan ...	41,559 00
8. State Medical and Health Officer, Pahang	23,284 21
9. Medical Superintendent, Sungei Buloh Settlements, Sungei Buloh	14,517 00

TABLE III.

HOSPITALS OR INSTITUTIONS IN F.M.S.

RETURN OF DISEASES AND DEATHS (IN-PATIENTS)
FOR THE YEAR 1935.

Diseases.	Remaining in hospital at end of 1934.	Yearly total.		Total cases treated.	Remaining in hospital at end of 1935.
		Admissions.	Deaths.		
I.—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES.					
1. Enteric group—					
(a) Typhoid fever	10	269	63	279	19
(b) Paratyphoid A.	1	9	...	10	...
(c) Paratyphoid B.	...	3	...	3	...
(d) Paratyphoid C.	...	...	...	...	...
(e) Type not defined	...	1	1	1	...
2. Typhus (Tropical)	6	190	16	196	12
3. Relapsing fever	...	...	...	...	...
4. Undulant fever (Malta fever)	...	...	...	...	...
5. Malaria—					
(a) Tertian	57	4,497	34	4,554	92
(b) Quartan	5	441	11	446	11
(c) Aestivo-autumnal	116	11,333	481	11,449	198
(d) Mixed infection	4	602	26	606	7
(e) Undefined microscopically	32	2,733	64	2,765	56
(f) Cachexia	64	2,369	61	2,433	58
(g) Blackwater fever	...	14	6	14	1
6. A.—Smallpox	...	1	...	1	...
B.—Alastrim	...	...	...	...	...
7. Measles	17	265	5	282	2
8. Scarlet fever	...	...	...	...	...
9. Whooping-cough	1	49	...	50	1
10. Diphtheria	5	150	57	155	2
11. Influenza	63	4,779	11	4,842	86
12. Miliary fever	...	...	...	...	...
13. Mumps	3	98	...	101	3
14. Cholera	...	...	...	...	...
15. Epidemic diarrhoea	...	5	...	5	...
16. Dysentery—					
(a) Amœbic	25	668	73	693	37
(b) Bacillary	18	280	89	298	11
(c) Undefined or due to other causes	3	277	43	280	15
17. Plague—					
(a) Bubonic	...	...	...	...	...
(b) Pneumonic	...	...	...	...	...
(c) Septicæmic	...	...	...	...	...
(d) Undefined	...	...	...	...	...
18. Yellow fever	...	...	...	...	...
19. Leptospirosis...	...	20	4	20	...
20. Leprosy	5	383	3	388	2
21. Erysipelas	6	73	15	79	5
22. Acute poliomyelitis	1	15	1	16	4
23. Encephalitis lethargica	1	4	3	5	1
24. Epidemic cerebro-spinal fever	...	1	...	1	...

TABLE III—(cont.)

HOSPITALS OR INSTITUTIONS IN F.M.S.—(cont.)
 RETURN OF DISEASES AND DEATHS (IN-PATIENTS)
 FOR THE YEAR 1935—(cont.)

Diseases.	Remaining in hospital at end of 1934.	Yearly total.		Total cases treated.	Remaining in hospital at end of 1935.
		Admissions.	Deaths.		
I.—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES—(cont.)					
25. Other epidemic diseases—					
(a) Rubella (German measles) ...	...	1	...	1	...
(b) Varicella (chicken-pox) ...	12	223	...	235	8
(c) Kala-azar ...	...	...	...	...	...
(d) Phlebotomus fever ...	...	...	...	...	...
(e) Dengue... ..	1	43	...	44	3
(f) Epidemic dropsy ...	...	...	...	...	...
(g) Yaws	10	187	...	197	6
(h) Trypanosomiasis ...	...	...	...	...	...
26. Glanders	...	...	...	...	...
27. Anthrax	...	...	...	...	...
28. Rabies	...	1	1	1	...
29. Tetanus	2	144	105	146	...
30. Mycosis	...	8	...	8	...
31. Tuberculosis, pulmonary and laryngeal	167	1,871	789	2,038	203
32. Tuberculosis of the meninges or central nervous system	...	48	41	48	1
33. Tuberculosis of the intestines or peritoneum	1	30	18	31	3
34. Tuberculosis of the vertebral column	6	20	4	26	7
35. Tuberculosis of bones and joints	9	53	4	62	7
36. Tuberculosis of other organs—					
(a) Skin or subcutaneous tissue (lupus)	1	7	1	8	1
(b) Lymphatic system	5	24	4	29	1
(c) Genito-urinary	...	2	...	2	...
(d) Other organs	2	13	7	15	1
37. Tuberculosis disseminated—					
(a) Acute	...	5	5	5	...
(b) Chronic	...	3	2	3	1
38. Syphilis—					
(a) Primary	23	364	...	387	19
(b) Secondary	47	666	12	713	32
(c) Tertiary	28	302	18	330	39
(d) Hereditary	2	83	45	85	3
(e) Period not indicated	3	36	2	39	1
39. Soft chancre	38	488	...	526	27
40. A.—Gonorrhœa and its complications	51	1,532	3	1,583	63
B.—Gonorrhœal ophthalmia	4	58	...	62	3
C.—Gonorrhœal arthritis	14	222	1	236	16
D.—Granuloma venereum	1	10	1	11	...
41. Septicæmia	...	157	140	157	2

TABLE III—(cont.)

HOSPITALS OR INSTITUTIONS IN F.M.S.—(cont.)

RETURN OF DISEASES AND DEATHS (IN-PATIENTS)
FOR THE YEAR 1935—(cont.)

Diseases.	Remaining in hospital at end of 1934.	Yearly total.		Total cases treated.	Remaining in hospital at end of 1935.
		Admissions.	Deaths.		
I.—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES—(cont.)					
42. Other infectious diseases—					
Filariasis	1	11	...	12	1
Tsutsugamushi fever (Japanese river fever)	...	4	1	4	...
42A. Infectious disease carriers ...	...	13	...	13	...
II.—GENERAL DISEASES NOT MENTIONED ABOVE.					
43. Cancer or other malignant tumours of the buccal cavity	4	74	22	78	7
44. Cancer or other malignant tumours of the stomach or liver	5	119	74	124	6
45. Cancer or other malignant tumours of the peritoneum, intestines, rectum ...	3	39	14	42	5
45A. Cancer of etc.	...	1	...	1	1
46. Cancer or other malignant tumours of the female genital organs ...	5	79	17	84	2
47. Cancer or other malignant tumours of the breast	...	22	3	22	...
48. Cancer or other malignant tumours of the skin	2	23	4	25	3
49. Cancer or other malignant tumours of organs not specified	10	118	41	128	9
50. Tumours, non-malignant	3	215	8	218	8
51. Acute rheumatism	1	59	...	60	4
52. Chronic rheumatism	4	188	...	192	1
53. Scurvy (including Barlow's disease) ...	...	3	1	3	...
54. Pellagra	...	4	...	4	...
55. Beri-beri	56	506	53	562	76
56. Rickets	...	1	...	1	...
56A. Other deficiency diseases	6	41	4	47	3
57. Diabetes mellitus	10	172	23	182	10
58. Anæmia—					
(a) Pernicious	6	45	9	51	4
(b) Other anæmias and chlorosis ...	58	1,134	185	1,192	67
59. Diseases of the pituitary body ...	1	3	...	4	...
60. Diseases of the thyroid gland—					
(a) Exophthalmic goitre	1	6	...	7	...
(b) Other diseases of the thyroid gland, myxoedema, etc. ...	...	13	3	13	2
61. Diseases of the para-thyroid glands ...	...	4	1	4	...
62. Diseases of the thymus	...	...	...	...	...
63. Diseases of the supra-renal glands ...	...	...	...	...	...
64. Diseases of the spleen	...	42	8	42	1

TABLE III—(cont.)

HOSPITALS OR INSTITUTIONS IN F.M.S.—(cont.)

RETURN OF DISEASES AND DEATHS (IN-PATIENTS)
FOR THE YEAR 1935—(cont.)

Diseases.	Remaining in hospital at end of 1934.	Yearly total.		Total cases treated.	Remaining in hospital at end of 1935.
		Admissions.	Deaths.		
II.—GENERAL DISEASES NOT MENTIONED ABOVE—(cont.)					
65. Leukæmia—					
(a) Myelogenous	...	...	...	...	...
(b) Lymphatic	...	3	2	3	...
(c) Undefined	...	...	...	...	...
65A. Hodgkin's disease (lymphadenoma)	...	8	2	8	1
66. Alcoholism	...	59	1	59	...
67. Chronic poisoning by mineral substances (lead, mercury, etc.)	5	28	3	33	3
68. Chronic poisoning by organic substances (morphia, cocaine, etc.)	4	354	1	358	11
68A. Arsenical poisoning	1	9	1	10	...
69. Other general diseases—					
(a) Auto-intoxication	...	2	...	2	...
(b) Purpura hæmorrhagica	...	2	...	2	...
(c) Hæmophilia	...	1	...	1	...
(d) Diabetes insipidus	...	2	...	2	...
(e) Other	1	66	4	67	...
III.—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES.					
70. Encephalitis (not including encephalitis lethargica)	...	31	21	31	3
71. Meningitis (not including tuberculous meningitis or cerebro-spinal meningitis)	...	44	35	44	2
72. Locomotor ataxia	4	14	1	18	2
73. Other affections of the spinal cord	5	25	8	30	6
74. Apoplexy—					
(a) Hæmorrhage	4	64	53	68	4
(b) Embolism	...	4	2	4	...
(c) Thrombosis	1	19	17	20	1
75. Paralysis—					
(a) Hemiplegia	19	104	15	123	23
(b) Other paralysees	16	86	11	102	10
76. General paralysis of the insane	...	4	1	4	...
77. Other forms of mental alienation ...	12	845	...	857	19
77A. Atebrin idiosyncrasy	...	3	...	3	...
78. Epilepsy	3	107	11	110	6
79. Convulsions (non-puerperal), 5 years or over	...	13	3	13	...
80. Infantile convulsions (see XII. Diseases of Infancy)	...	3	1	3	...
81. Chorea	...	3	...	3	...
82. A.—Hysteria	1	19	...	20	...
B.—Neuritis	8	221	...	229	13
C.—Neurasthenia	2	76	...	78	3
D.—Neuralgia	3	197	...	200	4

TABLE III—(cont.)

HOSPITALS OR INSTITUTIONS IN F.M.S.—(cont.)
 RETURN OF DISEASES AND DEATHS (IN-PATIENTS)
 FOR THE YEAR 1935—(cont.)

Diseases.	Remaining in hospital at end of 1934.	Yearly total.		Total cases treated.	Remaining in hospital at end of 1935.
		Admissions.	Deaths.		
III.—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES —(cont.)					
83. Cerebral softening	...	2	1	2	...
84. Other affections of the nervous system	5	178	6	183	12
85. Affections of the organs of vision—					
(a) Conjunctivitis	9	597	...	606	7
(b) Trachoma	12	171	...	183	14
(c) Tumours of the eye	1	7	...	8	...
(d) Other affections of the eye ...	92	1,152	3	1,244	103
86. Affections of the ear or mastoid sinus	10	365	3	375	11
IV.—AFFECTIONS OF THE CIRCULATORY SYSTEM.					
87. Pericarditis	1	19	12	20	...
88. Acute endocarditis or myocarditis	13	45	30	58	...
89. Angina pectoris	...	9	2	9	1
90. Other diseases of the heart—					
(a) Valvular—					
Mitral	16	222	63	238	11
Aortic... ..	1	66	25	67	...
Tricuspid	...	...	...	...	...
Pulmonary	...	...	...	...	...
Undefined	...	53	12	53	1
(b) Myocarditis	21	444	204	465	11
(c) Functional	1	22	10	23	1
(d) Other	8	117	49	125	4
91. Diseases of the arteries—					
(a) Aneurism	3	15	9	18	...
(b) Arterio-sclerosis	1	29	7	30	...
(c) Other diseases... ..	...	15	1	15	...
92. Embolism or thrombosis (non-cerebral)	...	6	2	6	...
93. Diseases of the veins—					
(a) Hæmorrhoids	6	272	...	278	3
(b) Varicose veins	...	22	...	22	1
(c) Phlebitis	...	18	...	18	3
94. Diseases of the lymphatic system—					
Lymphangitis	1	64	...	65	1
Lymphadenitis, bubo (non-specific)	13	359	1	372	23
95. Hæmorrhage of undetermined cause	...	14	7	14	...
96. Other affections of the circulatory system	1	12	1	13	...

TABLE III—(cont.)

HOSPITALS OR INSTITUTIONS IN F.M.S.—(cont.)

RETURN OF DISEASES AND DEATHS (IN-PATIENTS)
FOR THE YEAR 1935—(cont.)

Diseases.	Remaining in hospital at end of 1934.	Yearly total.		Total cases treated.	Remaining in hospital at end of 1935.
		Admissions.	Deaths.		
V.—AFFECTIONS OF THE RESPIRATORY SYSTEM.					
97. Diseases of the nasal passages—					
(a) Adenoids	...	6	...	6	...
(b) Polypus	...	23	...	23	1
(c) Rhinitis	2	27	...	29	...
(d) Coryza	1	90	...	91	3
(e) Other	7	146	1	153	2
98. Affections of the larynx—					
Laryngitis	1	37	3	38	1
99. Bronchitis—					
(a) Acute	39	2,057	23	2,096	48
(b) Chronic	34	1,008	27	1,042	45
100. Broncho-pneumonia	21	987	487	1,008	32
101. Pneumonia—					
(a) Lobar	45	1,412	674	1,457	56
(b) Unclassified	4	135	62	139	4
102. Pleurisy—					
(a) Dry pleurisy	5	190	9	195	12
(b) Pleural effusion	2	82	15	84	4
(c) Empyema	5	67	21	72	6
103. Congestion of the lungs	...	4	2	4	...
104. Gangrene of the lungs	1	4	4	5	...
105. Asthma	29	824	6	853	30
106. Pulmonary emphysema	...	4	1	4	...
107. Other affections of the lungs—					
(a) Pulmonary spirochaetosis	...	4	1	4	...
(b) Other	3	53	14	56	1
VI.—DISEASES OF THE DIGESTIVE SYSTEM.					
108. A.—Diseases of teeth or gums—					
Caries, pyorrhœa, etc.	8	327	...	335	7
B.—Other affections of the mouth—					
(a) Stomatitis	1	74	1	75	2
(b) Cancrum oris	...	21	14	21	...
(c) Glossitis	...	6	1	6	...
(d) Other	1	59	...	60	1
109. Affections of the pharynx or tonsils—					
(a) Tonsillitis	1	331	2	332	12
(b) Pharyngitis	2	189	2	191	5
(c) Other	...	45	3	45	1
110. Affections of the œsophagus	1	38	2	39	3
111. A.—Ulcer of the stomach	14	297	35	311	15
B.—" duodenum	5	130	10	135	7
112. Other affections of the stomach—					
(a) Gastritis	14	617	4	631	15
(b) Dyspepsia, etc.	7	338	1	345	4
(c) Other	6	116	7	122	2

TABLE III—(cont.)

HOSPITALS OR INSTITUTIONS IN F.M.S.—(cont.)

RETURN OF DISEASES AND DEATHS (IN-PATIENTS)
FOR THE YEAR 1935—(cont.)

Diseases.	Remaining in hospital at end of 1934.	Yearly total.		Total cases treated.	Remaining in hospital at end of 1935.
		Admissions.	Deaths.		
VI.—DISEASES OF THE DIGESTIVE SYSTEM—(cont.)					
113. Diarrhoea and enteritis (in children under two years of age) ...	14	560	200	574	8
114. A.—Diarrhoea and enteritis (in patients over two years of age)	20	1,141	126	1,161	32
B.—Colitis ...	2	212	14	214	11
C.—Sprue ...	3	149	21	152	8
115. Ankylostomiasis ...	15	763	7	778	23
116. Diseases due to intestinal parasites—					
(a) Cestoda (taenia) ...	...	4	...	4	...
(b) Trematoda (flukes) ...	...	...	...	...	...
(c) Nematoda (other than ankylostoma)—					
Ascaris ...	17	1,271	8	1,288	24
Trichocephalus dispar ...	...	2	...	2	...
Trichina ...	...	2	...	2	...
Dracunculus ...	...	6	...	6	...
Strongylus ...	...	...	...	...	...
Oxyuris ...	...	10	...	10	1
(d) Coccidia ...	...	...	...	...	...
(e) Other parasites ...	...	34	...	34	3
(f) Unclassified ...	...	49	...	49	...
117. Appendicitis ...	6	293	6	299	15
118. Hernia ...	10	273	12	283	17
119. A.—Affections of the anus, fistula, etc. ...	8	198	1	206	16
B.—Other affections of the intestines—					
(a) Enteroptosis ...	...	...	...	...	...
(b) Constipation ...	8	400	...	408	8
(c) Colic ...	7	416	...	423	7
(d) Other ...	2	81	16	83	2
120. Acute yellow atrophy of the liver ...	...	7	6	7	...
121. Hydatid of the liver ...	...	...	...	...	...
122. Cirrhosis of the liver—					
(a) Alcoholic ...	...	1	1	1	...
(b) Other forms ...	25	346	136	371	31
123. Biliary calculi ...	...	17	...	17	...
124. Other affections of the liver—					
(a) Abscess ...	4	116	19	120	7
(b) Hepatitis ...	7	152	...	159	2
(c) Cholecystitis ...	8	99	11	107	4
(d) Jaundice ...	6	193	22	199	9
(e) Other ...	...	32	14	32	1
125. Diseases of the pancreas ...	1	3	4	4	...
126. Peritonitis (of unknown cause) ...	2	71	50	73	3
127. Other affections of the digestive system ...	1	22	8	23	1

TABLE III—(cont.)

HOSPITALS OR INSTITUTIONS IN F.M.S.—(cont.)

RETURN OF DISEASES AND DEATHS (IN-PATIENTS)

FOR THE YEAR 1935—(cont.)

Diseases.	Remaining in hospital at end of 1934.	Yearly total.		Total cases treated.	Remaining in hospital at end of 1935.
		Admissions.	Deaths.		
VII.—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL).					
128. Acute nephritis	11	212	42	223	7
129. Chronic nephritis	25	379	144	404	36
130. A.—Chyluria	...	...	...	...	...
B.—Schistosomiasis	...	1	...	1	...
131. Other affections of the kidneys (pyelitis, etc.)	11	325	42	336	17
132. Urinary calculus	6	81	1	87	3
133. Diseases of the bladder (cystitis, etc.)	5	202	10	207	8
134. Diseases of the urethra—					
(a) Stricture	4	96	...	100	...
(b) Other	5	140	1	145	6
135. Diseases of the prostate—					
(a) Hypertrophy	...	2	...	2	...
(b) Prostatitis	1	16	...	17	1
136. Diseases (non-venereal) of the genital organs of man—					
(a) Epididymitis	3	91	...	94	1
(b) Orchitis	...	59	...	59	3
(c) Hydrocele	2	90	...	92	4
(d) Other	5	126	...	131	10
137. Cysts or other non-malignant tumours of the ovaries	2	34	1	36	1
138. A.—Salpingitis	3	68	...	71	2
B.—Abscess of the pelvis	...	4	1	4	1
139. Uterine tumours (non-malignant)	...	28	1	28	1
140. Uterine hæmorrhage (non-puerperal)	1	16	3	17	...
141. A.—Metritis	...	36	2	36	...
B.—Other affections of the female genital organs—					
(a) Displacements of uterus	2	69	...	71	2
(b) Amenorrhœa	...	9	...	9	...
(c) Dysmenorrhœa	1	64	...	65	1
(d) Leucorrhœa	1	90	...	91	...
(e) Other	10	238	1	248	11
142. Diseases of the breast (non-puerperal)—					
(a) Mastitis	1	27	...	28	1
(b) Abscess of breast	1	26	...	27	...
VIII.—PUERPERAL STATE.					
143. A.—Admitted for ante-natal observation	111	1,007	...	1,118	143
B.—Normal labour	101	5,999	...	6,100	148
C.—Difficult labour	18	301	13	319	12

TABLE III—(cont.)

HOSPITALS OR INSTITUTIONS IN F.M.S.—(cont.)

RETURN OF DISEASES AND DEATHS (IN-PATIENTS)
FOR THE YEAR 1935—(cont.)

Diseases.	Remaining in hospital at end of 1934.	Yearly total.		Total cases treated.	Remaining in hospital at end of 1935.
		Admissions.	Deaths.		
VIII.—PUERPERAL STATE—(cont.)					
D.—Accidents of pregnancy—					
(a) Abortion	7	309	...	316	7
(b) Ectopic gestation	1	15	4	16	...
(c) Anæmia of pregnancy	6	62	37	68	...
(d) Other accidents of pregnancy	4	398	18	402	10
144. Puerperal hæmorrhage	...	12	8	12	...
145. Other accidents of parturition	4	84	9	88	2
146. Puerperal septicæmia	3	134	49	137	7
147. Phlegmasia dolens	...	4	...	4	...
148. Puerperal eclampsia	3	69	24	72	2
149. Sequelæ of labour	...	37	...	37	1
150. Puerperal affections of the breast	...	...	...	...	...
IX.—AFFECTIONS OF THE SKIN AND CELLULAR TISSUES.					
151. Gangrene	3	44	12	47	5
152. A.—Boil	1	151	...	152	1
B.—Carbuncle	2	71	2	73	4
153. A.—Abscess	66	1,596	4	1,662	60
B.—Whitlow	2	44	...	46	3
C.—Cellulitis	32	734	42	766	56
154. A.—Tinea	2	107	...	109	4
B.—Scabies	9	566	...	575	13
155. Other diseases of the skin—					
(a) Erythema	...	13	...	13	...
(b) Urticaria	2	72	...	74	...
(c) Eczema	7	607	...	614	19
(d) Herpes	2	65	...	67	3
(e) Psoriasis	...	12	...	12	...
(f) Elephantiasis... ..	...	6	...	6	1
(g) Myiasis	...	1	...	1	...
(h) Guinea worm	...	1	...	1	...
(i) Dermatitis	1	1	...	2	1
(j) Other	14	419	1	433	19
155A. Chronic ulcer	113	2,697	3	2,810	131
X.—DISEASES OF BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS).					
156. Diseases of bones (osteitis, etc.)	15	123	12	138	11
157. Diseases of joints—					
(a) Arthritis	22	387	6	409	39
(b) Synovitis	5	130	...	135	4
158. Other diseases of bones or organs of locomotion					
	9	296	...	305	13

TABLE III—(cont.)

HOSPITALS OR INSTITUTIONS IN F.M.S.—(cont.)
 RETURN OF DISEASES AND DEATHS (IN-PATIENTS)
 FOR THE YEAR 1935—(cont.)

Diseases.	Remaining in hospital at end of 1934.	Yearly total.		Total cases treated.	Remaining in hospital at end of 1935.
		Admissions.	Deaths.		
XI.—MALFORMATIONS.					
159. Malformations—					
(a) Hydrocephalus	1	9	4	10	1
(b) Hypospadias	...	1	...	1	...
(c) Spina bifida	...	5	2	5	...
(d) Other „	1	38	4	39	2
XII.—DISEASES OF INFANCY.					
160. Congenital debility	2	52	34	54	...
161. Premature birth	5	398	228	403	8
162. A.—Infantile convulsions... ..	...	109	66	109	1
B.—Other affections of infancy ...	4	297	152	301	5
163. Infant neglect (infants of three months or over)	...	28	25	28	...
XIII.—AFFECTIONS OF OLD AGE.					
164. Senility—					
(a) Senile dementia	...	2	...	2	...
(b) Senile debility	73	482	160	555	59
XIV.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES.					
165. Suicide by poisoning	...	3	2	3	...
166. Corrosive poisoning (intentional) ...	...	56	21	56	2
167. Suicide by gas poisoning	...	...	...	...	...
168. Suicide by hanging or strangulation ...	...	7	3	7	...
169. Suicide by drowning	...	2	1	2	...
170. Suicide by firearms	...	1	1	1	...
171. Suicide by cutting or stabbing instruments	...	3	...	3	...
172. Suicide by jumping from a height	...	...	...	...	...
173. Suicide by crushing	...	...	...	...	...
174. Other suicides	...	...	...	...	...
175. A.—Food poisoning	...	24	1	24	...
B.—Botulism	...	...	...	...	...
176. Attacks of poisonous animals—					
(a) Snake bite	2	47	1	49	1
(b) Insect bite	3	49	...	52	1

TABLE III—(cont.)

HOSPITALS OR INSTITUTIONS IN F.M.S.—(cont.)

RETURN OF DISEASES AND DEATHS (IN-PATIENTS)
FOR THE YEAR 1935—(cont.)

Diseases.	Remaining in hospital at end of 1934.	Yearly total.		Total cases treated.	Remaining in hospital at end of 1935.
		Admissions.	Deaths.		
XIV.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES—(cont.)					
177. Other poisonings	2	90	5	92	1
A.—Datura poisoning	...	8	...	8	...
178. Burns (by fire)	12	114	12	126	3
179. Burns (other than by fire) ...	7	260	15	267	17
180. Suffocation (accidental)	...	2	1	2	...
181. Poisoning by gas (accidental) ...	...	4	...	4	...
182. Drowning (accidental)	...	1	1	1	...
183. Wounds by firearms (war ex- cepted)	...	60	...	60	1
184. Wounds by cutting or stabbing instruments	44	1,263	15	1,307	29
185. Wounds by fall	59	2,360	7	2,419	81
186. Wounds in mines or quarries ...	7	305	...	312	5
187. Wounds by machinery	2	86	...	88	3
188. Wounds by crushing (e.g., railway accidents, etc.)	6	115	2	121	3
189. Injuries inflicted by animals, bites, kicks, etc.	1	162	2	163	4
190. Wounds inflicted on active service	...	...	...	...	...
191. Executions of civilians by bel- ligerents	...	...	...	...	...
192. A.—Over-fatigue	...	5	...	5	...
B.—Hunger or thirst	...	3	...	3	...
193. Exposure to cold, frost bite, etc.	...	...	...	...	...
194. Exposure to heat—					
(a) Heatstroke	...	2	...	2	...
(b) Sunstroke	...	3	...	3	...
195. Lightning stroke	...	...	...	...	...
196. Electric shock	...	3	...	3	...
197. Murder by firearms	...	...	...	...	...
198. Murder by cutting or stabbing instruments	...	2	2	2	...
199. Murder by other means	...	...	...	...	...
200. Infanticide (murder of an infant under one year)	...	...	...	...	...
201. A.—Dislocation	2	47	1	49	2
B.—Sprain	4	263	...	267	5
C.—Fracture	87	1,163	67	1,250	113
202. Other external injuries	40	1,366	5	1,406	17
202A. Concussion... ..	1	71	6	72	...
203. Deaths by violence of unknown cause, shock and hæmorrhage due to multiple injuries ...	...	4	4	4	...

TABLE III—(cont.)

HOSPITALS OR INSTITUTIONS IN F.M.S.—(cont.)

RETURN OF DISEASES AND DEATHS (IN-PATIENTS)
FOR THE YEAR 1935—(cont.)

Diseases.	Remaining in hospital at end of 1934.	Yearly total.		Total cases treated.	Remaining in hospital at end of 1935.
		Admissions.	Deaths.		
XV.—ILL-DEFINED DISEASES.					
204. Decrebits in Perak	152	172	35	324	95
205. A.—Diseases not already specified or ill-defined—					
(a) Ascites	...	31	3	31	3
(b) Edema	...	9	1	9	1
(c) Asthenia	1	76	19	77	2
(d) Shock	...	40	30	40	...
(e) Hyperpyrexia	1	9	4	10	...
B.—Malingering	...	21	...	21	...
C.—Pyrexia of uncertain origin ...	5	307	24	312	8
D.—Diagnosis undetermined ...	32	664	...	696	32
E.—Under observation	15	95	...	110	19
Total ...	3,011	92,353	6,960	95,364	3,508
NATIONALITIES.					
Europeans	15	949	16	964	31
Eurasians	7	424	11	431	10
Chinese	1,315	31,350	3,860	32,665	1,456
Indians	1,412	49,704	2,822	51,116	1,736
Malays	234	9,183	185	9,417	232
Javanese	21	386	48	407	33
Japanese	1	62	5	63	3
Others	6	295	13	301	7
Total ...	3,011	92,353	6,960	95,364	3,508
Persons accompanying patients ...	97	4,065	...	4,162	118

TABLE IV.

The annual return of diseases (out-patients) at all Government hospitals, stationary dispensaries, and travelling dispensaries (excluding infant welfare centres, and social hygiene and other special clinics).

Diseases.	Male.	Female.	Total.
I.—Epidemic, endemic and infectious diseases	105,622 ...	33,421 ...	139,043
II.—General diseases not mentioned above	12,898 ...	6,386 ...	19,284
III.—Affections of the nervous system and organs of the senses	32,324 ...	12,732 ...	45,056
IV.—Affections of the circulatory system ...	1,421 ...	327 ...	1,748
V.—Affections of the respiratory system ...	45,670 ...	16,454 ...	62,124
VI.—Diseases of the digestive system ...	117,880 ...	49,844 ...	167,724
VII.—Diseases of the genito-urinary system (non-venereal)	1,928 ...	4,033 ...	5,961
VIII.—Puerperal state	— ...	3,277 ...	3,277
IX.—Affections of the skin and cellular tissues	109,096 ...	27,182 ...	136,278
X.—Diseases of the bones and organs of locomotion	10,004 ...	2,970 ...	12,974
XI.—Malformations	4 ...	— ...	4
XII.—Diseases of infancy	156 ...	101 ...	257
XIII.—Affections of old age	1,844 ...	773 ...	2,617
XIV.—Affections produced by external causes	43,125 ...	8,033 ...	51,158
XV.—Ill-defined diseases	4,568 ...	1,542 ...	6,110
Total ...	486,540 ...	167,075 ...	653,615



