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STATE OF TRENGGANU.

Annual Medical and Sanitary Report

for the year

1929

By

Dr. T. C. LONIE.

Acting Chief Medical Officer.



TRENGGANU

THE ANNUAL MEDICAL AND SANITARY REPORT

For the year ending 31st December, 1929.

I. Administration.

(a) **Staff.** Dr. N. H. Harrison, Chief Medical Officer, proceeded on leave on 6/6/29 and was relieved by Dr. T. C. Lonie, who acted till the end of the year.

It is intended that Dr. Lonie should remain in Trengganu as Health Officer on Dr. Harrison's return.

It is proposed to appoint a European Nursing Sister in 1930. Her duties will be chiefly in connection with maternity work and child welfare in Kuala Trengganu.

The principal subordinate appointments are:—

- 16 Dressers (1 Grade I, 4 Grade II, 3 Grade III, 6 Probationers, 2 Ungraded.)
- 2 Sanitary Inspectors (attached to Sanitary Board.)
- 1 Steward.
- 3 Clerks.
- 3 Vaccinators.

3 Dressers were appointed and 4 resigned. One Pupil Midwife proceeded to Singapore for further training and passed the examination for Certificate B of the Central Midwives Board of Malaya in December.

(b) **List of Ordinances affecting public health enacted during the year.**

Nil.

(c) **Financial.** The financial year of the Trengganu Government (A. H. 1347) closed on 7/6/29.

The main figures affecting the Medical Department are as follows:—

HEADINGS.	Year A. H. 1346	Year A. H. 1347
Total Revenue of State	\$1,402,150.63	\$1,520,149.00
Total Revenue. Sale of medicines and hospital fees ...	1,049.55	1,468.15
Total Expenditure of Medical Department	52,755.78	61,888.61
Percentage of total medical expenditure to total Revenue of State	3.76%	4.07%

II. Public Health.

The prevailing Diseases recorded during the year are as follows:—

DISEASES.	1927	1928	1929
Yaws	2,168	2,921	3,396
Malaria	2,016	3,089	3,370
Fever unspecified	574	705	1,827
Beri Beri	536	1,531	1,297
Diseases of the Skin	2,997	7,041	8,906
Diseases due to Intestinal Parasites	1,324	1,913	1,802
Diseases of Digestive System	2,590	4,851	11,696
Diseases of Respiratory System	512	1,286	1,431

The prevalence of **Skin Diseases** has been noted in previous reports. Its universality is an index of the lack of sanitation among the Malays generally, especially those of the poorer classes. To some extent, however, it would seem to be dependent on the fact that in warm moist climates such as that of Malaya, the various fungi and organisms producing these diseases find an admirable medium for growth in the moist condition of the skin which the climatic conditions produce. The total number of cases treated, including ulcers, was 8,906.

Beri Beri is also prevalent and is of every degree including the Cardiac type with its sudden fatal cardiac attacks. It is commonest among Chinese Coolies especially those engaged on Road Construction work, where housing is unsatisfactory, fresh vegetable are often scarce, and where labourers are exposed to cold and damp, and receive an insufficient variety of food to supply the principles in which their staple of overmilled white rice is so deficient.

The disease is decidedly more common in the Wet Season. The number of cases treated was 1,287 while 10 deaths were noted from the disease.

(II.) Communicable Diseases.

Malaria. It would appear that the previously expressed statement that malaria does not, in Trengganu, occur along the Sea Coast requires some qualification, as the inhabitants of one small sea-port (Marang) were found during the year to be heavily infected, the spleen rate among School children being 84%. There are indications that similar conditions may exist in one or two other places also on the Sea Coast, but the latter statement is only based on hearsay evidence which it is hoped to confirm or otherwise during 1930.

Besides Marang, which is on the mainland, a visit to Pulau Redang disclosed also a population heavily infected, with Malaria, and it is understood that other islands are similarly affected. These islands are, for the most part, rocky and mountainous.

Anopheles maculatus was found breeding in a hill stream close to Pulau Redang Village, while the Marang outbreak is almost certainly due to the same vector breeding in a small hill stream behind the Town. Generally speaking, streams suitable for the breeding of *Anopheles maculatus* spell malaria whether inland or by the sea, and only the absence of these conditions keeps the larger ports—Trengganu, Besut, Dungun and Kemaman free from this disease.

The incidence of malaria represents a period shortly after spells of rain, and is particularly marked after the Monsoon Season when the dry weather allows the breeding of mosquito larvae in the holes and pockets of streams. It is especially a disease of the early part of the dry season but is present to some extent all through the year.

The number of cases of Malaria treated was 3,370 with 6 deaths, while the number of cases of fever unspecified, many of which are probably also due to malaria was 1,827.

Influenza is common and appears to be particularly so along the seaboard.

Dysentery is fairly common, but the cases do not as a rule tend to occur in epidemics to any extent. No doubt most of the population has developed a certain degree of immunity from constant exposure to the risk of infection. The number of cases treated was 238; the mortality does not appear to be high.

One case of smallpox occurred in Besut in March, and one case of Diphtheria in Kuala Trengganu. Both recovered.

Yaws. The treatment of yaws by injection of Bismuth Sodium Tartrate was continued, and in Kuala Trengganu at least, meets with considerable favour. Travelling Dressers also treat a considerable number of sufferers. Stovarsol and the Arsenobenzols have been used in certain cases where the administration of Bismuth Sodium Tartrate was not effective or was unsuitable.

It is a reasonable hope that there will, with the spread of the knowledge of its cure, be a steady diminution in the number of cases seen of gross disability and disfigurement as a result of yaws, and in fact it is feasible to expect the complete disappearance of the disease in the not too remote future.

3,396 cases were treated during the year. Unfortunately many only receive one injection, especially those treated by dressers on tour.

Helminthic Diseases. The population is practically all infected to some degree with helminths. Details of examination of faeces appear in the record of laboratory work on a later page.

Vital Statistics.

(1) **General Native Population.** The population at the last census in 1921 was 153,765 divided as follows Malays 145,523, Chinese 7,246, Indians 211, Europeans 34, Other nationalities 751.

Registration of Births and Deaths has only been in force for 3 years, Vital Statistics are based on the 1921 Census figures.

During the years 1342-1346 the number of immigrants was 42,858, and the number of emigrants 43,866. During the year 1347 the number of immigrants was 19,768 and the number of emigrants 19,327.

Births. 4,841 Births were registered giving a birth rate of 31.48 per mille as compared with 29.62 and 25.62 for the previous years 1346 and 1345 respectively. Of these 2,488 were Male and 2,353 Female. The distribution by Race was:—

Malays	Chinese	Indians	Japanese	Arabs	Javanese
4,615	193	15	4	4	10

Deaths. 4,763 deaths were registered, a death rate of 30.98 per mille as compared with 31.52, and 32.38 for the years 1346 and 1345 respectively. 2,247 deaths were of Males, and 2,516 of Females. Of these deaths 1,643 took place before the age of 12 months, giving an Infantile Mortality of rate of 337.53 as compared with 355.45, and 356.00, the figures for the years 1928 and 1927.

As indicated in a previous report Infantile Mortality is greater in towns than in the country, probably due to the general overcrowding and worse sanitary conditions of the towns, and to the greater frequency of artificial feeding of infants by the inhabitants of the towns. During the year A. H. 1347, the Birth Rate exceeded the Death Rate by 0.50 per mille per annum.

The main causes of deaths at all ages are given below, but it must be pointed out that these are far from accurate since the registrars and informants are persons of no medical knowledge. Tables showing Age, and Race Distribution are also given.

Table showing Causes of Deaths.

DISEASE.						A. H. 1345	A. H. 1346	A. H. 1347
Fever	...	...	...	...	...	2390	851	2,672
Convulsions	...	...	...	...	...	690	643	790
Beri Beri	...	...	...	...	...	541	246	240
Bowel complaints including dysentery	...	...	...	...	...	522	350	243
Respiratory diseases	...	...	...	...	...	132	104	76
Puerperal fever	...	...	...	...	...	65	64	53
Still born	...	...	...	...	...	78	117	161
Old age	...	...	...	...	...	195	191	192
Accidents	...	...	...	...	...	19	50	55
Other causes	...	...	...	...	...	278	149	281

Table showing Deaths according to Race.

Malays	Chinese	Arab	Japanese	Javanese	Indians
4,418	316	3	3	6	15

Table showing Deaths according to Age.

Under 12 months	1—2 years	2—3 years	3—12 years	Adults
1,634	146	133	397	2,453

(2). **General European Population.** The total European population numbered during the year 52 including 8 children. The number, however, is continually fluctuating owing to exigencies of transfer and leave.

The health of those living in the sea coast is very satisfactory but those living inland (Mines and Estates) suffer from a certain amount of sickness, generally malaria. There was no death among the European population during the year.

(3). **European Officials.** There was an average of 17 European Officials resident throughout the year. The health was good probably owing to the fact that, with the exception of three, the officials reside on the sea coast.

(4). **Native Officials.** No register of native officials is available. The total number treated during the year was 7,292 including 1,859 Police.

6 native officials were invalided during the year.

III. Hygiene and Sanitation.

(11) **General Measures of Sanitation.** Routine Sanitary work is carried out in the larger centres under the supervision of Sanitary Inspectors in Kuala Trengganu and Kemaman, and under the supervision of the District Officers elsewhere. Refuse is collected from streets and markets and dumped, burned, or, in wet weather, buried. There are a few concrete drains in Kuala Trengganu but, beyond this, there is to all intents and purposes no sewage system in existence.

During the year a private company inaugurated a scheme of night soil removal in Kuala Trengganu, but this only touches a very few houses, perhaps about a hundred in all, and these mainly Chinese Shop Houses. The night soil is trenched at some distance from the town.

Water supplies are from shallow wells generally unprotected from Surface Population.

Lodging Houses and Eating Shops are inspected periodically, and some attempt is made to enforce a satisfactory degree of cleanliness.

Markets are also inspected, and food exposed for sale, is examined as to wholesomeness.

Recommendations for future work. It will be gathered from the above that the problem of Town Sanitation has not yet been seriously considered. Certain aspects may be briefly touched upon here.

The larger portion of each town consists of Malay kampongs. A typical Malay kampong consists of a group of houses raised 6—8 feet from the ground on wooden posts. Floors are of wood or split bamboo, walls generally of split bamboo, and roofs of attap (manufactured from palm leaf.)

Houses of the better classes may have brick or wooden walls, and tiled roofs.

The houses are built close together, their eaves often almost touching, without any semblance of order, and without any provision for roads or lanes. Drains are of course non-existent, and typically there are no latrines of any description. In the areas away from the sea any clump of vegetation, (occasionally a shallow pit roughly sheltered from the public gaze), serves as a latrine, but in coastal areas the seashore is used. In addition, holes in the floors of the houses serve the purposes of nature as well as forming convenient openings for the discharge of waste water, and the disposal of refuse. The ground beneath the houses which receives this material is never cleared up, and the resultant condition may be better imagined than described. Either part, or the whole of the site of every Malay house consists of a cesspool and rubbish dump as described above, and this is true without distinction of class.

There are, of course, other problems, which spring to the mind. The shop house areas can be easily brought within any scheme, for their owners are more or less accustomed to a town life. It is another matter to bring the Malay kampong house and its owner into the scheme of civilised community life. It involves a radical change in the habits and outlook of a whole people, and cannot be accomplished in a day. It involves the willing co-operation of the Malays themselves, and it is to be hoped that they will realise this. Secondly it involves the co-operation of Government, and regulation by law.

And thirdly, and just as indispensably, does it involve the expenditure of money to carry out schemes of town planning, drainage etc.

It will be the duty of the Health Officer to indicate what is necessary in the way of Legislation and Public Works for the improvements of sanitary conditions, but no great advance need be expected unless and until the finances of State permit the expenditure of a sum of money adequate to the needs of the situation.

Labour Conditions. There is as yet no Labour Code in force in the State. Labourers (chiefly Chinese) are employed in considerable numbers by one large coconut and rubber estate, and by certain mines. Each of these provides medical care for its labour force, and supplies sick returns which are briefly summarised below :—

Estate or Mine	Number of Labour Force	Number of cases treated	Number of Deaths	Death rate per mille
Kretay Plantations	863	231	7	8.11
Bundi Tin Mines	676	829	—	—
Freda Tin Mines	85	227	2	23.53
Nanyo Kogyo Koshi Mines	719	2,283	6	8.34

*Figures for 1928.

During the year a considerable programme of health work has been carried out by the Kretay Coconut and Rubber Plantations on their large estate at Kretay. New Coolie Lines have been erected, old lines altered where necessary, water supplies properly protected, latrines made sanitary and the general sanitation much improved.

The problem of malaria is receiving attention, and drainage and oiling is being carried out. The management of this estate deserve particular commendation for their work in improving the conditions on the estate.

A considerable number of labourers are employed on Road Construction work in the State. These live in scattered Kongsis (communal huts) near their own work, and move on at short intervals to fresh centres. Inevitably conditions are unsatisfactory, and there is a considerable amount of sickness. An effort is being made to induce the labourers to maintain their kongsis and surroundings in a sanitary condition, and the Public Works Department now employs two Dressers, who do a considerable amount of medical work among these labourers.

IV. Port Health Work and Administration.

There is normally no inspection of ships entering ports in Trengganu. On account of Cholera in Southern Siam a system of inspection and supervision of ships and passengers from that country was instituted on 4/6/29, and removed when the danger of introducing the disease was considered to be over, on 22/8/29. During the period 177 ships were inspected.

V. Maternity and Child Welfare.

Changes of staff during the year, and in particular the absence of any trained female assistance especially in the latter part of the year, has to some extent interfered with the work of Clinic established last year.

During the latter part of the year a female Siamese attendant who could speak Chinese and Malay took the place of the probationer midwife who, as previously noted, proceeded in June to Singapore for further training in midwifery.

There has lately been a welcome increase in the number of Malays coming, often from a considerable distance, for treatment.

It has not been possible to obtain a properly qualified Maternity Nurse for the Clinic, but the return of the now qualified midwife from Singapore will undoubtedly aid the work, while the arrival of an European Sister should also be of the greatest value. The latter appointment has been approved for July 1930.

The Maternity ward at the hospital was opened in January 1929, and 21 labours were conducted in it during the year. The absence of any midwife interfered considerably with maternity work outside the hospital, but where necessary cases were attended in their homes.

Ante natal-21 women came for ante natal examination during the year with total attendances of 60.

Post Puerperal Cases. A considerable number of cases of debility following childbirth attended for treatment, and certain of these presented symptoms of Beri Beri.

General. 1,016 women were treated for General Diseases with total attendances of 2,205.

182 infants under 1 year were under care with total attendances of 564.

844 children between the ages of one and twelve years were treated with total attendances of 1,775.

The total number of cases attending the Clinic for treatment was 2,501 with 7,530 attendances. Included in the above figures are 457 women and children attending for treatment of yaws, with total attendances of 2,001. The figures given show a welcome increase in the popularity of the Clinic during the year, the total attendances made numbering 7,530 comparing with 4,879 in 1928 (February—December).

VI. Hospitals and Dispensaries.

The total number of new cases treated in the Hospital, at the Dispensaries, Clinic, Gaol, and Police Stations is given below:—

	1927	1928	1929
New Cases ...	20,147	37,349	45,407
Total Attendances ..	28,418	54,430	70,080

Hospital. The hospital at Kuala Trengganu which is the only Government hospital in the State, consists of 5 general wards 1 Infectious Diseases ward, and 1 Maternity ward with the usual Administrative Offices, Operating Theatre etc.

During the year the Maternity Ward was opened and is very popular with the Chinese Community especially.

A further new general ward was also opened during the year.

It has not been found possible to commence the building of a new hospital in Kemaman though the need is pressing, as this is the most important commercial centre in the State, and the present buildings and staff are insufficient to cope with the work.

It is regrettable that the present financial stringency does not allow of the expansion of the work in this centre.

Record of Hospital Work during the year. The number of admissions to hospital during the year was 1,408 with 90 remaining from 1928, a total of 1,498. The corresponding figures for 1928 being 1,267 admissions, 61 remaining from 1927, a total of 1,328.

There were 76 deaths during the year a percentage of 5.08 of the total admissions, as compared with 35 deaths and a percentage of 2.76 recorded during 1928. The Death Rate is heaviest at the beginning, and at the end of the year, that is, during the wet season when there is always a considerable amount of sickness. The increased mortality probably represents an increase in the use being made of the hospital, but it is a matter for regret that cases so often arrive in a more or less hopeless condition. Thus, of the total deaths 22 occurred within 48 hours of admission. Pulmonary Tuberculosis accounted for 12 deaths. The disease as seen here seems to present the characters of the infantile type—usually more or less acute, involving the bases at an early stage, and progressing more or less rapidly to a fatal issue in a few months. The racial distribution of deaths was Chinese 43, Malays 20, Indians 9, Others 2.

The main diseases encountered with the number of deaths is given below:—

	1928		1929	
	Cases	Deaths	Cases	Deaths
Yaws	240	—	193	—
Malaria	239	7	232	6
Bowel Diseases	187	7	187	7
Beri Beri	56	1	56	1
Pulmonary Tuberculosis	15	2	28	12
Venereal Diseases	127	—	140	—

In addition there were 109 cases of injury (chiefly due to crimes of violence), with 2 deaths both due to stab wounds penetrating the abdominal cavity.

Surgical. 66 Surgical Operations were performed during the year, classified as 13 major operations and 53 minor operations, the corresponding figures being 29 and 72 for 1928. Dental extractions are excluded in both cases.

Laboratory. The following examinations were made during the year mostly at the hospital, Kuala Trengganu.

(a) **Blood.**

Total number of films examined	...	...	...	...	2,218
Benign Tertian Parasites found	...	...	...	...	179
Quartan Parasites found	...	...	...	...	33
Sub-tertian Parasites found	...	...	...	...	153
(of these 19 films showed Crescents)					
Mixed Infections of Malaria	...	...	...	...	10
Negative	...	...	...	...	1,843

(b) **Sputa for Tubercle Bacilli.**

Total number examined	...	...	...	...	216
Tubercle Bacilli found	...	...	...	...	37
Negative	...	...	...	...	179

(c) **Swabs from Nose and Throat.**

Total number examined	...	...	...	...	10
From Nose for B. Laprae	...	...	...	...	2
Negative	...	...	...	...	2
From Throat for B. Diphtheriae	...	...	...	...	8
Positive	...	...	...	...	3
Negative	...	...	...	...	5

(d) **Pus.**

Films examined for Gonococci	76
Positive	41
Negative	35

(e) **Faeces.**

Total number examined	1,974
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Of these 1,523 showed the presence of *Ascaris Lumbricoides*, *Ankylostoma duodenale*, or *Trichuris trichura* either alone or in various combinations. Other parasites noted were *Oxyuris vermicularis*, *Lambia intestinalis*, *Distoma*, *Clonorchis sinensis*, *Dipylidium caninum*, *Crithidia*, *Fasciolopsis buski*. *Entamoeba histolytica* was found in 54 specimens. Of the total number of specimens examined 361 were negative and 1 proved positive. Two specimens were examined for tubercle bacilli by the antiformin method.

(f) **Serums.**

Total number examined for B. Leprae	...	...	...	...	27
B. Leprae found	...	...	...	...	3
Negative	...	...	...	...	24
For Kahn Test	...	...	...	...	135
Positive	...	...	...	...	65
Negative	...	...	...	...	55
Partially Positive	...	...	...	...	15

(g) **Agglutinations.**

Total examinations	...	...	...	...	9
Positive to B. Typhosus only	...	...	...	...	5
Negative	...	...	...	...	4

(h) **Cultures.**

Urine for B. Typhosus	...	...	...	...	8
B. Typhosus found	...	...	...	...	Nil
Faeces	...	...	...	...	20
B. Typhosus found	...	...	...	...	1
Negative	...	...	...	...	19
Scraping from Skin Lesions (Tinea) Negative	...	...	...	...	3
Swabs for B. Diphtheriae	...	...	...	...	3
Positive	...	...	...	...	3

Dispensaries. The out-patient work done in the dispensaries and by the dressers on tour is of the greatest value. Unfortunately the dressers on tour can only deal with illness present at the time of their visits, and without roads, and with the consequent difficulties of transport such visits are of necessity few. As the country is opened up however the work must tend greatly to increase in amount and value. Details of the work done is given below together with figures for the previous year.

Station	Total No. of new cases		Total No. of Attendances		No. of Itineraries	
	1928	1929	1928	1929	1928	1929
Kuala Trengganu						
Dispensary	8,224	7,060	12,450	10,954		
Hospital Outpatients and Travelling Dressers	3,637	3,959	4,149	5,221	9	7
Clinic	1,684	2,501	4,879	7,530		
Prison Outpatients	716	266	1,983	1,647		
Kemaman	8,674	14,729	12,900	20,302	2	35
Dungun	2,309	3,405	2,612	3,611	11	—
Besut	6,928	7,625	10,135	13,671	37	18
Kuala Brang	2,349	4,610	2,954	5,892	63	51
Police Stations (various)	1,168	1,252	1,168	1,252	—	—
Total	35,689	45,407	53,230	70,080	122	111

The figures given indicate a considerable increase in the work done during the year.

Vaccination. In addition 11,303 vaccinations were performed. There are 4 travelling vaccinators who do this work in the districts.

VII. Prison and Asylums.

Prison. There is a prison at Kuala Trengganu, and detention cells at each police station.

A new prison in Trengganu is long overdue, the present buildings being unsatisfactory, though possibly interesting from a historical point of view, and obviously relics of a less enlightened age, but certainly not conforming to any modern sanitary standards.

The position is all the worse in view of the fact all mental cases are, in the absence of a proper mental ward, confined in the prison. This is, of course, against all modern ideas of the treatment of such cases, and it is to be hoped that an effort will be made to provide a proper mental ward at the hospital, as well as to improve the present prison conditions. Here also financial stringency is the reason for the continuance of the present admittedly unsatisfactory arrangements.

Prison Hospital. A small ward is provided at the prison for the treatment of sick prisoners. During the year there were 66 admissions, and no death compared with 73 admissions and no death in 1928. Most serious cases requiring careful nursing are removed to the State Hospital.

The total number of out-patients treated was 266 with total attendances of 1,647 compared with 716 with total attendances of 1,983 in 1928.

Mental Cases. 16 Mental cases were admitted for detention, with 14 remaining from 1928, a total of 30 cases, as compared with 17 cases admitted, 11 cases remaining, and a total of 28 for 1928. 11 cases were discharged and 2 died.

VIII. Meteorology.

During the year, the Meteorological Department of Malaya opened a Station in Kuala Trengganu. The observations being taken at the hospital are meanwhile being continued, but no doubt statistics will be supplied in future by the Meteorological Department. The total rainfall for the year was 210.96 inches.

The highest rainfall in 24 hours was 13.26 inches on 30th November, 1929. Details of total rainfall are given below.

The highest shade temperature recorded was 94° F on 1st April, and 3rd July, and the lowest 64° F on 5th September and 20th December, 1929.

Year	Total Rainfall in inches
1925	110.95
1926	137.04
1927	91.30
1928	166.73
1929	210.96

Further meteorological details are given in Appendix I.

Appendix. I

Meteorological Return for the year 1929.

	TEMPERATURE				RAINFALL		REMARKS
	Solar Maximum	Shade Maximum	Shade Minimum	Range	Mean	Amount in Inches	
January ...	127.30	79.73	75.21	4.52	77.44	9.22	
February ...	130.18	81.00	70.48	11.60	78.54	14.01	
March ...	124.65	82.60	74.69	7.91	77.95	58.65	
April ...	127.53	87.60	78.55	9.05	82.02	4.01	
May ...	143.16	87.69	80.20	7.49	82.90	15.68	
June ...	129.37	87.49	78.71	8.78	82.23	2.68	
July ...	133.99	88.65	78.47	10.18	82.34	4.75	
August ...	127.88	86.63	73.34	13.29	81.90	8.47	
September ...	136.00	87.78	77.26	10.58	81.33	12.87	
October ...	129.52	88.75	76.71	12.04	80.61	23.40	
November ...	112.97	81.99	75.20	6.79	78.37	52.19	
December ...	133.06	83.57	74.99	8.58	78.32	4.13	

Appendix. II

Financial.

Estimates 1347	...	...	...	\$71,840.00
Expenditure				
Personal Emoluments	...	...	...	\$32,982.23
Annually Recurrent	...	...	...	\$22,804.18
Special Expenditure	...	...	...	\$ 6,102.20
		Total	...	\$61,888.61
Receipts	...	...	...	\$ 1,468.15

Table V.

STATE HOSPITAL KUALA TRENGGANU.

Return of Diseases and Deaths (In-Patients) for the year 1929.

Diseases	Remain- ing in Hospital at end of 1928	Yearly Total		Total cases treated	Remain- ing in hospital at end of 1929	Remarks
		Admis- sions	Deaths			
I. Epidemic, Endemic, and Infectious Diseases.						
Enteri Croup:—						
(a) Typhoid fever	—	2	1	2	—	
(b) Paratyphoid A	—	1	—	1	—	
(c) Paratyphoid B	—	1	—	1	—	
Malaria:—						
(a) Tertian	—	25	—	25	2	
(b) Quartan	—	8	—	8	—	
(c) Aestivo-autumnal	—	31	2	31	2	
(d) Cachexia	5	168	4	173	8	
(e) Blackwater	—	—	—	—	—	
Diphtheria	—	1	—	1	—	
Influenza	—	81	—	81	—	
Mumps	1	1	—	2	—	
Dysentery	—	—	—	—	—	
(a) Amoebic	3	25	5	28	1	
Leprosy	2	2	—	4	1	
Yaws	29	193	1	222	25	
Tuberculosis, Pulmonary and Laryngeal	1	28	12	29	4	
Tuberculosis of Bones and Joints	—	1	—	1	—	
Syphilis:—						
(a) Primary	—	3	—	3	—	
(b) Secondary	—	17	—	17	—	
(c) Tertiary	2	13	—	15	—	
(d) Syphilitic Aortitis	—	1	1	1	—	
Soft Sore	—	6	—	6	1	
Gonorrhoea and its complications	2	74	—	76	4	
Gonorrheal Ophthalmia	1	5	—	6	—	
Gonorrheal Epididymitis	1	—	—	1	—	
Gonorrheal Arthritis	16	—	—	16	—	
Bubo	1	15	—	16	1	
II. General Diseases not mentioned above.						
Cancer or other malignant tumours of the stomach or liver						
Lymphosarcoma Neck	—	2	—	2	—	
Tumours (not malignant)	—	13	—	13	—	
Acute Rheumatism	—	7	—	7	—	
Beri Beri	3	56	10	59	7	
Ansemia:—						
(a) Other than Pernicious and Chlorosis	—	3	—	3	—	
(b) Debility	—	2	—	2	1	
Alcoholism	—	1	—	1	—	
Apoplexy:—						
(a) Haemorrhage	—	3	1	3	—	
(b) Embolism	—	1	—	1	—	
(c) Concussion of Brain	—	2	—	2	—	
Septicaemia	—	3	3	3	—	
Carried forward	67	796	40	863	57	

Table V.

STATE HOSPITAL KUALA TRENGGANU.

Return of Diseases and Deaths (In-Patients) for the year 1929.

Diseases	Remain- ing in Hospital at end of 1928	Yearly Total		Total cases treated	Remain- ing in hospital at end of 1929	Remarks
		Admis- sions	Deaths			
<i>Brought forward ...</i>	67	796	40	863	57	
III. Affections of the Nervous System and organs of the Senses.						
Paralysis:—						
(a) Hemiplegia	—	2	—	2	1	
Other forms of Mental Alienation	12	15	3	27	14	
Epilepsy	1	9	2	10	—	
Other affections of the Nervous System such as Paralysis Agitans ...	2	1	—	3	1	
Affections of the organs of Vision.						
Conjunctivitis	1	4	—	5	—	
Other affections of the eye ...	—	3	—	3	—	
Affections of the ear or mastoid sinus						
Otitis media	—	7	—	7	—	
IV. Affections of the Circulatory System.						
Diseases of the Heart:—						
(a) Valvular	1	13	10	14	—	
(b) Mitral	—	1	1	1	—	
(c) Myocarditis	—	3	3	3	—	
Diseases of the Lymphatic System.						
Lymphangitis	—	2	—	2	—	
V. Affections of the Respiratory System.						
Bronchitis						
(a) Acute	—	11	1	11	—	
(b) Chronic	—	5	—	5	—	
Pneumonia						
(a) Lobar	—	7	2	7	1	
Pleurisy	—	2	—	2	—	
Empyema	1	—	—	1	—	
Asthma	—	8	—	8	1	
VI. Diseases of the Digestive System.						
A. Diseases of the Teeth or Gums						
Caries	—	5	—	5	—	
Pyorrhoea	—	3	—	3	—	
Alveolar Abscess	—	2	—	2	—	
Affections of the Pharynx or Tonsils.						
(a) Pharyngitis	—	1	—	1	—	
(b) Retro-Pharyngeal Abscess	1	—	—	1	—	
(c) Peritonsillar Abscess ...	—	1	—	1	—	
A. Ulcer of the Stomach ...	—	1	—	1	—	
B. Ulcer of the Duodenum ...	—	1	—	1	—	
Other affections of the Stomach.						
A. Gastritis	—	1	—	1	—	
B. Dyspepsia	—	2	—	2	—	
Diarrhoea	—	9	—	9	—	
<i>Carried forward ..</i>	86	915	62	1,001	75	

Table V.

STATE HOSPITAL KUALA TRENGGANU.

Return of Diseases and Deaths (In-Patients) for the year 1929.

Diseases	Remain- ing in Hospital at end of 1928	Yearly Total		Total cases treated	Remain- ing in hospital at end of 1929	Remarks
		Admis- sions	Deaths			
<i>Brought forward ...</i>	86	915	62	1,001	75	
Diseases due to Intestinal Parasites						
Ascaris	3	58	—	61	—	
Ankylostomiasis	—	55	—	55	4	
Appendicitis	2	—	—	2	—	
Hernia	—	4	—	4	—	
Affections of the Anus Fistula	—	1	—	1	—	
Other affections of the Intestine	—	—	—	—	—	
Constipation	1	2	—	3	—	
Other affections of the Liver	—	1	1	1	—	
Abscess	—	1	—	1	—	
Hepatitis	—	1	—	1	—	
Peritonitis	—	3	2	3	—	
VII. Diseases of the Genitourinary System (non venereal).						
Acute Nephritis	1	—	1	1	—	
Chronic Nephritis	2	15	3	17	2	
Other affections of the Kidneys:—						
Peri Nephritis Abscess	1	—	—	1	—	
Urinary Calculus	—	1	—	1	—	
Diseases of the Erethra & Appendages						
(a) Stricture	—	1	—	1	1	
(b) Rupture of Erethra	—	1	—	1	—	
(c) Epididymitis	—	2	—	2	—	
(d) Orchitis	—	8	—	8	—	
(e) Hydrocele	—	1	—	1	—	
Cysts or non malignant Tumours of the Ovaries						
A. Metritis	—	—	—	—	—	
B. Other affections of the Female Genital	—	—	—	—	—	
Organs Displacement	—	1	—	1	—	
Dysmenorrhoea	—	4	—	4	—	
VIII. Puerperal State.						
A. Normal Labour	1	20	—	21	—	
B. Abortion	—	3	—	3	—	
(a) Hydatid Mole	—	1	—	1	—	
(b) Abnormal Labour	1	—	—	1	—	
(c) Ante Natal	—	4	—	4	—	
IX. Affections of the Skin and Cellular Tissues.						
Boils	—	8	—	8	—	
Abscess	—	25	—	25	2	
Cellulitis	1	2	—	3	—	
Ulcers	—	77	—	77	3	
A. Tinea	—	4	—	4	—	
B. Scabies	—	9	—	9	—	
C. Dermatitis	1	2	—	3	1	
Other diseases of the Skin						
Erythema	—	2	—	2	1	
Eczema	—	3	—	3	1	
Elephantiasis	—	1	—	1	—	
<i>Carried forward ...</i>	100	1,236	69	1,336	90	

Table V.

STATE HOSPITAL KUALA TRENGGANU.

Return of Diseases and Deaths (In-Patients) for the year 1929.

Diseases	Remain- ing in Hospital at end of 1928	Yearly Total		Total cases treated	Remain- ing in hospital at end of 1929	Remarks
		Admis- sions	Deaths			
<i>Brought forward ...</i>	100	1,236	69	1,336	90	
X. Diseases of the Bones and Organs of Locomotion (other than Tuberculous).						
Diseases of Joints:--						
Arthritis	—	2	—	2	—	
Synovitis	1	2	—	3	—	
XI. Diseases of Infancy.						
Congenital Syphilis	—	1	1	1	—	
XIII. Affections of Old Age.						
Senility	—	4	2	4	—	
XIV. Affections produced by External Causes.						
Food Poisoning	—	1	1	1	—	
Attacks of poisonous animals	—	1	—	1	—	
Burns (by fire)	—	1	—	1	—	
Wounds (by firearms)	—	1	—	1	—	
Wounds (by cutting or stabbing instruments)	3	93	1	96	2	
Contusion	—	13	—	13	—	
Circumcision	—	1	—	1	—	
Wounds (crushing etc., railway accidents)	2	—	—	2	—	
Injuries inflicted by animals bites and kicks	—	1	—	1	—	
A. Dislocation	—	2	—	2	—	
B. Sprain	—	13	—	13	—	
C. Strain	—	3	—	3	—	
D. Fracture Femur	—	4	1	4	—	
Fracture of Finger	—	1	—	1	—	
Fracture of Skull	—	1	1	1	—	
N.B. General.						
Observation	—	12	—	12	—	
Total ...	106	1,392	76	1,498	92	

Table VI.

Return of Diseases (Out-Patients) for the Year 1929.

DISEASES					Male	Female
I. Epidemic, Endemic, and Infectious Diseases.						
1.	Enteric Group.					
	(a)	Typhoid Fever	...	...	3	—
	(b)	Type not defined	...	...	2	8
2.	Malaria.					
	(a)	Tertian	...	...	369	68
	(b)	Quartan	...	...	197	109
	(c)	Aestivo-autumnal	...	...	248	48
	(d)	Cachexia	...	...	1,798	301
	(e)	Fever unspecified	...	...	1,488	339
3.	Measles				1	3
4.	Whooping Cough				17	7
5.	Diphtheria				1	—
6.	Influenza				1,116	228
7.	Mumps				69	20
8.	Dysentery.					
	(a)	Amoebic	...	...	135	39
	(b)	Bacillary	...	...	18	9
	(c)	Undefined or due to other causes	...	...	11	1
9.	Leprosy				7	2
10.	Other Epidemic Diseases.					
	(a)	Rubeola (German Measles)	...	...	1	—
	(b)	Varicella (Chicken-pox)	...	...	1	1
	(c)	Yaws	...	...	2,089	1,214
11.	Tuberculosis, Pulmonary and Laryngeal				46	9
12.	Syphilis.					
	(a)	Primary	...	...	25	—
	(b)	Secondary	...	...	75	3
	(c)	Tertiary	...	...	12	1
13.	Soft Chancre				22	—
14.	A. Gonorrhoea and its complications				255	23
	B. Gonorrhoeal Ophthalmia				4	2
	C. Gonorrhoeal Arthritis				14	—
II. General Diseases not mentioned above.						
15.	Tumours non-malignant				1	—
16.	Acute Rheumatism				775	255
17.	Chronic Rheumatism				546	128
18.	Beri-Beri				994	247
19.	Diabetes. (not including Insipidus)				11	5
20.	Anaemia.					
	(a)	Pernicious	...	...	6	—
	(b)	Other anaemias and Chlorosis	...	...	419	169
21.	Diseases of the Thyroid Gland.					
	(a)	Other diseases of the Thyroid Gland,				
		Myxoedema	...	...	2	2
22.	Alcoholism				8	—
III. Affections of the Nervous System and Organs of Senses.						
23.	Apoplexy.					
	(a)	Thrombosis	...	...	1	—
24.	Paralysis				1	—
	(a)	Hemiplegia	...	...	4	1
25.	Epilepsy				13	1
26.	Eclampsia, Convulsions (non puerperal) 5 years or over				4	3
27.	Infantile Convulsions				—	1
28.	A. Hysteria				—	1
	B. Neuritis				1,635	605
	C. Neurasthenia				84	39
29.	Other affections of the Nervous system, such as					
	Paralysis Agitans				12	1
	(a)	Scitica	...	...	94	11
Carried forward					12,634	3,904

Table VI.

Return of Diseases (Out-Patients) for the Year 1929.

DISEASES					Male	Female
<i>Brought forward ...</i>					12,634	3,904
30.	Affections of the Organs of Vision.					
	(a)	Conjunctivitis	...	...	399	95
	(b)	Tumours of the Eye	...	...	1	—
	(c)	Other affections of the Eye	...	...	37	8
31.	Affections of the Ear or Mastoid Sinus.					
	(a)	Foreign Body in the Ear	...	...	13	8
	(b)	Eustachian Catarrh	...	...	110	19
	(c)	Mastoiditis	...	...	71	7
IV. Affections of the Circulatory System.						
32.	Other Diseases of the Heart.					
	(a)	Valvular	...	...	14	1
	(b)	Aortic	...	...	1	—
	(c)	Disordered Action of the Heart	...	...	12	4
33.	Diseases of the Arteries				11	1
	(a)	Arterio-Sclerosis	...	...	4	1
	(b)	Other diseases	...	...	10	5
34.	Diseases of the Veins.					
		Haemorrhoids	...	...	19	—
		Phlebitis	...	...	3	—
35.	Diseases of the Lymphatic System.					
		Lymphangitis	...	...	1	—
		Lymphadenitis, Bubo, (non-specific)	...	...	74	12
V. Affections of the Respiratory System.						
36.	Diseases of the Nasal Passages.					
		Rhinitis	...	...	12	1
		Coryza	...	...	98	45
37.	Affections of the Larynx.					
		Laryngitis	...	...	30	3
38.	Bronchitis.					
	(a)	Acute	...	...	673	117
	(b)	Chronic	...	...	192	24
39.	Broncho-Pneumonia				4	—
40.	Pneumonia.					
	(a)	Lobar	...	...	20	2
	(b)	Unclassified	...	...	8	2
41.	Pleurisy, Empyema				2	1
42.	Asthma				132	32
VI. Diseases of the Digestive System.						
43.	A. Diseases of Teeth or Gums Caries, Pyorrhoea &c. ...				598	73
	B. Other affections of the Mouth.					
		Stomatitis	...	...	81	22
		Glossitis	...	...	4	2
44.	Affections of the Pharynx or Tonsils.					
		Tonsillitis	...	...	26	8
		Pharyngitis	...	...	27	6
45.	Other affections of the Stomach.					
		Gastritis	...	...	156	44
		Dyspepsia	...	...	4,234	526
46.	Diarrhoea and Enteritis under two years				23	14
47.	Diarrhoea and Enteritis two years and over				3,507	601
		Colitis	...	...	2	1
		Ulceration	...	...	1	—
48.	Ankylostomiasis				640	113
49.	Diseases due to Intestinal Parasites.					
	(a)	Nematoda (other than Ankylostomiasis)	...	...	108	51
		Ascaris	...	...	593	171
		Trichocephalus dispar.	...	...	3	1
		Oxyuris	...	...	7	2
	(b)	Unclassified	...	...	14	10
<i>Carried forward ...</i>					24,609	5,937

Table VI.

Return of Diseases (Out-Patients) for the Year 1929.

DISEASES					Male	Female
<i>Brought forward</i> ...					24,609	5,937
50.	Appendicitis	...	...	...	6	—
51.	Hernia	...	...	...	5	1
52.	A. Affections of the Anus, Fistula, &c.	...	...	...	4	—
	B. Other affections of the Intestines Constipation	...	...	...	1,778	238
53.	Cirrhosis of the Liver	...	...	...	3	2
54.	Other affections of the Liver.	...	...	...
	Hepatitis	...	...	...	1	—
	Jaundice	...	...	...	19	4
VII. Diseases of the Genito-urinary System (non-Venereal.)						
55.	Acute Nephritis	...	...	...	103	21
56.	Chronic	...	...	...	13	3
57.	Urinary Calculus	...	...	...	5	1
58.	Diseases of Bladder Cystitis	...	...	...	29	6
59.	Diseases of the Urethra.	...	...	...
	(a) Stricture	...	...	...	12	—
	(b) Other	...	...	...	4	2
60.	Diseases of the Prostate.	...	...	...
61.	Diseases (non-Venereal) of the Genital Organs of Man	...	...	...
	Epididymitis	...	...	...	12	—
	Orchitis	...	...	...	66	—
	Hydrocele	...	...	...	17	—
	Ulcer of Penis	...	...	...	55	—
61.	A. Metritis.	...	...	...	—
	B. Other affections of the Female Genital Organs	...	...	...	—	3
	Displacement of Uterus	...	...	...	—	3
	Amenorrhoea	...	...	...	—	56
	Dysmenorrhoea	...	...	...	—	15
	Leucorrhoea	...	...	...	—	1
VIII. Puerperal State.						
65.	A. Normal Labour	...	...	...	—	21
	B. Accidents of Pregnancy	...	...	...	—	1
	(a) Other accidents of Pregnancy	...	...	...	—	1
66.	Puerperal Haemorrhage	...	...	...	—	3
IX. Affections of the Skin and Cellular Tissues.						
67.	Boil	...	...	...	244	23
	Carbuncle	...	...	...	8	9
68.	Abscess	...	...	...	138	17
	Whitlow	...	...	...	33	4
	Cellulitis	...	...	...	89	12
69.	A. Tinea	...	...	...	1,707	221
	B. Scabies	...	...	...	1,602	475
70.	Other diseases of the Skin.	...	...	...
	Erythema	...	...	...	81	24
	Urticaria	...	...	...	684	202
	Eczema	...	...	...	304	105
	Herpes	...	...	...	53	11
	Psoriasis	...	...	...	49	15
	Elephantiasis	...	...	...	20	—
	Outaneous Leishmaniasis	...	...	...	22	8
	Ulcer	...	...	...	2,345	228
X. Diseases of Bones and Organs of Locomotion (other than Tuberculous.)						
71.	Diseases of Bones.	...	...	...
	Osteitis	...	...	...	33	23
<i>Carried forward</i> ...					34,143	7,696

Table VI.

Return of Diseases (Out-Patients) for the Year 1929.

DISEASES						Male	Female
<i>Brought forward</i> ...						34,153	7,696
72.	Diseases of Joints.						
	Arthritis	...	...	...	...	92	31
	Synovitis	...	...	...	...	31	15
73.	Congenital Debility					—	7
74.	Other affections of Infancy					14	26
XIII. Affections of Old Age.							
75.	Senility	...	...	...	...	16	5
76.	Food Poisoning						
	Botulism	...	...	...	...	3	1
77.	Attacks of Poisonous Animals.						
	Snake bite	...	...	...	...	3	1
	Insect bite	...	...	...	...	47	4
78.	Other accidental Poisoning					3	6
79.	Burns (by fire)					61	24
80.	Burns (other than fire)					31	9
81.	Wounds (by cutting or stabbing instruments)					1,955	246
82.	Wounds (by fall)					239	58
83.	Wounds (crushing, e.g. railway accidents)					104	10
84.	Injuries inflicted by Animals, Bites, Kicks, &c.					19	1
85.	A. Over fatigue						
	B. Hunger or Thirst	...	...	...	...	5	3
86.	Exposure to heat.						
	Heatstroke	...	...	...	...	2	1
	Sunstroke	...	...	...	...	4	—
87.	A. Dislocation					3	3
	B. Sprain	...	...	...	...	305	16
	C. Fracture	...	...	...	...	16	4
XV. Ill-Defined Diseases.							
88.	A. Diseases not already specified or ill-defined.						
	Ascites	...	...	...	...	1	—
	Oedema	...	...	...	...	9	5
	Asthenia	...	...	...	...	1	—
	Physical Examinations					118	—
Total ...						37,235	8,172



