

## **Annual medical and sanitary report / Trengganu.**

### **Contributors**

Terengganu. Medical Department.

### **Publication/Creation**

Singapore : Govt. Printer., [1930]

### **Persistent URL**

<https://wellcomecollection.org/works/qkkytq5x>

### **License and attribution**

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



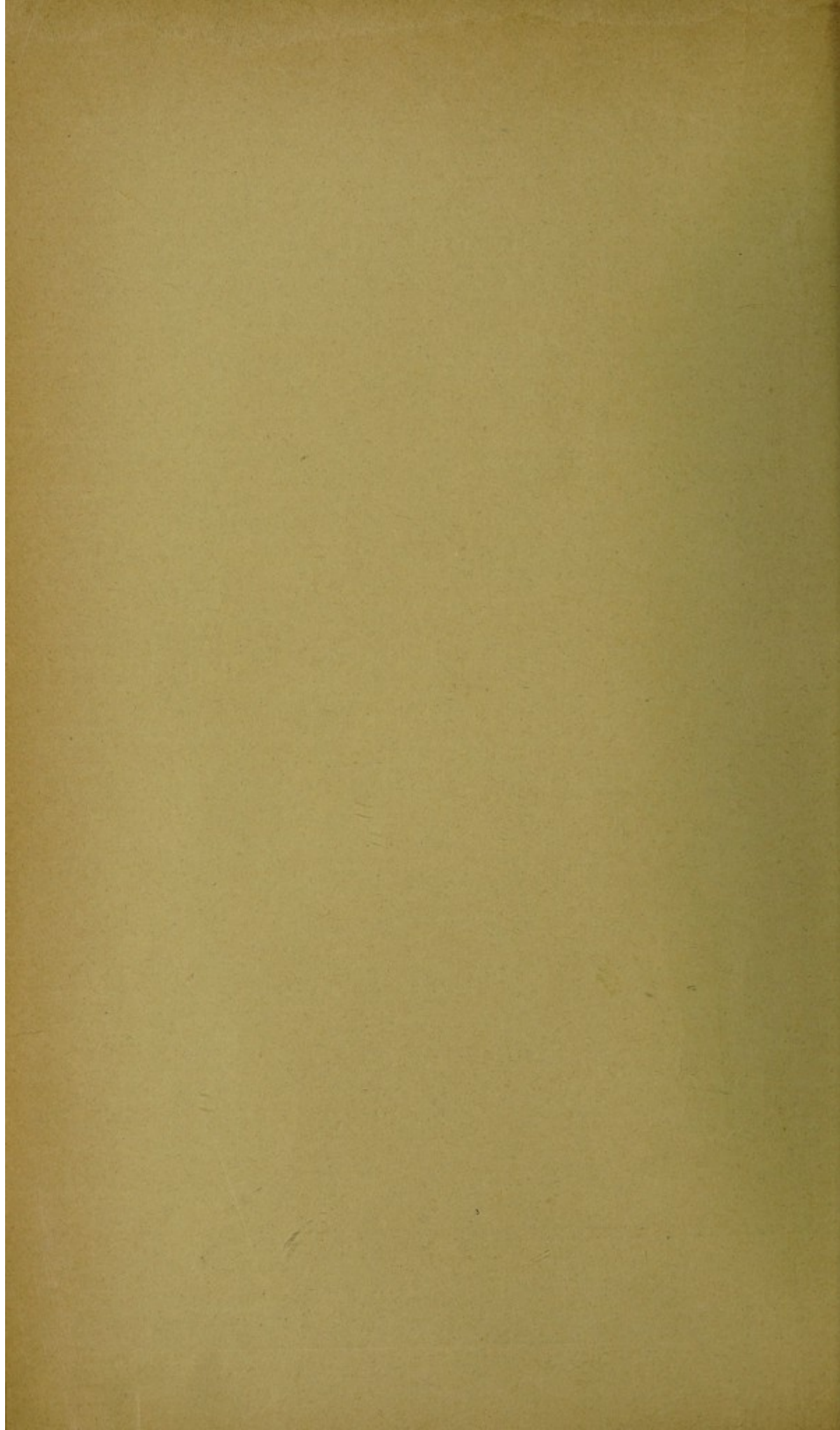
Wellcome Collection  
183 Euston Road  
London NW1 2BE UK  
T +44 (0)20 7611 8722  
E [library@wellcomecollection.org](mailto:library@wellcomecollection.org)  
<https://wellcomecollection.org>

Ac 226

TRENGGANU



Annual Medical and Sanitary Report  
for the year ending 31st December, 1930





## Metalled Road



Proposed Native Hut Dispensaries

1870

1871

1872

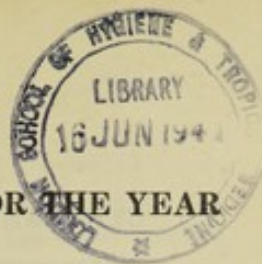
1873

1874

1875



## TRENGGANU.



### THE ANNUAL MEDICAL AND SANITARY REPORT FOR THE YEAR ENDING 31st DECEMBER, 1930.

#### I. ADMINISTRATION.

##### (a) STAFF.

Dr. N. H. Harrison, Chief Medical Officer, returned from leave on 2.5.30, and relieved Dr. T. C. Lonie, who had been acting for him.

Dr. T. C. Lonie proceeded to Kelantan for duty as it was found impracticable, on financial grounds, to retain his services as Health Officer; an appointment it was expected he would fill when the Chief Medical Officer returned from leave.

The appointment of Health Officer has now been abolished.

Miss E. K. Chenhalls, Health Sister, arrived in Trengganu for duty on 11.11.30.

The appointment of Health Sister is in danger of being abolished next year for financial reasons.

Lim Guat Neo, Maternity Nurse, returned to Trengganu for duty from Singapore on 23.2.30 having passed the examination for certificate B of the Central Midwives Board of Malaya.

The principal subordinate appointments are:—

19 Dressers—3 of Grade I, 3 of Grade II, 5 of Grade III, 5 probationers,  
2 travelling dressers and one ungraded.

1 Steward  
1 Assistant Store-keeper  
3 Clerks  
2 Sanitary Inspectors  
4 Vaccinators.

Two dressers were sent to the Federated Malay States for examination and both passed to Grade II.

Two Sanitary Inspectors resigned. One probationer dresser was transferred to the Clerical Service. One dresser, seconded from the Straits Settlements, returned to Singapore for duty.

Two Sanitary Inspectors and four dressers were appointed including two additional appointments sanctioned during the year.

##### (b) LIST OF ORDINANCES AFFECTING PUBLIC HEALTH ENACTED DURING THE YEAR. Nil.

##### (c) FINANCIAL.

The financial year A. H. 1348 of the Trengganu Government closed on A. H. 29.12.48 (27.5.30).

Headings	Year A.H. 1346	Year A.H. 1347	Year A.H. 1348
	\$ c.	\$ c.	\$ c.
Revenue from sale of medicines and hospital fees .. .. .	1,049.55	1,468.15	1,153.81
Total Revenue of State .. .. .	1,402,150.63	1,361,026.00	1,391,470.82
Total Expenditure of Medical Department	52,755.78	61,888.61	65,627.33
Percentage of total medical expenditure to total Revenue of the State .. .. .	3.76%	4.5%	4.7%



## II. PUBLIC HEALTH.

### (a) GENERAL REMARKS.

A few remarks on the State of Trengganu, and its people, may be of interest as indicating the chief physical features of the country, and the character of the native for whom medical, and sanitary work is being provided.

Trengganu is an Un-federated Malay State of about 5,000 square miles situated on the East Coast of the Malay Peninsular; bounded on the North and North West by Kelantan; on the South and South West by Pahang; and on the East by the China Sea. Inland are splendid hills rising to a height of three or four thousand feet, and forming watersheds for the numerous rivers which empty into the China Sea. The coastal area consists of alluvial plains of varying depth, interrupted here and there by small hills some of which reach down as far as the foreshore. The climate is healthy, and affords a pleasant contrast to the enervating climate on the west coast, inasmuch as the North East Monsoon, lasting from November to March, brings with it rain, wind, and a lowered temperature. The nights are cool, and refreshing sleep is possible. The population, consisting of 94.6% Malays, is concentrated along the sea board, and on the banks of the rivers.

The Trengganu Malay, generally speaking, is a simple unobtrusive person. His wants are few and easily satisfied. He is for the most part self-supporting and independent. If his rice crop is good, all is well; if not, he makes the best of it, and looks forward to the next. He has his fowl, and his betel nut; he may possess cattle, and he can nearly always get fish. Knowledge of affairs comes to him by word of mouth. He is illiterate but is awaking to the value of literacy for his children. In addition to Government Vernacular Schools there are, in a few villages, independent, unaided locally supported, vernacular schools. The native Malay has very little initiative or inventive capacity. He blindly follows tradition. His pleasures are bound up in the numerous ceremonies associated with birth, marriage, death etc. He finds his amusements in the village gatherings where story and jest are exchanged. He is interested in the foreigner but only as a curiosity. Competition plays only a small part in his life. He gives one the impression that his race in the contest of peoples has been run, and now he is an onlooker only. The remnants of a past epoch of valour are to be found in the fine courage of the present day fishermen, whose skill, and intrepidity are to be admired.

It is not surprising, therefore, that external moral and material influences react very slowly on the Trengganu Malay. The effect of trade depression with its attendant evils of unemployment and want are not perceptible. Even on the few sophisticated Malays, constituting the governing class, the prevailing trade depression is of no more than casual interest.

From the point of view of public health it may be said that the rate of sickness has not been influenced by the prevailing economic depression, except among the Chinese, and Indians, of whom there are only a few in Trengganu. Amongst the Malay population there are signs that, at least, the "white mans'" curative medicines are being appreciated, and that the prospect for preventive medicine is not hopeless. What is being accomplished, or contemplated, in the matter of urban, and rural sanitation, will be mentioned under their appropriate headings in this report.

The prevailing diseases recorded during the year compared with 1928—1929 are shown in the table following.

Diseases	1928	1929	1930
Yaws .. .. .	2,921	3,390	3,386
Malaria .. .. .	3,089	3,370	5,775
Fever unspecified .. .. .	705	1,827	2,799
Beri Beri .. .. .	1,531	1,297	915
Diseases of the skin .. .. .	7,041	8,906	6,888
Diseases due to intestinal parasites .. .. .	1,913	1,802	2,894
Diseases of Digestive System .. .. .	4,851	11,696	10,357
Diseases of Respiratory system .. .. .	1,286	1,431	1,437



(I) *General Diseases.*

Skin Diseases account for 6,888 cases, of which 3,144 are returned under the heading tinea, and 2,370 under scabies. It is probable that many of the cases labelled scabies are cases, either of tinea, or of staphylococcic origin.

An interesting skin affection is associated with yaws, showing itself between the date of the appearance of the primary affection and the secondary eruption. It is characterised by an arborescent macular rash becoming papular in places and seen principally on the trunk. It is evanescent and usually disappears leaving some of the papules to develop into the typical secondary eruption. It is called "bunga" and later as the papular form "ketot puru."

Beri Beri is constant in its appearance during, and immediately after, the North East Monsoon. The seasonal incidence is shown as a graph appended to this report. Similar graphs for the years 1926, 1927 and 1928 show a correspondence in the seasonal incidence. The total number of cases was 915. The number of cases treated in the hospital was 97 with 12 deaths.

Radio malt is now being given to Beri Beri patients with encouraging results.

(II) *Communicable Diseases.*

Mosquito or Insect-borne:—Malaria becomes more prominent as a cause of sickness year by year. This is due to the opening up of the hinterland. The main sources, from which the severe cases of malaria coming under medical observation are derived, are to be found in new properties, in jungle, being felled and cleared as, for example, the new Japanese Iron Mine at Dungun, and in new road construction. Reference will be made supporting this statement under Hygiene and Sanitation. The seasonal incidence is shown as a graph. The total number of cases treated was 5,775. The number of cases treated in hospital was 641 with 27 deaths.

Infectious Diseases. Dysentery. The returns from medical institutions for this disease do not represent the actual relative incidence as is clearly seen by referring to the figures recorded by the Registrar of Deaths under the heading, Dysentery, where 243 deaths are shown. If it is legitimate to draw inferences from hospital cases it would seem that bacillary dysentery in Trengganu is more common than has heretofore been recorded. Of the 61 hospital cases 15 were bacillary, 16 amoebic, and 29 chronic undefined.

Influenza was common but complications were rare, 1,621 cases were treated. The seasonal incidence is shown as a graph.

Yaws. There is little doubt that this disease is being brought under control in those districts where treatment is available. In Kuala Trengganu, where treatment by injection of Bismuth Sodium Tartrate on Saturday mornings has been regularly carried out for the last 5 years, the attendances of local patients have so diminished that at the present time the great majority of patients attending come from distant villages. With the establishment of small native hut dispensaries an attempt is being made to sterilize district by district. Two Travelling dressers will be at work. They will proceed systematically, and will stay in a village long enough to give thorough treatment. It is anticipated that it will be possible, in course of time, to declare this district as sterile to yaws, and that district as under treatment for yaws, and still later the State as sterile to yaws. The table below may be instructive as evidence of the therapeutic value of Bismuth Sodium Tartrate in the treatment of yaws. The figures are of cases under treatment and observation at the dispensary, Kuala Trengganu, during the past 5 years. The patients are practically all Malays, who recognize and are anxious to obtain the cure. It may be assumed that they come until all obvious lesions have disappeared.

Treatment of 7,603 cases of Yaws by Bismuth Sodium Tartrate.

Number of injections	Number of cases	Percentage of cases
1	5,131	67.48
2	1,895	24.92
3	318	4.18
4	140	1.84
5	60	.98
6 and over	59	.77



## (b) VITAL STATISTICS.

(1) *General Native Population.*—The population at the last census in 1921 was 153,765, divided, by race into Malays 145,523, Chinese 7,246, Indians 211, Europeans 34, and other races 751. The census for 1931 is anticipated with interest as the population in the decade 1911—1921 showed a decrease from that in the decade 1901—1911. From available figures, which are only approximate, it would seem that an increase is not to be expected. There has been a small excess of emigrants over immigrants during the last seven years. The number of emigrants was 86,063, and immigrants 83,257 for that period. For the four years, during which registration of births and deaths has been in force, an excess of deaths over births per mille per annum of 5.76, and 1.90 is recorded, respectively, for the first 2 years, and an excess of births over deaths of 0.50 and 10.39 per mille per annum, respectively, for the last 2 years.

*Births.* 6,189 births were registered during the year A.H. 1348 of whom 3,196 were males and 2,993 females, giving a birth rate of 40.25 per mille per annum compared with a birth rate of 31.48 per mille per annum for 1,347, 29.62 for 1,346 and 25.62 for 1,345.

*Table showing Births according to Race.*

Malays	Chinese	Indians	Javanese	Arab	Javanese	European	Total
5,957	200	18	4	4	5	1	6,189

*Deaths.* 4,591 deaths were registered of whom 2,198 were males, and 2,393 were females, giving a death rate of 29.86 per mille per annum compared with 30.98 per mille per annum for the year 1347, and 31.52, and 37.38 for the years 1346 and 1345 respectively.

*Table showing Causes of Deaths.*

Disease	A.H. 1345	A.H. 1346	A.H. 1347	A.H. 1348
Fever .. ..	2,390	851	2,672	2,692
Convulsions .. ..	690	643	790	848
Beri Beri .. ..	541	246	240	150
Bowel complaints including dysentery .. ..	522	350	243	218
Respiratory diseases .. ..	132	104	76	89
Puerperal fever .. ..	65	64	53	78
Still born .. ..	78	117	161	148
Old age .. ..	195	191	192	162
Accidents .. ..	19	50	55	79
Other causes .. ..	278	143	251	127

*Table showing Deaths according to Race.*

Malays	Chinese	Indians	Javanese	Japanese	Siamese	Arab	European	Total
4,300	265	15	5	3	1	1	1	4,591

*Table showing Deaths according to Age.*

Under 12 months	1—2 years	2—3 years	3—12 years	Adults	Total
1,573	84	83	593	2,258	4,591



*Infant mortality.*—There were 1,573 deaths of children under one year. The infant mortality rate or rate per annum per thousand births was 254.13, compared with 337.53, 355.45, and 356.00 for the years 1347, 1346 and 1345 respectively.

(2) *General European Population.*—The health of the Europeans in the State has been satisfactory. The total number of Europeans in the State on 31.12.30 was 27 including one child.

(3) *European Officials.*—European Officials, of whom there were on an average 15 reside in towns on the sea coast where health conditions are good. There were two cases of amoebic dysentery, 3 cases of Malaria and a few minor ailments recorded.

*Table showing the Sick, Invaliding, and Death Rates of European Officials.*

Trengganu	1928	1930
Total number of Officials resident .. .. .	20	26
Average number resident .. .. .	16	15
Total number of Sick List .. .. .	4	5
Total number of days on Sick List .. .. .	33	51
Average daily number on Sick List .. .. .	.09	0.14
Percentage of sick to average number resident .. .. .	25	33.3
Average number of days on Sick List for each patient .. .. .	8.25	10.2
Average sick time to each resident .. .. .	2.06	3.4
Total number invalided .. .. .	Nil.	Nil.
Percentage of Invalidings to total residents .. .. .	"	"
Total deaths .. .. .	"	"
Percentage of deaths to total residents .. .. .	"	"
Percentage of Deaths to total average number resident .. .. .	"	"
Number of cases of sickness contracted away from residence .. .. .	"	3

(4) *Native Officials.*—A registrar of native officials is not available. The total number of native officials treated during the year was 8,165 including 2,061 Police. The total of 1,674 days on the sick list with an average number of 3.1 days for each patient was distributed amongst 537 native officials on the sick list.

Five Native Officials were invalided from the service during the year.

### III. HYGIENE AND SANITATION.

General review of work done and progress made. It is disappointing that the appointment of Health Officer has had to be cancelled. The State needs the direction of an organized public health service.

The routine work of sanitation has been maintained during the year. There are two Sanitary Inspectors at work in the State. In Kuala Trengganu and Kemaman, where experienced sanitary inspectors supervise the work, progress is noted. At present urban, and rural sanitation, except in Kuala Trengganu and Kemaman, is dependent on the caprice of the Native District Officers. The problem of rural sanitation is now under consideration. Proposals are to be submitted to bring the rural areas under control for purposes of sanitation. Briefly the proposals will embrace scavenging, night soil, and refuse disposal, and anti malarial work under the supervision of a travelling health inspector. Each rural district will have its own Mandor and coolies.

During October 500 coolies were discharged from the Dungun Iron Mine. Advantage was taken of this by employing a certain number of these coolies for cleaning up the town while they were waiting transshipment to Singapore. The Sanitary Inspector, Kuala Trengganu was sent there to supervise the work.

(I) *PREVENTIVE MEASURES.* Malaria. A serious outbreak of malaria occurred on the Japanese Iron Mine at Dungun. The mine is in the heart of the jungle. A large hilly area was felled and cleared, and a camp formed. This area contains the iron ore



which at present is being collected from the surface. A railway, for transport of the ore, has been constructed from the mine to a station near the mouth of the river Dungun. The ore is then taken by lighter to an ocean going steamer lying in the roads.

The Japanese management had not considered the probability of an outbreak of malaria, and no preventive measures had been taken. It was only after considerable pressure had been brought to bear that anti malarial work and general sanitation were commenced, and are now proceeding. A copy of the report on this property is given as an appendix in order to demonstrate what is now regarded as axiomatic in Malaya namely: that before clearing jungle a well considered plan of anti malarial work should be adopted.

On the new road construction North from Kuala Trengganu malaria is a matter of some concern. Preventive work is very difficult as the labourers are scattered and are constantly moving forward. The State Engineer is doing his best to cope with the difficulties by selecting healthy sites for hutments as the work progresses.

*Vaccination.* There were 7,196 vaccinations performed during the year.

(II) GENERAL MEASURES OF SANITATION. The private company, which commenced night soil collection and disposal, at Kuala Trengganu in 1928, continued to operate during the year, enlarging its clientele.

Scavenging is done in the more important towns under the direction of the Town Board or District Officer. Refuse is collected, dumped, and burnt, or, in the wet weather buried.

Water for both drinking and ablution purposes in the towns is obtained from wells. The riverine population use river water for both purposes.

Drain cleaning, inspection of food and markets, as well as inspection and licensing of lodging, eating houses, and abattoirs, are included in the duties of the Sanitary Inspector.

(III) SCHOOL HYGIENE. Miss B. K. Chenhalls, Health Sister, commenced the medical inspection of school children in Kuala Trengganu on 7.12.30. The school buildings are inspected by the sister, and reports sent in regarding the structure of the school buildings, ventilation, light, accommodation, type of desk and black board used, play ground area and latrines. Notes are made of the curriculum, and school hours. The inspection of the children is recorded on forms, one for each child, a specimen of which is given as an appendix. Children suffering from minor ailments are sent to the Clinic for treatment.

During December 2 schools were visited and 396 children inspected.

The Health Sister reports "The children are well fed, happy and mentally bright. The teeth are fairly good. Vision very good. No postural deformities yet seen. Body and head cleanliness fair."

(IV) LABOUR CONDITIONS. During the year labour has been in a state of uncertainty owing to the depressed rubber and tin markets. Mass discharges of coolies have taken place from the tin mines and rubber estates. The 2 principal tin mines have virtually closed down, and the one large rubber and coconut estate has reduced its staff, and labour, to a number just sufficient to preserve the property. A new iron mine at Dungun, employing a Japanese staff of 66 and about 2,000 coolies, commenced operations during the year. Labour conditions on this property are the subject of a report inserted as an appendix.

In spite of the adverse condition of the rubber market, with its inevitable retrenchment on the estate, the Manager of the Kretay Plantations continued work on the programme of health improvement embarked on some three years ago. Such enterprise is being rewarded. A very unhealthy estate is now relatively healthy.

The desirability of introducing a Labour code is being seriously considered by Government. It is anticipated that a bill for this purpose will be enacted next year.



Sick returns are received from the under mentioned estate and mines, and are tabulated.

Property	Average Labour force	No. of deaths	Death rate %
Kretay Coconut and rubber Plantations	773	10	1.29
Bundi Tin Mine .. .. .	300	1	0.33
Freda Tin Mine .. .. .	180	1	0.55
Nanyo Kogyo Koshi iron mines ..	749	6	0.80
Nippon Iron Mine .. .. .	2,000	95	4.25

The number of deaths against the Nippon Iron Mine includes 63 reported by the Management, and 32 at the Government Hospital Kuala Trengganu. There is reason to believe that other deaths occurred which are not recorded.

#### IV. PORT HEALTH WORK AND ADMINISTRATION.

An outbreak of cholera in Siam from 17.5.30 to 12.9.30 necessitated the inspection of ships arriving from that country. 182 ships were inspected.

#### V. MATERNITY AND CHILD WELFARE.

The Ante natal and infant welfare clinic which was opened in February 1928, is situated in a shop house adjacent to, and communicating with, the Town Dispensary Kuala Trengganu. The Clinic has a daily morning session from 9 o'clock to 12, at which the Chief Medical Officer attends. The Saturday morning session is reserved for the treatment of yaws by the injection of Bismuth Sodium Tartrate.

Detailed clinical records are kept of all infants under 1 year, and of all women attending for ante natal examination. The Clinic also receives women, and children for the treatment of general diseases.

Records for the year 1929 were not accurately kept during the Chief Medical Officer's absence on leave so that the growth of the work at the Clinic cannot be ascertained, except by comparative statistics for 1928 and 1930. Where the figures for 1929 are available they will be quoted.

Midwife Lim Guat Neo was nurse in charge of the Clinic until the arrival of Miss E. K. Chenhalls, Health Sister, on November 11th.

Details of the work at the Clinic, including District maternity work, are given in a table at the end of this section.

**ANTE-NATAL.** 49 women came for ante natal examination with total attendances of 131; compared with 21 and 60 attendances in 1929, and 51 and 168 attendances in 1928. Of these 49 women, 39 were attended at labour; 22 in the district, and 16 at the hospital. Two cases of malpresentation were corrected by external version before labour. Three cases of severe albuminuria of pregnancy were treated; all of them terminating in normal labour.

**MATERNITY.** Since the return of midwife Lim Guat Neo from Singapore in February a gratifying increase of maternity work has been accomplished. The midwife was in charge of the maternity work, both in the district, and in the maternity ward at the hospital, until the arrival of Miss E. K. Chenhalls, Health Sister, on November 11th. From that date the Health Sister took charge of the maternity work at the hospital leaving the midwife free for work in the district.

71 labours were conducted in the district with a total of 758 visits, and 42 labours were conducted in the maternity ward at the hospital, making a total of 111 cases compared with a total of 43, and 21 cases, respectively, for 1928 and 1929.

Of the 71 district cases 25 were Malay. This is noteworthy as indicating the confidence the midwife has inspired in the Malay women who are very difficult to deal with at the time of child birth.

The 111 cases are divided into 99 normal labours, and 12 abnormal labours, and include 36 cases of women who had received ante natal care at the Clinic. There was



no maternal mortality. There were two still births one of which was due to congenital syphilis. One case of ante partum haemorrhage, and one case of retained placenta are recorded.

GENERAL. 1,039 women were treated for general diseases, and diseases peculiar to women, with total attendances of 1849.

CHILD WELFARE. 85 infants under 1 year were under care, with total attendances of 513. All these infants are kept under observation. The mothers are provided with attendance cards, and are encouraged to bring their babies at regular intervals.

A pamphlet on infant feeding has been prepared for printing in English, Malay and Chinese. If funds are available the pamphlet will be printed next year.

1098 children, between the ages of 1 and 12, were treated, with total attendance of 2,014, compared with 316 new cases, with total attendances of 1931 for 1928.

The total number of new cases attending the Clinic was 3,139, with total attendances of 6,264; compared with 1,035 new cases, and 4,879 total attendances, for 1928. These figures include women and children who have attended the Clinic on the Saturday morning sessions for the treatment of yaws, of whom there were 364 women and 262 children, and also 171 children who came for vaccination.

*Ante Natal and Infant Welfare Clinic, Kuala Trengganu, Annual Return for 1930.*

	New Cases	Total Attendances
Ante Natal .. .. .	49	131
Infants under 1 year ..	85	513
Children aged 1 year ..	233	} 2,014
"    "    2 years ..	115	
"    "    3    "    ..	149	
"    "    4    "    ..	104	
"    "    5    "    ..	112	
"    "    6    "    ..	71	
"    "    7    "    ..	67	
"    "    8    "    ..	44	
"    "    9    "    ..	50	
"    "    10   "    ..	63	
"    "    11   "    ..	35	
"    "    12   "    ..	55	
Adults .. .. .	1,039	1,849
Yaws—Treatment Saturday morning sessions		
Children .. .. .	262	828
Adult .. .. .	364	
District Labours .. ..	71	758 Visits
Vaccinations .. .. .	171	171
Number of Infants breast fed	66	
"    "    "    bottle fed	19	
Children		Adult
Malays .. .. .	766	Malays .. .. . 892
Chinese .. .. .	828	Chinese .. .. . 612
Indian .. .. .	3	Indian .. .. . 8
Others .. .. .	9	Others .. .. . 11
Total new cases ..	1,616	Total new cases .. 1,523
Total new cases .. .. .		3,139
Total attendances and visits .. .. .		6,264



## VI. HOSPITALS DISPENSARIES AND VENEREAL CLINIC.

The total number of new cases treated in the Hospital, at the Dispensaries, Clinic, Gaol, and Police Stations was 57,926 with total attendances of 78,164, compared with 45,407 new cases and total attendances of 70,080 for 1929.

	1927	1928	1929	1930
New cases .. .. .	20,147	37,349	45,407	57,926
Total Attendances .. ..	28,418	54,430	70,080	78,164

**HOSPITAL.** There is only one Government hospital for the whole State situated at Kuala Trengganu.

During the second half of the year the hospital has been greatly overcrowded and at one time as many as 202 patients were accommodated in wards designed to accommodate 116. Government approved in August the immediate erection of a temporary ward for males of 20 beds, as well as a permanent ward for males of 20 beds. The temporary ward was completed and occupied within a month. The permanent ward should be ready for occupation early in the new year.

Separate wards for cases of dysentery and pulmonary tuberculosis are urgently required. At the present time these cases, of whom there were 57 cases of dysentery, and 34 cases of Pulmonary Tuberculosis treated during the year, were accommodated in the General Wards. Application was made for these wards but had to be rejected for financial reasons.

The average cost of a diet for one day including kitchen fuel, medical comforts, and extras was 19.82 cents.

Through the beneficence of a Chinese lady, who presented \$1,000 to the Medical Department, a supplementary electric lighting plant was erected.

The accommodation consists at present of

Administration block with office, dispensary, laboratory and operating theatre.

- 1 ward of 20 beds for females.
- 1 maternity ward of 8 beds.
- 3 wards of 20 beds for males.
- 1 ward of 20 beds for males. (building)
- 2 temporary wards of 20 beds for males.
- 1 ward of 8 beds for lepers.

Small Hospitals are required at Kemaman, Dungun, and Besut.

The importance of building a hospital at Kemaman has been urged for the past 4 years, but it is still found impossible to spare the money for this work.

The claims of Dungun and Besut for hospital accommodation are becoming increasingly serious.

### RECORD OF HOSPITAL WORK DURING THE YEAR.

There were 1,990 admissions to the hospital during the year, with 92 remaining from 31.12.29, making a total of 2,082 cases treated, compared with 1,326 admissions, with 90 remaining 31.12.28, a total of 1,416 for 1929.

By race the number of admissions was Chinese 834. Malays 795. Indians 352. Javanese 4. Arab 1.

The increase in the number of admissions is due, partly, to a serious outbreak of malaria and dysentery on the Japanese Iron Mine at Dungun which was opened during the year. There were 368 cases from the mine. It is hoped that in the future the Japanese themselves will be able to provide hospital accommodation for their sick coolies.

There were 96 deaths during the year, with a percentage death rate to the total of admissions of 4.82, compared with 76 deaths, and a percentage of 5.08 during 1929. Of the 96 deaths 18 occurred within 48 hours of admission.



The steady growth of the hospital since 1925 is shown in the following table.

Year	1925	1926	1927	1928	1929	1930
Admissions .. .. .	382	764	892	1,267	1,326	1,990

The following table shows the principal diseases with the number of deaths compared with the two previous years.

Diseases	1928		1929		1930	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Yaws .. .. .	240	Nil.	193	Nil.	248	Nil.
Malaria .. .. .	239	7	232	6	629	27
Bowel diseases .. ..	187	7	187	7	159	16
Beri Beri .. .. .	56	1	56	1	97	12
Pulmonary Tuberculosis ..	15	2	28	12	30	11
Venereal diseases .. ..	127	Nil.	140	Nil.	139	Nil.

The increase in the proportion of deaths recorded against Malaria and Bowel diseases is due to 368 admissions, some of them moribund, from the Dungun Iron Mine, most of whom were suffering from malaria or dysentery. The number of deaths from this source was malaria 20 deaths and bacillary dysentery 12 deaths.

MATERNITY. 42 labours were conducted in the maternity ward at the hospital during the year compared with 21 cases in 1929 and 22 in 1930.

SURGICAL. 96 Surgical operations were performed at the hospital classified as 23 major operations and 73 minor operations, compared with 13 major and 52 minor operations totalling 66 for 1929. In addition there were 73 dental extractions compared with 48 for 1929 and 79 for 1928.

The major operations are tabulated.

No. of cases	Diagnosis	Operation	Anaesthetic	Result
1	Hernia .. ..	Radical cure-modified Bassini's	General .. ..	Cured
1	Gangrene ..	Amputation lower $\frac{1}{3}$ femur	Do. .. ..	Do.
1	Tumour .. ..	Excision .. ..	Do. .. ..	Do.
1	Ruptured urethra	Repair .. ..	Do. .. ..	Relieved
1	G.S.W. Abdomen	Laparotomy and extensive intestinal repair	Do. .. ..	Cured
3	Inguinal hernia..	Radical cures-modified Bassini's	Novocain infiltration	Do.
1	Gangrene ..	Supracondylar Amputation femur	Spinal .. ..	Do.
1	Hernia and hydrocele	Radical cures .. ..	Novocain infiltration	Do.
1	Appendicial abscess	Laparotomy and drainage	Do.	Do.
2	Appendicitis ..	Appendicectomy .. ..	Do.	Do.
1	Bilateral hydroceles	Radical cure .. ..	Do.	Do.
3	Hydrocele ..	Do. .. ..	Do.	Do.
3	Tumours .. ..	Excision .. ..	Do.	Do.
2	Contracture deformity	Amputations of finger and toe	Do.	Do.
1	Sequestrum mandible	Sequestrectomy .. ..	Do.	Do.



Thirteen of these cases were Malays, eight Indian, and two Chinese.

General anaesthesia was employed in 5 cases.

Spinal anaesthesia was employed in 1 case.

Local and regional infiltration novocain anaesthesia was employed in 17 cases.

Special examinations and treatments:—

Gynaecological .. ..	23
Nose, throat and ear .. ..	39
Eye cases .. ..	14
Cystoscopy .. ..	1

#### LABORATORY.

During the second half of the year the work of the laboratory was reorganized. Equipment and instruments have been added so that now the commoner routine diagnostic methods may be carried out. Hitherto the dysenteries and enteric fevers have had to be diagnosed on clinical manifestations except for an occasional agglutination test. Culture and identification of pathogenic organisms from the stools of all suspected cases of enteric and dysentery, other than amoebic, are now done as routine.

For the diagnosis of syphilis and yaws the Kahn test has been supplemented by the Müller Ballung test. These tests are done side by side weekly.

For the cultivation of pathogenic organisms from the stools the nutrient media used at the Serum Institute Copenhagen has been introduced—Communications De L'Institut Sérotherapique De L'état Danois Tome XVI—1926. Trypsinized casein is used as a base. From this, modified Drigalski plates, by the addition of lactose, saccharose, sodium thio sulphate and 0.1% crystal violet, are prepared using brom thymol blue as an indicator. Supplementary plates of bouillon-pepton-agar, to which have been added lactose with brom cresol purple as an indicator, are used for dysenteric stools, and plates of trypsinized casein and brilliant green with phenol red as indicator for Paratyphoid B. Colonies are isolated and identification is then carried out by testing for indol formation, fermentation tests, and agglutination.

The sera from 121 cases of clinical yaws were put up for the Kahn and Müller Ballung tests. Comparative results are given in the table following.

The work of the laboratory although it cannot claim expert direction, is of value when it is realized that the nearest specialist laboratory is 2½ days journey from Kuala Trengganu.

The following examinations were made during the year at the hospital laboratory:—

(a) Blood.	
Total number of films examined .. ..	1,834
Benign Tertian Parasites found .. ..	101
Quartan Parasites found .. ..	45
Sub-tertian Parasites found .. ..	177
Mixed infection of malaria .. ..	23
Negative .. ..	1,488
(b) Sputa for tubercle bacilli.	
Total examined .. ..	245
Tubercle Bacilli found .. ..	34
Negative .. ..	211
(c) Pus.	
Films examined for Gonococci .. ..	52
Positive .. ..	12
Negative .. ..	40
(d) Faeces not including those taken for culture.	
Total number examined .. ..	2,206
Ankylostoma duodenale ova only .. ..	88
Ascaris lumbricoides ova only .. ..	234
Trichuris trichura ova only .. ..	213
Various combinations of the above named ova .. ..	797



Entamoeba histolytica .. .. .	39
Entamoeba coli .. .. .	13
Other parasites found were oxyuris vermicularis .. .. .	
E. lamblia distoma, Clonochis Sinensis, Dipylidium .. .. .	
Canium .. .. .	
(e) Faeces taken for culture.	
Total number of faeces including 2 taken postmortem .. .. .	97
Repeat cultures for confirmation .. .. .	15
B. dysenteriae (shiga) isolated .. .. .	6
Repeat for confirmation .. .. .	4
B. dysenteriae (Flexner) isolated .. .. .	2
B. ceylonese isolated .. .. .	1
B. alkaligenes isolated .. .. .	4
B. paratyphoid B isolated .. .. .	2
Repeat cultures for confirmation .. .. .	3
Negative .. .. .	76
(f) Sera for Kahn test .. .. .	247
Positive .. .. .	144
Weak positive .. .. .	18
Positive negative .. .. .	20
Negative .. .. .	65
Of the 247 sera 145 were tested for the Müller Ballung re- action also .. .. .	
Müller Ballung reaction .. .. .	
Positive in both tubes .. .. .	69
Positive .. .. .	21
Negative .. .. .	55
Positive Müller Ballung; Negative Kahn .. .. .	2
Negative Müller Ballung; Positive Kahn .. .. .	6

Of the 247 sera taken there were 104 declared cases of yaws and 16 cases of doubtful yaws with one case who had had thorough treatment for yaws. The 104 cases were all positive to Kahn and the doubtful cases and the one treated case were negative. There were two cases having a negative Kahn with a positive Müller Ballung reaction, and one case with a Positive Kahn, and negative Müller Ballung.

#### DISPENSARIES.

There are 5 Government dispensaries in Trengganu situated as marked on the map. Each dispensary is in charge of an experienced dresser. The dispensary is used as a base for the dresser, who is expected to travel in his district with medicines as frequently as possible.

Dispensaries are needed for other districts but Government, while recognising the need, is unable to appropriate money for this purpose. As a compromise the erection of small native huts, with a lock-up-for medicines, has been approved. These huts will be erected at Stiyu, Batu Rakit, Marang, Kemasik and Kijal; all thickly populated villages. In addition the appointment of a travelling dresser has been approved. There will be, therefore, two Malay travelling dressers for work in 5 new districts. The huts will be occupied in rotation by the dresser for a period of about 6 weeks. One dresser will work North of Kuala Trengganu and the other South.

The Public Works Department have two dressers attending the labour employed on road construction.

A 30 feet motor boat "Penulong" has been fitted up as a motor boat dispensary, and was commissioned in August. Five voyages were made before the bad weather started in October. The motor boat dispensary will be used for river work during the summer months.

The rural police stations hold a small stock of simple medicines which are distributed by the officers in charge.

The following table records the number of out-patients attended to at the Government Dispensaries, Clinic, Hospital, and at the Police Stations.

Districts	No. of new cases			Total No. Attendances			Domiciliary Visits			Itineraries		
	1928	1929	1930	1928	1929	1930	1928	1929	1930	1928	1929	1930
Kuala Trengganu	8,224	7,060	8,163	12,450	10,954	12,180	719	—	1,360	—	—	—
Dispensary ..	3,637	3,959	6,107	4,149	5,221	6,380	—	—	—	—	—	—
Hospital out-patients and travelling dresser ..	1,684	2,501	2,968	4,879	7,530	6,093	—	—	—	9	7	12
Clinic ..	716	266	431	1,983	1,647	2,111	—	—	—	—	—	—
Prison Out-patients ..	8,674	14,729	16,615	12,900	20,302	20,839	109	—	1,387	2	35	52
Kemaman ..	2,309	3,405	4,325	2,612	3,611	5,148	150	—	112	11	—	6
Dungun ..	6,928	7,625	9,768	10,135	13,671	16,118	91	—	160	37	18	17
Besut ..	2,349	4,610	5,847	2,954	5,892	6,417	80	—	176	63	51	14
Kuala Brang	1,168	1,252	712	1,168	1,252	712	—	—	—	—	—	—
Police Stations ..	35,689	45,407	55,936	53,230	70,080	75,998	1,149	—	3,953	122	111	101
Total ..	35,689	45,407	55,936	53,230	70,080	75,998	1,149	—	3,953	122	111	101



## VII. PRISON AND ASYLUMS.

**PRISONS.**—As recorded in previous reports the prison at Kuala Trengganu is antiquated and unsatisfactory. Fortunately the number of prisoners is small and the able bodied amongst them are given extra mural employment. 179, including 27 mental cases, were admitted during the year with 62, including 14 mental cases, remaining from 31.12.29. There were 167 discharged, including 17 Mental cases, with 3 deaths, including one mental case and one ~~judicial~~ execution. There remained 68, including 21 mental cases, on 31.12.30.

**Prison hospital.**—There were 56 admissions during the year with 2 deaths; one from pulmonary tuberculosis, and one from cut throat, compared with 66 admissions and no death in 1929. The total number of out-patients treated was 431 with total attendances of 1,680 compared with 266 cases with 1,647 total attendances in 1929.

**Mental cases.**—Mental cases are detained in the prison. It is not necessary to reiterate what has been recorded in previous reports on this unsatisfactory subject. An important decision was arrived at by Government to transfer the chronic mental cases to the Mental Hospital Singapore. Arrangements were made to send 8 cases but in view of the high cost of maintenance these arrangements were cancelled. The transfer has been postponed for 6 months.

27 mental cases were admitted with 14 remaining from 31.12.29 a total of 41 compared with 16 cases admitted and a total of 30 for 1929. 17 cases were discharged and 1 died.

## VIII. METEOROLOGY.

The following statistics are obtained from observations at the meteorological station at Kuala Trengganu.

The highest rainfall in 24 hours was 10.61 inches on November 18th.

The highest shade temperature recorded was 93° F on April 13th, and May 24th and the lowest 65° F on February 6th.

The total rainfall was 119.48 inches compared with 210.96 inches during 1929.

### A.—REGISTER OF EUROPEAN OFFICIAL RESIDENTS.

District Trengganu.

Period 1930.

No.	Name	Rank	No. of days Resident	Place of Residence
1.	A. J. Sturrock ..	British Adviser..	296	Kuala Trengganu
2.	G. L. Ham ..	Ag. Do. ..	79	Do.
3.	A. J. Gracie ..	A.A. Trengganu.	365	Do.
4.	J. R. Neave ..	A.A. Kemaman..	365	Kemaman
5.	E. V. G. Day ..	A.A. Besut ..	365	Besut
6.	L. Rayman ..	C. of L. & Mines.	345	Kuala Trengganu
7.	E. E. F. Pretty..	Ag. Do. ..	20	Do.
8.	H. P. Bryson ..	C.L.R. .. ..	228	Do.
9.	R. P. Clegg ..	Do. .. ..	142	Do.
10.	P. Trump ..	State Engineer..	66	Do.
11.	W. L. Bosker ..	Do. .. ..	322	Do.
12.	A. Wear ..	Asst. Engineer..	307	Do.
13.	P. McNee ..	Do. .. ..	65	Do.
14.	G. T. F. White ..	Do. .. ..	131	Do.
15.	E. B. Nisbet ..	Executive Engi- neer .. ..	241	Do.
16.	G. O. Dorrity ..	Asst. to S. E. ..	365	Do.
17.	J. V. T. Campbell	Asst. Engineer..	365	Do.
18.	Dr. N. H. Harri- son .. ..	C.M.O. .. ..	243	Do.
19.	Dr. T. C. Lonie..	Acting C.M.O. ..	122	Do.
20.	T. Kitching ..	S. of S. .. ..	365	Do.
21.	R. A. Terry ..	Surveyor on Ag- reement .. ..	317	Districts
22.	C. Noble ..	Asst. S. of S. ..	31	Kuala Trengganu
23.	L. L. Mills ..	Commr. of Police	25	Do.
24.	E. E. H. Beck ..	Do. .. ..	287	Do.
25.	E. Bagot ..	Do. .. ..	51	Do.
26.	Miss E. K. Chen- halls .. ..	Health Sister ..	51	Do.
		Total .. ..	5,486	



## B.—REGISTER OF NATIVE OFFICIAL RESIDENTS.

Not available.

## C.—REGISTER OF EUROPEAN PATIENTS ON SICK LIST.

District Trengganu.

Period 1.1.30 to 31.12.30.

No.	Name	Rank	On Sick List		No. of Days	Diseases	Result	Remarks
			From	To				
1.	W. L. Bosker	Acting S. E.	14.6.30	24.6.30	11	Amoebic dysentery	Cured	
2.	E. E. H. Beck	Acting C. of P.	26.7.30	29.7.30	3	Do.	Do.	
3.	L. Rayman	C. of L. & M.	12.11.30	22.11.30	10	Periton- silar abscess	Do.	
4.	P. McNee	A. E.	16.11.30	9.12.30	23	Malaria	Do.	
5.	J. V. T. Campbell	Do.	18.10.30	22.10.30	4	Do.	Do.	
Total	5			Total	51			

## D.—REGISTER OF NATIVE PATIENTS ON SICK LIST.

Not available.

Table I.

*Medical Staff.*

Chief Medical Officer	Dr. N. H. Harrison.
Health Sister	Miss E. K. Chenhalls.
Midwife Class B	Lim Guat Neo.

*Principal Members of Subordinate Staff.*

Dresser Grade I	..	..	Mr. T. A. Menon in charge of Town Dispensary Kuala Trengganu
"	"	I	.. Mr. Ceng Dieu Huang in charge of Dispensary Kemaman
"	"	I	.. Inche Alias bin Esa in charge of Dispensary Besut
"	"	II	.. Mr. C. L. Fernandez in charge of Hospital
"	"	II	.. Mr. K. M. Pillai in charge of Dispensary Dungun
"	"	II	.. Mr. R. M. Iyer in charge of Laboratory
"	"	III	.. Mr. J. G. Gomes
"	"	III	.. Mr. M. K. Gopal
"	"	III	.. Mr. P. P. Singham
"	"	III	.. Mr. Chua Swee Yeow
Probationer dressers	..	..	Inche Yazib bin Haji Mohamed
			Inche Yusof bin Haji Ibrahim
			Mr. D. L. Gomez
			Mr. Ding Bing Ciong
			Mr. How Ming Liew
			Syed Ibrahim bin Daud
			Inche Awang bin Hitam
Ungraded	..	..	Mr. T. K. Maurice in charge of Dispensary Kuala Brang
Steward	..	..	Mr. Ng Teng Kiat
Assistant to Steward	..	..	Inche Muda bin Musa
Sanitary Inspector	..	..	Mr. C. B. Carnegy Kuala Trengganu
Do.	..	..	Mr. C. Nagalingam Kemaman
Chief Clerk	..	..	Inche Abdullah bin Alias
Clerk Grade III	..	..	Inche Jusoh bin Hitam
Clerk to Registrar of Births and Deaths	..	..	Inche Mat Drus bin Haji Bidin.



Table II.

*Financial.*

Estimates 1,348 .. .. .	\$ 81,612.00
Expenditure:—	
Personal Emoluments .. .. .	37,762.90
Annually Recurrent .. .. .	24,944.27
Special Expenditure .. .. .	2,920.16
<i>Total</i> .. .. .	<u>\$ 65,627.33</u>
Receipts .. .. .	<u>\$ 1,153.81</u>

Table III.

RETURN OF STATISTICS OF POPULATION FOR THE YEAR.

Not available.

Table IV.  
METEOROLOGICAL RETURN FOR THE YEAR 1930.

	Temperature					Rainfall		Winds		
	Solar Maximum	Minimum on Grass	Shade Maximum	Shade Minimum	Range	Mean	Amount in Inches	Degree of Humidity	General Direction	Average Force
January ..	138.98	70.7	85	67	18	77.5	7.47	83.1	NE	5
February ..	145.39	70.3	88	65	23	77.9	1.60	81.7	ENE	6
March ..	141.71	72.9	89	71	18	80.2	5.98	83.2	NE	6
April ..	146.53	72.4	93	71	22	81.3	1.14	80.3	ENE	5
May ..	136.50	72.9	93	71	22	81.9	4.02	83.9	ESE	6
June ..	132.89	72.2	92	71	21	81.5	5.40	83.5	SSW	5
July ..	133.47	71.9	91	69	22	81.0	11.06	88.3	SSW	5
August ..	140.45	71.7	92	69	23	80.6	12.85	85.5	SSW	6
September ..	140.67	72.0	92	71	21	80.9	4.67	86.8	SSW	5
October ..	124.10	72.3	89	71	18	79.4	5.60	88.2	SSW	5
November ..	119.00	70.8	90	70	20	78.5	42.17	88.2	NE	5
December ..	124.35	71.8	87	70	17	78.9	17.52	87.7	NNE	5
Mean..	135.33	71.8	90	69.7	20.3	80.00	119.48	85.0	—	5.3



Table V.

Hospital or Institution Kuala Trengganu.

Return of Diseases and Deaths (In-Patients) for the year 1930.

Diseases	Remaining in Hospital at end of 1929	Yearly Total		Total cases treated	Remaining in Hospital at end of 1930	Remark
		Admissions	Deaths			
<b>I.—Epidemic, Endemic, and Infectious Diseases.</b>						
1. Enteric Group:—						
(a) Typhoid Fever ..	—	6	1	6	—	
(b) Paratyphoid A ..	—	—	—	—	—	
(c) Paratyphoid B. ..	—	4	—	4	—	
(d) Type not defined.	—	—	—	—	—	
2. Malaria:—						
(a) Tertian .. ..	2	50	—	52	1	
(b) Quartan .. ..	—	26	—	26	2	
(c) Aestivo-autumnal	2	127	13	129	—	
(d) Cachexia.. ..	8	426	14	434	26	
(e) Blackwater ..	—	—	—	—	—	
3. Measles .. ..	—	3	—	3	—	
4. Influenza.. ..	—	70	—	70	—	
5. Dysentery:—						
(a) Amoebic .. ..	1	16	4	17	2	
(b) Bacillary.. ..	—	9	8	9	1	
(c) Undefined or due to other causes ..	—	31	3	31	—	
6. Leprosy .. ..	1	8	—	9	3	
7. Erysipelas .. ..	—	1	—	1	—	
8. Other Epidemic Dis- eases:—						
Yaws .. ..	26	248	—	274	30	
9. Tuberculosis, Pulmonary and Laryngeal .. ..	4	30	11	34	8	
10. Syphilis:—						
(a) Primary.. ..	—	—	—	—	—	
(b) Secondary .. ..	—	6	—	6	—	
(c) Tertiary.. ..	—	35	—	35	4	
(d) Hereditary .. ..	—	—	—	—	—	
(e) Period not in- dicated .. ..	—	—	—	—	—	
11. Soft Chancre .. ..	1	15	—	16	—	
12. A.—Gonorrhoea and its complications .. ..						
	5	77	—	82	4	
B.—Gonorrhoeal Oph- thalmia .. ..	—	6	—	6	—	
<b>II.—General Diseases not mentioned above.</b>						
13. Cancer of other malig- nant Tumours of the Stomach or Liver ..						
	—	1	1	1	—	
Carried forward ..	50	1195	55	1245	81	



Table V.—Contd.

Hospital or Institution Kuala Trengganu.

Return of Diseases and Deaths (In-Patients) for the year 1930.

Diseases	Remaining in Hospital at end of 1929	Yearly Total		Total cases treated	Remaining in Hospital at end of 1930	Remark
		Admissions	Deaths			
<i>Brought forward ..</i>	50	1195	55	1245	81	
14. Cancer or other malignant Tumours of the Peritoneum Intestines, Rectum .. .. .	—	1	—	1	—	
15. Tumours non-Malignant	—	10	1	10	1	
16. Acute Rheumatism ..	—	17	—	17	—	
17. Scurvy (including Barlow's Disease) .. ..	—	1	—	1	—	
18. Beri-Beri .. ..	8	97	12	105	15	
19. Anaemia:—						
(a) Pernicious ..	—	—	—	—	—	
(b) Other Anaemias and Chlorosis ..	2	1	—	3	—	
<b>III.—Affections of the Nervous System and Organs of the Senses.</b>						
20. Apoplexy:—						
(a) Haemorrhage ..	—	2	1	2	—	
(b) Embolism ..	—	2	1	2	—	
21. Paralysis:—						
(a) Hemiplegia ..	1	2	—	3	1	
22. Other forms of Mental Alienation .. ..	14	7	1	21	—	
23. Infantile Convulsions ..	—	1	1	1	—	
24. A.—Hysteria .. ..	—	2	—	2	—	
B.—Neuritis .. ..	—	4	—	4	—	
25. Other affections of the Nervous System such as Paralysis Agitans ..	1	1	—	2	—	
26. Affections of the Organs of Vision:—						
(a) Conjunctivitis ..	—	12	—	12	—	
(b) Other affections of the Eye ..	—	5	—	5	2	
27. Affections of the Ear or Mastoid Sinus .. ..	—	—	—	—	—	
Otitis media .. ..	—	6	—	6	—	
<b>IV.—Affections of the Circulatory System.</b>						
28. Other Diseases of the Heart:—						
(a) Valvular-Mitral..	—	6	—	6	2	
(b) Myocarditis ..	—	3	1	3	—	
<i>Carried forward ..</i>	76	1375	73	1451	102	

Table V.—Contd.

Hospital or Institution Kuala Trengganu.

Return of Diseases and Deaths (In-Patients) for the year 1930.

Diseases	Remaining in Hospital at end of 1929	Yearly Total		Total cases treated	Remaining in Hospital at end of 1930	Remark
		Admissions	Deaths			
<i>Brought forward ..</i>	76	1375	73	1451	102	
29. Diseases of the Veins:— Haemorrhoids ..	—	2	—	2	1	
<b>V.—Affections of the Respiratory System.</b>						
30. Affections of the Larynx— Laryngitis .. ..	—	1	—	1	—	
31. Bronchitis:— Acute .. .. .	—	33	—	33	3	
32. Pneumonia:— Lobar .. .. .	1	8	5	9	2	
33. Pleurisy, Empyema ..	—	2	—	2	1	
34. Asthma .. .. .	1	7	—	8	—	
35. Other affections of the Lungs Abscess of Lung.	—	1	1	1	—	
<b>VI.—Diseases of the Digestive System.</b>						
36. Diseases of Teeth or Gums-Caries, Pyorrhoea, &c. .. .. .	—	14	—	14	—	
37. Other affections of the Stomach:— Dyspepsia .. ..	—	7	—	7	—	
38. Diarrhoea and Enteritis— Two years and over ..	—	22	—	22	—	
39. Ankylostomiasis ..	4	27	1	31	—	
40. Diseases due to Intestinal Parasites:— Ascaris .. .. .	—	33	—	33	2	
41. Appendicitis .. ..	—	4	—	4	—	
42. Hernia .. .. .	—	9	—	9	—	
43. A.—Affections of the Anus, Fistula, &c.	—	1	—	1	—	
B.—Other affections of the Intestines:— Constipation ..	—	2	—	2	—	
44. Other affections of the Liver:— Abscess .. ..	—	2	1	2	—	
Hepatitis .. ..	—	2	1	2	—	
Jaundice .. ..	—	2	—	2	—	
45. Peritonitis (of unknown cause) .. .. .	—	2	1	2	—	
<i>Carried forward ..</i>	82	1556	83	1638	111	



Table V.—Contd.

Hospital or Institution Kuala Trengganu.

Return of Diseases and Deaths (In-Patients) for the year 1930.

Diseases	Remaining in Hospital at end of 1929	Yearly Total		Total cases treated	Remaining in Hospital at end of 1930	Remark
		Admissions	Deaths			
<i>Brought forward ..</i>	82	1556	83	1638	111	
<b>VII.—Diseases of the Genito- urinary System (non- Venereal).</b>						
46. Acute Nephritis ..	—	1	1	1	—	
47. Chronic .. ..	2	16	1	18	4	
48. Urinary Calculus ..	—	1	—	1	—	
49. Diseases of the Ure- thra:—						
(a) Stricture ..	1	3	—	4	—	
(b) Other .. ..	—	1	1	1	—	
50. Diseases (non-Venereal) of the Genital Organs of Man:—						
Hydrocele .. ..	—	4	—	4	—	
51. A.—Metritis .. ..	—	1	—	1	—	
B.—Other affections of the Female Genital Organs:—						
Displacement of Uterus ..	—	4	—	4	—	
Dysmenorrhoea ..	—	2	—	2	—	
<b>VIII.—Puerperal State.</b>						
52. A.—Normal Labour ..	—	42	—	42	1	
B.—Ante-natal observa- tion .. ..	—	4	—	4	—	
<b>IX.—Affections of the Skin and Cellular Tissues.</b>						
53. Gangrene .. ..	—	1	—	1	—	
54. Boil .. ..	—	3	—	3	—	
55. Abscess .. ..	2	41	—	43	—	
Whitlow .. ..	—	1	—	1	—	
Cellulitis .. ..	—	1	—	1	—	
Ulcers .. ..	3	207	—	210	13	
56. A.—Tinea .. ..	—	2	—	2	—	
B.—Scabies .. ..	—	—	—	—	—	
C.—Dermatitis ..	1	2	—	3	1	
57. Other Diseases of the Skin:—						
Erythema .. ..	1	1	—	2	—	
Eczema .. ..	1	7	—	8	—	
Herpes .. ..	—	2	—	2	—	
<b>X.—Diseases of Bones and Organs of Locomotions (other than tuberculous).</b>						
58. Diseases of Bones:—						
Osteitis .. ..	—	1	—	1	—	
<i>Carried forward ..</i>	93	1904	86	1997	130	

Table V.—*Contd.*

Hospital or Institution Kuala Trengganu.

Return of Diseases and Deaths (In-Patients) for the year 1930.

Diseases	Remaining in Hospital at end of 1929	Yearly Total		Total cases treated	Remaining in Hospital at end of 1930	Remark
		Admissions	Deaths			
<i>Brought forward</i> ..	93	1904	86	1997	130	
59. Diseases of Joints:—						
Synovitis .. ..	—	3	—	3	—	
<b>XII.—Diseases of Infancy.</b>						
60. Infant neglect (infants of three months or over)	—	1	1	1	—	
<b>XIII.—Affections of Old     Age.</b>						
61. Senility .. ..	—	2	2	2	—	
<b>XIV.—Affections produced     by External Causes.</b>						
62. Suicide by cutting or stabbing:—						
Instruments .. ..	—	1	1	1	—	
63. Food Poisoning:—						
Botulism .. ..	—	2	—	2	—	
64. Other accidental Poison- ings .. ..	—	4	3	4	—	
65. Burns (by Fire) ..	—	2	—	2	1	
66. Wounds (by Firearms, war excepted) .. ..	—	3	—	3	—	
67. Wounds (by cutting or stabbing Instruments) ..	2	77	1	79	2	
68. Wounds (by Fall) ..	—	1	—	1	—	
69. Wounds (crushing, e.g. railway accidents &c.) ..	—	13	—	13	1	
70. Injuries inflicted by Animals, Bites, Kicks, &c. .. ..	—	3	1	3	—	
71. A.—Dislocation ..	—	2	—	2	—	
B.—Sprain .. ..	—	8	—	8	—	
C.—Fracture .. ..	—	9	1	9	1	
72. Other external Injuries.	—	1	—	1	—	
<b>XV.—Ill-Defined Diseases.</b>						
73. Diseases not already specified or ill-defined:—						
Ascites .. ..	—	1	1	1	—	
Shock .. ..	—	1	1	1	—	
<i>Total</i> .. ..	95	2038	98	2133	135	



Table VI.

Return of Diseases (Out-Patients) for the year 1930.

Diseases					Male	Female
<b>I.—Epidemic, Endemic, and Infectious Diseases.</b>						
1. Enteric Group:—						
(a) Typhoid Fever	..	..	..	..	1	
(b) Paratyphoid A.	..	..	..	..		
(c) Paratyphoid B.	..	..	..	..		
(d) Type not defined	..	..	..	..	1	
2. Malaria:—						
(a) Tertian	..	..	..	..	321	73
(b) Quartan	..	..	..	..	8	4
(c) Aestivo-autumnal	..	..	..	..	118	39
(d) Cachexia	..	..	..	..	3990	1222
(e) Blackwater	..	..	..	..		
(f) Fever unspecified	..	..	..	..	2290	509
3. Measles	..	..	..	..	12	7
4. Whooping Cough	..	..	..	..	6	6
5. Influenza	..	..	..	..	1307	314
6. Mumps	..	..	..	..	10	1
7. Dysentery:—						
(a) Amoebic	..	..	..	..	39	16
(b) Bacillary	..	..	..	..	42	11
(c) Undefined or due to other causes	..	..	..	..	84	22
8. Leprosy	..	..	..	..	3	6
9. Other Epidemic Diseases:—						
(a) Varicella (Chicken-pox)	..	..	..	..	9	3
(b) Dengue	..	..	..	..	1	
(c) Yaws	..	..	..	..	1645	1493
10. Tetanus	..	..	..	..	2	
11. Tuberculosis, Pulmonary and Laryngeal	..	..	..	..	19	7
12. Tuberculosis disseminated	..	..	..	..	1	1
13. Syphilis:—						
(a) Primary	..	..	..	..	28	4
(b) Secondary	..	..	..	..	40	5
(c) Tertiary	..	..	..	..	87	6
14. Soft Chancre	..	..	..	..	35	
15. A.—Gonorrhoea and its complications	..	..	..	..	385	51
B.—Gonorrhoeal Ophthalmia	..	..	..	..	18	
C.—Gonorrhoeal Arthritis	..	..	..	..	26	
<b>II.—General Diseases not mentioned above.</b>						
16. Cancer or other malignant Tumours of Organs not specified	..	..	..	..	1	
17. Tumours non-Malignant	..	..	..	..	51	6
18. Acute Rheumatism	..	..	..	..	182	35
<i>Carried forward</i>					10762	3841

Table VI.—*Contd.*

Return of Diseases (Out-Patients) for the year 1930.

Diseases					Male	Female
<i>Brought forward</i> ..					10762	3841
19.	Chronic Rheumatism	..	..	..	1778	524
20.	Beri-Beri	..	..	..	683	232
21.	Diabetes (not including Insipidus)	..	..	..	4	3
22.	Anaemia:—					
	(a) Pernicious	..	..	..		
	(b) Other Anaemias and Chlorosis	..	..	..	777	352
23.	Diseases of the Thyroid Gland:—					
	Other diseases of the Thyroid Gland, Myxoedema				1	
24.	Alcoholism	..	..	..	3	
25.	Other General Diseases:—					
	Gout	..	..	..	1	
<b>III.—Affections of the Nervous System and Organs of the Senses.</b>						
26.	Meningitis (not including Tuberculous Meningitis or Cerebrospinal Meningitis)					1
27.	Paralysis:—					
	Hemiplegia	..	..	..	6	6
28.	Epilepsy	..	..	..	4	2
29.	Eclampsia, Convulsions (non-puerperal) 5 years or over				4	3
30.	Infantile Convulsions	..	..	..	9	7
31.	A.—Hysteria	..	..	..	69	46
	B.—Neuritis	..	..	..	1730	371
	C.—Neurasthenia	..	..	..	15	4
32.	Other affections of the Nervous System, such as Paralysis Agitans				6	
33.	Affections of the Organs of Vision:—					
	(a) Conjunctivitis	..	..	..	856	284
	(b) Tumours of the Eye	..	..	..	2	1
	(c) Other affections of the Eye	..	..	..	86	61
34.	Affections of the Ear or Mastoid Sinus				241	94
<b>IV.—Affections of the Circulatory System.</b>						
35.	Other Diseases of the Heart:—					
	(a) Valvular—					
	Mitral	..	..	..	17	5
	Aortic	..	..	..	1	
	(b) Myocarditis	..	..	..	3	
36.	Diseases of the Arteries:—					
	(a) Arterio-Sclerosis	..	..	..	10	1
	(b) Other diseases	..	..	..	2	1
<i>Carried forward</i> ..					17070	5839



Table VI.—Contd.

Return of Diseases (Out-Patients) for the year 1930.

Diseases					Male	Female
<i>Brought forward</i> ..					17070	5839
37. Diseases of the Veins:—						
Haemorrhoids	..	..	..	..	59	10
Varicose Veins	..	..	..	..	1	
Phlebitis	..	..	..	..	1	2
38. Diseases of the Lymphatic System:—						
Lymphangitis	..	..	..	..	1	1
Lymphadenitis, Bubo (non-specific)	..	..	..	..	20	7
39. Haemorrhage of undetermined cause .. ..					8	
V.—Affections of the Respiratory System.						
40. Diseases of the Nasal Passages:—						
Rhinitis	..	..	..	..	27	2
Coryza	..	..	..	..	13	6
41. Affections of the Larynx:—						
Laryngitis	..	..	..	..	68	27
42. Bronchitis:—						
(a) Acute	..	..	..	..	575	138
(b) Chronic	..	..	..	..	477	124
43. Broncho—Pneumonia .. ..					3	
44. Pneumonia:—						
Lobar	..	..	..	..	15	3
45. Pleurisy, Empyema .. ..					7	
46. Asthma .. ..					148	51
47. A.—Diseases of Teeth or Gums:—						
Caries, Pyorrhoea, &c.	..	..	..	..	611	145
B.—Other affections of the Mouth:—						
Stomatitis	..	..	..	..	101	42
48. Affections of the Pharynx or Tonsils:—						
Tonsillitis	..	..	..	..	18	12
Pharyngitis	..	..	..	..	55	15
Foreign body in the throat	..	..	..	..	1	
49. Other affections of the Stomach:—						
Gastritis	..	..	..	..	2	2
Dyspepsia, &c.	..	..	..	..	4502	700
50. Diarrhoea and Enteritis:—						
Under two years	..	..	..	..	11	44
51. Diarrhoea and Enteritis:—						
Two years and over	..	..	..	..	418	98
Colitis	..	..	..	..	2	4
Ulceration	..	..	..	..	11	2
<i>Carried forward</i> ..					24225	7274

Table VI.—Contd.

Return of Diseases (Out-Patients) for the year 1930.

Diseases					Male	Female
<i>Brought forward</i> ..					24225	7274
52.	Ankylostomiasis	..	..	..	687	356
53.	Diseases due to Intestinal Parasites:—					
	Ascaris	..	..	..	774	644
	Trichocephalus dispar	..	..	..	4	1
	Unclassified	..	..	..	258	170
54.	Appendicitis	..	..	..	4	3
55.	Hernia	..	..	..	9	1
56.	A.—Affections of the Anus, Fistula, &c.	..	..	..	1	1
	B.—Other affections of the Intestines Constipation	..	..	..	3685	863
57.	Cirrhosis of the Liver:—					
	(a) Alcoholic	..	..	..		
	(b) Other forms	..	..	..	6	1
58.	Other affections of the Liver:—					
	Jaundice	..	..	..	24	8
VII.—Diseases of the Genito-urinary System						
(non-Venereal).						
59.	Acute Nephritis	..	..	..	24	8
60.	Chronic	..	..	..	80	11
61.	Urinary Calculus	..	..	..		1
62.	Diseases of the Bladder:—					
	Cystitis	..	..	..	40	12
63.	Diseases of the Urethra:—					
	(a) Stricture	..	..	..	13	
	(b) Other	..	..	..	6	1
64.	Diseases (non-Venereal) of the Genital Organs of Man:—					
	Epididymitis	..	..	..	89	
	Orchitis	..	..	..	1	
	Hydrocele	..	..	..	9	
65.	Uterine Haemorrhage (non-puerperal)					7
66.	A.—Metritis	..	..	..		10
	B.—Other affections of the Female Genital Organs:—					
	Displacement of Uterus	..	..	..		2
	Amenorrhoea	..	..	..		78
	Dysmenorrhoea	..	..	..		170
	Leucorrhoea	..	..	..		13
	Vaginitis	..	..	..		1
<i>Carried forward</i> ..					29939	9636



Table VI.—Contd.

Return of Diseases (Out-Patients) for the year 1930.

Diseases					Male	Female
<i>Brought forward</i> ..					29939	9636
<b>VIII.—Puerperal State.</b>						
67.	A.—Normal Labour	..	..	..	..	79
	B.—Accidents of Pregnancy—					
	(a) Abortion	..	..	..	..	4
	(b) Other accidents of Pregnancy	..	..	..	..	8
	(c) Ante-natal examinations	..	..	..	..	49
68.	Puerperal Haemorrhage	..	..	..	..	4
69.	Puerperal Septicaemia	..	..	..	..	188
70.	Sequelae of Labour	..	..	..	..	1
71.	Puerperal affections of the Breast	..	..	..	..	14
<b>IX.—Affections of the Skin and Cellular Tissues.</b>						
72.	Gangrene	..	..	..	..	1
73.	Boil	..	..	..	..	135
	Carbuncle	..	..	..	..	9
74.	Abscess	..	..	..	..	184
	Whitlow	..	..	..	..	27
	Cellulitis:—					98
75.	A.—Tinea	..	..	..	..	2428
	B.—Scabies	..	..	..	..	1919
76.	Other Diseases of the Skin:—					
	Erythema	..	..	..	..	71
	Urticaria	..	..	..	..	4
	Eczema	..	..	..	..	255
	Herpes	..	..	..	..	26
	Psoriasis	..	..	..	..	7
	Elephantiasis	..	..	..	..	35
	Ulcers	..	..	..	..	4591
	Prickly heat	..	..	..	..	16
	Pediculi	..	..	..	..	1
	Impetigo	..	..	..	..	16
<b>X.—Diseases of Bones and Organs of Locomotions (other than tuberculous).</b>						
77.	Diseases of Joints:—					
	Arthritis	..	..	..	..	101
	Synovitis	..	..	..	..	17
<b>XI.—Malformations.</b>						
<b>XII.—Diseases of Infancy.</b>						
78.	Congenital Debility	..	..	..	..	2
<i>Carried forward</i> ..					39882	12361





Charts & Appendices not included



Printers Limited,  
Singapore.