Annual report on the Medical Department / Straits Settlements.

STRAITS SETTLEMENTS

ANNUAL REPORT OF THE MEDICAL DEPARTMENT

FOR THE YEAR

1932

By

C. J. WILSON, (M.C.) M.D.,
(Director of Medical and Health Services, Straits Settlements)

Published by Authority

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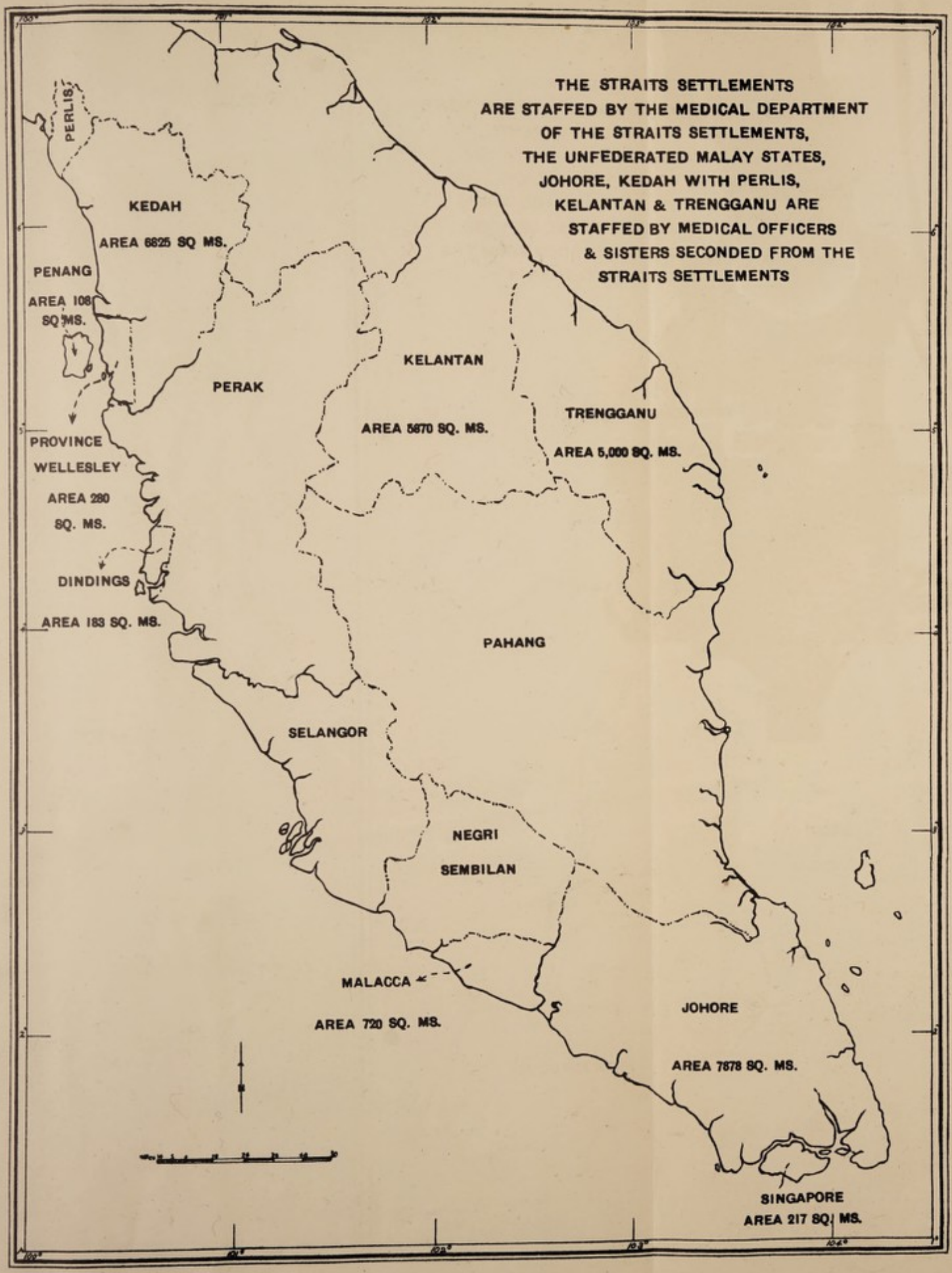
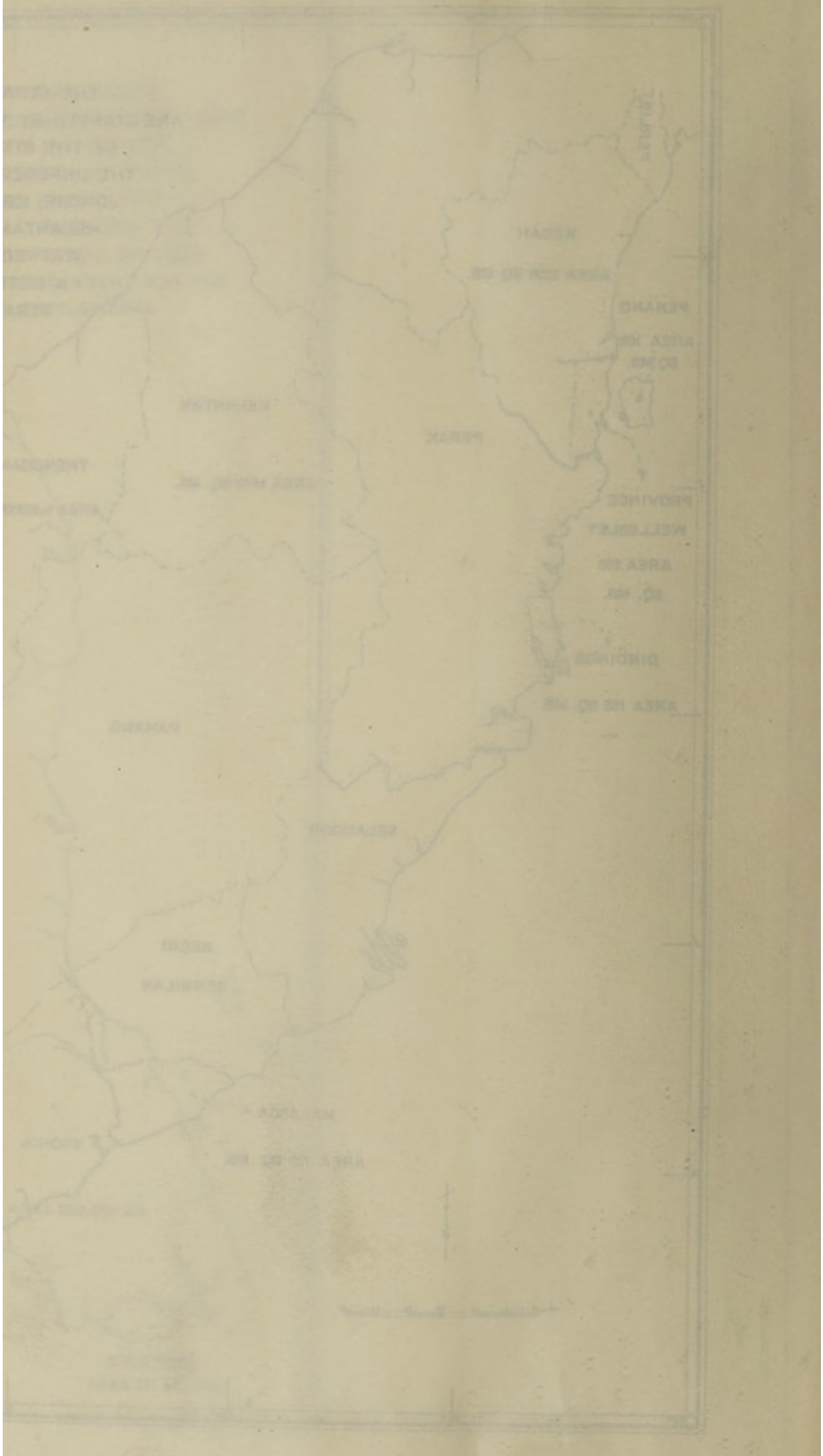

THE STRAITS SETTLEMENTS
ARE STAFFED BY THE MEDICAL DEPARTMENT
OF THE STRAITS SETTLEMENTS,
THE UNFEDERATED MALAY STATES,
JOHORE, KEDAH WITH PERLIS,
KELANTAN & TRENGGANU ARE
STAFFED BY MEDICAL OFFICERS
& SISTERS SECONDED FROM THE
STRAITS SETTLEMENTS
PERLIS
KEDAH
AREA 6825 SQ MS.
PENANG
AREA 108
SQ MS.
PERAK
KELANTAN
AREA 5870 SQ. MS.
TRENGGANU
AREA 5,000 SQ. MS.
PROVINCE
WELLESLEY
AREA 280
SQ. MS.
DINDINGS
AREA 183 SQ. MS.
PAHANG
SELANGOR
NEGRI
SEMBILAN
MALACCA
AREA 720 SQ. MS.
JOHORE
AREA 7878 SQ. MS.
SINGAPORE
AREA 217 SQ. MS.



THE STRAITS SETTLEMENTS MEDICAL REPORT FOR THE YEAR 1932

I.—ADMINISTRATION

(a).—Staff

Dr. C. J. WILSON, M.C., Director of Medical and Health Services, proceeded on leave on 1st April, 1932.

Dr. R. D. FITZGERALD, M.C., acted as Director of Medical and Health Services from 1st April, 1932, till the end of the year.

Dr. W. M. CHAMBERS acted as Deputy Director of Medical and Health Services from 1st January, 1932, till the return from leave of Dr. R. D. FITZGERALD on 20th February, 1932, and again acted from 1st April, 1932, till the end of the year.

2. Dr. C. A. STANLEY was appointed as Medical Officer on 15th April, 1932.

3. The following officers proceeded on leave during the year:—

Name	*Appointment*	*Date*
Dr. W. J. E. PHILLIPS ..	Medical Officer, Singapore ..	5th February, 1932
Dr. C. J. WILSON, M.C. ..	Director of Medical & Health Services, Straits Settlements	1st April, 1932
Mr. T. ROEBUCK ..	Dispensing Chemist, Singapore ..	12th April, 1932
Dr. J. C. TULL	Government Pathologist, Singapore ..	15th April, 1932
Prof. B. M. JOHNS ..	Professor of Clinical Surgery, Singapore	15th April, 1932
* Dr. (Mrs.) L. S. O'MAY ..	Lady Medical Officer, Kedah ..	1st June, 1932
Dr. E. L. ROBERT ..	Medical Officer, Johore	13th July, 1932
Mr. E. A. JOY	Accountant, Medical Department ..	22nd July, 1932
Dr. G. H. GARLICK ..	Physician & Radiologist, Johore ..	9th August, 1932
Dr. W. L. BLAKEMORE ..	Health Officer, Province Wellesley ..	18th August, 1932
Dr. J. S. WEBSTER ..	Radiologist, Singapore	16th September, 1932

4. The following officers returned from leave during the year:—

Name	*Appointment*	*Date*
Prof. J. G. HARROWER ..	Professor of Anatomy, Singapore ..	20th January, 1932
Dr. H. O. HOPKINS ..	Bacteriologist, Singapore ..	27th January, 1932
Dr. R. W. C. KELLY	Chief Medical Officer, Social Hygiene, Singapore	30th January, 1932
Mr. J. S. DE VILLIERS ..	Chief Sanitary Inspector, Penang ..	2nd February, 1932
Dr. R. D. FITZGERALD, M.C.	Principal Medical Officer, Johore ..	20th February, 1932
Dr. E. D. LINDOW ..	Medical Officer, Singapore ..	30th April, 1932
Dr. J. M. H. LOWSON ..	Medical Officer, Singapore ..	30th April, 1932
Prof. B. A. R. GATER ..	Professor of Biology, Singapore ..	8th June, 1932
Dr. E. V. LUPPRIAN ..	Medical Officer	24th June, 1932
Dr. J. V. LANDOR ..	Medical Officer	21st July, 1932
Dr. R. WALKINGSHAW ..	Medical Officer	6th September, 1932
Dr. W. J. E. PHILLIPS ..	Medical Officer	30th September, 1932
Dr. R. D. GROSS ..	Health Officer	10th October, 1932
Dr. J. W. WINCHESTER ..	Medical Officer	14th October, 1932
Mr. T. ROEBUCK ..	Dispensing Chemist, Singapore ..	10th December, 1932

5. The following officers, resigned or were retrenched during the year:—

Name	*Appointment*	*Date*
Dr. P. J. O'SHAUGHNESSY ..	Medical Officer, Singapore ..	16th July, 1932
Dr. G. H. SWAPP ..	Medical Officer, Labuan	1st September, 1932
Dr. L. F. DAY	Medical Officer, Kedah	1st September, 1932
Dr. G. Q. CHANCE ..	Medical Officer, Penang	1st October, 1932

* Prior to retirement.

6. The following officers were seconded for service in the Unfederated Malay States:—

Name	*Appointment*	*Date of Secondment*
Dr. J. GRAY ..	State Surgeon, Kedah ..	11th September, 1931
Dr. L. W. EVANS ..	Chief Medical Officer, Kelantan ..	1st January, 1929
Dr. J. I. BAEZA ..	Senior Health Officer, Kedah ..	9th June, 1929
Dr. W. J. MOIR	Senior Health Officer, Johore ..	9th June, 1929
Dr. G. H. GARLICK ..	Physician and Radiologist, Johore ..	25th November, 1927
Dr. (Mrs.) L. S. O'MAY ..	Lady Medical Officer, Kedah ..	6th May, 1931 to 31st May, 1932
Dr. J. PORTELLY ..	Health Officer, Johore	17th September, 1932
Dr. J. H. BOWYER ..	Health Officer, Kelantan	1st January, 1931
Dr. J. V. LANDOR ..	Medical Officer, Johore	1st May, 1929
Dr. E. L. ROBERT ..	Medical Officer, Johore	1st November, 1931 to 12th July, 1932
Dr. R. A. MACNAB ..	Medical Officer, Kedah	16th December, 1930
Dr. G. H. LOWE ..	Health Officer, Johore	7th September, 1929
Dr. R. C. BURGESS ..	Health Officer, Johore	22nd August, 1930
Dr. J. A. P. CAMERON ..	Medical Officer, Kedah	1st February, 1931
Dr. M. EDWARDS ..	Medical Officer, Johore	12th August, 1931
Dr. W. PULESTON-JONES ..	Health Officer, Johore	10th July, 1931
Dr. E. W. MARTINDELL ..	Medical Officer, Brunei	14th November, 1931
Dr. (Miss) E. M. WEIR ..	Lady Medical Officer, Kedah ..	31st May, 1932

7. The following officers were lent to the Federated Malay States during the year:—

Name	*Appointment*	*Date*
Dr. N. H. HARRISON ..	Superscale Medical and Health Officer	16th June, 1932
Dr. W. J. E. PHILLIPS ..	Medical Officer	30th September, 1932
Dr. R. WALKINGSHAW ..	Medical Officer	6th September, 1932
Dr. D. R. MCPHERSON ..	Medical Officer	15th April, 1932
Dr. R. D. GROSS ..	Health Officer	10th October, 1932
Dr. R. G. SPINK ..	Health Officer	From 1st Sept., 1932 to 15th Oct., 1932

8. *European Matrons and Sisters.*—The number of Matrons and Sisters in the service, including those seconded to the Unfederated Malay States, was 99 in 1932.

9. The staff of the local medical service numbered 79.

(b).—Ordinances

No ordinances respecting public health were passed during 1932.

(c).—Financial

The actual expenditure on medical and health services and the revenue collected in the various settlements were:—

EXPENDITURE

	$
Singapore	2,315,900
Penang	1,016,967
Malacca	319,413
Labuan	23,261
Total ..	3,675,541

REVENUE

	$
Singapore	781,431
Penang	385,916
Malacca	89,403
Labuan	3,278
Total ..	1,260,028

Note:—$1 = 2*s.* 4*d.*

In addition to the above the Health Services of the Municipalities spent:—

	$
Singapore	796,740
Penang	151,394
Malacca	38,186
Total ..	986,320

Further particulars are given in Table II on page 78.

II.—PUBLIC HEALTH

(a).—General Remarks

MONTHLY MORTALITY FIGURES FOR THE PAST SIX YEARS

	1927	*1928*	*1929*	*1930*	*1931*	*1932*
January	2,734	2,577	2,571	2,387	2,487	2,224
February	2,536	2,219	2,139	2,117	1,956	1,947
March	2,792	2,401	2,410	2,411	2,004	1,924
April	2,891	2,615	2,307	2,689	2,208	2,026
May	3,164	3,004	2,734	3,219	2,903	2,279
June	3,121	2,921	2,629	3,194	2,742	2,173
July	3,301	2,980	2,571	2,870	2,323	1,961
August	3,167	2,495	2,302	2,603	2,255	1,834
September	2,975	2,496	2,323	2,588	2,033	1,867
October	3,213	2,524	2,443	2,658	2,046	2,042
November	2,907	2,607	2,482	2,639	2,112	2,092
December	2,760	2,677	2,633	2,553	2,300	2,172
Total Deaths ..	35,561	31,516	29,544	31,928	27,369	24,541

The economic depression of 1932 continued throughout the year under review necessitating further repatriation of Chinese and Indian labourers. One hundred and fifty thousand nine hundred and eighteen deck passengers returned to China and 52,911 deck passengers returned to India, as compared with 197,317 to China and 62,991 to India in 1931.

The continued high standard of health throughout 1932 may be attributed in part to the emigration of many sick and decrepit persons, but it is reasonable to conclude from the low mortality figures for communities not affected by emigration, that the year under review was a healthy one.

The number of admissions to hospitals decreased from 58,815 in 1931 to 54,442 in 1932.

The universal economic depression and the consequent lowering of the standard of living curiously enough did not give rise to any definite increase in those diseases which one would expect as a result from deficiency in quality or quantity of food.

The total number of deaths recorded in 1932 was 24,541, compared with 27,369 in the previous year.

The death-rate was 21.39 per mille, as compared with 24.47 per mille in 1931, and is the lowest yet recorded.

The infantile mortality was 162.43 per mille, compared with 180.65 in 1931.

The death rate as shown above is calculated on a total mid-year population of 1,147,205, a figure derived from the 1931 census figure by a process of geometrical progression. It is probable that such a process does not yield a correct result under the conditions recently prevailing, with the number of emigrants from Malaya yearly exceeding the number of immigrants. An alternative method of calculating the population is that adopted by the Registrar-General of Statistics, Straits Settlements, who derives the mid-year population for 1932 from the census figures by adding the excess of registered births over deaths and substracting the excess of emigrants over immigrants. The figure for the population of the Straits Settlements (excluding Christmas Island and Cocos Island) so obtained is 1,074,694, and it is likely that this figure is nearer the truth than the figure calculated by geometrical progression, though complete accuracy cannot be claimed since emigration and immigration figures are only available for Malaya as a whole, and the actual emigration and immigration figures for the Colony have to be estimated as a proportion of the total.

The following table sets out the results obtained by this alternative method (Balancing equation method).

Government of (1)	Local Registration Area (2)	Malays (3)	Europeans (4)	Eurasians (5)	Chinese (6)	Indians (7)	Others (8)	Total (9)
Straits Settlements	Singapore Island ..	73,221	7,675	7,099	402,854	45,022	8,247	544,118
	Penang Island ..	40,693	1,233	2,087	117,472	23,864	1,862	187,211
	Province Wellesley	71,659	218	267	42,358	21,259	596	136,357
	Dindings ..	7,770	22	16	6,464	4,068	80	18,420
	Malacca ..	96,953	309	2,041	61,548	19,699	637	181,187
	Labuan ..	5,009	22	36	2,133	139	62	7,401
	Total, S.S. ..	295,305	9,479	11,546	632,829	114,051	11,484	1,074,694

The distribution of the population, on an estimated total of 1,147,205, was as under:—

Singapore	580,438
Penang	204,011
Province Wellesley	142,820
Dindings	20,862
Malacca	191,335
Labuan	7,739
	1,147,205

The deaths registered in the Straits Settlements were classified as follows:—

—	Singapore	Penang	Province Wellesley	Dindings	Malacca	Labuan	Total
Died in hospital	3,413	1,019	311	54	510	..	5,307
Certified by private medical practitioners	2,611	715	..	1	259	18	3,604
Certified by Registering officers ..	3,456	1,983	11	1	478	..	5,929
Uncertified	2,360	1,224	2,823	303	2,801	90	9,701
Total ..	11,840	4,941	3,145	359	4,048	208	24,541

The greatest accuracy in recording the cause of death was attained in Singapore city, where 63.5 per cent. of the deaths were certified by registered medical practitioners.

(b).—General Diseases

Beri-Beri.—The deaths registered as due to beri-beri in the last 10 years numbered:—

Year	*Number of deaths*	*Year*	*Number of deaths*
1923	904	1928	1,146
1924	910	1929	944
1925	973	1930	1,047
1926	1,098	1931	911
1927	1,528	1932	725

Attention was drawn in the 1931 Report to the fact that a diminished mortality from beri-beri has coincided in past years with periods of lessened prosperity. The figure for the year 1932 bears out this observation.

Pneumonia.—Pneumonia accounted for 1,860 deaths compared with 2,373 in the previous year. Three hundred and two deaths from this disease occurred within the Singapore city municipal area.

Convulsions.—This term is used to cover a number of incorrectly diagnosed cases. Three thousand eight hundred and fifteen deaths were recorded in 1932

as due to convulsions as against 4,607 in 1931. This figure represents 15% of the total deaths in the Straits Settlements.

(c).—Dangerous Infectious Diseases

Plague.—No case of plague occurred in the Straits Settlements during the year.

Cholera.—One case and one death were reported from an adjacent island.

Small-pox.—There were eight cases of small-pox, five of which proved fatal. All eight cases occurred in Singapore.

Cerebro-spinal fever.—Only eight deaths from this disease occurred during 1932.

(d).—Other Infectious Diseases

Tuberculosis.—Two thousand one hundred and sixty-eight deaths were reported as due to pulmonary tuberculosis, of these 1,088 occurred in Singapore city. While it must be admitted that very many cases of pulmonary tuberculosis escape detection, available statistics tend to show that tuberculosis is not on the increase. Housing improvement schemes and town planning schemes which are now in progress it is hoped will give a downward trend to the mortality curve for this disease. Special accommodation is provided in each Government hospital for tuberculous cases. At the General Hospital, Singapore, special treatment is available and similar accommodation is provided for in the new hospitals at Penang and Malacca. Tuberculosis wards at out-station hospitals are almost wholly occupied by advanced and hopeless cases.

The following tables show the downward trend of the mortality:—

	1930	*1931*	*1932*
Estimated population of the Straits Settlements	1,168,806	1,118,511	1,147,205
Total deaths from all causes ..	31,928	27,369	24,541
Death-rate per thousand ..	27.32	24.47	21.39
Total deaths from pulmonary tuberculosis	2,795	2,587	2,168
Pulmonary tuberculosis death-rate per thousand	2.39	2.31	1.89

Year	*Deaths from tuberculosis in the Colony*	*Deaths from tuberculosis in Singapore city*
1927	2,903	1,523
1928	2,727	1,411
1929	2,710	1,500
1930	2,795	1,622
1931	2,587	1,377
1932	2,168	1,088

That pulmonary tuberculosis is an urban problem rather than rural is shown by the following figures:—

	Estimated Population	*Death-rate from all diseases per thousand*	*Number of deaths from Tuberculosis*	*Tuberculosis death-rate per thousand*
Singapore Municipality ..	470,271	20.12	1,088	Cities 2.31
George Town (Penang) ..	152,908	20.93	338	
Malacca Municipality ..	39,710	22.13	107	
Rural areas of Colony ..	484,316	22.63	635	Rural areas 1.31

(e).—Malaria

The year 1931 was considered remarkable for the large decrease in the number of deaths attributed to malaria and fever unspecified, but the figures for the year 1932 show a still larger decrease.

The figures for the last seven years show the progressive decline:—

Year	*Malaria*	*Fever unspecified*	*Total*
1926	6,452	2,398	8,850
1927	6,283	2,161	8,444
1928	5,798	1,636	7,434
1929	4,648	1,764	6,412
1930	5,018	1,995	7,013
1931	3,506	1,513	5,019
1932	2,601	2,051	4,652

This progressive decline may be ascribed to several factors. In the first place, during recent years the incidence of malaria in Malaya has been comparatively light, for reasons not yet ascertained. In the second place many sick and debilitated persons have left the country. There has been little immigration of non-immune persons, and there has been little movement of

labour within the Colony; lastly, it is to be hoped that some of the reduction may be ascribed to greater efficiency of anti-malarial measures. No relaxation of anti-malarial measures can be allowed, since conditions cannot be expected always to remain as at present. With a renewal of trade and a return to more normal conditions on estates and mines there will be a large influx of non-immune labour into the country, and agricultural enterprise will necessitate the opening up of new land; these two factors, combined with the free movement of labour from place to place, will surely tend to an increase in the number of malarial cases. The usual periodical increase in malaria generally is also to be anticipated.

(f).—Bowel Diseases

Dysentery.—There were 541 deaths compared with 611 in the previous year; of the deaths occuring in hospital 78 were ascribed to amœbic dysentery, 83 to bacillary dysentery and 24 to undefined dysentery.

Diarrhœa and enteritis were recorded as the causes of 1,342 deaths in 1932, compared with 1,247 deaths in 1931.

Enteric Fever.—One hundred and fourteen cases were recorded as due to enteric fever; 56 of these deaths occurred in the Settlement of Singapore, 114 cases were notified to the Municipality of Singapore. Probably the root cause of enteric fever in the towns is the itinerant hawker of foodstuffs.

In 1932 His Excellency the Governor, Straits Settlements, appointed a Committee to investigate the hawker question in Singapore. If and when the recommendations of this Committee are put into operation it is hoped that a greater measure of control over hawkers will result in a decrease of enteric fever.

(g).—Diphtheria

Each year shows an increasing number of deaths under this heading. The increase in the main is due to more accurate diagnosis but it is probable that this disease is definitely on the increase.

Year	*Deaths in the Colony*	*Cases notified in Singapore city*
1926 ..	.. 15	46
1927 ..	.. 16	29
1928 ..	.. 21	59
1929 ..	.. 31	57
1930 ..	.. 31	63
1931 ..	.. 43	65
1932 ..	.. 56	124

(h).—Venereal Diseases

There was a decrease in the total number of cases of venereal disease treated at Government clinics and dispensaries, the number of new cases being 27,746 in 1932, against 28,805 in 1931. The total number of attendances was 360,545 during 1932, compared with 346,619 during 1931.

(For details of anti-venereal work *see* Appendix *G.*)

(i).—Leprosy

Reports on the Leper Settlements are attached as Appendices *A* and *B.*

The total number of new cases admitted during the year was 271, as compared with 281 during 1931. The following table shows the figures for the various Settlements:—

—		Remaining on 31-12-31	Admitted	Died	Absconded	Transferred	Discharged	Remaining on 31-12-32
Men	Pulau Jerejak, Penang	679	* 194	80	9	Nil	19	765
	Singapore	74	125	16	20	† 88	4	71
Women	Penang	62	18	11	..	..	2	67
	Singapore	86	22	4	..	..	2	102
	Total ..	901	359	111	29	88	7	1,005

* Includes 88 patients transferred from Singapore.
† Transferred to Leper Settlement, Pulau Jerejak.

(j).—Helminthic Diseases

Ankylostomiasis.—During the year 1,319 cases of ankylostomiasis were admitted and treated in hospital; of these 19 died.

This disease is widespread in Malaya and gives rise to a lowered standard of health amongst the rural population and labouring classes.

Ascariasis.—Infestation with round worms is frequent in the Asiatic population.

Taeniasis.—This condition is rare in Malaya.

(k).—Improvement of Public Health

Two graphs and three diagrams numbered I, II, III, IV and V are enclosed. The graphs demonstrate the improvement in public health during the last generation.

Graph No. I shows the mean monthly death-rate in Singapore from all causes in the decennial periods 1903–1912 and 1913–1922 and 1923–1932.

The diagrams are designed to show the amount of disease and of death that is possibly preventable.

(l).—Vital Statistics

Under heading Table III, pages 197 to 203 the following ten tables are appended:—

Table III A.—Estimated population with birth and death-rates for the years 1931 and 1932.

Table III B.—Quarterly death-rates for various parts of the Colony during the past three years.

Table III C.—Population estimated racially and collectively of the Straits Settlements for the years 1932, 1931 and 1930.

Table III D.—Births registered in the Straits Settlements during 1932 and their ratio per mille of population.

Table III E.—Births registered in the Straits Settlements during 1932 according to nationalities.

Table III F.—Deaths registered in the Straits Settlements according to nationalities.

Table III G.—Deaths registered in the Straits Settlements during 1932 under different groups of ages.

Table III H.—Table showing the infantile mortality (under one year) in the Straits Settlements including children born elsewhere.

Table III I.—Table showing the infantile mortality (under one year) in the Straits Settlements, according to nationalities, excluding children born elsewhere.

Table III J.—Deaths registered in the Straits Settlements as regards certificates in the year 1932.

The number of births registered throughout the Straits Settlements during the year 1932 was 41,106 (males 21,196 and females 19,910) as against 41,361 (males 21,502 and females 19,859) in the previous year; this represents a crude birth-rate of 35.83 per mille persons living as compared with 36.98 in 1931 and 38.25 in 1930.

In every 100 births registered, there were 51.56 males and 48.44 females.

One thousand four hundred and sixty still-births were registered in 1932, as compared with 1,537 in the previous year. The percentage to those born alive was 3.55 as against 3.72 in 1931 and 3.94 in 1930.

The highest birth-rate according to nationalities was 37.84 per mille of population amongst the Malays, the Chinese coming next with a ratio of 37.39 per mille of population *vide* Table III *E*.

The deaths from all causes in 1932 were 24,541 (males 14,773 and females 9,768) as against 27,369 (males 16,703 and females 10,666) in the previous year.

The average death-rate for the last 10 years was 26.48 per mille.

Death-rates for the last 31 years are:—

Year	*Ratio per mille*	*Year*	*Ratio per mille*
1901 (Census)	39.85	1917	36.98
1902	42.96	1918	43.85†
1903	39.49	1919	33.04
1904	39.00	1920	33.20
1905	40.51	1921 (Census)	31.54
1906	37.82	1922	30.68
1907	39.07	1923	27.80
1908	43.06	1924	27.42
1909	37.58	1925	27.26
1910	41.88	1926	31.81
1911 (Census)	46.46	1927	33.55
1912	39.01	1928	28.76
1913	34.93	1929	26.10
1914	34.13	1930	27.32
1915	29.15*	1931 (Census)	24.47
1916	30.70*	1932	21.39*

The Municipal Health Officer, Singapore, reports the death-rate for the city as 20.12 per mille against 25.20 and 27.73 in the two previous years. Two hundred and thirty-seven persons died who had been less than three months resident in Singapore, deducting these the death-rate is reduced to 19.65 per mille.

The highest racial death-rate in the Colony was amongst Malays with a ratio of 23.96 per mille of population, the Chinese being next with a ratio of 21.34 per mille of population.

It is always difficult to assess the true infantile mortality. In illustration of this, the figures for the Singapore Municipal area where registration is more accurate than elsewhere, are quoted. Sixteen thousand five hundred and eighty-nine children were born in this area, a birth-rate of 35.28 per mille; infantile deaths numbered 2,994 a rate of 180.5 per 1,000 births.

The infantile mortality rate for the Straits Settlements is 162.43 per mille.

(m).—Sickness, Invaliding and Deaths among European and non-European Officials

Table showing the sick, invaliding and deaths of European officials of all ranks:—

	1928	*1929*	*1930*	*1931*	*1932*
1. Total number of European officials on the establishment	698	822	835	2,089‡	2,168‡
2. Average number resident in Colony	607.4	709.5	734.6	1,993.12	2,041.84
3. Total number on sick list	427	433	483	439	343
4. Total number of days on sick list	4,952	4,536	4,408	4,662.5	3,187
5. Total number invalided	6	10	12	21	21
6. Total deaths	4	2	7	11	7
7. Total deaths in Colony	4	2	6	7	5
8. Average daily number on sick list	.69	12.43	12.07	12.77	8.71
9. Average number of days on sick list	11.62	10.47	9.12	10.62	9.29
10. Percentage of deaths to number resident	.65	.28	.95	.50	.34
11. Percentage of sick to the average resident during the year	70.29	61.02	65.75	17.26	16.79

Table showing the sick, invaliding and deaths of non-European officials:—

	1928	*1929*	*1930*	*1931*	*1932*
1. Total number on the establishment	9,445	11,362	13,377	11,707	11,600
2. Average number resident	8,961.4	10,776.8	12,594.2	11,026.1	10,930.87
3. Total number on sick list	6,244	13,357	12,702	8,190	8,376
4. Total number of days on sick list	49,728	69,292	68,393	50,102	55,164
5. Total number invalided	132	235	387	267	249
6. Total deaths	36	49	77	117	59
7. Average daily number on sick list	1.25	189.84	187.37	137.27	150.72
8. Average number of days on sick list	7.96	5.18	4.65	6.11	6.59
9. Percentage of deaths to number resident	.40	.45	.61	.64	.53
10. Percentage of sick to number resident	69.67	123.94	116.73	43.28	76.63

* Several thousands of decrepit Chinese were repatriated in 1915 and 1916 as a war measure, and in 1932 on account of economic depression.

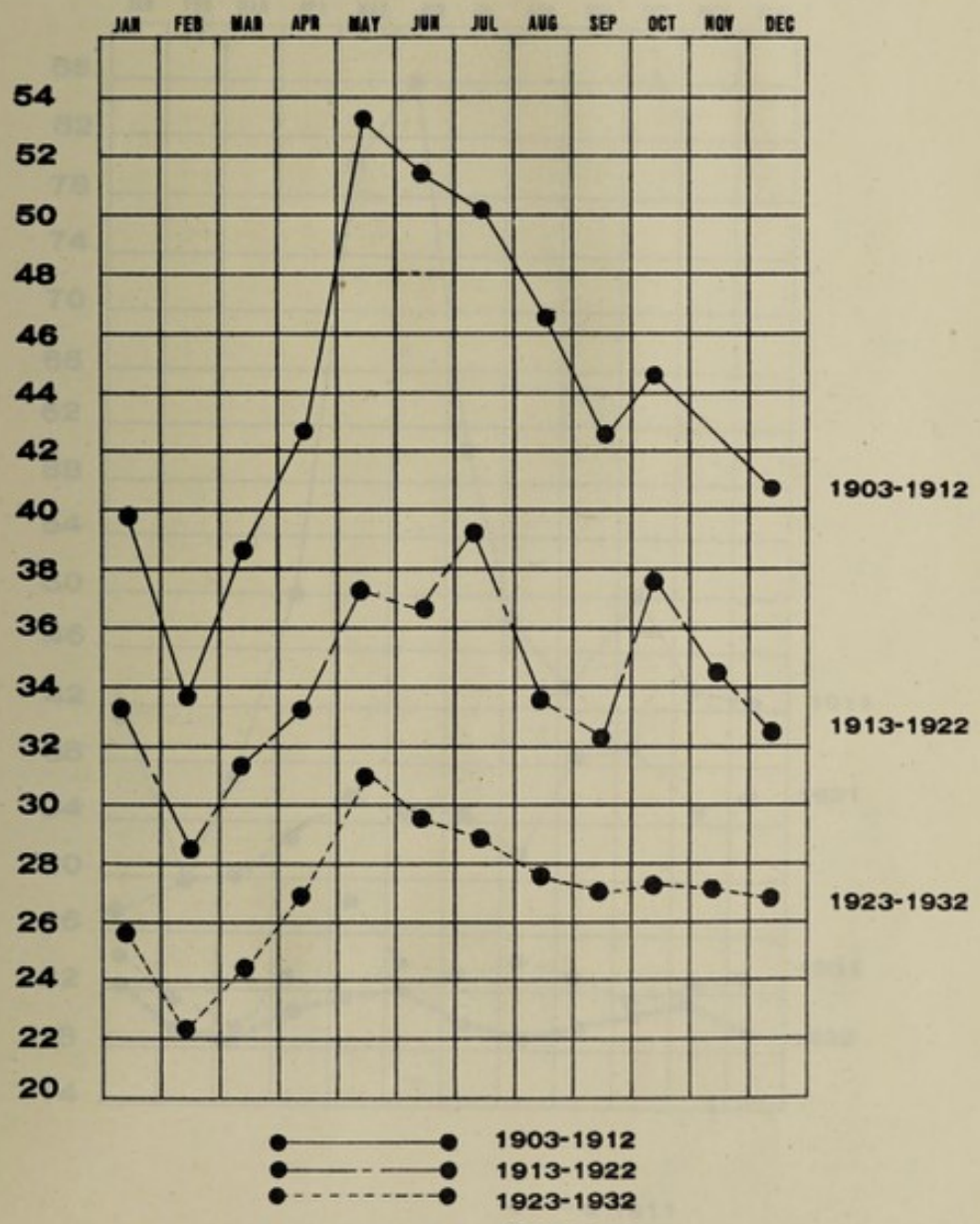
† The Influenza pandemic occurred in 1918.

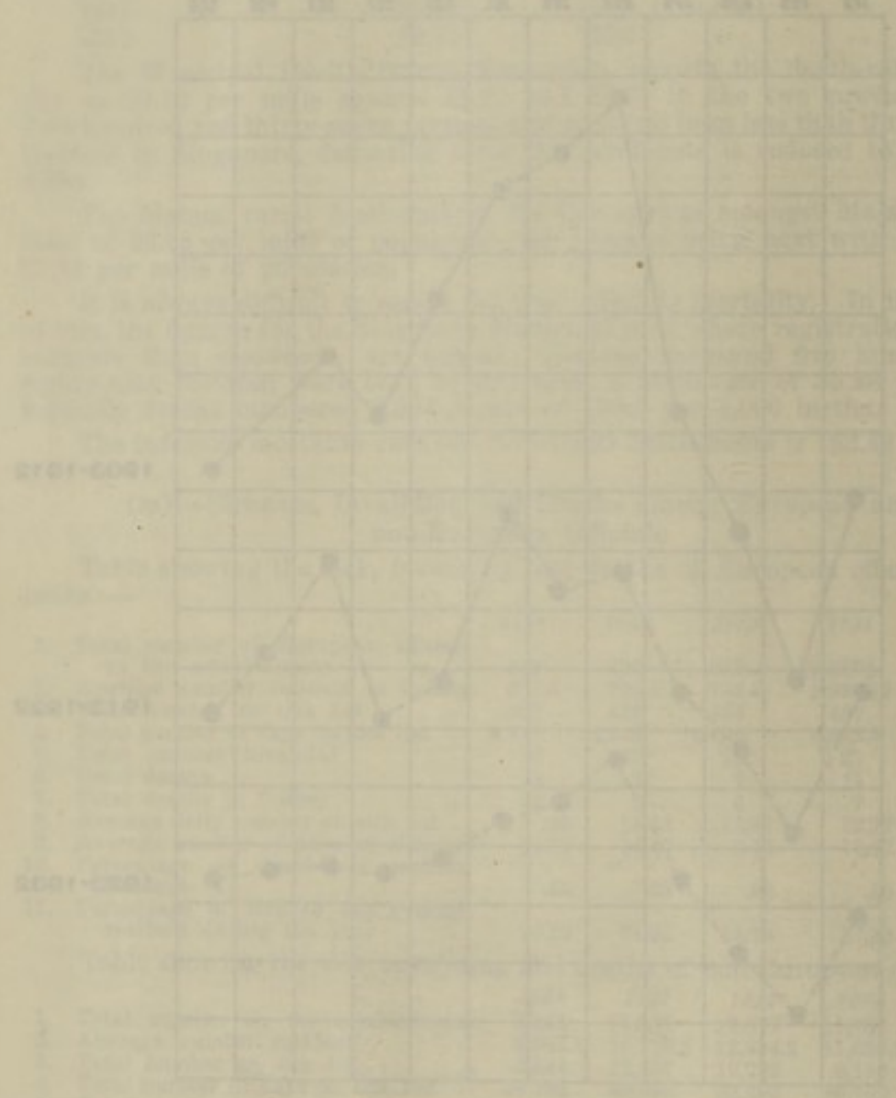
‡ Increase due to the inclusion of other ranks not included in previous years.

I

SINGAPORE

MEAN MONTHLY DEATH RATE FROM ALL CAUSES.

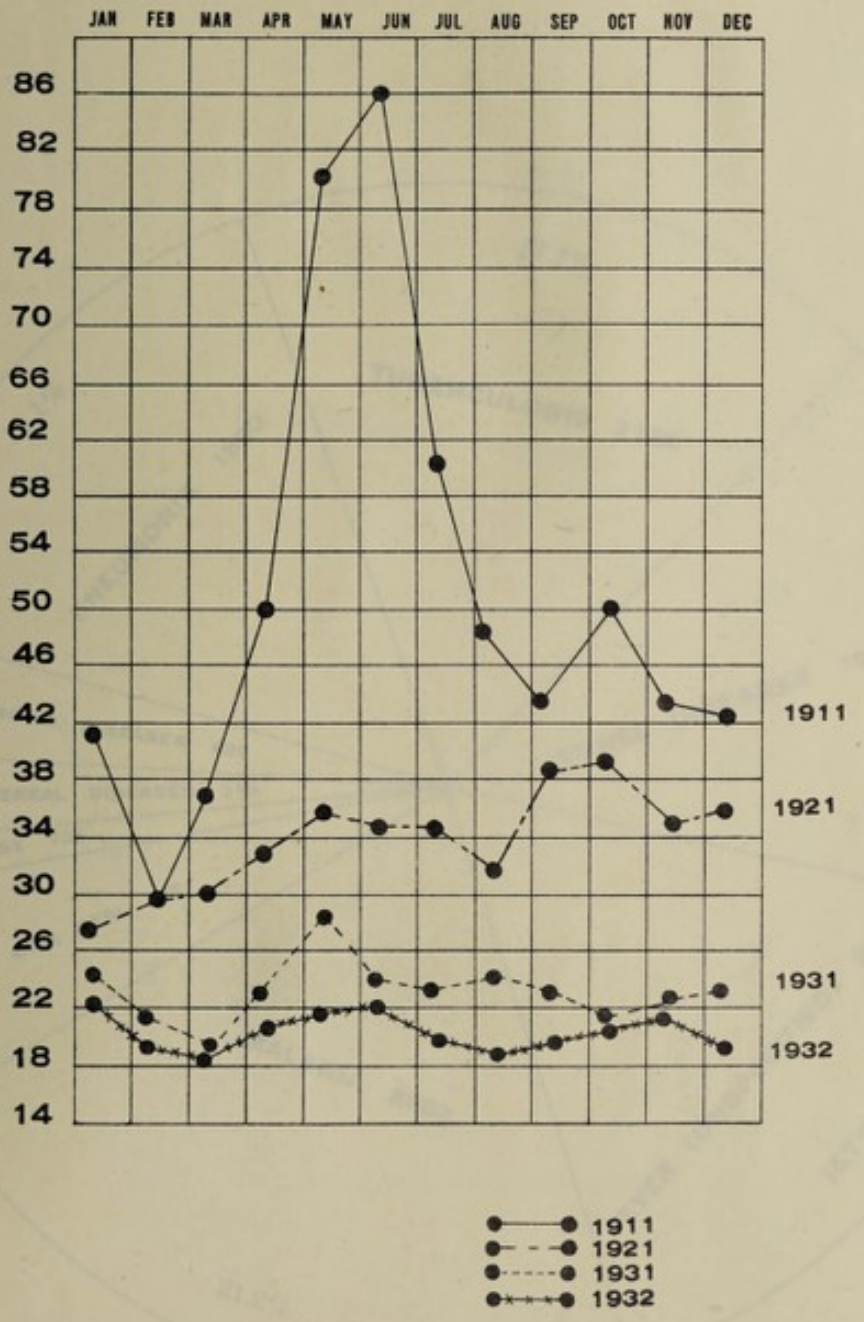


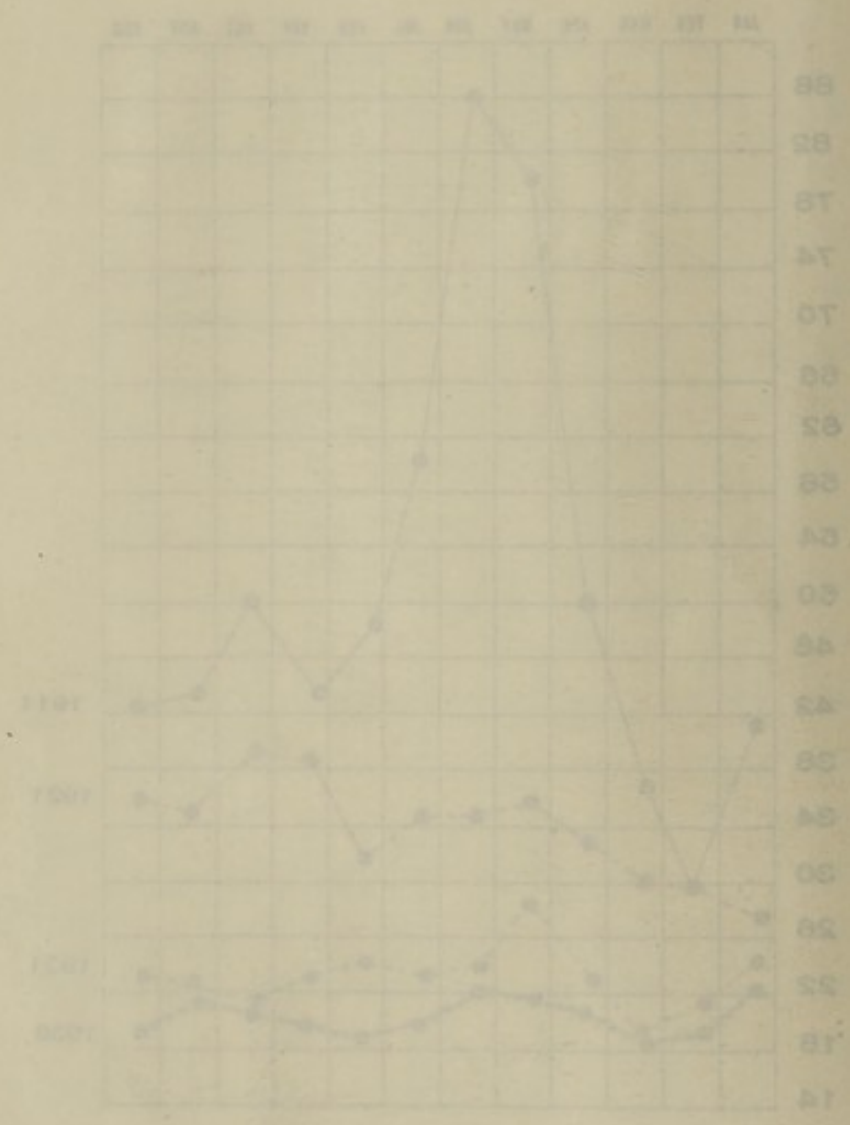


II

SINGAPORE

MONTHLY DEATH RATE FROM ALL CAUSES.

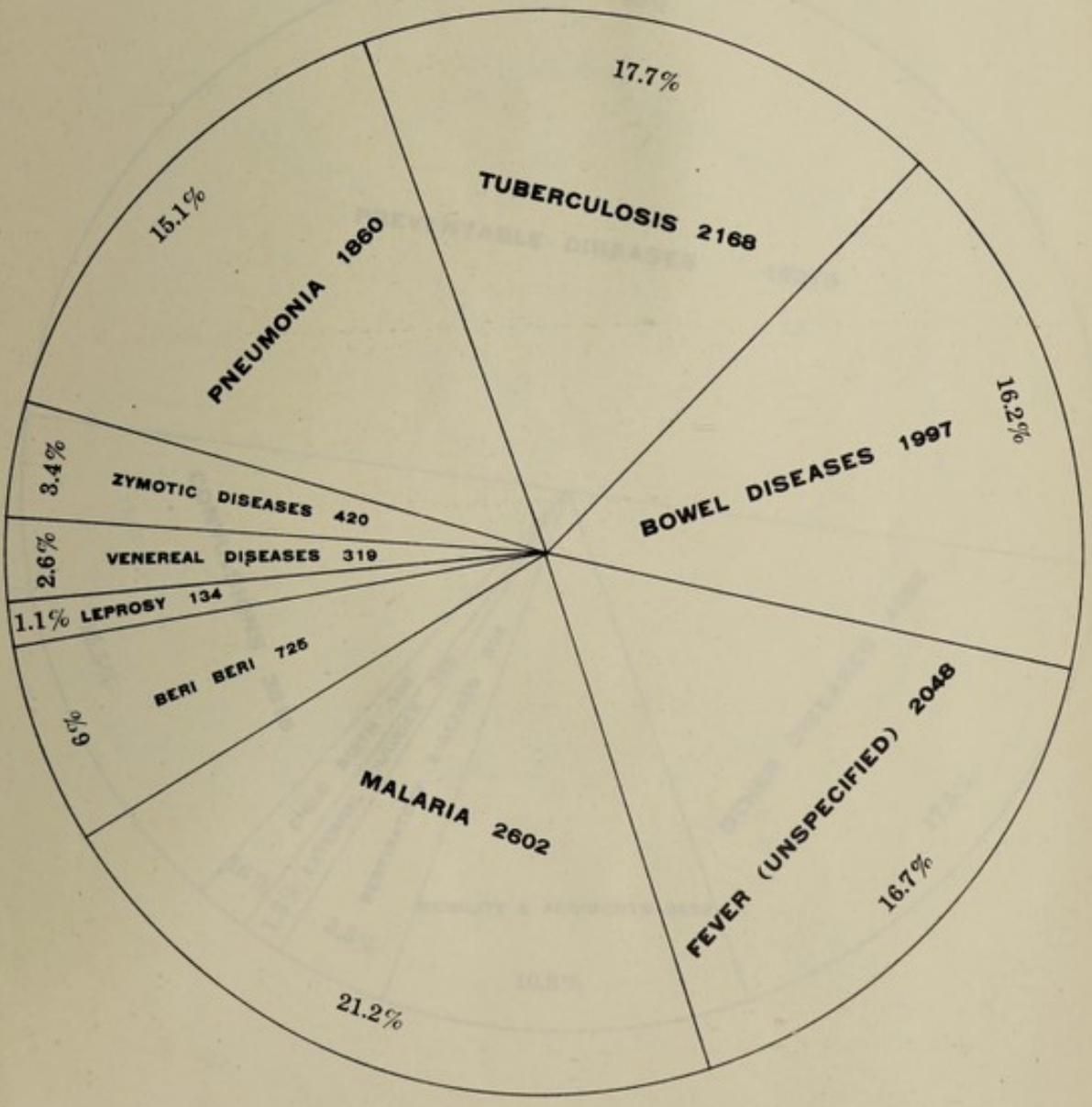


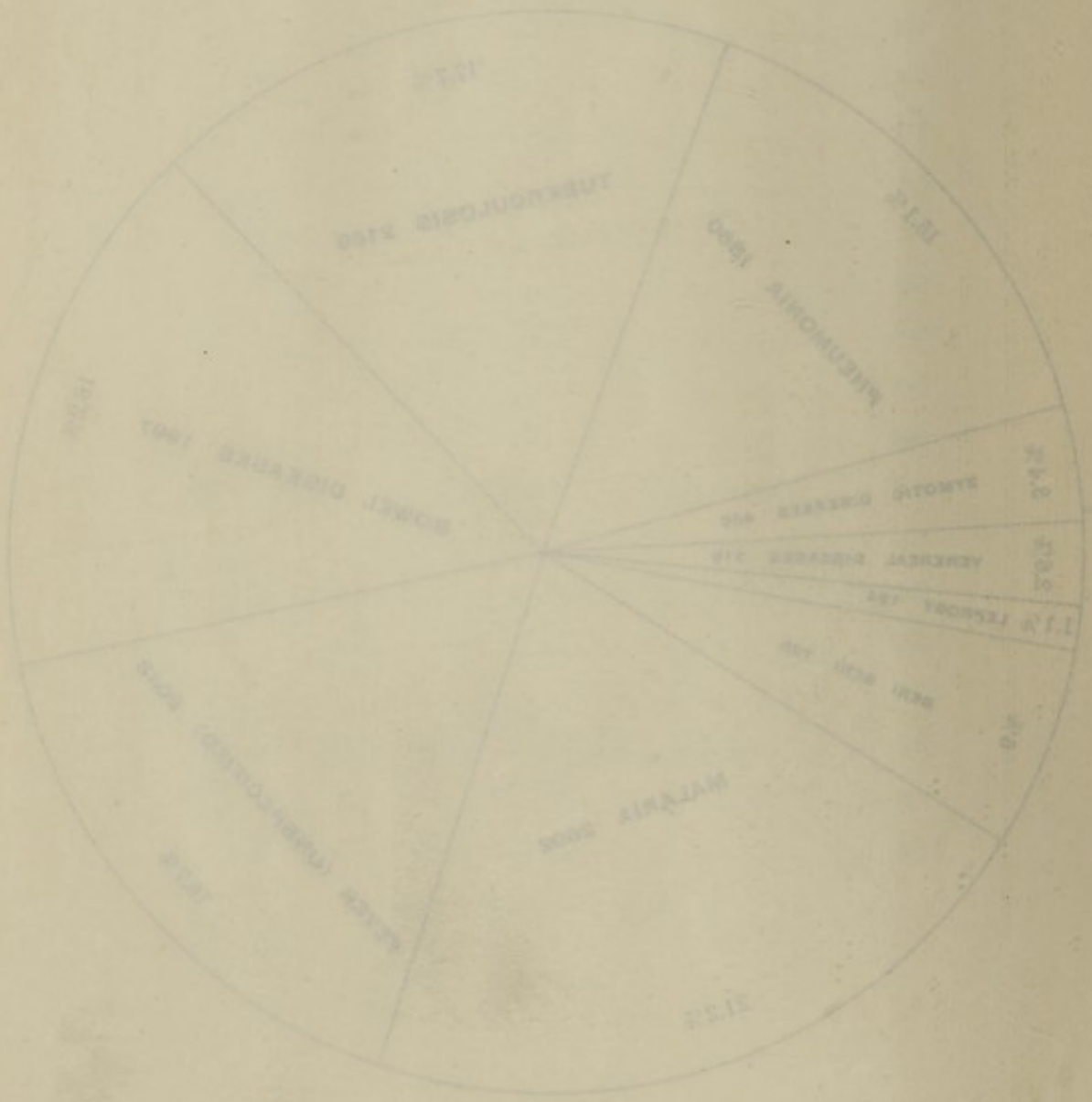


III

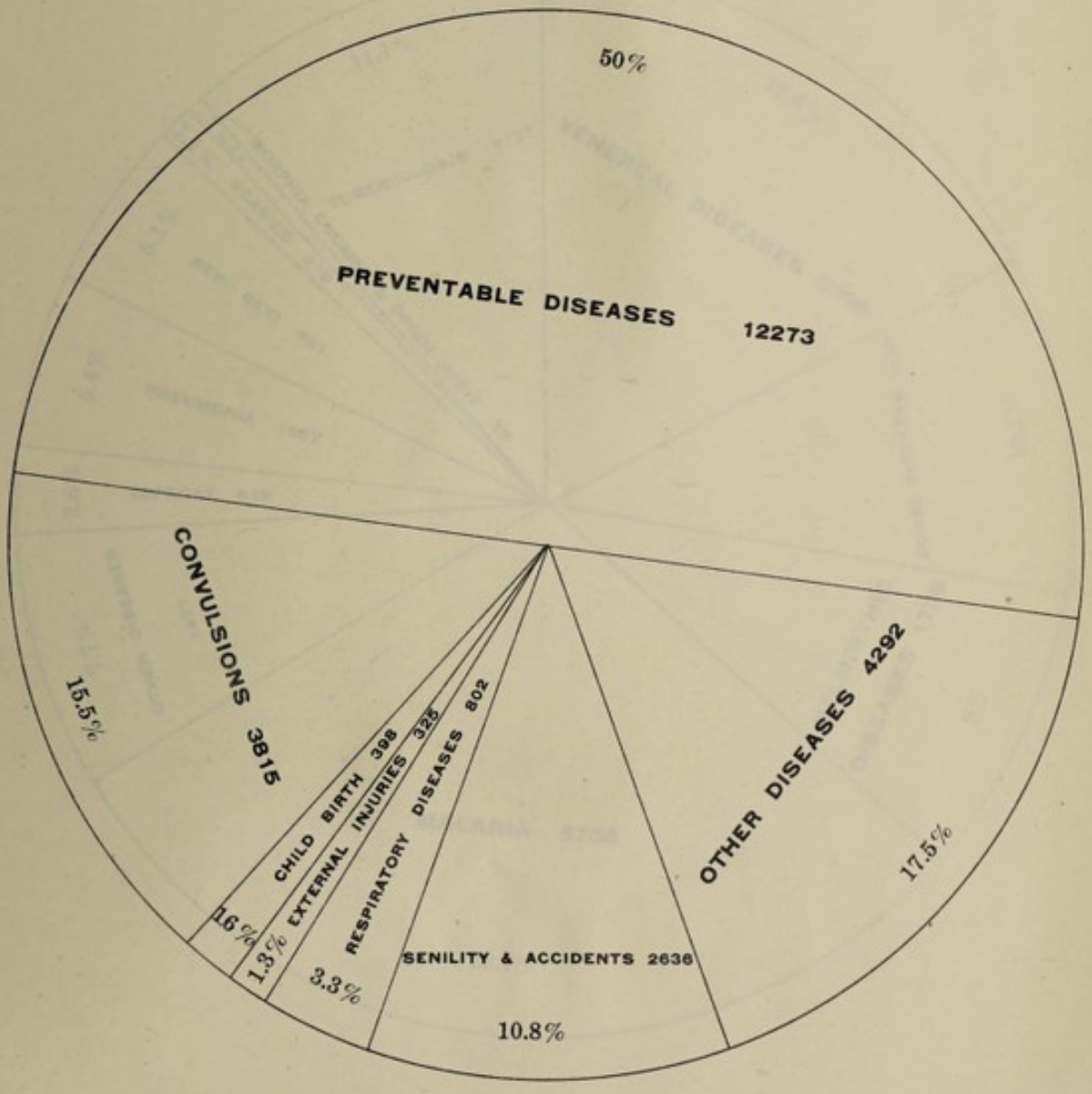
DEATHS FROM INFECTIVE AND PREVENTABLE DISEASES REGISTERED IN THE S.S. 1932.

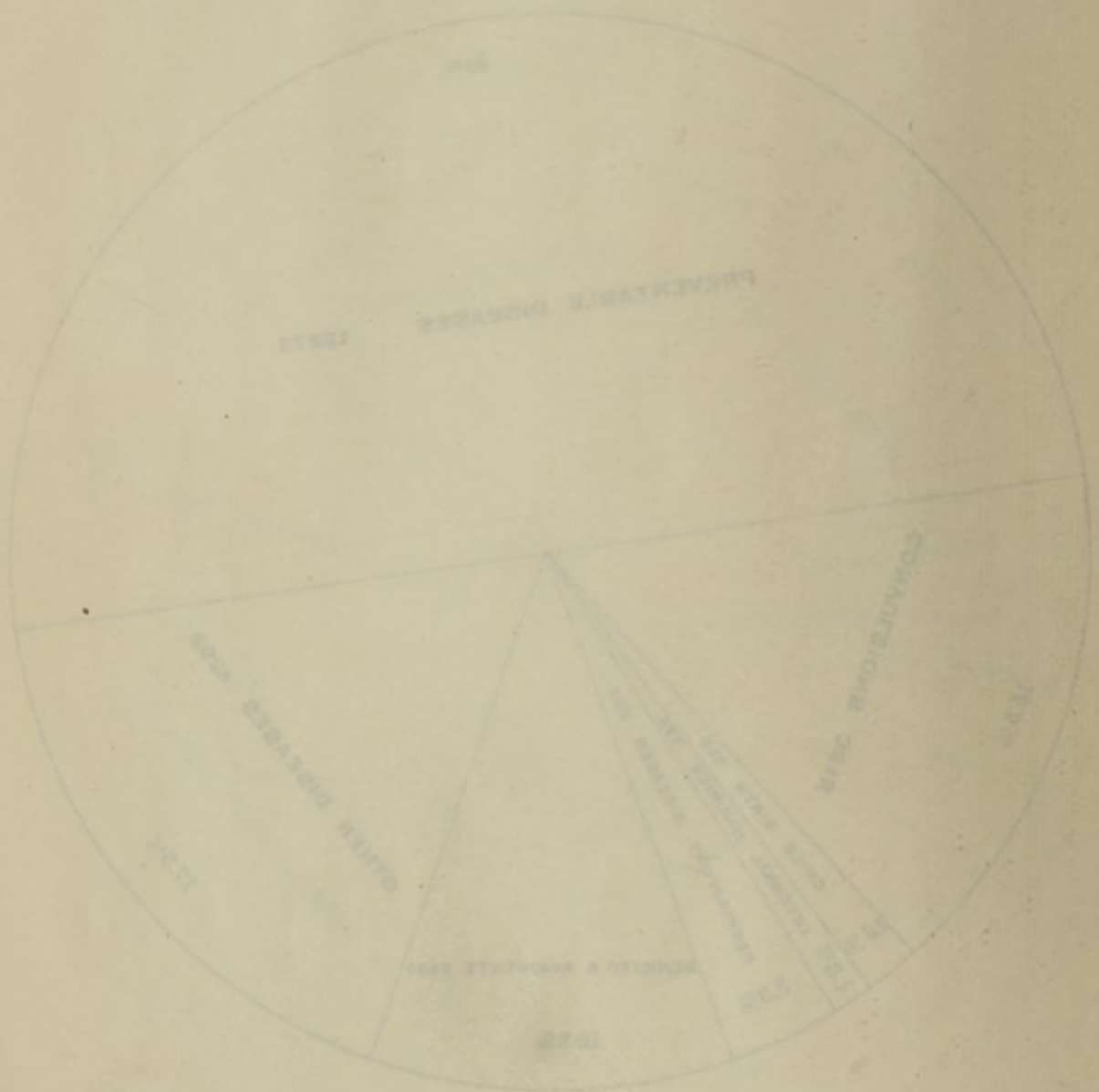
TOTAL 12273





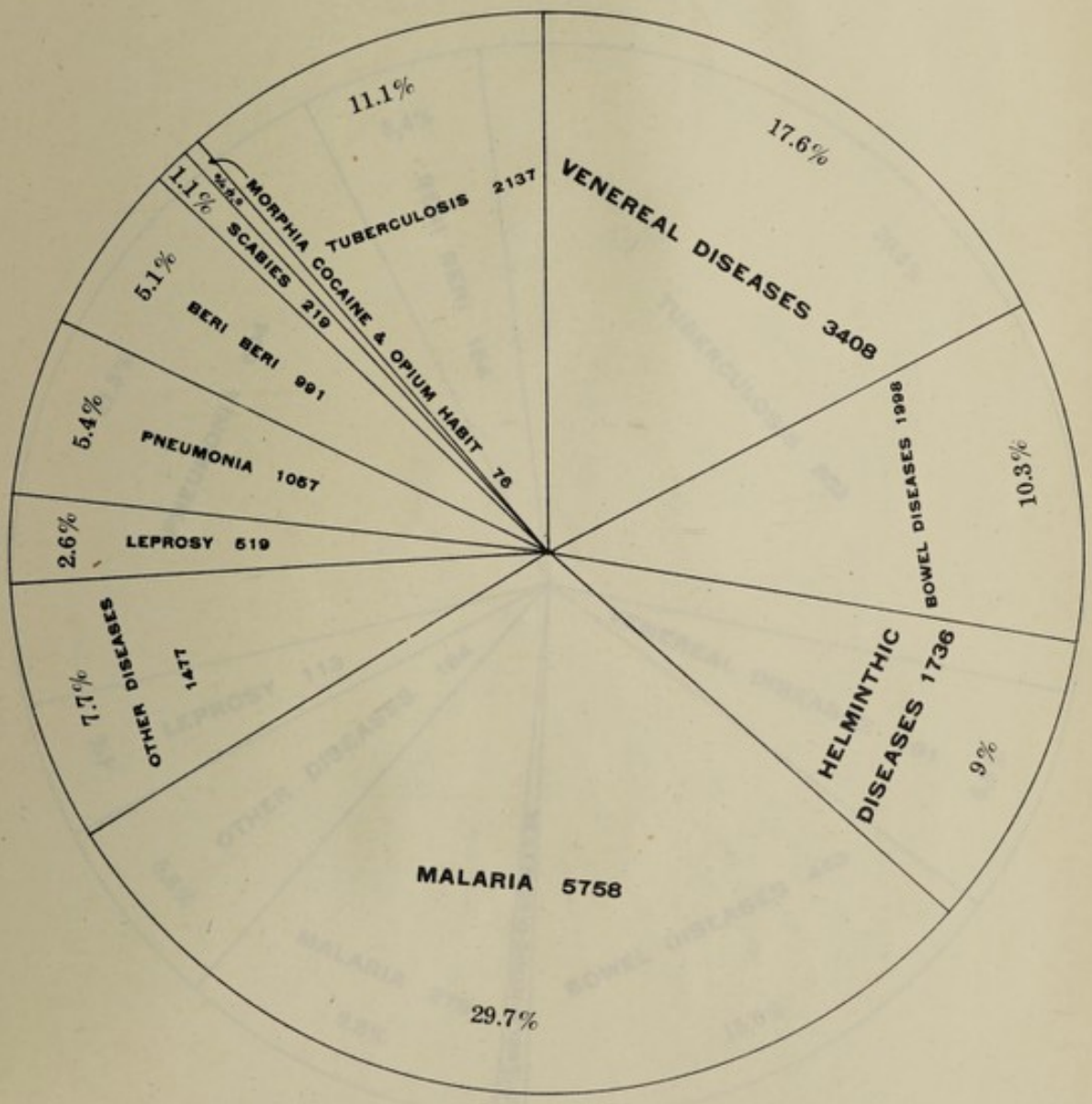
TOTAL DEATHS FROM ALL CAUSES IN THE S.S. 24541

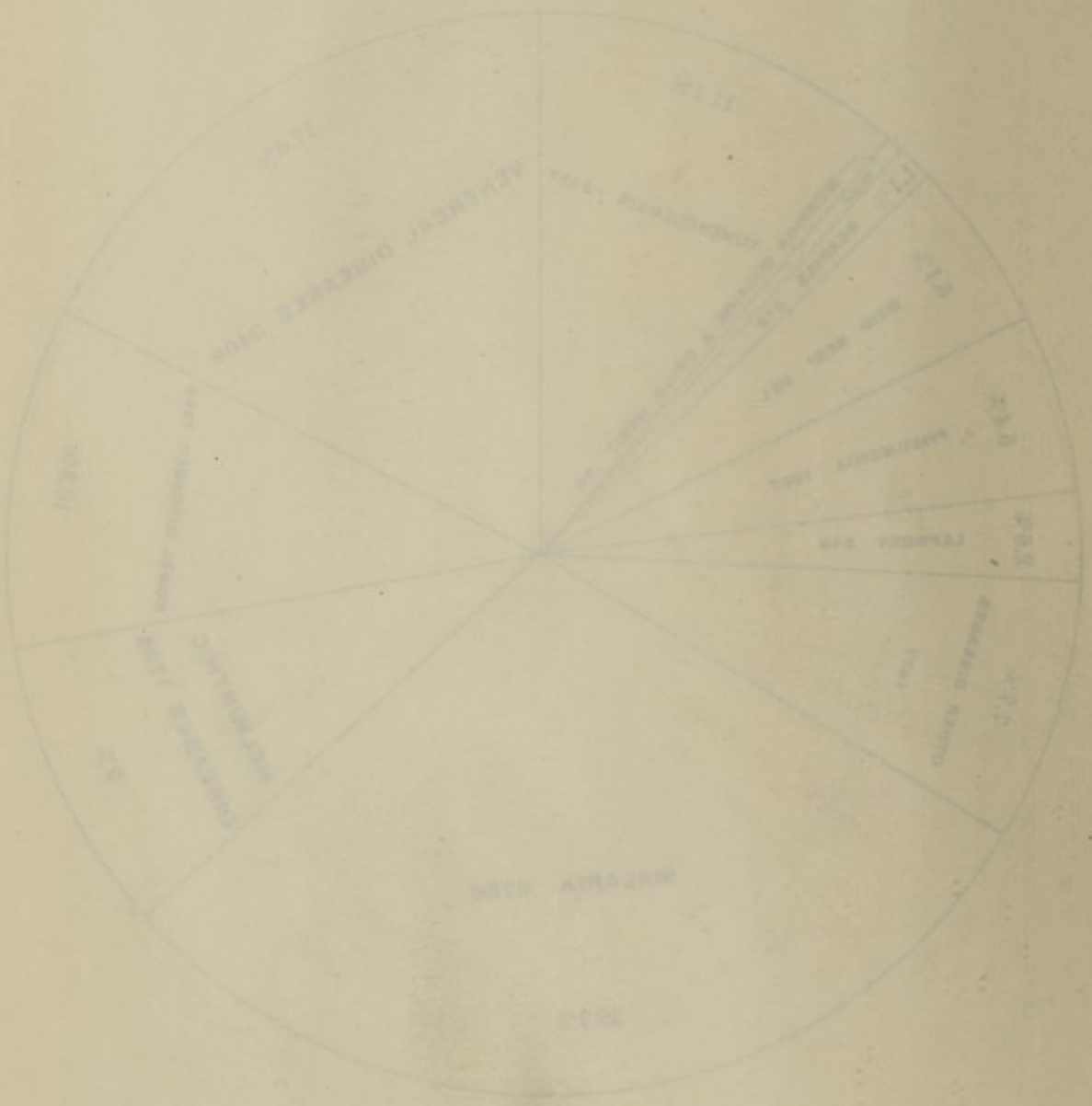




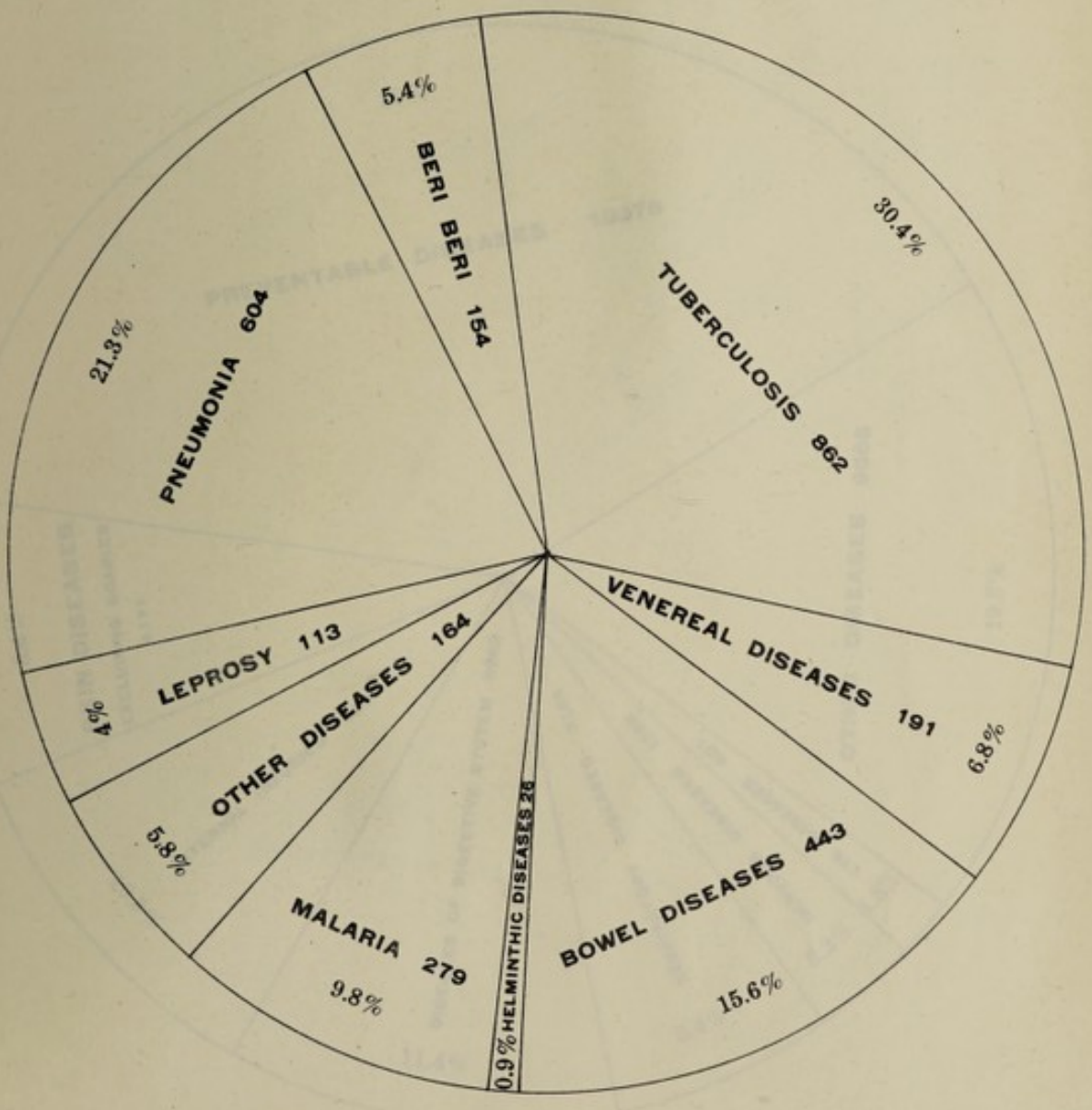
INFECTIVE AND PREVENTABLE DISEASES ADMITTED TO THE S.S. GOVERNMENT HOSPITALS DURING 1932

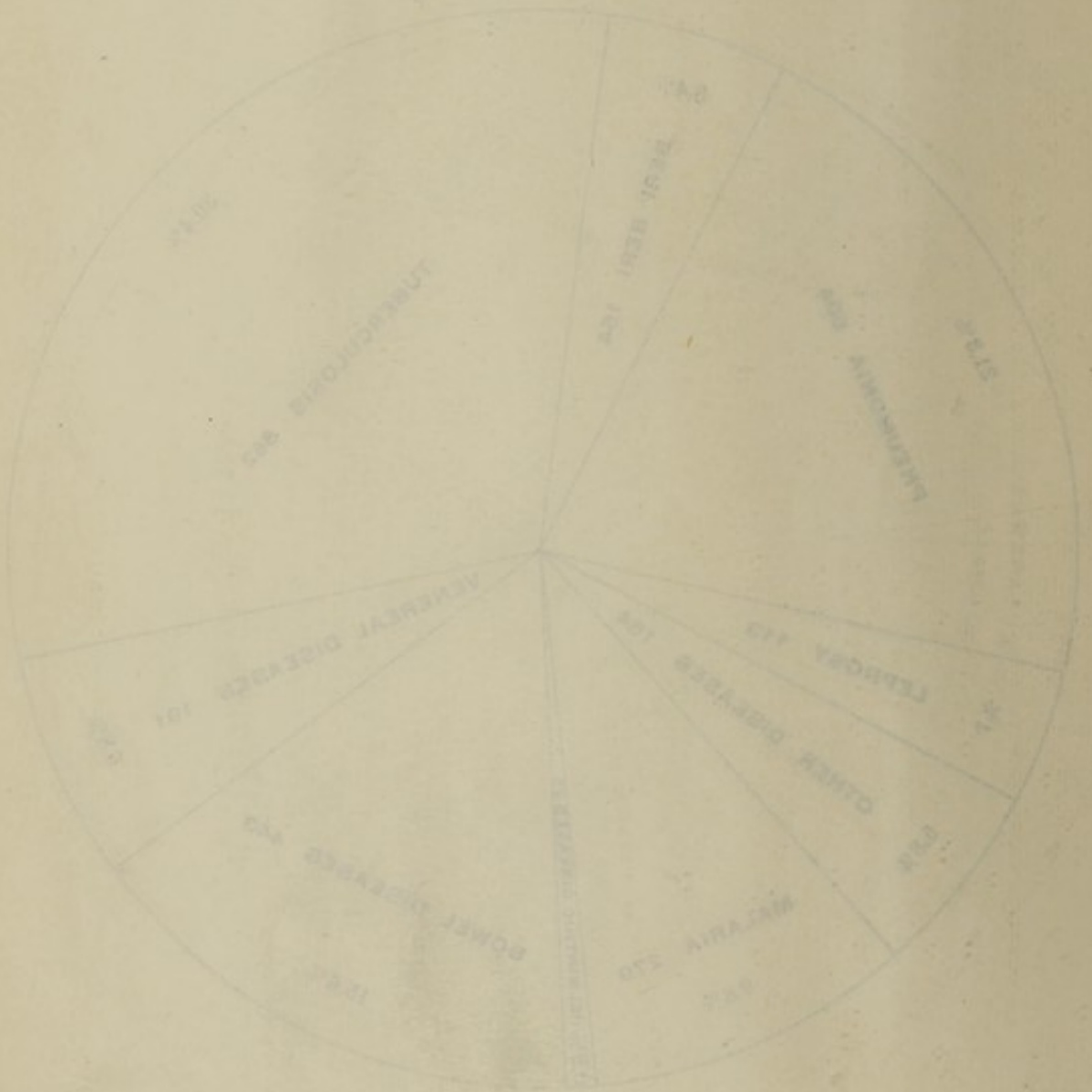
TOTAL CASES 19376



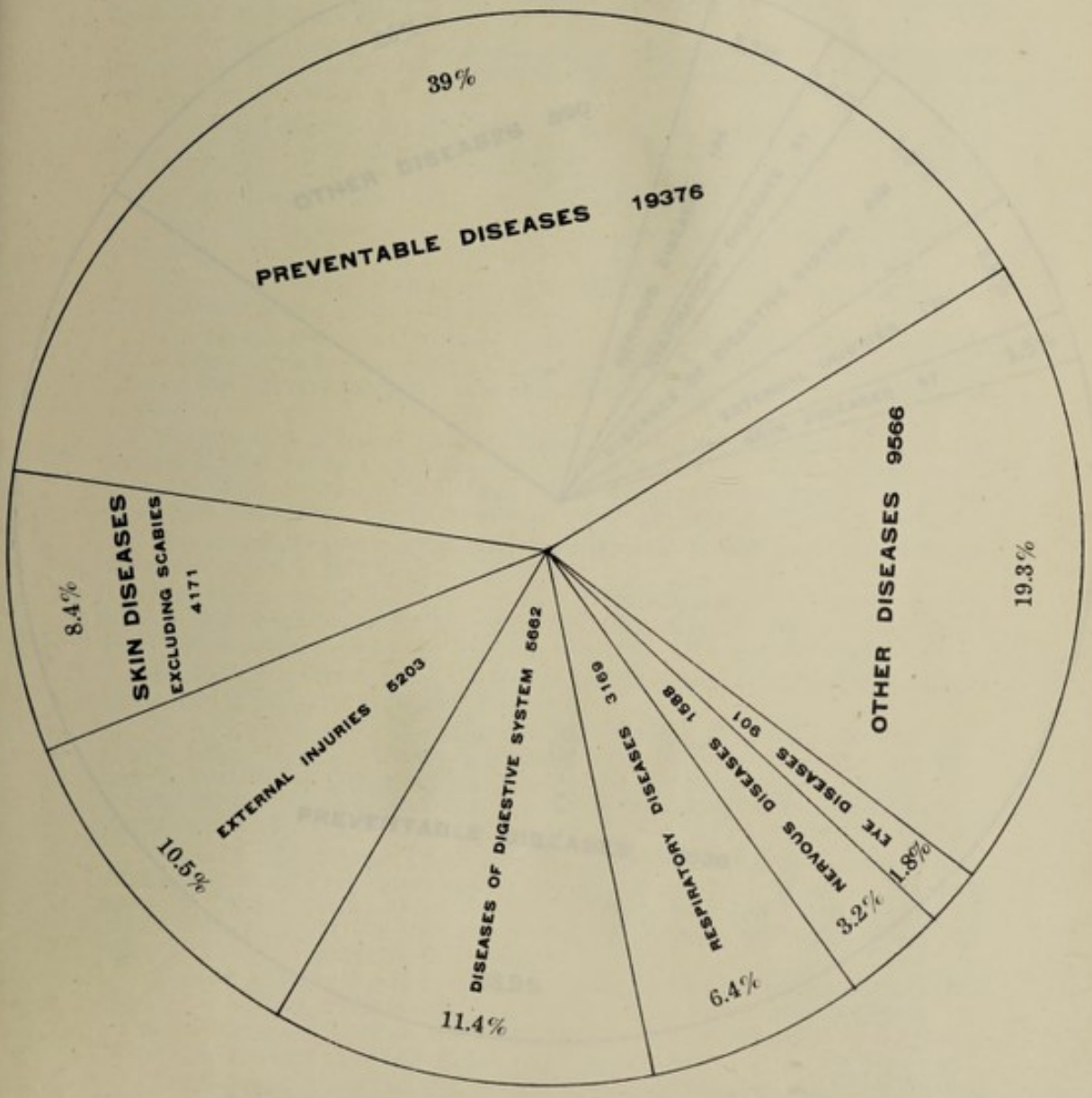


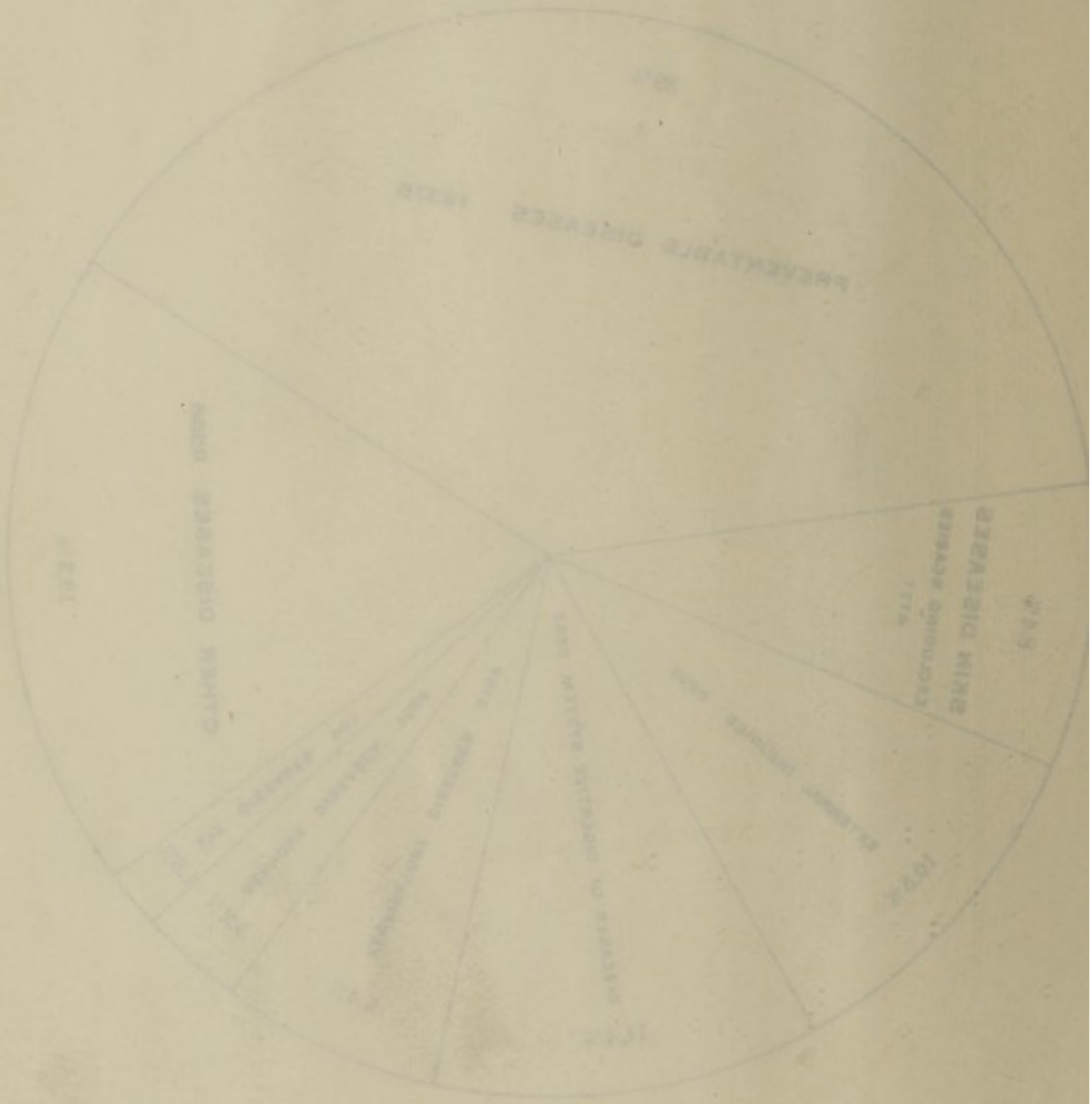
TOTAL DEATHS FROM PREVENTABLE DISEASES IN THE S.S. GOVERNMENT HOSPITALS 2836



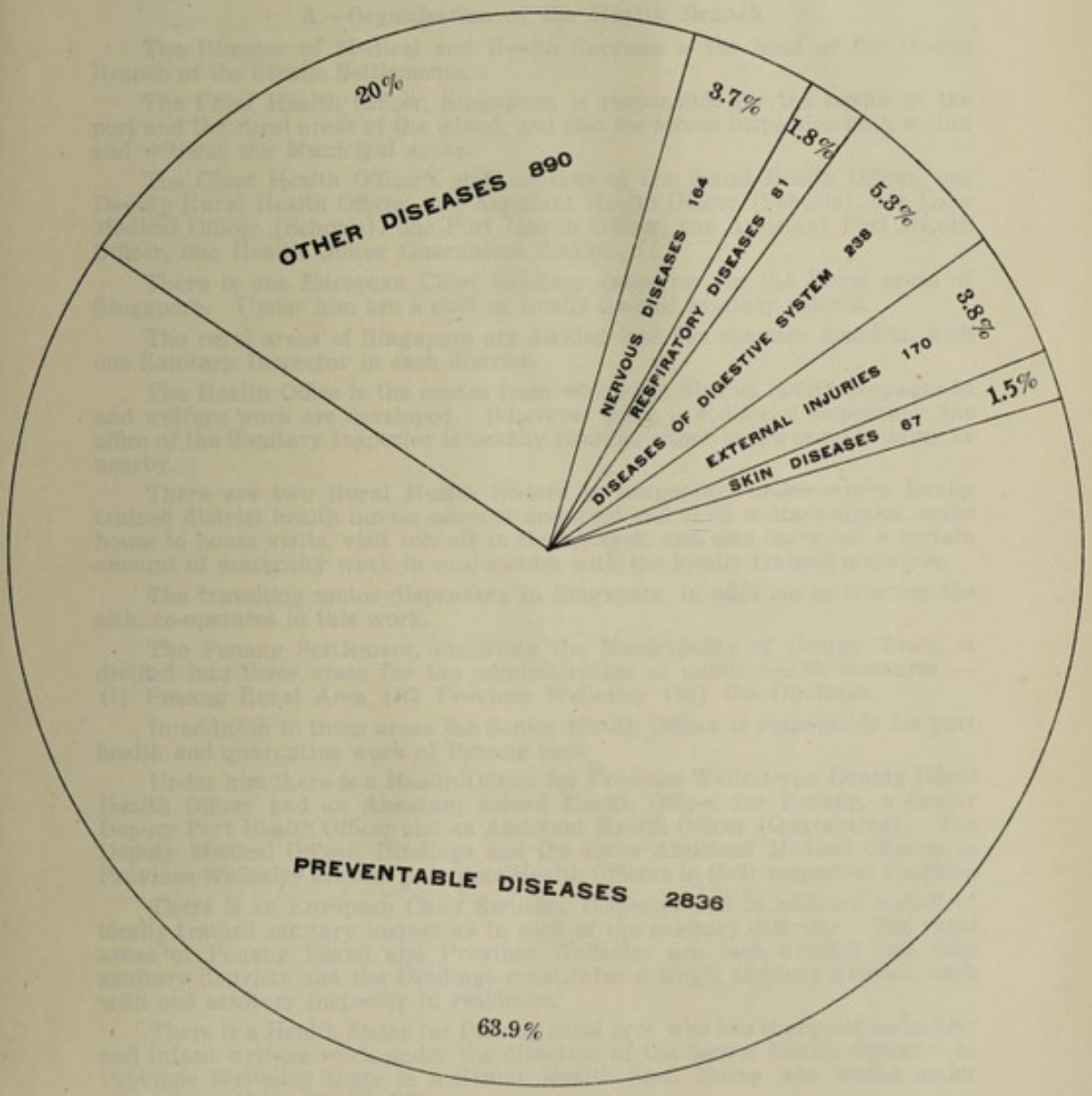


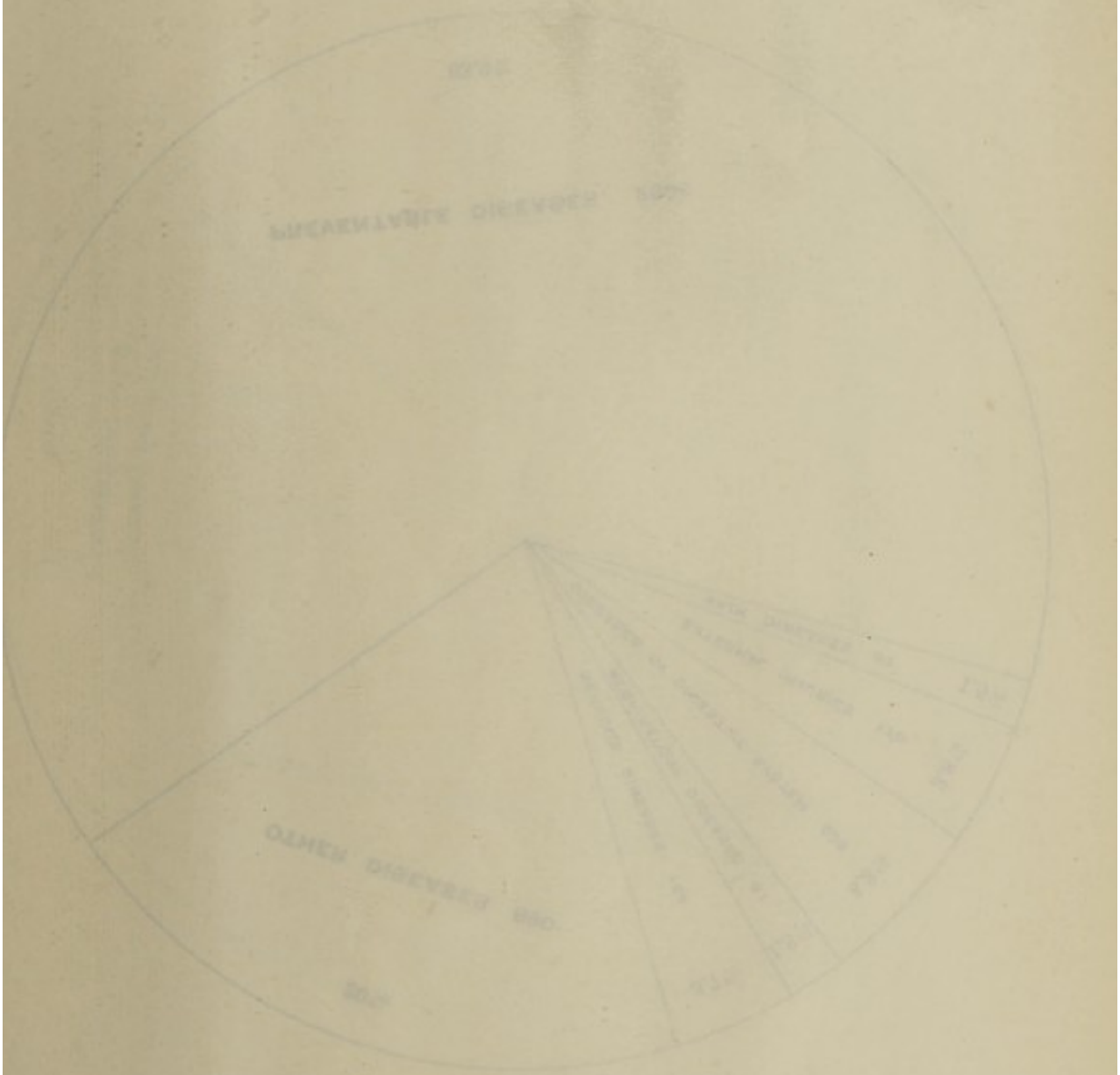
GENERAL SYSTEMIC AND PREVENTABLE DISEASES ADMITTED TO S.S. GOVT. HOSPITALS DURING 1932 TOTAL CASES 49636





TOTAL DEATHS FROM ALL CAUSES IN THE S.S. GOVERNMENT HOSPITALS 4446





III.—VACCINATIONS

During the year 60,014 vaccinations and re-vaccinations were performed in the Straits Settlements. The results were as follows:—

Perfect	40,596
Modified	2,754
Failed	4,316
Not seen	12,348
	60,014

The number of births registered throughout the Straits Settlements was 41,106. A thorough programme of vaccination is carried out in the Straits Settlements, and the number of whose who avoid vaccination is negligible.

IV.—HYGIENE AND SANITATION

A.—Organisation of the Health Branch

The Director of Medical and Health Services is the head of the Health Branch of the Straits Settlements.

The Chief Health Officer, Singapore, is responsible for the health of the port and the rural areas of the island, and also for school inspection both within and without the Municipal areas.

The Chief Health Officer's staff consists of one Rural Health Officer, one Deputy Rural Health Officer, one Assistant Health Officer (Schools), one Lady Medical Officer (Schools), one Port Health Officer, one Assistant Port Health Officer, one Health Officer Quarantine Station.

There is one European Chief Sanitary Inspector for the Rural areas of Singapore. Under him are a staff of locally trained sanitary officers.

The rural areas of Singapore are divided into five sanitary districts, with one Sanitary Inspector in each district.

The Health Office is the centre from which the district health propaganda and welfare work are developed. Wherever there is a district dispensary, the office of the Sanitary Inspector is usually situated either in the same building or nearby.

There are two Rural Health Sisters in Singapore, under whom locally trained district health nurses conduct maternal and child welfare clinics, make house to house visits, visit schools in the villages, and also carry out a certain amount of maternity work in conjunction with the locally trained midwives.

The travelling motor dispensary in Singapore, in addition to treating the sick, co-operates in this work.

The Penang Settlement, excluding the Municipality of George Town, is divided into three areas for the administration of public health measures:— (i) Penang Rural Area (ii) Province Wellesley (iii) the Dindings.

In addition to these areas the Senior Health Officer is responsible for port health and quarantine work of Penang port.

Under him there is a Health Officer for Province Wellesley, a Deputy Rural Health Officer and an Assistant School Health Officer for Penang, a Senior Deputy Port Health Officer and an Assistant Health Officer (Quarantine). The Deputy Medical Officer, Dindings and the three Assistant Medical Officers in Province Wellesley are also part-time Health Officers in their respective districts.

There is an European Chief Sanitary Inspector and in addition a staff of locally trained sanitary inspectors in each of the sanitary districts. The rural areas of Penang Island and Province Wellesley are each divided into four sanitary districts and the Dindings constitutes a single sanitary district, each with one sanitary inspector in residence.

There is a Health Sister for Penang rural area who has charge of maternity and infant welfare work under the direction of the Senior Health Officer. In Province Wellesley there is a Senior Health Staff Nurse who works under supervision of the Health Officer.

There is also a staff of five locally trained staff nurses and six midwives whose work extends into villages and to remote kampongs throughout these areas.

In the Dindings there is one locally trained midwife who attends to maternity work both in the hospital and neighbouring villages.

The travelling motor dispensaries in Penang and Province Wellesley co-operate in public welfare work, in addition to treating the sick.

Details of rural areas in Penang Settlement are as follows:—

—	Area in square miles	Estimated population	Birth-rate	Death-rate	Infantile Mortality Rate
Penang Rural	98½	50,943	34·31	23·99	109·8
Province Wellesley	280	144,365	37·33	21·79	117·0
Dindings	183	20,006	29·34	17·94	151·62

The Health Officer, Malacca, and his staff are responsible for the whole of Malacca. He is also the Rural Board and Municipal Health Officer, Port Health Officer, and Registrar of Births and Deaths, Malacca. The Deputy Health Officer is on full time health work, but the Assistant Health Officers are in charge of the two district hospitals in Malacca and are under the Health Officer as regards health and sanitation. There is also a staff of trained sanitary inspectors in all the districts. The rural area of Malacca is divided into three sanitary districts–central, north and south. One sanitary inspector and one sanitary overseer are stationed in the southern district and two sanitary inspectors are stationed in the northern and central districts. The health office of the district is in the central area from where the district health and welfare work are controlled. There is in Malacca Town one health sister, under whom locally trained health nurses work, including house and school visiting in the villages and kampongs, and in some cases maternity work. Attendances were 11,653 in 1932 as compared with 6,875 in 1931.

Extent and population of rural areas are as follows:—

	Area in square miles	*Estimated population*
Singapore	185	116,428
Penang Island	98½	50,943
Province Wellesley	280	144,365
Dindings	183	20,006
Malacca	720	148,669
Labuan	28½	7,507
Add Municipal area, Malacca, which is staffed by part-time Government officers ..	—	38,042
	1,495	525,960

B.—General Review of Work Done and Progress Made

(I).—Preventive Measures

Government provided the following votes for anti-malarial work in 1932 as compared with 1931:—

Settlement	*1931*	*1932*
	$	$
Singapore	120,000	60,000
Penang	95,000	75,000
Malacca	33,000	31,000
Labuan	7,000	5,000

(a) Singapore.—Anti-malarial measures were maintained throughout the Island of Singapore. In the rural area, the policy adopted is to destroy the breeding places of dangerous mosquitœs within a half mile radius of the outskirts of the principal villages and kampongs. Anti-mosquito oiling is used as a temporary measure followed, when possible, by the permanent drainage of dangerous ravines and swamps. Periodic mosquito surveys are used as a control, supplemented by spleen surveys, malaria case records, and the vital statistics of each district. More than 15,000 anopheline larvæ were collected, of which 14.25 per cent. were A. maculatus, the chief malaria carrier in the rural area. 1.91 miles of subsoil pipes were laid at an average depth of six feet and one-half miles of main arterial open cement drains were constructed, permanently draining an area of one-third square mile. During the year practically no new permanent anti-malarial drainage work was carried out owing to shortage of money. Forty-two thousand and twenty-one gallons of anti-malarial oil mixture costing $7,019.82 were sprayed on potential breeding

places to protect an area of 16 square miles. The total expenditure was $57,875 inclusive of $2,640.98 recovered for work done on private premises.

From 1921 up to the end of 1932, approximately $977,055 have been spent on rural anti-malaria work in Singapore Island. The number of persons protected yearly from malaria by this work is approximately 64,000. The cost per head per annum in 1932 was 90 cents.

(b) Penang.—A provision of $75,000 was made for anti-mosquito work in the Northern Settlement during the year. Since 1926 the health branch has undertaken gradually extending measures for the permanent control of malaria in villages throughout the rural areas of Penang, Province Wellesley and Dindings including also such important sections as Penang hill station and the quarantine station.

The seriousness of the malaria problem throughout the hilly districts of the Northern Settlement is due to the widespread distribution of breeding places for *Anopheles maculatus.* Measures are directed against the larval stage of the mosquito, and this work is associated also with general sanitary measures and quinine prophylaxis. Anti-larval operations extend to a distance of half a mile from the outskirts of malarial villages. The routine followed at the commencement is to apply larvicide (anti-malaria oil or Paris Green) to all the breeding places of dangerous mosquitœs within the area; permanent works, such as drainage and earth filling are then taken in hand when feasible and the area over which temporary measures are required is thus gradually reduced. The protection of all malaria zones that have been placed under control since 1926 has been effectively maintained, additional areas have been placed under control and some of the old ones have been extended in consequence of new housing developments. On Penang Island in addition to work that is done within municipal limits, the controlled districts extend over an area of 13 square miles and include the following:—Pulau Jerejak, (Quarantine Station and Leper Camps), Penang Hill Station and Penang Hill Railway, the Botanic Gardens and the villages of Ayer Itam, Glugor, Bayan Lepas, Telok Bahang, Batu Ferringhi, Telok Nangka, Tanjong Bungah and Tanjong Tokong.

In Province Wellesley in addition to rubber estates, where supervision over malaria control measures is exercised by the health branch, the following centres have been effectively protected from malaria: Bukit Mertajam, Sungei Bakap, Butterworth, Bukit Tambun, Penanti, Pulau Kra, Batu Kawan, Kubang Semang, Tassek and Bukit Tengah; the first six are places where permanent drainage works have been instituted in addition to temporary anti-mosquito measures.

In the Dindings permanent anti-malarial works have been extended around Lumut where malaria is now under complete control and further extensions of protection zones have taken place around the villages of Damar Laut and Segari.

The following table gives a resumé of work done:—

—	Notices served	Feet of sub-soil drains laid	Feet of open masonary drains	Feet of earth drains	Anti-malaria wells con-structed	Cubic yards of earth filling	Gallons of oil used	Mosquito larvæ examined
Penang ..	18	7,927	2,477	6,890	9	5,916	31,533	67,399
Province Wellesley	6	755	758	367	6	4,500	28,981	6,696
Dindings ..	4	4,345	1,396	9,900	10	1,850	9,253	1,163

An expenditure of $72,374.13 was incurred in maintaining previously completed work, the construction of new work, the salaries of staff, the purchase of material and tools, upkeep of lorry, the purchase of larvicides and sprayers. A sum of $5,317.86 was recovered from private owners on whose land anti-malaria measures was carried out; this together with the balance on the vote has been credited to Colonial revenue.

(c) Malacca.—A vote of $31,000 was granted to carry out anti-malaria work in Malacca during the year 1932.

One hundred and seven surveys were made, larvæ being collected and identified.

Four thousand one hundred and forty-seven sub-soil pipes were laid.

Three hundred and ten concrete invert drains were taken up and relaid. Four miles and 794 yards of new drains were dug, the average cross sectional area being $3\frac{1}{2} \times 2\frac{1}{2}$ feet. Two hundred and four acres were cleared of undergrowth. Twenty-three acres of land were filled to an average depth of 8".

Twenty-two-and-a-half miles of open drains were upkept, cleared and deepened.

Eight thousand eight hundred and forty-nine gallons of anti-malaria oil mixture were sprayed.

The ravine drainage programme at Sepang-Tampin on the Malacca-Negri Sembilan border was completed.

Sub-soil drainage was also carried out at Pulau Sebang village.

(II).—General Sanitation and Village Conservancy

SINGAPORE

The Government Health Branch is directly responsible for all sanitation in the Rural Board area and supervises and controls the collection and disposal of the nightsoil from the kampongs.

The Rural Area is divided into five sanitary districts in each of which a sanitary inspector is stationed.

A coolie labour force paid from Rural Board funds is maintained to carry out daily collection of household refuse. In the more populous areas this is disposed of by incineration and in the remote districts by burying. Seven new incinerators of an inexpensive but efficient type were constructed during the year so that there were at the end of 1932 twenty-one incinerators available for refuse destruction. An average of approximately 3,000 cubic yards of rubbish was consumed each month.

Conservancy.—Village conservancy is mainly of the dry pail system, the latrines being built to a standard sanitary pattern comprising a concrete box with an aperture at the top, an oval pail fits into the box and can be removed by an opening at the rear which is ordinarily closed by a metal flap door. The super-structure is usually composed of wood except in the better types where the whole structure may be of concrete. The more populous areas are gazetted as compulsory nightsoil removal areas. In each of these are one or more private nightsoil contractors approved by the Health Officer, the contractors employ their own staff for the removal of excreta. Trenching grounds or septic tanks fed by water derived from a subsoil drainage system are provided for the treatment of the sewage. The contractor is authorised to charge up to $1 a pail a month. The number of pails on the removal list is over 3,000. In many cases two houses are allowed to erect a communal latrine. One hundred and twenty-seven insanitary latrines were demolished during the year and new sanitary latrines to the number of three hundred and twelve were erected by house owners or occupiers. A battery of tube latrines was sunk within the Civil Aerodrome coolie line area, Singapore. After six months use, during which time they proved fairly satisfactory, they were replaced by the pail system as it was desired to tap the subsoil water supply in relatively close vicinity to the battery.

Offensive Trades.—Offensive trades are controlled by the Inspector of Offensive Trades. Since his appointment in 1931, a satisfactory increase in revenue from these sources has been evident and the general standard of sanitation raised. No piggeries are allowed within 300 feet of any of the main roads.

Food and Drugs.—Supervision of premises engaged in the manufacture or sale of food for human consumption is carried out by the various sanitary inspectors. The average number of visits paid to premises of this nature was six hundred a month. The Police Department licence eating houses and coffee shops on the recommendation of the Health Officer.

Police Stations.—All police stations are inspected by the sanitary inspectors and visited monthly by the Health Officer.

Routine supervision of Government buildings within the Municipal Area is carried out by the Sanitary Inspector (Town).

Schools.—District Sanitary Inspectors paid two hundred and seven visits to schools. The sanitation of Government and aided schools is satisfactory.

It is estimated that the number of houses in the Rural Area now totals 17,992, which gives on the figures of the last census an average of approximately seven persons per house. All sites for prospective houses are inspected by the Health Officer and in all cases plans are passed to him for his comments. Architects plans are insisted on for all buildings costing over $500. No attap shacks are allowed within one hundred feet of the main roads.

Infant Welfare.—Infant welfare is catered for by the existing five infant welfare centres. It is hoped to augment this total by two during the coming year.

Vaccinations.—Re-vaccinations are performed by the Government Public Vaccinator on all boys at school and by the Lady Medical Officer on all girls. Vaccination is required before seven and a half years of age: the majority of primary vaccinations are performed by the officer in charge of the travelling dispensary and at the infant welfare centres.

PENANG

Rural sanitation is carried on mainly under the jurisdiction of the Rural Boards of Penang, Province Wellesley and the Dindings.

The following figures indicate the nature of the work done in general sanitation:—

	Number of Inspections of:							
	Houses	Latrines	Police Stations	Schools	Estates & copra sheds	Cattle sheds	Goat-pens & poultry yards	Pig-styes
Rural Penang ..	36,810	28,054	401	477	465	1,495	1,170	3,694
Province Wellesly ..	11,744	16,359	298	381	75	734	326	975
Dindings ..	3,807	718	241	230	65	112	36	1,318

In Penang Island there were 116 prosecutions and the total fines realised $291.50.

In Province Wellesley, the number of prosecutions was 95, and fines amounted to $344.

In the Dindings 30 prosecutions were effected; fines were $61.50.

Scavenging and conservancy systems have been introduced into all the rural villages. Special attention is paid to nightsoil collection and disposal, for which work Chinese contractors are employed in each locality. Sale of nightsoil for manure is not permitted and as a rule disposal is effected by trenching, but in Lumut and at Butterworth sea dumping is successful.

On Penang hill station there is a water-borne sewage system in which all permanent residences are included.

The use of latrines is encouraged throughout all the rural areas. Pail latrines are generally used within village limits, while pit and deep tube latrines are employed in suitable situations. The recorded number of latrines replaced or reconstructed is 123, while pit and tube latrines excavated number 954.

For refuse disposal, the method generally employed is incineration. In a number of villages new incinerators of an improved pattern have been constructed, while at Ayer Itam, the method of refuse disposal by controlled dumping has been adopted; suitable land is chosen where refuse can be dumped and earth filling applied daily.

MALACCA

Under general sanitation and village conservancy are included:—

(a) house to house inspection:
(b) village scavenging:
(c) control of night soil (removal and disposal):
(d) control of piggeries:
(e) surveys of site and building plans:
(f) sanitary supervision of police stations, rubber estates, factories:
(g) control of water supplies: and
(h) sanitary control of schools.

Gazetted village areas are scavenged by coolies of the Rural Board and controlled by the Health Department under the direct supervision of Government sanitary inspectors and sub-overseers belonging to the Health Department and an overseer from the Rural Board. There are 28 gazetted village areas in Rural Malacca. The Municipal Ordinance and Rural Board by-laws are applicable in these areas. In addition to the Rural Board coolies the Health Officer provides travelling gangs of mandores and coolies. Refuse, empty tins, etc., are collected and either burned or buried.

These villages are provided with 26 serviceable incinerators at present. Considerable advance has been made during the year in the control of soil pollution:—

(1) Five thousand two hundred and ninety-five latrines were inspected during the year.

(2) Two thousand two hundred and fifty-nine latrines were constructed in 1932 including pit, pail and tube latrines.

(III).—Water Supplies

Singapore.—By extensions from the main Municipal pipe line several districts of the Rural Area have been provided with a pure water supply. In the outlying districts, however, water is derived from shallow sub-soil wells. In those instances where ravines adjacent to a kampong have been drained the opportunity has been taken to provide a supply from the subsoil pipe system, into semi-protected wells; in addition provision is made for washing facilities.

Penang.—The water supply of George Town is pure and abundant. A number of the surrounding villages are served with Municipal supplies.

Province Wellesley.—The supply to the villages of Nibong Tebal and Sungei Bakap from Bukit Panchor reservoir in South Province Wellesley, continues to be treated through a filtration plant with excellent results.

Twenty-one rubber estates in Province Wellesley have their own piped water systems, notably Bertam estate which obtains a supply of filtered water from the Muda river.

Dindings.—In Lumut, the headquarters of the Dindings, there is a piped supply from hill streams impounded in two catchment reservoir, but there is urgent need of the contemplated extension to this supply.

Malacca.—Malacca Town and part of the Rural area get pure and abundant water from Lubok Kendondong. Alor Gajah has its own water supply, which is not filtered, but chlorinated. The water supply to other villages is either from wells or streams.

In rural areas, spring water is as a rule plentiful along the foothills, but in such situations malaria is also prevalent, therefore the health officers have utilised the anti-malarial sub-soil drainage systems to provide the neighbouring villages and kampongs either with a piped supply or else with concrete bathing tanks along the source or at the outlet of the drainage channels. These tanks have proved a very great benefit and are most popular with the inhabitants. Protected wells are provided in the majority of villages and kampongs on flat land.

(IV).—School Hygiene

Singapore.—There are in Singapore about 22,000 children of school age who attend Government and grant-in-aid schools. In Singapore, there are whole time male and female school Health Officers.

The travelling dispensary co-operates in this work in the rural area.

The Health Sister sends sick children and non-vaccinated children for treatment to the travelling dispensary.

The Health Officer arranges for the dispensary to visit the schools he has inspected, and to treat children.

Quinine is distributed and blood films taken by the Assistant Medical Officer or the dresser in charge.

In Singapore, where dental defects are serious, more children are now being sent for dental treatment. Treatment is carried out at the dental clinic at the General Hospital, which is under the charge of the Professor of Dental Surgery, assisted by a Dental Officer.

Penang.—The number of children of school age subject to regular medical examination in Government and Government-aided schools in Penang Settlement is 20,770, of whom 16,430 are boys and 4,340 girls. Of these 11,193 attend at 101 Malay Vernacular Schools and 9,577 are in 24 Government English and Aided schools. There are in addition 101 private Chinese and Tamil schools with 8,182 children; the latter schools are subject only to sanitary survey. The appointment of an assistant school medical officer for Penang has made it possible to make a complete survey of boys' schools in this Settlement. This officer is aided as a part time duty by members of the health and medical staffs. The Lady Medical Officer is also a part time school medical officer, and carries out an annual medical inspection in all girl schools.

Treatment of minor ailments is carried out by the Medical Officer, with the assistance of a dresser, and where necessary children are referred to the out-door dispensaries for further treatment. Children suffering from defective vision, enlarged tonsils, etc., are advised to attend hospital.

The travelling dispensaries and public vaccinators co-operate in this work in rural areas, and the Health Officer arranges for them to visit the schools for the treatment of children that he has examined.

(Details of school work are shown in the Appendix *F.*)

Malacca.—The medical inspections are carried out as part time duties by the Health Officer, Lady Medical Officer, Deputy Health Officer and Assistant Health Officers of the two districts of Jasin and Alor Gajah.

The travelling dispensary co-operates in this work in rural areas. The Health Sister sends sick children and non-vaccinated children for treatment to the Government out-door dispensary and travelling dispensary. The Health Officer arranges for a Government dresser to treat the children and have them vaccinated. Children who suffer from eye and dental defects are advised to wear glasses or to attend a dentist for treatment.

(Details of school work are given in Appendix *F.*)

(V).—Labour Conditions

Estates.—Estates are inspected by the Government Health Officers and their subordinates.

In Singapore Island there are twenty rubber or coconut estates with labour forces of over 25 coolies.

There are also thirteen large rubber factories, whose coolies usually are not housed on the premises, but live in villages or in the city, from whence they are brought to their work in lorries.

In Singapore, estates which have no hospitals use the Government hospitals.

Estates in Penang Island subject to medical inspection are 30 in number, of these only four are over 100 acres in extent. In the Dindings there are 34 estates, including 10 large estates under European management. The estates in the Dindings are inspected twice yearly by the Deputy Medical and Health Officer. In Province Wellesley there are 209 estates which are more than 25 acres in extent. Regular bi-annual visits of inspection are made by the Health Officer to 67 of these estates; of these 27 receive in addition special and routine visits by private medical practitioners; there is a resident medical practitioner on the Caledonia group of estates. An increasing number of estates are exempt from inspection by reason of their having no resident labour force. There are three estate hospitals; the estates not so served send patients requiring hospital treatment to Government institutions.

Estates in Malacca are inspected by the Government Health Officer and Assistant Health Officers. In Malacca, there is a Planters' Board named the Malacca Agricultural Medical Board which provides medical service for most of the estates in Malacca, and during the year employed five medical practitioners (two whole-time European, two whole-time Chinese and one half-time Chinese) stationed at convenient centres. Twenty-two estates in Malacca are served by estate hospitals and there are twenty-six dispensaries. Estates which have no hospitals use Government hospitals. All estates send most of their serious cases into Government hospitals.

Other Labour.—The health of the Public Works and other labour forces in the rural area of Singapore is cared for directly by the medical department.

Offensive trades preponderate in the Municipality, where they are controlled effectively. Offensive trades in Rural Singapore are controlled by the Rural Board Inspector of offensive trades under the direction of the Health Officer.

The health of Public Works Department labourers and other labour forces in rural areas in Penang are inspected by officers of the Health Branch and receive free hospital treatment when necessary.

(VI).—Housing and Town Planning

Further improvement schemes were carried out within municipal and rural areas of Singapore.

Houses have been erected in all the rural districts, and an extensive reclamation scheme has been carried out in the Grove Road and Pasir Panjang areas of Singapore.

Some progress in housing schemes is also being made in George Town, Penang.

Buildings in the villages throughout the rural areas are of brick or plank with roofs of tile, corrugated iron or asbestos; Malay type houses of wood and thatch are situated usually on the outskirts of these villages. For all such villages planning schemes are being evolved so as to ensure a suitable layout and all new buildings have to be erected according to approved plans.

Overcrowding and consequent lack of ventilation is the commonest defect in many types of dwelling, but improvement has been effected in recent years as a result of inspections by the sanitary authorities.

To combat tuberculosis and to improve infant mortality rate, the sanitary defects of houses in rural areas in Malacca are continually being remedied after repeated inspections by the health staff.

(VII).—Food in Relation to Health and Disease

The inspection and control of food in Singapore is carried out by the Government Health Officer within his area. There are markets in all districts.

Milk vendors, eating houses, coffee shops, meat shops and aerated water factories are licensed and inspected. Water, milk and other beverages and food stuffs both local and imported are regularly analysed, and action is taken if indicated.

The practice of referring to the Health Branch applications for licences for coffee shops, eating shops, slaughter houses, markets, milk vendors, etc., has been continued with satisfactory sanitary results.

Inspections as tabulated were carried out in Singapore Rural area:—

Coffee Shops	*Toddy Shops*	*Eating Shops*	*Markets*	*Milk Vendors*	*Slaughter Houses*	*Dairies*
2,289	92	1,592	852	91	340	501

In addition, bakeries, fishmongers' shops, grocers' shops and chandu shops were inspected.

The inspection and control of food in Penang is carried out by the Municipal and Government Health Officers in their respective areas. There are markets in all the principal towns and villages.

Inspections, as tabulated, were carried out in the Northern Settlement:—

	Coffee Shops	*Toddy Shops*	*Eating Shops*	*Markets*	*Milk Vendors*	*Slaughter Houses*
Penang ..	1,684	143	983	704	11	542
Province Wellesley	2,153	190	1,343	659	495	340
Dindings ..	315	35	315	151	97	91

In addition, bakeries, fishmongers' shops, grocers' shops and chandu shops were regularly inspected.

The inspection and control of food, etc., in Malacca is carried out both in the municipal and in rural areas by the Government Health Officers. There are markets at various centres most of which are satisfactory. Milk vendors, eating houses, coffee shops, factories, butchers' shops, slaughter houses, toddy shops, chandu shops are regularly inspected. In addition to the above, bakeries, cowsheds, piggeries and goat-pens are also under observation. There are three dairies in the rural area supplying milk to Malacca Town.

C.—Measures taken to spread the knowledge of Hygiene and Sanitation

The instruction of the general public in the knowledge of the elements of hygiene and sanitation is catered for by lectures and film demonstrations in schools, etc. The Sanitary Inspectors of the various districts while on their rounds promote a desire for general cleanliness in the kampongs by conversing with individuals among the kampong population. The penghulus (headmen) of the outlying islands are encouraged and advised on the subject by the personal periodic visits of the Health Officer.

Much valuable work is done through the agency of the Infant Welfare Centres, where the correct methods of feeding, clothing and general care of infants and young children are especially stressed by talks to the mothers and by the exhibition of suitable posters.

The Medical Officer and dresser employed on the travelling dispensaries in addition to personal talks to patients at the various stopping places further the knowledge of sanitation by the distribution of pamphlets.

One film on the subject of malaria was completed during the year and has been exhibited throughout Malaya.

A limited number of exhibits are displayed in the Public Health Offices.

D.—Training of Sanitary Personnel

A course of instruction for Sanitary Inspectors open both to Government servants and private individuals in Malaya was initiated in 1921. By arrangement with the Royal Sanitary Institute of London, pupils are entitled to sit for the examination for the certificate of that Institute. Instruction commences in the month of May and lasts until the end of October; one course is held each year. The syllabus comprises lectures on hygiene and sanitation, malariology, elementary entymology, helminthology and vital statistics. In addition, the students are given instruction in sanitary engineering, physics, building construction and elementary bacteriology. The lectures are augmented by demonstrations and practical field work.

Owing to the increasing number of applicants who desire to take the course, it was found necessary to restrict the quota to twenty-five each year. Members of the class in previous years who have failed to pass the examination in their year of study are allowed to take the examination a second time on payment of the examination fee.

Since the year 1926, one hundred and seventy students have received instruction. Of these 144 have been successful in gaining the Certificate of the Royal Sanitary Institute.

A new and well equipped laboratory has been fitted up during the course of the year, this has facilitated both lecturing and practical laboratory work.

V.—PORT HEALTH WORK AND ADMINISTRATION

A.—Singapore

1.	Number of ports from which vessels arrived ..	525
2.	Names of ports against which quarantine measures were declared during the year:— Alexandria, Amoy, Basrah, Bombay, Calcutta, Canton, Colombo, Dairen, Hankow, Hoihow, Hongkong, Karachi, Kuala Trengganu, Macao, Madras, Muntok, Nanking, Newchang, Pondicherry, Rangoon, Saigon, Shanghai, Swatow, Tientsin, Tsingtao, Tuticorin.	
3.	Total tonnage of ships entering the port	15,016,994
4.	Number of ships entering the port	22,107
5.	Ships examined including pilgrim ships and infected ships	1,183
6.	Outgoing pilgrim ships examined	4
7.	Returning pilgrim ships examined	5
8.	Infected ships examined (all small-pox)	3
9.	Ships fumigated or disinfected	103
10.	Crew examined	112,015

11.	Passengers examined including Muslim pilgrims and Chinese immigrants	126,060
12.	Outgoing pilgrims examined	536
13.	Revenue for charges for fumigation or disinfection of ships and from certificates issued to such ships ..	$5,168
14.	Returning pilgrims examined	2,080
15.	Chinese immigrants examined	32,925
16.	Corpses inspected in harbour	35
17.	Water boats inspected in harbour	48
18.	Passengers undertakings issued for surveillance ashore	26
19.	Optional certificates issued to ships fumigated or disinfected	105
20.	Bills of health issued	2,240
21.	Permits to import and export corpses issued ..	25
22.	Revenue from Bills of Health fees (57 free to Warships)	$10,915
23.	Revenue from permits to import and export corpses ..	$250
24.	Charge of water supplied to passengers at Quarantine Station recovered from agents	$680.10
25.	Total revenue	$17,013.10
26.	Exemption certificates issued to ships	428
27.	Deratisation certificates issued	8
28.	Rats trapped and bacteriologically examined:	

R. Decumanus	*R. Rattus*	*Others*	*Total*	*Plague infected*
64	363	6	433	Nil

29.	Prosecutions	Nil
30.	Drinking water from water boats examined ..	11

St. JOHN'S ISLAND QUARANTINE STATION

Figures for the year 1932

1.	Total passengers admitted during the year ..	19,947
2.	Geatest number admitted in any one day (2-1-32) ..	1,287
3.	Maximum number in residence on any one day (2-1-32)	1,287
4.	Minimum number in residence on any one day (18-3-32) (*Note.*—On 223 days there were none in residence)	1
5.	Total sick treated in hospital *i.e.* total admissions during the year and patients remaining in hospital on 31-12-31)	19
6.	Maximum number in hospital on any one day (9-1-32) ..	3
7.	Minimum number in hospital on any one day (29-1-32) (*Note.*—On 227 days there were none in hospital)	1
8.	Average daily number of sick in hospital	.530
9.	Total deaths during the year	2
10.	Death rate per mille in hospital	105
11.	Death rate per mille amongst passengers admitted ..	Nil
12.	Total cases of cholera admitted	Nil
13.	Total cases of plague admitted	Nil
14.	Total cases of cerebro-spinal fever admitted ..	Nil
15.	Total cases of small-pox admitted	4
16.	Number of non-infected ships whose passengers subsequently developed infectious diseases on the island ..	Nil
17.	Number of infected ships whose passengers subsequently developed infectious diseases on the island ..	Nil
18.	Number of primary vaccinations	7,832
19.	Total re-vaccinations	147
20.	Total vaccinations with anti-cholera vaccine ..	3,744
21.	Total vaccinations with anti-meningococcus vaccine ..	Nil
22.	Total number of N.A.B. injections	Nil
23.	Cases treated as outdoor patients (contacts and staff) ..	359
24.	Total births	5
25.	Average daily number of passengers in quarantine ..	54.2

RÉSUMÉ OF PORT HEALTH WORK, SINGAPORE FOR 30 YEARS

Year	*Crew and Passengers examined*	*Passengers sent to St. John's Island*	*Visits to Vessels*	*Bills of Health issued*
1903	321,365	21,253	809	1,000
1904	279,297	17,852	712	1,036
1905	323,431	12,109	1,279	1,220
1906	493,021	30,076	1,625	1,674
1907	377,325	25,408	1,226	1,318
1908	303,484	29,356	1,506	1,344
1909	291,625	15,072	1,251	1,299
1910	467,868	35,062	1,920	1,200
1911	538,291	53,961	2,100	1,800
1912	539,677	56,726	1,927	2,145
1913	506,925	56,838	1,818	1,582
1914	402,583	18,193	1,803	1,802
1915	200,978	3,335	821	1,563
1916	426,584	9,738	1,617	1,726
1917	277,442	78,881	694	1,915
1918	284,198	24,182	1,709	2,086
1919	411,921	28,318	2,130	2,160
1920	507,176	31,991	2,023	2,878
1921	511,747	8,950	1,851	2,951
1922	369,072	15,343	1,552	2,720
1923	395,583	7,374	1,360	2,718
1924	408,419	39,053	1,433	2,912
1925	366,671	46,063	1,018	3,204
1926	550,443	78,963	1,650	3,273
1927	643,066	20,169	1,568	3,071
1928	501,009	13,993	1,342	3,345
1929	526,048	84,282	1,578	3,255
1930	431,017	43,659	1,186	2,922
1931	205,542	2,733	697	2,401
1932	238,075	19,947	1,183	2,240
Total ..	12,099,883	928,880	43,388	64,760

B.—Penang

Ports of clearance on which quarantine restriction was imposed were:—

Small-pox.—Amoy, Madras, Saigon, Shanghai, Calcutta, Pondicherry, Rangoon, Swatow, Hongkong, Canton, Karachi, Colombo, Tuticorin, Bombay, Muntok, Kuala Trengganu, Basrah, Alexandria.

Cholera.—Calcutta, Saigon, Madras, Amoy, Shanghai, Bombay, Swatow, Canton, Hongkong, Hankow, Nanking, Dairen, Newchang, Hoihow, Tsingtao, Tientsin.

Plague.—Bombay.

Cerebro-spinal Meningitis.—Shanghai, Hongkong, Swatow, Macao.

The only infected ship to arrive in Penang during the year was s.s. *Rajula* from Madras on the 12th February, 1932, with a case of small-pox on board.

Other details are summarised as follows:—

1.	Passengers admitted to Quarantine Station ..	11,692
2.	Greatest number admitted on any one day (18-5-32) ..	2,044
3.	Passengers medically examined	65,911
4.	Crew medically examined	49,306
5.	Maximum number in residence on any one day (23-5-32)	2,125
6.	Minimum number in residence on any one day ..	Nil
7.	Sick treated in hospital (Patients remaining on 31-12-32 included)	214
8.	Total deaths during the year (of these four died within 48 hours)	15
9.	Death-rate among those treated per mille	1.27
10.	Number of births	2
11.	Cases of cholera admitted	Nil
12.	Cases of plague admitted	Nil
13.	Number of vaccinations	3,961

14.	Number of anti-cholera inoculations	Nil
15.	Number of out-patients treated	712
16.	Number of anthelmintic treatments	2
17.	Corpses examined in harbour	6
18.	Permits to import or export corpses (1 free) ..	47
19.	Certificates to accompany hides	6
20.	Water boats examined	23
21.	Revenue in stamp fees	$4,141.15
22.	Number of vessels entering the port (including native craft)	8,693
23.	Tonnage of these vessels	6,629,629
24.	Number of ships examined (ships infected 1) ..	378
25.	Number of pilgrim ships proceeding Jeddah ..	4
26.	Outgoing pilgrims examined	671
27.	Number of pilgrim ships returning to Jeddah ..	2
28.	Returning pilgrims examined	819
29.	Infected ships proceeding to Quarantine	1
30.	Fumigations and disinfections by disinfecting launch ..	1
31.	Number of disinfection certificates issued	Nil
32.	Passengers undertaking issued	152 (on behalf of 269 passengers)
33.	Bills of Health issued (2 free)	730
34.	Exemption permits issued	166

RÉSUMÉ OF PORT HEALTH WORK, PENANG FOR 29 YEARS

Year	No. of Vessels inspected	Bills of Health issued	Passengers and crew units examined	Passengers sent to Quarantine	Number of Small-pox admissions	Number of cholera admissions	Number of Plague admissions	Vaccinations carried out
1904	748	..	184,691	2,217	16	5	2	..
1905	869	266	214,136	10,406	10	1	..	..
1906	675	460	204,988	23,288	16	8	2	6,490
1907	633	..	219,839	17,650	4	24	1	5,625
1908	1,205	..	176,119	21,175	51	9	2	5,691
1909	503	..	161,971	23,058	23	2	1	5,614
1910	526	..	217,967	71,876	62	33	2	12,205
1911	1,144	..	277,151	134,957	109	387	1	63,988
1912 *	634	..	287,373	55,493	75	4	4	38,297
1913	818	..	272,473	53,937	11	12	1	37,276
1914	1,040	..	215,067	48,399	171	9	..	32,609
1915	405	396	148,622	23,179	3	..	..	21,562
1916	662	..	213,726	42,736	11	1	..	36,806
1917	367	437	203,737	37,595	11	12	..	36,808
1918	551	612	173,813	33,481	7	80	..	29,536
1919	493	633	210,839	50,733	6	264	..	39,941
1920	432	602	207,424	43,733	4	8	..	41,230
1921	461	393	197,446	19,653	42	3	..	10,377
1922	480	530	197,579	31,247	6	..	..	26,675
1923	442	646	182,349	24,129	2	9	..	23,359
1924	461	793	214,936	28,701	..	151	..	25,779
1925	417	754	203,204	44,984	8	47	..	42,514
1926	885	753	282,530	85,607	5	91	..	77,879
1927	3,201	733	367,183	88,849	11	41	..	83,675
1928	1,821	898	257,507	43,273	11	..	..	40,354
1929	532	1,058	262,476	58,013	1	..	..	54,554
1930	480	1,020	216,125	35,778	..	..	..	33,450
1931	375	783	136,503	6,837	3	5	..	6,659
1932	378	730	115,217	4,467	1	..	..	3,961

VI.—KING EDWARD VII COLLEGE OF MEDICINE

Abstract of Annual Report

The Hon. Dr. R. D. FITZGERALD acted as President of Council from 1st April, 1932, until the end of the year during the absence on leave of the Dr. C. J. WILSON, M.C.

The Hon. Mr. F. J. MORTEN, Acting Director of Education, was appointed a member of Council in place of the Hon. Mr. J. WATSON on 15th April, 1932.

The Hon. Sir DAVID GALLOWAY, who rendered most valuable services to the College since its foundation both as a member of the Council and the teaching staff, resigned in March, 1932, and Dr. E. A. ELDER was appointed in his place.

* New Quarantine Station opened and old Quarantine Station converted into Leper Camp.

Dr. CHEN SU LAN and Mr. TAN SOO BIN were re-elected as members of Council by the Electoral Board for a further period of three years. The Council appointed the Hon. Dr. NOEL L. CLARKE as a member to fill the vacancy caused by the resignation of Mr. TAN CHENG KEE.

Mr. E. C. CHITTY, F.R.C.S., acted as Professor of Clinical Surgery from the 15th April to the end of the year.

Mr. E. J. H. CORNER acted as Professor of Biology until Professor B. A. R. GATER'S return from leave on 8th June, 1932.

Dr. H. O. HOPKINS acted as Lecturer in Pathology from 15th April, 1932 during the absence on leave of Dr. J. C. TULL.

Mr. A. J. TURNER acted as Lecturer in Pharmacy during the absence on leave of Mr. T. ROEBUCK.

Students.—There was an entry of twenty medical and fifteen dental students during the year 1932. Thirty students left the College during the same period, of these ten completed the course and received the Diploma, L.M.S., Singapore.

There were 140 students including 25 dental students at the College at the end of the year. The number of fee-paying students increased from 48 in 1931 to 61 in 1932. The number of dental students increased from 11 in 1931 to 25 in 1932.

Teaching.—The teaching of chemistry and physics was carried out, as in previous years, at Raffles College. The re-organisation of the course in biology was almost completed. The practical course in physiology, except for a few weeks devoted to experiments on isolated organs, is entirely human. The department of biochemistry in addition to the ordinary courses in organic chemistry and biochemistry, gave a course on food and its uses which was attended by forty-two school teachers and Professor ROSEDALE delivered lectures on nutrition to teachers at eight centres in Malaya. Three dressers attended this department for training in biochemical methods. At the beginning of the year three graduates were appointed by the Council as clinical assistants to the clinical teaching units and a Medical Officer was attached to the Professor of Medicine for duty in the medical unit. These appointments have led to an extension of clinical teaching, a larger number of cases can now be investigated thoroughly and this system has proved beneficial both to students and graduates.

Research.—The nutrition research being carried out by Professor J. L. ROSEDALE and his staff, was continued during the year and considerable progress was made. Preliminary experiments with regard to the vitamin content of red palm oil have shown that it is the most potent known source of vitamin *A*. From experiments carried out in other parts of the world upon the West African oil, it is clear that the local product is at least three times as potent. Experiments were carried out to ascertain if copra oils could be rendered anti-rachitic by exposure to sunlight. Some evidence has been obtained to suggest that red palm oil may contain Vitamin *D* as well as Vitamin *A*. Crystals have been obtained from pineapple juice which have given protection from scurvy. The anti-scorbutic value of thirty-two local foods has been tested, and in addition a comparison has been made of fresh and tinned pineapple; it was found that about 50 per cent. of the vitamin is lost on canning. Work was continued on the analysis of the mineral content of foods and a series of nine samples of the same strain of padi from different localities has been analysed; certain differences in mineral composition have been observed and further investigations are being made. Investigations upon the chemistry of proteins have been continued and it has been found that tryptophane is not destroyed if hydrolysed with a twenty per cent. solution of rubidium hydroxide. The naphtho-sulphonic determination of cystine has proved successful. Fifty analyses of the nitrogen and organic matter in soils have been carried out in connection with the experiments of Professor K. B. WILLIAMSON at Cameron Highlands. The grant from the Colonial Development Fund has greatly assisted Professor ROSEDALE in his research. The nutrition laboratory for the animal experiments built from part of this grant was completed during the year and was opened by His Excellency the Governor, Sir CECIL CLEMENTI, G.C.M.G., on 14th December, 1932.

The skeletal remains of three individuals dug up in the Kuala Selingsing excavations were reconstructed, measured and described for Mr. I. H. N. EVANS, late Director of the Museum at Taiping, by Professor J. G. HARROWER.

Professor J. R. KAY-MOUAT continued his investigations on the effects of climate. Dr. K. C. GHOSH investigated the ventilation of schools in Singapore using the kata-thermometer.

Professor B. A. R. GATER published a paper on the Malayan Trombidiid Larvæ with description of seventeen new species, and progress was made in the systematic study of Malayan Anopheles. Dr. SANDOSHAM commenced a systematic survey of human helminths.

Professor W. A. YOUNG carried out a comparative test between Kahn positivity and Wassermann positivity using quantitative Wassermann technique, and investigations as to the value of entero-vaccination in the control of dysenteric infections in the Singapore Prisons and Mental Hospital were continued.

Professor R. B. HAWES carried out investigations to assess the value of some of the newer drugs including Atebrin. An attempt to find an antidote for tuba root poisoning was not successful, but further work will be carried out as cases of suicide by tuba root are becoming more common. A survey of insects in an area of Singapore Island where yaws is common was carried out by the courtesy of the Director of Museum.

The Dental School.—As a result of the work in former years becoming more widely known there were more applications for admission as dental students than could be accepted. Fifteen students entered in June, 1932. The usual courses were given; the attendance at classes has been good and the general progress of the students has been satisfactory.

Regulations for a special three years dental course for medical practitioners and for a combined medical and dental course were approved. A short course of instruction in dental surgery to final year medical students was instituted. The Dental School can now be regarded as firmly established.

The Keith Museum.—The main work of the year consisted of the permanent and indelible numbering of all specimens; the remounting of certain of the old specimens; the experimental mounting of some new specimens for colour retention; the indexing of all specimens by title in a master index; the commencement of indexing of specimens by systems; and the preparation of an "Atlas of Ophthalmoscopic Diagnosis". A full-time laboratory assistant was appointed by the Council in April.

Publications.—

1. Malayan Trombidiid Larvæ, Part I, with Descriptions of Seventeen New Species, by B. A. R. GATER; Parasitology, Vol. 24, pp. 143–174, 16 figs.
2. Entomological Investigations in relation to Tropical Typhus in Malaya, by B. A. R. GATER; Transactions of the Eight Congress Far Eastern Association of Tropical Medicine, Bangkok, pp. 132–143.
3. Observations on the Estimation of Blood Sugar by McLEON's Method, by Dr. K. C. GHOSH; Malayan Medical Journal, Vol. VII, No. 2, pp. 54–55, June, 1932.
4. Some Aspects of Vitamin *C*. by C. J. OLIVEIRO; Malayan Medical Journal, VII. 15. (1932).
5. A review of the *B* vitamin Complex by LEONG PENG CHONG, ibid. page 19.
6. A Preliminary Note on the Antiscorbutic Value of Tropical Foods, by Dr. C. J. OLIVEIRO, ibid. p. 38.
7. The Amino-acids of Tissues. Vi. Determination of the Basic Amino-acids in small Quantities of Protein, by J. L. ROSEDALE and G. A. DA SILVA, Biochem. Jour. XXVI. 369 (1932).
8. The Antimony Test with Sera other than those of Kala Azar, by N. K. SEN; Malayan Medical Journal, VII. I. pp. 13–15 March, 1932.
9. Health and Climate, with special reference to Malaya, by K. BLACK; Malayan Medical Journal, December, 1932.

VII.—MATERNITY AND CHILD WELFARE

I.—MATERNITY HOSPITALS

There are government maternity hospitals in both Singapore and Penang, and maternity wards in several of the government district hospitals, in the Church of England Mission Hospitals at Singapore and Malacca, and in the Kwong Wai Shiu Hospital, Singapore, a charity supported by the Chinese community.

The following is a statement of the number of women admitted to and delivered in maternity institutions in the Straits Settlements, 1932:—

		Admitted	*Delivered*
1.	Maternity Wards, General Hospital, Singapore	1,160	1,095
2.	Free Maternity Hospital, Kandang Kerbau, Singapore	2,383	2,336
3.	Maternity Ward, St. Andrew's Mission Hospital, Singapore	320	302
4.	Maternity Ward, Kwong Wai Shiu Hospital, Singapore	259	241
5.	(i) King Edward VII Maternity Hospital, Penang	1,581	1,393
	(ii) Maternity Wards in Province Wellesley and Lumut Hospitals	166	147
6.	Maternity Ward, St. David's Mission Hospital, Malacca	323	323
7.	Maternity Wards in Malacca and other District Hospitals	179	179
		6,371	6,016

The ever increasing number of patients admitted to the maternity hospitals and wards is a source of considerable gratification to all concerned. In no other section of the medical service has such progress been attained.

II.—TRAINING AND WORK OF MIDWIVES

Midwives are trained at the Government hospitals; a few are trained at the mission hospitals.

Class *A* midwives comprise women with sufficient English education to undergo a 12 months' training and examination similar to the C.M.B., for which they receive a diploma. Nurses with British diplomas are registered in this class also.

Class *B* midwives comprise Asiatics of lower education, who undergo a practical training given in Malay for from six to nine months, and pass a practical examination.

Class *C* consists of women who have been registered, though unable to pass an examination, because they were in regular practice before the passing of the Midwives Ordinance.

The number of registered midwives in the Colony is:—

	Singapore	*Penang*	*Malacca*
Class *A*	121	78	9
Class *B*	295	238	24
Class *C*	31	195	211
Total ..	447	511	244

The number of births in the Colony in 1932 was 41,106.

III.—INFANT AND CHILD WELFARE SERVICES

These are conducted by the Municipalities of Singapore, Penang and Malacca within their boundaries, by the Singapore Child Welfare Society, and, in rural areas, by Government.

A.—IN MUNICIPALITIES

Infants up to the age of 12 months are attended at the three Singapore Municipal Clinics. During the year 14,309 new infants were placed on the registers of the infant welfare clinics, this figure represents 87% of the total births in the city.

The total number of attendances was 41,215 as compared with 27,708 in the previous year.

The four District Sisters paid a total of 19,173 visits to homes, of these 14,758 were first visits to newly born babies.

The Municipal Health Officer in his annual report states that congenital syphilis was found to be the most important cause of chronic ill-health, and gives a very interesting survey of the tests carried out to substantiate his statement.

The Penang Municipality employs two European Health Sisters.

In Malacca two Health Visitors are employed, under the supervision of a Health Sister who is the Government Health Sister but is also employed part time by the Municipality.

B.—THE SINGAPORE CHILD WELFARE SOCIETY

This Society is supported by subscriptions and donations and a Government grant.

The Society supports two clinics and a creche. Children up to the age of six are attended free at these clinics.

The Municipal clinics which treat babies up to the age of 12 months, pass to the Society's care children over one year of age who require treatment.

The Society employs two qualified European Matrons and four locally trained Chinese nurses.

The total number of attendances was 50,128, which is 10,549 in excess of 1931 figures.

All children needing treatment which cannot be given at the clinics are sent to hospital, the majority being sent to St. Andrew's Mission Hospital.

Minto Road Creche.—The total number of attendances was 9,308: the average daily attendance was 36.

C.—GOVERNMENT INFANT WELFARE CENTRES

There are two Government Health Sisters in Singapore, one in Penang, one in Province Wellesley and one in Malacca. There are five centres in Singapore, two in Penang, three in Province Wellesley and four in Malacca.

The clinics are held at the various centres on stated days and hours.

D.—COMBINED RETURN SHEWING VISITS PAID TO HOMES AND ATTENDANCES AT WELFARE CLINICS

	Visits to Homes		*Attendances at Clinics*	
Municipalities—				
Singapore	116,375		41,215	
Penang	54,800		—	
Malacca	19,581		3,064	
		190,756		44,279
Singapore Child Welfare Society ..		38,678		50,128
Government—				
Singapore	59,041		33,524	
Penang	97,444		92,948	
Malacca	19,068		6,436	
		175,553		132,908
Grand Total ..		404,987		227,315

IV.—ASSOCIATED ACTIVITIES

Women's and children's dispensaries are conducted by Government in Singapore, Penang and Malacca, and by Missions in Singapore and Malacca. The dispensaries are staffed by Lady Medical Officers.

The returns for 1932 are:—

	New patients	*Repetitions*	*Total*	*Total No. of Children of the new patients*
Women's and Children's Dispensaries, Singapore—				
(a) Kandang Kerbau ..	13,695	36,400	50,095	7,733
(b) General Hospital Outdoor Dispensary	5,309	17,258	22,567	2,245
Women's and Children's Dispensary, Penang	9,824	10,118	19,942	5,720
Women's and Children's Dispensary, Malacca	5,356	5,433	10,789	2,910
St. Andrew's Mission Dispensary, Singapore	5,893	12,907	18,800	—
St. David's Mission Dispensary, Malacca	3,083	3,176	6,259	—
	43,160	85,292	128,452	18,608

Motor Travelling Dispensaries.—There were 144,309 attendances in 1932. Of these, 19,218 were women and 28,291 children.

VIII.—HOSPITALS, DISPENSARIES AND VENEREAL CLINICS

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

Hospitals	*Average daily No. of patients*	*Total No. of patients treated*	*Deaths*	*Percentage of deaths to total treated*
I.—SINGAPORE—				
General Hospital ..	581.20	13,685	1,443	10.54
Tan Tock Seng Hospital	760.02	8,330	967	11.60
Maternity Hospital, Kandang Kerbau ..	35.53	2,409	19	.78
St. John's Island Hospital	.53	19	2	10.50
Police Hospital ..	16.29	941	—	—
Mental Hospital ..	1,317.96	1,688	142	8.41
II.—*(a)* PENANG—				
General Hospital ..	162.60	4,416	386	8.73
King Edward VII Maternity Hospital ..	37.00	1,612	27	1.67
District Hospital ..	293.32	4,255	448	10.52
Balik Pulau ..	21.94	367	13	3.54
(b) DINDINGS—				
Lumut	37.02	944	49	5.19
(c) PROVINCE WELLESLEY—				
Butterworth ..	82.74	2,023	103	5.09
Bukit Mertajam ..	100.23	1,761	96	5.45
Sungei Bakap ..	108.66	2,416	112	4.63
III.—MALACCA—				
Durian Daun ..	330.90	4,377	347	7.92
Jasin	48.28	979	81	8.27
Alor Gajah ..	44.31	1,241	53	4.27
IV.—LABUAN—				
District Hospital ..	10.01	143	15	10.48

The preceding table excludes the number treated at the Leper Settlements of Penang and Singapore, and the Prisons Hospitals (*vide* Appendices *A* and *B* and section X (*a*), (*b*) and (*c*). These figures are included in the return of in-patients and diseases as shown in Table *V*, page 85.

Prevailing Diseases among Hospital Patients:—

Diseases	*Admissions*	*Deaths*	*Mortality*
Malaria, acute	5,040	239	4.74
Malaria, chronic	711	37	5.20
Venereal Diseases	3,408	191	5.60
Influenza	968	1	0.10
Chest Affections—			
Bronchitis	1,029	10	0.97
Pneumonia and broncho-pneumonia	1,057	588	55.62
Pulmonary Tuberculosis ..	2,137	833	38.97
Intestinal Affections—			
Dysentery	746	185	24.79
Diarrhœa and Enteritis ..	981	144	14.67
Other Affections—			
Helminthic Diseases	1,736	26	1.55
Beri-Beri	991	154	15.53
Anæmia	165	29	17.57
Surgical Conditions—			
Chronic Ulcers	1,975	7	0.35
Wounds	2,814	73	2.59
Fractures, etc.	1,916	31	1.61
Abscesses, etc.	1,258	32	2.54

The total number of in-patients treated during 1932 was 54,442 with 4,446 deaths, as against 58,815 with 4,930 deaths in 1931.

The distribution in the three Settlements was as follows:—

	Admissions	*Deaths*
Singapore	25,520	2,610
Penang	17,774	1,340
Malacca	6,213	481
Labuan	129	15
Total ..	49,636	4,446

The total number of beds and the average daily number of patients in the three Settlements in 1932 were:—

	Beds	*Average daily No. of patients*
Singapore	3,460	2,884.69
* Penang	2,306	1,636.29
Malacca	506	399.02
Labuan	31	10.00

POLICE HOSPITAL, SINGAPORE

The police hospital at the police depôt, Thompson Road, Singapore was opened on 27th October, 1930. It contains 30 beds. The medical care of the Police Force is under the charge of an Assistant Medical Officer who devotes his whole time to this work. He holds sick parades at the Depôt and in each of the nine police divisions every morning, all recruits are examined, stations and quarters inspected, periodic examination of the men are also made.

The advantage of having the medical control of the police under a special doctor is shown by the steady reduction in the number of days of absence on account of illness.

Strength of the Police Force.—

	ALL RANKS
Divisions	2,213
Depôt	282
Total ..	2,485

The daily average number of patients seen was 13 for 1932 as compared with 14.6 in 1931 and 20.4 in 1930.

Police Hospital.—

Staff:—

One Assistant Medical Officer.
One Dresser, Grade II.
Two Attendants.

The total admissions to hospital during 1932 were 941 as compared with 1,142 during the year 1931. There were 19 remaining from the previous year making a total of 960 treated. Twenty-four cases were transferred to the General Hospital, Singapore, for special treatment; of these two died, one of peri-carditis and the other of pneumonia.

Out-patients attendances:—

Four thousand seven hundred and thirty-one men were treated.

The principal diseases were as follows:—

Bronchial and nasal catarrh	1,595
Bronchitis	35
Bowel complaints	479
Wounds and ulcers	1,520
Dental caries	164
Skin diseases	171
Ear diseases	57
Eye diseases	56
Fever undiagnosed	170
Gonorrhœa	84
Syphilis	74
Malingering	49

Venereal Diseases.—Ablution rooms were opened during the year under review at the various police stations in Singapore.

The apparent increase in the number of cases of syphilis is due to the greater number of Wassermann reactions which were carried out.

The men continued to make use of the ablution rooms in the various stations.

Incidence of Venereal Disease.—

	Attendances	*Gonorrhoea*	*Syphilis*	*Soft sore*
1930 ..	387	228	131	67
1931 ..	161	90	50	18
1932 ..	127	84	74	6

* Includes Province Wellesley and Dindings.

General.—At the depôt men were given instruction in first aid and general hygiene for one hour daily on week days. Every policeman has to attend this course before he leaves the depôt.

Two thousand six hundred and fifty-nine men were off duty for 8,241 days during the year inclusive of cases admitted to hospital.

The average daily number of sick was 22.3 which is equivalent to .88% of the police strength.

Twenty-six men were boarded out as unfit for police service:—

Pulmonary tuberculosis	14
Diabetes	2
Asthma and emphysema	5
Chronic bronchitis	2
Arterio-sclerosis	1
Gonorrhœal arthritis	1
Deafness	1
Total	26

Two hundred and twenty-one recruits were examined for the force; out of these 83 were rejected as unfit.

The whole police force was twice medically examined during the year. The men at the depôt were examined every month.

THE FOLLOWING TERMINAL CAUSES OF DEATHS WERE NOTED IN 274 FATAL MALARIAL CASES:—

—	General Hospital, Singapore	Tan Tock Seng Hospital, Singapore	Penang Hospital	Malacca Hospital	Total
Ankylostomiasis	..	..	4	..	4
Cardiac failure	32	18	72	24	146
Cachexia	..	1	10	16	27
Coma or convulsions	2	..	7	..	9
Coma: cerebral malaria	..	26	..	19	45
Dysentery and enteritis	..	1	..	3	4
Failure of liver functions	5	2	..	3	10
Failure of kidney functions	2	1	..	..	3
Hyper-pyrexia	3	..	2	3	8
Malaria—complicated with beri-beri	1	6	..	..	7
Malaria—complicated by amœbia dysentery	..	1	..	..	1
Malaria complicated with broncho pneumonia	1	..	..	..	1
Malaria—complicated by septicæmia	1	..	..	..	1
Malaria—complicated by nephritis	1	..	..	..	1
Malaria—complicated with gastric enteritis	1	..	..	..	1
Ruptured spleen	1	..	..	..	1
Terminal pneumonia and other pulmonary complications	..	5	..	..	5
					274

THE APPROXIMATE DAILY COST OF DIETS PER HEAD IN THE GENERAL HOSPITAL, SINGAPORE, FOR THE YEAR 1932 WAS:—

	$ c.
First Class Full Diet	1 44
Second Class Full Diet	1 15
Third Class Full Diet Chinese	0 21
Third Class Full Diet Tamil	0 24
Third Class Full Diet Malays	0 27½
Third Class Full Diet Sikhs	0 45
Third Class Full Diet Bengali and Hindus	0 32
Third Class Half Diet Malay, Tamil and Chinese	0 19
Third Class Milk Diet Malay, Tamil and Chinese	0 09

OUT-DOOR DISPENSARIES

Out-patients treated at all out-door dispensaries and hospitals, including travelling dispensaries, totalled 283,367, and the attendances were 525,668. This does not include those treated at social hygiene clinics, infant welfare centres, or at school inspections, all of which are recorded elsewhere in this report.

These out-patients can be classified under three headings:—

		Out-patients	*Attendances*
(I) At Hospitals	*(a)* Singapore	13,848	32,890
	(b) Labuan	3,523	5,231
(II) At Dispensaries	*(a)* Singapore	59,728	134,398
	(b) Penang*	77,621	153,707
	(c) Malacca	37,252	76,782
(III) At Travelling Dispensaries	*(a)* Singapore	21,649	23,725
	(b) Penang Island ..	24,472	29,536
	(c) Province Wellesley ..	20,665	36,997
	(d) Malacca	24,609	32,402
	Total ..	283,367	525,668

The number of out-patients treated for yaws was 9,655 as compared with 7,477 in 1931. More Malays suffering from this disease have come forward voluntarily to accept treatment.

The attendances at the Women's and Children's Dispensary, Kandang Kerbau, Singapore, numbered 36,400 as compared with 35,814 in 1931.

In the Women's and Children's Dispensary, Penang, the attendances were 19,942 as against 15,722 in the previous year.

The total number of attendances at the Women's and Children's Dispensary, Malacca, was 11,083. Of 5,356 new patients who received treatment 2,910 were children. This clinic has now been separated into two district units—a women's and children's dispensary and an infant welfare centre.

IX.—MENTAL HOSPITAL, SINGAPORE

There remained on 31st December, 1931, 912 males and 342 females. Three hundred and twenty-seven males and 107 females were admitted during 1932. The total treated was 1,688.

Of the admissions 23 males and 16 females had been previously inmates of Singapore Mental Hospital.

Of the total treated 113 males and 36 females were discharged as recovered, 24 males and 19 females as improved, nine males and four females not improved, and three males and two females as not insane on admission. Three males and one female absconded. One hundred and five males and 37 females died.

There remained on 31st December, 1932, 982 males and 350 females.

The daily average number was 967.76 males and 350.2 females.

The maximum and minimum daily numbers respectively were 1,347 and 1,254.

The nationalities of the admissions were:—

	Males	*Females*
British	4	1
Other Europeans	1	4
Eurasians	3	4
Chinese	189	67
Tamils	80	10
Malays and allied races	32	18
Other nationalities	18	3

The physical condition of those admitted was:—

	Males	*Females*
Good	103	22
Fair	130	46
Impaired	86	31
Greatly impaired	8	8

The increased number of admissions in 1932 may be largely attributed to the physical and mental stress consequent upon the unfavourable labour conditions. Sixty-three more patients were admitted than in 1931; the average admission rate for the years 1922–1931 was 372.6 whereas there were 434 admissions during 1932.

The recovery rate for the year was 34.1.

* Penang includes Province Wellesley and Dindings.

Criminal patients:—

	Males	*Females*
There remained on 31st December, 1931 ..	45	2
Number of criminal lunatics admitted	13	1
Number who recovered and were discharged from the hospital:—		
(a) to prison	3	0
(b) as fit to plead	3	0
Number whose sentence expired	2	0
Number who died	4	0

There remained on 31st December, 1932, forty-six male and three female criminal lunatics.

Mortality.—The death-rate based on the average daily number resident was 10.77 for 1932. Dysentery, pulmonary tuberculosis, general paralysis of the insane and pneumonia were the chief causes of death, accounting for 72% of the mortality. No suicides occurred during the year but two deaths were caused by accident and one patient died as the result of an assault by a fellow patient.

Industries.—Eight thousand eight hundred and eighty yards of cotton cloth were woven by male patients for use in the institution. Seventeen thousand and fifty pounds of vegetables were grown for the use of the patients and 1,650 cocoanuts were harvested.

Revenue was $18,209.50.

Staff.—No changes in the medical staff occurred during 1932.—

Dr. E. R. STONE continued as Medical Superintendent.

Dr. B. F. HOME as Assistant Medical Superintendent.

Dr. G. B. LEICESTER and Dr. LEE KEK SOON, Assistant Medical Officers, continued throughout the year.

X.—PRISONS

(a) SINGAPORE PRISON

The general sanitary condition of the Prison has been good and there has been no outbreak of any serious nature. There was a minor epidemic of influenza towards the end of the year, with few complications and no deaths. Four cases of typhoid fever occurred in December, with no deaths. These four prisoners were not in contact with each other and no common source of infection was found. All cooks and bakers were examined bacteriologically and no carriers were found; The fourth case apparently obtained the infection prior to admission to prison.

The principal diseases treated during the year were:—

Typhoid fever ..	4	Aortic incompetence ..	3
Malaria (cachexia) ..	8	Arterio sclerosis ..	3
Malaria (mixed infection)	2	Coryza	4
Influenza	140	Acute bronchitis ..	17
Bacillary dysentery ..	10	Chronic bronchitis ..	17
Leprosy	1	Diarrhœa	97
Pulmonary tuberculosis ..	26	Jaundice	3
Tuberculosis of intestine ..	2	Chronic nephritis ..	2
Tuberculosis of bones ..	1	Cystitis	6
Tuberculosis of lymphatic system	1	Stricture	5
		Orchitis	4
Dysentery unclassified ..	3	Cellulitis	29
Primary syphilis ..	3	Scabies	53
Secondary syphilis ..	21	Ulcers	13
Tumours	4	Pyrexia, malarial type ..	35
Anæmia (secondary) ..	14	Pyrexia non-malarial type of which 18 is of less than 48 hours duration ..	64
Spastic paraplegia ..	10		
Epilepsy	9	Arthritis	4
Neuritis	12	Asthenia	42
Corneal ulcers	5	Sprains	7
Conjunctivitis ..	8	Scalds	8
Other affections of the eye	12		

The death rate for the year was 10 per mille as against 12.26 for 1931. The causes of death were:—

Pulmonary tuberculosis	7	Lobar pneumonia	1
Abdominal tuberculosis	3	Chronic malaria	1
Arterio sclerosis	2	Shock and hæmorrhage from ruptured spleen (spotaneous)	1
Aortic incompetence	1		
Cirrhosis of liver	1		

Admissions to the prison hospital numbered 844 and the average daily percentage of sick to prison population is shown in the following table:—

	Including Vagrants		*Excluding Vagrants*	
	1931	*1932*	*1931*	*1932*
1st Quarter	2.94	1.18	2.86	1.23
2nd „	2.44	1.56	2.44	1.61
3rd „	1.75	1.56	1.72	1.37
4th „	1.25	2.27	1.32	1.85

During the year 13,293 out-patient prisoners were treated.

The stools of all prisoners and vagrants were examined on admission and those found to be suffering from worms were treated. Ten thousand seven hundred and ninety-six stools were examined with the following results:—

	Anky.	*Anky. R.W.*	*Anky. W.W.*	*Anky. R.W. W.W.*	*R.W.*	*R.W. W.W.*	*W.W.*	*Neg.*	*Total examined*
Europeans	2	—	—	—	1	—	3	14	20
Chinese	2,901	599	313	78	1,858	450	773	3,144	10,116
Malays	67	10	10	1	44	11	13	71	227
Indians	123	20	6	1	78	15	42	148	433
Total	3,093	629	329	80	1,981	476	831	3,377	10,796

The routine method of treatment for ankylostomiasis is as follows:—

1. Urine is examined for albumen: if albumen present treatment is withheld.
2. One ounce of magnesium sulphate is given at 5 P.M.
3. Next day at 6 A.M. a dose of syrup is given.
4. Half an hour later the following mixture:
   - Carbon Tetrachloride .. .. 30 minims.
   - Oil of Chenopodium .. .. 10 minims.
   - Liquid Paraffin .. .. .. ad ½ ounce.
5. Two hours later half an ounce of magnesium sulphate.

There were no casualties as a result of this treatment of over four thousand.

Dr. W. G. EVANS was medical officer in charge throughout the year and Dr. ABDUL SAMAT continues as assistant medical officer.

(b) PENANG PRISON

Admissions.—

(a) There were 24 cases remaining in hospital at the beginning of the year. Four hundred and seventy-one cases were admitted during the year making a total of 496 cases treated as compared with 283 cases in 1931.

(b) The daily average number of sick for the year was 7.32 as compared with 9.58 for the previous year.

Diseases.—The principal diseases treated amongst the in-patients were as follows:—

Malaria	18	Bowel disorders ..	26
Tuberculosis	13	Ankylostomiasis ..	11
Venereal diseases ..	32	Skin diseases	107
Diseases of the respiratory system	32	Injuries	19

Deaths.—There was one death in the prison hospital during the year due to peritonitis following perforation of gastric ulcer. In addition six deaths occurred amongst the prisoners transferred to the General Hospital during the year, making a total of seven with a death rate of 14.14 as compared with 10 deaths and a death-rate of 3.53 of previous year.

Causes of death:—

(1) Acute bacillary dysentery.
(2) Acute bacillary dysentery.
(3) Valvular disease of heart (mitral).
(4) Aortic stenosis.
(5) Senility and cardiac failure.
(6) Aneurysm of heart wall.

Out-patients.—One thousand and fifty-two cases were treated as out-patients during the year as compared with 1,689 cases in the previous year. The average daily attendance was 2.89.

The principal diseases treated among the out-patients were:—

Venereal diseases	.. 81	Bowel diseases	.. 80
Fever (not specified)	.. 154	Skin diseases ..	.. 111
Opium habit ..	.. 80	Ulcers ..	.. 120
Diseases of the respiratory system ..	.. 93	Other diseases	.. 333

Venereal Disease.—

(a) Five hundred and seventy-three specimens of blood were taken for Wassermann tests as compared with 387 in 1931.

(b) One hundred and ninety-six gave positive results as against 99 in 1931.

(c) Six hundred and six intravenous injections of N.A.B. were given as against 516 in 1931.

(d) Six hundred and six Bismuth preparations were given as against 442 in 1931.

Intestinal Parasites.—

(a) Nine hundred and sixty-seven specimens of stool were examined for ova of intestinal parasites, etc., as compared with 886 specimens for the previous year.

(b) Three hundred and twenty-nine were found positive to ova as compared with 273 the previous year.

(c) Three hundred and twenty-nine cases received treatment for hookworm and ascariasis, 215 for hookworm, and 114 for ascaris.

Minor Operations.—The following minor operations were performed:—

Incision of bubo	.. 3
Incision of abscess	.. 10
Extraction of teeth	.. 10
Total ..	23

Prison Strength.—There were 320 prisoners and 77 vagrants remaining at the beginning of the year.

Four thousand three hundred and thirty-seven were admitted during the year under review, of the total admitted 4,123 were prisoners and 214 were vagrants.

The numbers of prisoners and vagrants remaining on 31st December, 1932, were 269 prisoners and 25 vagrants respectively.

Judicial Hanging.—There were two cases of judicial hanging during the year.

Health.—The sanitary condition of the Prison and the health of Prison Staff and prisoners were satisfactory throughout the year.

Staff.—Dr. A. SOMASUNDRAM has been in charge throughout the year. Dresser K. PAKIRYSAMY has been in charge throughout the year.

(c) MALACCA PRISON

The Prison in Malacca is provided with accommodation for 135 prisoners.

The daily average number of inmates was as follows:—

Prisoners	.. 67.17
Remands	.. 11.30
Vagrants	.. 6.78

Buildings.—The buildings are well constructed and were kept in good repair throughout the year.

Sanitation.—The cells and precincts of the prison have been maintained in a sound sanitary state.

Feeding.—The feeding of the prisoners was generous, and the food well cooked. The vast majority of prisoners on discharge showed increase of weight as compared with their weight on admission.

Medical Attention.—The prison is provided with a hospital of eight beds.

This is utilized merely as a detention ward for treatment of minor maladies, all serious cases being transferred to Durian Daun Hospital for treatment.

The Assistant Medical Officer in charge of the Malacca Town Dispensary visits daily and on emergency. The Chief Medical Officer, Malacca, visits the prison once a week.

A dresser and an attendant are attached to the prison hospital.

Admissions to Hospital during 1932 ..	32 cases.
Mortality	Nil.

The cases treated in hospital were trivial and included four cases of malaria. The daily average number of sick treated was .038.

XI.—SCIENTIFIC, ETC., (APPENDICES)

A.—Report on Leper Settlements, Singapore.
B.—Report on Pulau Jerejak Leper Settlement, and the Female Leper Settlement, Penang.
C.—Report on Pathological Branch, Straits Settlements.
D.—Report on the General Hospital, Singapore.
E.—Report on treatment of Opium Habit.
F.—Report on Schools, Straits Settlements.
G.—Report on Social Hygiene Branch, Straits Settlements.

C. J. WILSON,
Director of Medical and Health Services,
Straits Settlements.

APPENDIX "A"

Leper Settlements, Singapore

ANNUAL REPORT FOR THE YEAR 1932

1.	*Male Leper Settlement.*—	
	Remained on 31-12-31	74
	Admitted during 1932	125
		199
	Discharged during 1932	4
	Died during 1932	16
	Absconded during 1932	20
	Transferred to Pulau Jerejak	88
	Remaining on 31-12-32	71
	Immediate causes of death:—	
	Leprosy	12
	Sapræmia	3
	Acute septic broncho-pneumonia and pleurisy ..	1
2.	*Female Leper Settlement.*—	
	Remained on 31-12-31	86
	Admitted during 1932	22
		108
	Discharged during 1932	2
	Transferred during 1932	Nil
	Absconded during 1932	Nil
	Died during 1932	4
	Remaining on 31-12-32	102
	Immediate causes of death:—	
	Leprosy	4

RETURN SHOWING NUMBER TREATED BY INJECTIONS

	Male	*Female*
Oil Hydnocarpus with 5% iodine	3,599	7,978
Alepol 1% with .5% carbolic	1,912	61
Hydnocarpus Wigntiana (ethyl esthers) with iodine	43	38

Treatment.—The treatment includes both general and special measures. These measures are however adjusted to the nature of the individual case.

General Measures.—Careful and persistent efforts are made to eliminate intercurrent affections which tend to reduce the general resistence of the patient. The prevalent intercurrent diseases are syphilis, hookworm, constipation, chest and skin infections.

Other general measures include personal hygiene, fresh air and sunlight, graduated exercises in the form of physical drill and games; a fresh and varied diet is provided.

Patients do their own cooking and sewing and a little gardening. Illustrated papers and gramophones are provided. A cinema film is shown about twice a month.

Special Measures.—Such measures include the administration of drugs that help to stimulate the general healing processes and effect the resolution of individual lesions.

The drugs in use and the methods of injection are as follows:—

Subcutaneous infiltrations of oleum hydnocarpus with .5% iodine and the subcutaneous and intradermal injections of Alepol 1% with .5% carbolic acid. The commencing dose is ½ c.c. increasing gradually to 5 c.c. The dose is reduced or the injections discontinued if the patient's vitality is lowered in any form.

In addition ethyl esthers of hydnocarpus are also given intradermally.

The following methods are used in controlling lepra reaction:—

Rest in bed, purgation, a light well-balanced nutritious diet and the administration of either adrenalin, ephedine or aspirin. Phenacetin and Dovers' powder are administered for the neuritic pains.

During the year periaterial sympathectomy was performed upon patients with perforating ulcers of the sole of the foot, all the ulcers healed in about

one month's time. Four cases relapsed as the result of using the feet too soon and exposing the feet to dampness.

The following are the types of cases at present in the Settlements:—

(a) MALE LEPER SETTLEMENT

1.	Diffuse leprotic cutaneous infiltrations	44
2.	Neural	5
3.	Mixed nodular and infiltrations	11
4.	Mixed neural and infiltrations	9
5.	Mixed neural and nodular	1
6.	Mixed macular and neural	1

Results of Treatment.—

Improved	6
Stationary	22
Retrogressing	6

(b) FEMALE LEPER SETTLEMENT

1.	Diffuse leprotic cutaneous infiltrations	47
2.	Neural	14
3.	Nodular and infiltrations mixed	17
4.	Neural and infiltrations mixed	22
5.	Macular and neural mixed	2

Results of Treatment.—

Arrested	6
Improved	38
Stationary	40
Retrogressing	10

During the year Assistant Medical Officer, P. E. PEREIRA was in charge of both the Settlements.

APPENDIX "B"

Pulau Jerejak Settlement

ANNUAL REPORT 1932

1. *Inmates.—*

Total number remaining on 31-12-31	679
Admitted during the year 1932	194

The total number treated was 873 as compared with 1,040 for the previous year.

			1932		*1931*
Died			80		88
Absconded			9		23
Discharged—Relieved	14		19	8	12
Cured	5			4	
Transferred			—		238

The 14 inmates who were discharged as relieved included 10 Indians and 4 Chinese who were repatriated to their respective native country.

In addition to the above, 54 cases were selected at the end of the year as suitable for discharge and necessary recommendations have already been made. On discharge, 12 Indians will be repatriated to India, 6 Chinese to China, and the remaining 36, who will reside in different parts of the Straits Settlements or the Federated Malay States shall report periodically at a Government dispensary for at least two years.

Eighteen of the cases who were either discharged or selected as suitable for discharge were inmates in the Settlement for several years and their affection being slightly neural the disease has become burnt out.

The total number remaining on 31-12-32 was 765 classified as follows:—

Straits Settlements Lepers	617
Kedah Lepers	106
Perak Lepers	19
Selangor Lepers	7
Kelantan Lepers	16
Total	765

Nationality.—

Chinese	601
Indians	128
Malays	21
Eurasians	12
Others	3
Total	765

Daily average number of inmates was 717.14 as compared with 690.60 for the previous year.

Percentage of deaths as compared with those for the previous ten years:—

	Inmates	*Deaths*	*Rate*
1922	699	186	26.60
1923	688	140	20.34
1924	726	130	17.90
1925	831	117	14.00
1926	850	117	16.16
1927	871	122	14.00
1928	879	102	11.37
1929	990	105	10.60
1930	1,058	125	11.81
1931	1,040	88	8.46
1932	873	80	9.16

The chief causes of deaths during the year were:—

Septicæmia	27
Pulmonary tuberculosis	17
Senility	15
Pneumonia	3
Diarrhœa	3

2. *Administration.*—

The Chief Medical Officer and the Senior Health Officer were visiting medical officers throughout the year.

The resident staff at the beginning of the year consisted of:—

One Senior Deputy Medical Officer.
One Assistant Medical Officer.
One Lay Superintendent.
Ten Dressers.

As a measure of retrenchment the staff of ten dressers was reduced to eight.

Dr. K. V. VEERASINGHAM continued to be in charge of the Settlement throughout the year.

Dr. N. H. PERERA relieved Dr. CHONG TAT SEONG on 13th March, 1932 and Dr. AU KEE HOCK relieved the former on 1st October, 1932.

Mr. H. GILMOUR, Lay Superintendent, retired on medical grounds at the end of the year, and Mr. H. LANDER was appointed in his place.

Police.—The regular Sikh police force were replaced by auxiliary Sikh police in July, the present force consists of:—

One Lance-Corporal from the regular force.
One Auxiliary Lance-Corporal.
Seven Auxiliary Constables.

3. *Buildings.*—

All the buildings were kept in good repair.

The Lock-up ward in the main camp was converted into a laboratory and occupied in April, it is serving a very useful purpose.

Electric light installation was completed, and now all the wards and other buildings in the Settlement are lighted by electricity.

Total accommodation:—

Old Settlement (Main Camp)	380
New Settlement (Camp *A* and *B*)	300
Camp *E*	162
Eurasian Camp	18
	860

In addition to the accommodation shown above there are temporary huts constructed by the inmates at Camp *C* and the Magazine Station (Camp *D*) to accommodate 24 persons.

4. *Water Supply.*—

During the drought in August there was a shortage of water and in consequence 1,341 tons of water were purchased from Penang. A new well is now under construction in the New Settlement which will probably obviate the further necessity of purchasing water from Penang during a drought.

5. *Anti-Malarial Work.*—

Permanent works at the Eurasian Camp, Camp *C* and the Old Settlement have been completed.

Oiling of the potential breeding grounds was carried out regularly and systematically.

Nature of permanent work:—

One hundred and forty-seven feet of retention wall built in the seepage areas and packed with stones.
One hundred and twelve cubic yards of stones packed in ravines.
Fifty-two feet of open concrete drains constructed.
One flushing system completed above Camp *E*.

One feature of the subsoil drainage is to conduct the water into concrete tanks which make popular bathing and washing places for the inmates. During drought these tanks proved of great value, as a constant supply of pure water was available. During the year four more such tanks were completed and in all there are eight tanks, which include a duck pond in the vegetable gardens for the benefit of the poultry farmers.

No case of malaria has arisen *de novo* amongst the patients.

The whole Settlement, though requiring control, can now be considered to be completely free from malaria as a result of the systematic anti-mosquito work carried out during the past few years.

Approximately 15% of the admissions to the Settlement are found to suffer from malaria on arrival, and such cases are systematically treated until cured and no longer dangerous as carriers.

6. *Treatment.*—

There were 194 cases admitted during the year and they were classified as follows:—

	Early	*Moderately advanced*	*Advanced*	*Total*
Cutaneous ..	.. Nil	2	77	79
Neural ..	.. Nil	Nil	2	2
Mixed ..	.. Nil	1	112	113
	Nil	3	191	194

Treatment to all suitable cases was administered on similar lines as summarised in the annual report for 1931.

During the year there were 532 cases under intensive treatment and their progress is shown in the following table:—

	Number treated	*Bacteriologically negative*	*Marked improvement*	*Slight improvement*	*No improvement*
Cutaneous ..	184	20	56	67	41
Neural ..	17*	10	3	2	2
Mixed ..	331	26	48	131	126
	532	56†	107	200	169

The cases that were unsuitable for intensive antileprotic treatment were given general and symptomatic treatment.

7. *Various Activities among the Lepers.*—

One hundred and fourteen of the able-bodied men were given employment as barbers, sweepers, toties, dhobies, wood-cutters, etc., on a salary varying from three to five dollars a month.

A few educated lepers were employed as teachers, dressers, tindals, etc.

Many showed interest during the year as independent artisans in various occupations such as carpentering, vegetable and fruit growing, poultry and pig farming.

The musical band, consisting of educated inmates, continued to be popular. In addition to the moonlight entertainments they were able to supply the requisite music for the newly formed Bangsawan Troupe.

* Nasal discharge bacteriologically positive on admission.
† Nine cases brought forward as bacteriologically negative from the previous year.

Another notable innovation was the formation of several troupes of players:—

Three Chinese Wayangs—Cantonese
Hylam
Teochew.
One Tamil Dramatic Troupe.
One Malay Bangsawan Troupe.

Several performances were held during the year and the inmates thoroughly enjoyed the very pleasant evenings.

Out-door sports, such as football, swimming, fishing, are other forms of recreation.

Tuition in English was given regularly to a number of boys.

A Chinese school was opened during the year; 15 boys attended the class regularly.

The boy scouts troop, now numbering 22, carried out regular exercises.

For the benefit of the educated inmates of the Settlement a club, named "Wheatley Club" in memory of the late Dr. A. H. WHEATLEY, was formed. This club was formally opened on behalf of the Rotary Club, Penang, on the 30th October.

Annual Report of the Female Leper Camp, Penang for 1932

1. *The Inmates.*—

(a) The total number remaining on 31st December, 1931			..	62
The total number admitted during 1932			..	18
Colonial (number admitted)	..	14		
Kedah (number admitted)	..	4		
F.M.S. (number admitted)	..	Nil		
		18		
The total number remaining on 31st December, 1932			..	67
Colonial	.. 55	Chinese	..	57
Kedah	.. 7	Indians	..	9
F.M.S.	.. 5	Malay	..	1
	67			67
(b) The total number of deaths for 1932			..	11
The percentage of deaths to total treated for 1932			..	13.75
The percentage of deaths to total treated for 1931			..	2.59
The cases that died in 1932 were all advanced and severe cases.				
(c) The total number discharged as cured			..	Nil
The total number discharged as relieved			..	2
a Chinese and an Indian; both were repatriated.				
(d) The total number absconded			..	Nil
(e) The daily average number of inmates on any one day was				64.13
(f) The maximum number of inmates on any one day was			..	67

2. *Activities in the Camp.*—

Space being very limited in the camp, the patients have to be satisfied with their present vegetable garden which is kept in good and clean condition. This provides them with sufficient outdoor exercise.

The poultry yard adjoining the vegetable garden keeps the children and some of the patients occupied. A gramophone and cards are the main forms of recreation among the inmates of the camp. They have little spare time for sports as most of them are kept busy cooking and sewing or washing and ironing their clothes.

3. *The Staff.*—

It consists of *(a)* A part time Deputy Medical Officer
(b) A part time Asst. Medical Officer
(c) A part time dresser
(d) A female leper attendant
(e) A toty.

4. *The buildings.*—

There are two detached wards in the Camp (Ward 1 and Ward 2).

Ward 1 has an area of about 2,464 sq. ft. being made to accommodate 30 patients, but 264 sq. ft. of this ward is being used for a Chapel. The number of patients in this ward at present is 45. The kitchen attached to this ward was extended last July.

Ward 2 has an area of about 1,758 sq. ft. being made to accommodate 16 patients. The number of patients in this ward at present is 22. Each ward has a kitchen, bathroom and lavatory of its own.

5. *The Treatment.*—

The former treatment with Alepol was discontinued since the beginning of 1932. The mode of treatment in the camp at present is almost identical with that carried out at the Leper Settlement, Pulau Jerejak. Great attention is paid to trying to improve the general constitution of the patients by first treating factors which tend to lower their body resistance and giving them sufficient outdoor exercise.

The following drugs used are given at body temperature—

1. Ethyl esters of hydnocarpus oil with 4% double distilled creosote for intramuscular and subcutaneous injections.
   Dose: lc.c. to 10 c.c. weekly injections increasing by lc.c.
2. Iodised ethyl esters for intradermal injection.
   Dose: ½ c.c. to 5 c.c. weekly injections increasing by lc.c.
3. Sodium morrhuate 3% solution with 0.5% phenol for cases with low reaction level.
   Dose: ½ c.c. to 1 c.c. intravenously weekly.
   1 c.c. to 10 c.c. intramuscularly weekly.
4. Local treatment for the erythematous raised patches or the nodules. The lesions are painted with trichloracetic acid 30% to 50% solution every fortnight followed by the application of chaulmoogra oil.
5. Treatment for the complications:—
   (a) True leprotic ulcers. The following solution is applied to the ulcer.
      Camphor 3i
      Creosote 3i
      Oil chaulmoogra 3ii
   (b) Trophic ulcers: Eusol or potassium permanganate baths followed by B.I.P.P. dressing.
   (e) Eye complications: Boric eye washes t.d.s.
      Atropine 2% drops every night
      Protargol 10% to 20% or
      Mercurochrome 2% drops t.d.s.
6. Treatment for leprotic reactions:—
   (a) General reactions: Complete rest in bed. Intravenous injections of potassium antimony tartarate 0.02 to 0.04 grm. in 2 c.c. normal saline every fourth day.
   Mercurochrome 1% solution is also used, the dose is 1 c.c. to 10 c.c. intravenously increasing by 1 c.c. weekly. Oral administration of sodium salicylate grs. v to grs. x t.d.s. and calcium lactate grs. x with ephedrine hydrochloride grs. ½ t.d.s.
   (b) Nerve reactions: Adrenalin hydrochloride 1 in 1,000 intravenously.
      Dose: 1 to 5 minims.
   Calcium chloride 2% solution intravenously
      Dose: 10 c.c. to 20 c.c. daily for four days.
   Ephedrine hydrochloride grss in 10 c.c. of 0.5% sodium bicarbonate solution is injected subcutaneously along the course of the nerve.

6. *Result of Treatment.*—

The above treatment was carried out at the Female Leper Settlement for only a year but it is obviously giving the patients some relief as they willingly submit to the injections and treatment meted out to them.

When the writer took over the work at the Female Leper Settlement about the beginning of the year he classified the patients according to the various types of infection *i.e.* cutaneous, neural and mixed. The severity of the disease in the various types may be divided into early, moderately advanced and advanced cases, according to the number of lepræ bacilli found in a field

of the microscope in the cutaneous cases and to the extent of nerve involvement in the neural cases.

The following table is a classification of the patients remaining in the Settlement.

	Early cases	*Moderately advanced cases*	*Advanced cases*
Cutaneous type ..	.. 2	12	24
Neural type ..	.. Nil	Nil	2
Mixed type ..	.. Nil	Nil	27
Total ..	2	12	53

The advanced cases are given symptomatic treatment and chaulmoogra oil by mouth. These cases are prone to frequent reactions which seem to appear chiefly during the cold and wet season.

The early and moderately advanced cases receive the necessary routine treatment.

Mecurochrome 1% solution is being more often used than the potassium antimony tartarate solution for the general reaction as the former does not produce rigors which usually appear after the latter injection. Mecurochrome injections sometimes produce a general feeling of itchiness and formication, this usually occurs in the severe cutaneous cases. However, mercurochrome appears to be quite effective in controlling most of the general reaction cases.

It is encouraging to note that the early cases react very well to the intradermal injection of iodised ethyl esters. The skin patches whether erythematous or depigmented usually disappear about a fortnight after the injection and often do not require a second injection. The raised nodular patches of the moderately advanced and advanced cases however, take a longer time to subside and require repeated injections into the same area.

The use of iodised ethyl esters is accompanied by certain disadvantages; it gives great pain and leaves a more or less permanent black discolouration of the injected skin resembling tattoo marks.

The table below will show the result of the treatment during the year:—

	Total treated for the year	Number discharged	Died	Total remaining	Bact. Negaitve	Slightly Improved	No Improvement
Early Cases ..	4	2	..	2	3	1	..
Moderately Advanced Cases	12	..	..	12	..	10	2
Advanced Cases ..	64	..	11	53	..	5	48
Total ..	80	2	11	67	3	16	50

Two of the bacteriologically negative cases were repatriated, an Indian and a Chinese, the remaining case is an Indian waiting to be repatriated.

7. *General.*—There are six children in the Settlement, two of whom are boys about nine years old.

A portion of ward 1 is being used as a chapel for the Catholic patients.

A general feeling of contentment and cheerfulness prevails in the Settlement.

The following returns are attached:—

Table *A.*—Classification of the inmates.

Table *B.*—Annual return with reference to admissions, etc.

TABLE *A*

Classification of the Inmates from the Different States of British Malaya

Nationality	Colonial	Kedah	F.M.S.
Chinese	49	3	5
Tamils	6	3	..
Malays	..	1	..
Others	..	..	..
Total ..	55	7	5

TABLE *B*

ANNUAL RETURN OF INMATES OF THE FEMALE LEPER SETTLEMENT FOR THE YEAR 1932

Nationality	Remained			Admitted			Total			Discharged			Transferred			Absconded			Died			Remaining		
	Colonial	Kedah	F.M.S.	Colonial	Kedah	F.M.S.	Colonial	Kedah	F.M.S.	Colonial	Kedah	F.M.S.	Colonial	Kedah	F.M.S.	Colonial	Kedah	F.M.S.	Colonial	Kedah	F.M.S.	Colonial	Kedah	F.M.S.
Chinese ..	49	2	5	8	1	..	57	3	5	1	..	..	..	..	..	..	..	..	7	..	..	49	3	5
Tamils ..	3	3	..	5	2	..	8	5	..	..	1	..	..	..	..	..	..	..	2	1	..	6	3	..
Malays ..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Others ..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Total ..	52	5	5	14	4	..	66	9	5	1	1	..	..	..	..	..	..	..	10	1	..	55	7	5

APPENDIX "C"

REPORT ON THE PATHOLOGICAL BRANCH, STRAITS SETTLEMENTS, 1932

I.—SINGAPORE

by

Dr. J. C. TULL, M.D., F.R.C.P. (London), *Government Pathologist.*

A.—PATHOLOGICAL DIVISION

The total number of specimens examined during the year was 6,308, including the histological examination of 734 pieces of tissue submitted by the various hospitals, and the performance of complement fixation and Kahn tests on 5,574 sera submitted for that purpose.

The total number of autopsies performed was 1,570, of which 1,116 were performed at Tan Tock Seng's Hospital mortuary, and 454 at the central mortuary, General Hospital. This number includes 652 autopsies performed for the Coroner, of which 416 were made at the central mortuary.

Autopsies performed at:—

(a) Tan Tock Seng's Hospital.—

Total number 1,116.

Tumber done on patients dying—

(a) within 24 hours of admission 101.

(b) within 48 hours of admission 28.

(b) Central Mortuary.—

As most of the autopsies performed at this mortuary were Coroner's cases the duration of illness was not ascertainable.

RETURN SHOWING IMMEDIATE CAUSE OF DEATH

	Tan Tock Seng	*Central Mortuary*
Asphyxia from drowning ..	12	24
Asphyxia from hanging ..	12	34
Asphyxia from suffocation ..	5	3
Death during general anæsthesia ..	1	1
Death from surgical emphysema ..	1	—
Burns	1	—
Cut throat	7	1
Electrocution	2	2
Injuries from gunshot wounds ..	—	3
Injuries from motor car accidents ..	16	28
Injuries from stab wounds ..	8	21
Injuries from other assault wounds ..	35	48
Hæmorrhage from unligatured umbilical cord ..	—	10
Still born	1	—
Poisoning—Acetic acid ..	—	2
Caustic soda ..	—	4
Chenopodium ..	1	1
Lead	—	1
Potassium cyanide ..	—	2
Tar oil	—	1
Tuba root ..	2	2
Post operative shock and hæmorrhage ..	2	2

RETURN SHOWING IMMEDIATE CAUSE OF DEATH—*continued*

	Tan Tock Seng	*Central Mortuary*
Scalds	1	1
Actinomycosis (lungs)	1	—
Acute cardiac beri-beri	53	17
Acute encephalitis	—	1
Acute intestinal obstruction from bands	2	—
Abscesses—Appendicular	2	—
Cerebellar	1	—
Cerebral	1	—
Liver (pyæmic)	1	2
Lung	3	—
Perinephric	1	—
Retroperitoneal	1	—
Retropharyngeal	1	1
Pyæmia	25	9
Anæmia: secondary	11	3
Aneurism: thoracic aortic	13	6
Aneurism—Internal carotid	1	—
(traumatic)	1	—
Arteriosclerosis (senile)	39	6
Blackwater fever	1	—
Bronchiectasis, with circulatory failure	2	—
Chronic bronchitis and emphysema	2	—
Cerebellar hæmorrhage	—	2
Cerebral hæmorrhage	12	12
Cerebral softening	4	1
Septic cholangitis	5	2
Septic cholangitis with cholecystitis	5	—
Coronary thrombosis	3	—
Diabetes mellitus	1	1
Hæmorrhage from duodenal ulcer	5	—
Perforated duodenal ulcer, with peritonitis	1	1
Dysentery—acute amœbic	28	2
chronic amœbic	3	1
bacillary	40	1
mixed	3	—
Eclampsia	—	1
Empyema (pleura)	10	1
Endocarditis—mitral: acute ulcerative	1	—
mitral, with stemosis	3	—
aortic: acute ulcerative	5	—
aortic: chronic (syphilitic)	31	7
Gangrene lung	3	—
Hæmorrhage from gastric ulcer	3	—
Perforated gastric ulcer, with peritonitis	3	3
General peritonitis—acute	6	5
chronic with adhesions	—	3
General paralysis of the insane	1	—
Hæmorrhage from œsophageal varix	—	1
Hæmorrhage from hydatiform mole	—	1
Hepatic cirrhosis—atrophic	10	1
biliary	3	—
syphilitis	4	—
Hodgkin's disease	1	—
Internal hydrocephalus	—	1
Hydronephrosis	1	—
Leprosy	18	1
Leptospirosis	1	—
Lymphatic leukæmia	1	—
Malaria—sub-tertian, acute	58	4
benign tertian, acute	3	1
quartan, acute	1	—
subtertian and benign tertian	1	—
Malarial cachexia	1	—
Meningitis—tuberculous	9	3
pneumococcal	3	—
streptococcal	4	—

RETURN SHOWING IMMEDIATE CAUSE OF DEATH—*continued*

	Tan Tock Seng	*Central Mortuary*
Myocardial degeneration	13	3
Malignant neoplasms of which 18 were primary carcinoma of liver	69	15
Nephritis—chronic	19	4
subacute	7	3
Partial atelectasis	—	1
Pericarditis—acute	7	—
Pneumonia—lobar	44	10
broncho	39	50
Pontine hæmorrhage	1	—
Cystitis, pyelitis and pyelonephritis ..	6	2
Pyonephrosis	1	—
Septic arthritis	—	2
Strangulated hernia	3	—
Stricture œsophagus	—	2
Visceral syphilis	32	6
Tetanus	6	3
Thrombosis middle cerebral artery ..	1	—
Typhoid fever	13	3
Tuberculosis—pulmonary	257	25
pulmonary and intestinal ..	9	5
bone	2	1
miliary	6	1
Post partum hæmorrhage from inertia uteri ..	—	1
Too decomposed for autopsy	16	15

MAIN CAUSES OF DEATH, EXCLUSIVE OF CORONER'S CASES, BY MONTHS, AS ASCERTAINED BY AUTOPSY AT TAN TOCK SENG'S HOSPITAL

Month	Number of autopsies	Pulmonary tuberculosis	Malaria	Lobar Pneumonia	Dysentery amœbic & bacillary	Beri-Beri	Typhoid fever	Syphilis	Others	Coroner's cases
January ..	106	31	8	1	7	3	3	5	30	18
February ..	82	26	3	2	6	3	4	7	14	17
March ..	94	27	2	6	7	6	1	4	32	9
April ..	106	22	4	4	7	8	1	8	29	23
May ..	109	15	6	5	8	3	..	7	41	24
June ..	105	28	12	4	4	4	..	6	22	25
July ..	90	26	7	3	1	1	..	5	24	21
August ..	88	13	4	3	3	3	..	9	32	18
September ..	73	19	5	4	5	5	1	3	12	20
October ..	85	15	2	4	2	2	1	10	24	19
November ..	88	24	5	2	4	4	1	2	32	16
December ..	90	21	2	2	5	5	..	2	28	26
Total ..	1,116	267	60	40	47	47	12	68	320	236

MAIN CAUSES OF DEATH IN 1932, AS COMPARED WITH 1931, AS ASCERTAINED BY AUTOPSY. TAN TOCK SENG'S HOSPITAL

——	Number of autopsies	Pulmonary tuberculosis	Malaria	Lobar pneumonia	Dysentery	Beri-Beri	Typhoid fever	Syphilis	Coroner's cases
1931	1,352	306 or 22·6%	90 or 6·6%	55 or 4·1%	109 or 8·1%	65 or 4·8%	24 or 1·8%	74 or 5·4%	264 or 19·5%
1932	1,116	267 or 23%	60 or 5·4%	40 or 3·6%	66 or 5·9%	47 or 4·2%	12 or 1·1%	68 or 6·1%	236 or 21·1%

The Government Pathologist, Dr. J. C. TULL, proceeded on long leave on April 15th, and was absent during the remainder of the year. During his absence, Dr. H. O. HOPKINS, Government Bacteriologist, acted for him and Dr. J. R. JACOB, Deputy Pathologist, Malacca, acted for Dr. HOPKINS.

Publications.—Primary Carcinoma of the liver: a study of 134 cases—by Dr. J. C. TULL, M.D., F.R.C.P., Journal of Pathology, 1932, Vol. XXXV.

BACTERIOLOGICAL DIVISION

Total number of specimens examined	3,364
Blood cultures	149
B. typhosus isolated	7
Pneumococcus isolated	3
Streptococcus isolated	2
Staphylococcus isolated	1
Blood cultures (widal clots)	511
B. Typhosus isolated	39
Widal test	511
Positive to B. typhosus	100
Weil Felix test	5
Positive to B. proteus "W"	1
Positive to B. proteus "K"	—
Stools examined bacteriologically for enteric group	150
B. typhosus isolated	23
Stools examined bacteriologically for dysentery group	625
B. dysenteriæ (Shiga) isolated	4
B. dysenteriæ (Flexner) isolated	166
B. dysenteriæ (Sonne) isolated	5
Urines examined bacteriologically	268
B. typhosus isolated	14
B. coli isolated	32
B. proteus isolated	1
Staph. anreus isolated	3
A. streptococcus isolated	2
Salmonella group isolated	1
B. tuberculosis (on direct smears)	3
Pus from abscesses examined bacteriologically	45
Staph. aureus isolated	30
B. tuberculosis on direct smears	3
Pus from abscess of liver examined bacteriologically	3
Pus from cervix examined bacteriologically	1
Gonococcus isolated	1
Pleural fluids examined bacteriologically	30
Pneumococcus isolated	15
Streptococcus isolated	1
Synovial fluids examined bacteriologically	20
Streptococcus isolated	2
B. tuberculosis on direct smear	2
Pericardial fluids examined bacteriologically	2
Peritonial fluid examined bacteriologically	1
Fluid from dental cyst examined bacteriologically	1
Entamœba gingivalis present	1
Cerebro-spinal fluids examined bacteriologically	31
Meningococcus isolated	—
Pneumococcus isolated	3
Staph. aureus isolated	2
Throat swabs examined bacteriologically	269
Hæmolytic streptococcus isolated	4
Vincent's organism present on direct smears	2
C. diphtheriæ isolated	31
Eye smears examined bacteriologically	165
Positive to gonococcus	11
Positive to Koch-Weeks bacillus	22
Positive to Morax Axenfeld diplobacillus	12
Other smears	51
Eye swabs	63
Dental swabs	25
Positive to Vincent's organisms	19
Animal inoculation for tuberculosis	17
Positive to b. tuberculosis	2
Autogenous vaccines prepared	55
Milk samples examined bacteriologically	116
Medico-legal exhibits	75
Other cultures	106
Miscellaneous	69

II.—PENANG

by

J. A. COWAN, M.B., B.S., D.T.M., Government Pathologist, Penang

Blood films examined	196
Positive to *Plasmodium falciparum*	43
„ „ *Plasmodium vivax*	18
„ „ *Plasmodium malariae*	2
Blood counts, total	406
Blood counts, differential	290
Blood, hæmoglobin estimations	120
Blood, chemical examinations	107
Blood, cultures	36
Blood, Widal reactions	158
Positive to *Bact. typhosum*	49
„ „ *Para "A"*	5
„ „ *Para "B"*	1
„ „ *Para "C"*	1
„ „ *Bact. flexneri*	3
Fæces, microscopical examinations	560
Positive to *Entamoeba histolytica*	55
„ „ Ankylostome ova	28
„ „ Ascaris ova	31
„ „ Hymenolepsis nana ova	5
„ „ Strongyloides stercoralis larvæ	2
Fæces, bacteriological examinations	425
Positive to *Bact. typhosum*	10
„ „ *Bact. shigae*	7
„ „ *Bact. flexneri*	28
„ „ *Bact. schmitz*	5
„ „ *Bact. sonne*	8
„ „ *Bact. morgani*	2
Fæces, chemical examinations	29
Urine, routine examinations	254
Urine, bacteriological examinations	127
Positive to *Bact. coli*	25
„ „ *Bact. alkaligenes*	2
„ „ *Bact. typhosum*	2
Spinal fluids, chemical examinations	14
Spinal fluids, cell counts	13
Spinal fluids, colloidal tests	4
Spinal fluids, bacteriological examinations	15
Positive to *Neisseria meningitidis*	1
Sputa, examined for *Mycobact. tuberculosis*	71
Positive	7
Throat swabs, smears examined	83
Positive to *C. diphtheriae*	6
Throat swabs, cultures examined	76
Positive to *C. diphtheriae*	20
Pus, etc., smears examined	1,057
Smears examined for *M. leprae*	297
Positive	51
Body fluids, bacteriological examinations	16
Positive to *Bact. typhosum*	2
„ „ *Pneumococci*	1
„ „ *Strap. haemolyticus*	1
Vaccines prepared	10
Histological sections examined	63
Test meals examined	98
Animal inoculations	26
Waters examined bacteriologically	90
Milk examined bacteriologically	1
Autopsies, hospital cases	152
Autopsies, H. M. Coroner's cases	156
Medico-legal examinations, total	86
Medico-legal examinations, clothing, etc. for blood	53
Medico-legal examinations, clothing, etc. for blood, positive	34

Medico-legal examinations, for spermatozoa	23
Medico-legal examinations, for spermatozoa, positive	4
Medico-legal examinations, others	10
Blood, Wassermann tests	6,980
Blood, Wassermann tests positive	2,629
Blood, Kahn tests	28
Positive	10
Blood, gonococcal complement—fixation tests	13
Positive	4
Spinal fluid, Wassermann tests	23
Positive	5
Weil-Felix tests	3
Positive	1
Hormone tests for pregnancy	25
Positive	13
Other examinations	55

Dr. J. A. COWAN, Government Pathologist, has been in charge throughout the year. The health of the staff has been good, and their work satisfactory.

CAUSES OF DEATH, AS ASCERTAINED AT AUTOPSY, 1932

H. M. Coroner's Cases

Beri-Beri	10
Dysentery, bacillary	2
Leprosy	1
Malaria, quartan	1
Malaria, subtertian	2
Pneumonia, lobar	8
Syphilis, vascular	10
Syphilis, meningeal	2
Syphilis, cardiac	1
Syphilis, congenital	1
Tetanus	2
Tuberculosis, pulmonary	4
Carcinoma, œsophagus	1
Poisoning, tuba root	2
Poisoning, lysol	2
Poisoning, vegetable (nature unascertained)	1
Cerebral hæmorrhage	2
Valvular disease of the heart, aortic	3
Valvular disease of the heart, mitral	1
Myocarditis, chronic	1
Arteriosclerosis	3
Aneurysm of heart	1
Aneurysm of aorta, with rupture into abdominal cavity	1
Aneurysm of aorta, with rupture into pleural cavity	1
Aneurysm of aorta, with rupture into pericardial sac	4
Aneurysm of aorta, with rupture into lung	1
Embolism of the pulmonary artery	1
Acute bronchitis	1
Broncho-pneumonia	4
Gangrene small intestine	1
Abscess liver, amœbic	1
General peritonitis, thrombosis of mesenteric vessels	1
Chronic interstitial nephritis	1
Still birth	2
Asphyxia neonatorum	2
Burns	3
Electrocution	2
Asphyxia from submersion	9
Asphyxia from hanging	10
Shock	2
Shock under general anæsthesia (operation for strangulated inguinal hernia)	1
Shock under general anæsthesia (operation for stab wounds of abdomen)	1
Traumatic rupture of aorta	1
Fracture skull (vault)	2

CAUSES OF DEATH, AS ASCERTAINED AT AUTOPSY, 1932—*continued*

H. M. CORONER'S CASES—*continued*

Fracture skull (base)	3
Traumatic meningeal hæmorrhage	2
Gun shot wound, head	1
Cut throat, hæmorrhage	4
Septicæmia following cut throat	1
Traumatic rupture of heart	1
Gun shot wound of chest	1
Stab wound of chest	2
Fracture of cervical spine	1
Fracture of dorsal spine, bed sores, septicæmia	1
Stab wound abdomen	1
Gun shot wound of abdomen	1
Traumatic rupture of intestines	3
Traumatic rupture of spleen, hæmorrhage	1
Traumatic rupture of spleen, secondary hæmorrhage after operation	1
Fracture, bones of forearm, sepsis, gangrene	1
Multiple injuries	8
Causes of death unascertainable—bones only received for examination	3
Body too decomposed for cause of death to be ascertainable	7

CAUSES OF DEATH, AS ASCERTAINED AT AUTOPSY, 1932

Hospital Cases

Beri-beri	13
Dysentery, bacillary	8
Dysentery, amœbic	5
Typhoid fever	3
Malaria, benign tertian	1
Malaria, subtertian	8
Pneumonia, lobar	16
Pneumonia, lobar, with pulmonary abscess	1
Septicæmia	1
Syphilis, vascular	3
Syphilis, meningeal	1
Syphilis, visceral	1
Syphilis, congenital	1
Tuberculosis, pulmonary	14
Tuberculosis, peritoneal	2
Tuberculosis, of pleura	1
Tuberculosis, meningeal	1
Tuberculosis, intestinal	1
Carcinoma, liver	2
Carcinoma, stomach	1
Carcinoma, œsophagus	2
Sarcoma, retroperitoneal	1
Meningitis, suppurative	1
Encephalitis	3
Cerebral abscess (with bronchiectasis)	1
Cerebral hæmorrhage	1
Pericarditis, suppurative	1
Acute ulcerative endocarditis (aortic)	1
Valvular disease of the heart, aortic	2
Valvular disease of the heart, mitral	4
Myocarditis, chronic	3
Aneurysm, aorta, with rupture into pleural cavity	1
Bronchiectasis	1
Broncho-pneumonia	11
Abscess of lung	1
Empyema	5
Gastric ulcer, hæmorrhage	1
Gastric ulcer, chronic	2
Intussusception	1
Abscess liver, amœbic	5
Hepatic cirrhosis, portal	1

CAUSES OF DEATH, AS ASCERTAINED AT AUTOPSY, 1932—*continued*
Hospital Cases—continued

General peritonitis (gangrene gut)	1
General peritonitis (carcinoma gut)	1
General peritonitis (subphrenic abscess)	2
General peritonitis (perforated appendix)	1
General peritonitis (perforated duodenal ulcer)	1
General peritonitis (suppurative cholangitis)	1
General peritonitis (septic)	1
Chronic cholecystitis	1
Chronic parenchymatous nephritis	4
Chronic interstitial nephritis	5

III.—MALACCA

A.—Staff

The staff attached to the Laboratory at Durian Daun Hospital consists of an Assistant Medical Officer, a 2nd grade dresser, one peon and an attendant.

B.—Buildings

These are dilapidated but there is insufficient room for work. A new laboratory will however be constructed in 1933 at the New General Hospital at Bukit Palah, which will be of modern design and sufficiently commodious for all purposes.

NATURE OF SPECIMENS EXAMINED

	1931	*1932*
Blood films for malarial parasites	2,637	2,785
Positive to subtertian parasites	305	294
Positive to benign tertian parasites	152	119
Positive to quartan parasites	112	92
Positive to subtertian and benign tertian	9	20
Positive to benign tertian and quartan	22	—
Positive to subtertian, benign tertian and quartan	—	1
Blood films for pasteurella boviseptica (negative)	1	2
Blood film for filaria (negative)	7	11
Blood counts	39	77
Blood cultures	9	11
Blood sugar estimations	12	13
Cultures for meningococci	43	12
Positive	5	—
Cultures for C. diphtheriae	233	304
Positive	24	43
Cultures from stools	6	263
Cultures from urine	15	44
Cerebro-spinal fluid examinations	10	4
Films for B. leprae	95	93
Positive	42	44
Films for B. Koch-Week's	5	4
Positive	3	1
Films for Spironema Vincenti and B. fusiformis	3	2
Positive	1	—
Films for gonococci	697	975
Positive	370	554
Films for T. pallidum (negative)	2	2
Gastric contents analysis	—	21
Kahn tests	—	2,470
Positive	—	1,130
Medico-Legal exhibits	32	33
Milk analysis	—	6
Sections—Histological	27	25
Sputum	782	1,042
Positive to B. tuberculosis	210	232
Positive to pneumococci	38	26

NATURE OF SPECIMENS EXAMINED—*continued*

	1931	*1932*
Stools for helminth infections	3,436	3,417
Positive to ankylostomum duodenale	692	711
Positive to trichuris trichura	522	172
Positive to ascaris lumbricoides	115	456
Positive to osyuris vermicularis	9	2
Positive to ankylostome and trichuris	568	510
Positive to ascaris and trichuris	206	195
Positive to ankylostome, ascaris and trichuris	285	191
Stools for protozoa	184	206
Positive to entamœba histolytica	35	21
Stools for occult blood	46	77
Positive	16	39
Urine for general examination	4,405	4,490
Urine for estimation of sugar	177	188
Urine for estimation of albumen	2	5
Urine for estimation of urea	—	9
Urine for Van den Burgh's test	—	9
Urine for schistosomiasis (negative)	—	4
Urine for urobilin	—	3
Vaccines prepared	2	10
Wassermann reactions	1,996	2,794
Positive	1,043	1,602
Water analysis chemical and bacteriological	4	10
Widals	67	197
Positive to B. typhosus	11	32
Positive to B. paratyphosus A.	—	85
Positive to B. paratyphosus B.	1	10
Weil Felix reactions	—	4
Other agglutination tests	—	25
Other examinations	43	67
Autopsies	54	81
	19,867	26,377

APPENDIX "D"

REPORT ON THE GENERAL HOSPITAL, SINGAPORE

Administration and Staff.—Dr. R. B. MACGREGOR remained in charge of the hospital throughout the year.

Dr. J. M. A. LOWSON acted as Radiologist and Physician during the absence on leave of Dr. J. S. WEBSTER, and Mr. E. C. CHITTY, F.R.C.S.E., acted as Surgeon for the Ear, Nose and Throat Department, in place of Mr. B. M. JOHNS, F.R.C.S.E., on leave.

Miss M. A. S. LAW acted as Matron, during the absence on leave of Miss R. FENOULHET.

Professor G. HARROWER, Professor of Anatomy, joined the surgical staff of the hospital on 3rd May, 1932. He has had charge of a proportion of the surgical cases in the 3rd class wards of the hospital in addition to his work in the College of Medicine.

Nursing Staff.—Seven Sisters resigned on account of marriage.

Financial.—

Year	*Nett Revenue*	*Nett Hospital Board Expenditure*
	$ c.	$ c.
1930	269,248 44	601,666 69
1931	240,370 01	572,966 36
1932	214,187 51	495,083 91

Arrangements of Wards.—The arrangements for the concentration of male venereal disease cases, and the additional accommodation for children, which were mentioned in last year's report, have proved satisfactory. The accommodation for cases of pulmonary tuberculosis has been re-arranged, in order to provide for the separation of the early cases from the advanced cases.

Out-patient Department.—

New patients	7,955
Attendances	24,888

These figures do not include venereal diseases or dental cases.

Patients Treated.—

Total number of patients treated	13,685
Total number of deaths	1,443
Daily average number of patients	581.2

Comparative Table.—

—	Patients treated 1st & 2nd class	Died	Percentage	Patients treated Children's Ward	Died	Percentage	Patients treated 3rd class	Died	Percentage
1930	4,201	129	3·07	994	438	44·06	13,959	1,045	7·48
1931	3,854	128	3·32	1,230	586	47·64	9,170	752	8·2
1932	3,518	115	3·3	1,318	601	45·6	8,849	727	8·2

The high death rate in the children's ward is due to the fact that many of the patients arrive at hospital in extremis.

Chief Diseases.—

	1932	*1931*	*1930*	*1929*	*1928*
Malaria fever	773	946	2,567	1,821	2,094
Enteric fever	104	156	154	132	224
Tuberculosis	612	664	712	621	545
Dysentery, amœbic	56	94	143	107	161
„ bacillary	94	97	119	62	50
„ unclassified	17	9	27	25	23
Syphilis and gonorrhœa	1,093	1,012	1,079	783	889
Beri-beri	165	234	428	308	346
Pneumonia lobar	145	152	227	264	268
„ broncho	309	349	233	147	100
„ unclassified	3	6	34	17	7
Ankylostomiasis	272	354	1,112	700	239
Influenza	161	412	—	—	—

The apparent increase in syphilis and gonorrhœa is due to the fact that acute cases of these diseases requiring hospital treatment are treated now in the General Hospital, formerly some of them were treated in Tan Tock Seng Hospital.

Maternity Wards.—

	1932	*1931*	*1930*
Admitted	1,160	1,074	1,063
Delivered	1,095	1,007	1,010

Dental Clinic.—The work of this department continued to expand; there were 2,492 new cases, attendances numbered 12,969.

Clinical Laboratory.—The following summary gives an indication of the volume of work performed:—

Blood films for malaria	14,807
Blood films for other conditions	16
Routine examinations of fæces	13,998
Other examinations of fæces	59
Examinations of sputum	6,321
Examinations of urine	2,322
Examinations of smears of pus, etc.	1,340
Examinations of cerebro-spinal fluid	102
Fractional test meals	777
Basal metabolism estimations	6
Blood sugar estimations	543
„ urea estimations	131
„ chlorides	1
„ icterus index	82
„ Van den Bergh	48
„ Fonchet	6
„ uric acid	4
„ matching	38
„ calcium	7
„ phosphates	1

Clinical Laboratory—continued

Blood Formolgel test	1
„ Chopras test	1
„ Arneth Index	1
„ Coagulation time	2
„ Fragility of red cells	2
„ Sedimentation rate	2
„ Creatinine	1
„ Hæmoglobin estimation	424
„ Red cells—total	493
„ Red cells—reticulocystes	104
„ Red cells—size of	212
„ White cells—total	991
„ White cells—differential	346
„ Platelets—total	3

THE FOLLOWING REPORTS OF SPECIAL DEPARTMENTS ARE APPENDED

I. Dental Report.
II. Report of the Radiological Department, General Hospital, Singapore.
III. Report of the Light and Electrical Department and the Radiological Department, Tan Tock Seng Hospital.
IV. Return of Surgical Operations in Hospitals, Straits Settlements.

Appendix I

ANNUAL REPORT OF THE DENTAL DEPARTMENT OF THE GENERAL HOSPITAL, SINGAPORE FOR THE YEAR 1932

The past year has shown a marked increase in the number of patients coming to or being sent to the department for treatment. It is perhaps well to emphasize that one of the aims of the department is to provide complete dental treatment for all patients attending there, it has never been intended that patients should come for emergency treatment only; the basis of treatment is that the patient attends for advice as to what treatment is necessary and he can then decide whether or not to undergo that treatment, if he agrees to the treatment recommended then the department proceeds with that treatment, if he does not agree then the department undertakes no treatment at all.

There have been no additions to the operating staff or to that of the mechanical laboratory; during the year several more students have progressed sufficiently to make artificial dentures for actual patients and this has enabled the department to deal with the very large increase in that side of its work.

The figures of the attendances for the past year and the treatments given appear in Table *I:* this table is an elaboration of similar ones published in past years and in Table *II* a comparison is made of the figures for the three years over which the department has been open. This Table *II* indicates the remarkable increase in the work of the department.

The accomplishment of so much in the way of treatment has only been possible by the loyal co-operation of both staff and students, who, when the trying nature of the work is considered, have worked long hours throughout the year. The Clinic is open continuously on week-days for over 7½ hours, (Saturdays 4½ hours) and Sundays for emergency cases for an hour in the morning. Further the hours over which the Clinic is open do not, by any means, constitute the full number of hours of work put in by staff and students.

The figures given in Table *I* include six cases of osteomyelitis of the mandible, several cases of dental cysts and one case of fracture of the mandible. The department has also made several special splints for the application of radium.

Out of 2,492 new patients seen during the year 922 or 36.9% were Government servants, so that approximately two-thirds of the patients are members of the general public.

On the financial side every effort has been made to collect revenue; but the class of patient of the general public and a large proportion of the Government servants accepted for treatment at the clinic are so poor that the low basic scale of fees can seldom be applied: this scale is based on the actual cost of materials used and the two main items are fillings at $1 each and dentures at $1 per tooth.

TABLE I

Year 1932	Patients							Extractions											
	First Visits			Percentage of Govt. Servants *	Other Visits	Total all Visits	Average daily Attendances †	Nitrous Oxide		Other General Anæsthetics		Local Anæsthetic		Total of Extractions	Fillings ‡	Scalings	Dressings	Attendances for denture	Actual dentures supplied §
	Government Servants	Others	Total					Patients	Teeth	Patients	Teeth	Patients	Teeth						
January ..	36	106	142	25·4	851	993	32·03	125	355	11	111	56	87	553	161	69	512	76	31
February ..	64	87	151	42·4	737	888	30·62	113	378	5	34	77	128	540	142	63	471	115	44
March ..	90	115	205	43·9	817	1,022	32·96	147	508	5	21	88	150	679	212	93	468	146	27
April ..	90	119	209	43·0	823	1,032	34·40	148	490	2	3	110	189	682	261	103	483	131	46
May ..	75	126	201	35·7	847	1,048	33·80	135	420	4	5	86	138	564	278	128	500	167	39
June ..	70	127	197	35·5	856	1,053	35·10	123	401	3	7	96	158	566	325	190	545	111	31
July ..	76	193	269	28·25	922	1,191	38·42	187	615	3	22	134	237	874	297	162	504	111	50
August ..	87	148	235	37·0	920	1,155	37·25	171	544	6	24	145	253	821	274	151	531	127	41
September ..	86	170	256	33·59	998	1,254	41·8	162	531	7	12	142	280	823	373	142	637	112	53
October ..	90	131	221	40·72	963	1,184	38·19	132	497	1	12	172	339	848	464	126	552	132	48
November ..	81	124	205	39·51	909	1,114	37·13	155	558	..	..	133	233	791	439	148	461	146	59
December ..	77	124	201	38·3	834	1,035	33·38	157	468	2	16	115	172	656	325	86	450	124	24
Total ..	922	1,570	2,492	36·9	10,477	12,969	35·44	1,755	5,766	49	267	1,354	2,364	8,397	3,551	1,461	6,114	1,498	493

* Government Servants includes their wives and families.
† In calculating the daily average attendance, no allowance has been made for Sundays, public and half holidays.
‡ In this column only permanent fillings are included: all fillings of a temporary nature are included in the "Dressings" column: fillings also include all crowns and bridges.
§ The figures in this column include such items as repairs and small partial dentures.

TABLE II

Year	Patients							Extractions										Dentures	
	First Visits			Percentage of Govt. Servants	Other Visits	Total all Visits	Average daily Attendance	Nitrous Oxide		Other general anæsthetics		Local and Regional anæsthetics		Total of Extractions	Fillings	Scalings	Dressings	Attendances	Actual dentures supplied
	Government Servants	Others	Total					Patients	Teeth	Patients	Teeth	Patients	Teeth						
1930 * ..	..	..	662	..	1,586	2,248	12·95	..	..	..	..	..	..	1,910	930	324	668	182	..
1931 ..	..	..	1,306	..	5,761	7,067	19·36	..	..	..	..	..	..	4,625	1,713	590	3,045	632	178
1932 ..	922	1,570	2,492	36·9	10,477	12,969	35·40	1,755	5,766	49	267	154	2,364	8,377	3,551	1,461	6,114	1,498	493

* For the last nine months of the year only

Appendix II

REPORT OF THE RADIOLOGICAL DEPARTMENT, GENERAL HOSPITAL, SINGAPORE FOR THE YEAR 1932

Dr. J. S. WEBSTER was in charge of the department until 16th September, 1932, when he went on leave and was relieved by Dr. J. M. S. LOWSON.

The total number of radiograms taken in 1932 was 10,926, which is in excess of any previous year.

The following schedule gives the figures for the work done:—

Abdomen	37	Kidneys	115
Ankle	124	Knee	123
Arm-upper	27	Leg	129
Arm-lower	113	Lipiodol (chest)	2
Barium Meal	254	Pyelography (retrograde)	50
Barium Enema	40	Pyelography (uroselectan)	62
Barium Swallow	12	Pregnancy	1
Clavicle	29	Ribs	3
Cholecystography	56	Sinuses	108
Elbow	78	Skull	198
Foot	138	Shoulder	95
Foreign Body	30	Spine	149
Foreign body in eye	4	Sternum	1
Gall-bladder (plain)	19	Teeth	493
Hand	179	Thigh	76
Heart and great vessels	3	Thorax	534
Hip	100	Wrist	148
Jaw-upper	13	Mastoid	10
Jaw-lower	36	Pelvis	103

X'Ray Therapy.—

Seventy-five cases were treated by X'ray therapy, and the majority of these were skin conditions. Cases of epidermophytosis respond very satisfactorily to this treatment. Other conditions treated included hyperthyroidism, sarcoma and phlebitis.

Radium Therapy.—

Fifity-two cases were treated with radium.

Electro-therapeutics and actinotherapy.—

Eighty-eight cases received treatment.

Appendix III

ANNUAL REPORT OF LIGHT AND ELECTRICAL DEPARTMENT, TAN TOCK SENG HOSPITAL, 1932

Light Department.—A Watson Sunic Arc Lamp for ultra violet ray therapy was received in the middle of the year and put into use on the 19th July. A total of 48 cases were treated and the apparatus was in almost daily use. The following conditions were treated:—

Furunculous	8 cases—cured.	
Tuberculous arthritis elbow	1 case—cured.	
Impetigo contagiosa	1 case—cured.	
Chronic ulceration	15 cases—a few of these cases were not successful—the rest healed.	
Tuberculous adenitis	4 cases.	
Tuberculous caries of spine with large ulcertaions in the back	2 cases.	Both are responding satisfactorily and are still receiving treatment.
Onychia	1 case.	

Annual Report of the Radiological Department, Tan Tock Seng Hospital for 1932

During the year 3,660 radiographs were taken, as follows:—

Skull	124	Sternum	4
Sinuses	28	Ribs	67
Mastoid	5	Teeth	41
Spine	92	Patella	4
Clavicle	25	Jaw	27
Scapula	8	Nasal bones	12
Arm	26	Gall-bladder	32
Forearm	37	Cholecystography	9
Shoulder	33	Kidneys	39
Elbow	24	Pyelography	14
Hand	49	Bronchography	7
Femur	54	Lipiodol in sinuses	3
Leg	73	Oesophagus—Barium swallow	8
Foot	73	Barium meal	136
Hip	30	Barium enema	8
Knee	62	Diaphragm	5
Ankle	73	Abdomen	8
Pelvis	36	Foreign bodies	4
Sacrum	3	Miscellaneous	10
Lungs	612		
Heart	36		

A total of 1,133 cases were subjected to fluoroscopic examination. As in the previous year much work was done with the students from the King Edward VII Medical College, who in the course of their clinical case taking brought their cases for fluoroscopic examinations, etc. The students were also shown how to interpret the radiographic findings both on the screen and on the radiographs.

One hundred and thirty-six barium meal examinations were carried out during the year, of these 7 cases were returned as gastric carcinoma, 32 as gastric ulcer, 13 as duodenal ulcer and 3 as Wilkie's disease. Some of the remaining cases showed no X'ray abnormality and some were examined for pathological conditions in other parts of the alimentary tract. One case of perforated gastric ulcer was radiographed and a good picture showing gas below both arches of the diaphragm was secured. One interesting case gave all the X'ray appearances of a growth of the pancreas displacing the pyloric portion of the stomach and first and second parts of the duodenum, but was found on operation to be a large lympho-sarcoma of the gastro-colic omentum.

Of the 8 cases sent for barium enema 1 was diagnosed as an intussusception, as a cup shaped defect due to the invaginated portion of bowel was clearly shown; The diagnosis was confirmed at the operation. Incidentally this is one of the few recorded cases of the X'ray appearance of an intussusception. There were 4 cases of œsophageal cancer.

The X'rays were much used to follow the progress of the fracture cases. There was a great increase in the number of skulls radiographed. Two new positions to show up the frontal and occipital bones respectively were tried with highly satisfactory results and this new technique has now been adopted as a routine procedure.

It will be seen from the list given above, that a good deal of chest work was done. There were 3 cases of primary carcinoma of lung recorded.

There was one very unusual and interesting case of a large myoma in the mediastinum surrounding the lower ¼ of the œsophagus and causing its dilatation. The myoma was also adherent to the left arch of the diaphragm. There were also several small myomata along the upper three-quarters of the œsophagus.

Appendix IV

Return of Operations in Hospitals, Straits Settlements from 1st January, 1932 to 31st December, 1932

Total number of operations 8,438
Total number of deaths 211

Pathological condition and nature of operation	*Total No. of cases*	*Cured*	*Relieved*	*Died*
Amputations—				
Forearm or hand	8	8	—	—
Foot or leg	33	29	2	2
Fingers	58	58	—	—
Toes	36	35	1	—
Others	1	1	—	—
Operations on Muscles, Tendons or Ligaments—				
Exploration of tendons	1	1	—	—
Tenotomy	—	—	—	—
Plastic operation on muscles	2	2	—	—
Hernia of muscles	2	2	—	—
Suture of tendons	26	26	—	—
Others	13	13	—	—
Operations on Heart and Blood Vessels—				
Ligature of vessels	22	20	1	1
Injection varicose veins	7	5	2	—
Aneurism	3	2	—	1
Suture of pericardium	1	—	—	1
Operations on Lymphatic Glands—				
Excision of glands	56	50	6	—
Insertion of radium	1	—	—	1
Incision of glands	68	67	1	—
Others	5	5	—	—
Removal of Foreign Body—				
Hand	28	28	—	—
Foot	8	8	—	—
Nose	15	15	—	—
Arm	1	1	—	—
Leg	4	4	—	—
Ear	1	1	—	—
Stomach	1	1	—	—
Others	73	73	—	—
Operations on Bones—				
Sequestrectomy	42	37	5	—
Plating fracture	16	16	—	—
Bone grafting	1	1	—	—
Plaster of Paris splints	170	144	26	—
Osteomyelitis	17	11	—	6
Reduction of fractures	196	179	14	3
Wiring or pegging fractures	33	32	—	—
Osteotomy	8	7	1	—
Removal of wire or plating	7	7	—	—
Exostosis femur	—	—	—	—
Excision elbow, clavicle etc.	4	4	—	—
Others	—	—	—	—
Operations on Joints—				
Arthrotomy	19	16	1	2
Arthrectomy	8	8	—	—
Aspiration	51	42	9	—
Reductions of dislocations	17	17	—	—
Excision of semilunar cartilage	4	4	—	—
Mobilisation of joint	5	5	—	—
Plaster of Paris splint	9	1	8	—
Manipulation	29	29	—	—
Others	8	8	—	—
Operation on Skull—				
Trephining	15	11	—	4
Decompression	12	8	—	4
Others	1	—	—	1
Operations on Ear—				
Radical mastoid operations	42	42	—	—
Plastic	5	5	—	—
Removal of papilloma	1	1	—	—
Myringotomy	7	7	—	—
Others	7	7	—	—
Operations on Lips, Mouths and Salivary Glands—				
Repair of harelip	19	19	—	—
Repair of cleft palate	2	2	—	—
Enucleation of tonsils and adenoids	304	304	—	—
Extraction of teeth	388	386	2	—
Removal of growth for examination	2	—	1	1
Peritonsillar abscess	8	8	—	—
Radium introduced	17	5	12	—
Alveolar abscess	7	7	—	—
Carried forward ..	1,956	1,835	92	27

Pathological condition and nature of operation	*Total No. of cases*	*Cured*	*Relieved*	*Died*
Brought forward ..	1,956	1,835	92	27
Excision ulcer of tongue	1	—	1	—
Repair of tongue tie	2	2	—	—
Plastic operations	1	1	—	—
Others	7	5	2	—
Excision of jaw	1	—	—	1
OPERATIONS ON OESOPHAGUS—				
Oesophagascopy	14	9	1	4
Dilation of oesophagus	16	13	3	—
Foreign body in oesophagus	2	1	—	1
OPERATIONS ON TRACHEA—				
Tracheotomy	10	8	—	2
Thyroidectomy	3	3	—	—
Bronchoscopy	1	1	—	—
Others	6	6	—	—
OPERATIONS ON NOSE AND SINUSES—				
Turbinectomy	33	33	—	—
Submucus resection	50	50	—	—
Nasal polypus	33	30	3	—
Frontal sinusitis	2	1	1	—
Cauterisation of nose	5	5	—	—
Plastic operation on nose	4	4	—	—
Others	7	7	—	—
Antrotomy	21	20	—	1
OPERATIONS ON EYE—				
For pterygium	12	10	2	—
For trachoma	21	—	21	—
For cataract	34	29	5	—
Removal of foreign body	6	6	—	—
Plastic for entropion	1	1	—	—
Iridectomy	18	16	2	—
Needling cataract	1	—	1	—
Eviseration of eye	10	8	2	—
Enucleation of eye	6	6	—	—
Plastic for ectropion	3	3	—	—
Excision of lachrymal sac	4	4	—	—
Dacryocystotomy	3	3	—	—
Incision abscess eyelid	1	1	—	—
Muscle advancement for squint	1	1	—	—
Symblepharon	1	1	—	—
Pinquecula	—	—	—	—
Toilet of eye	3	3	—	—
Hordeleon	1	1	—	—
Cauterisation of cornea	3	3	—	—
Others	8	7	1	—
OPERATIONS ON BREAST—				
Amputation	4	3	—	1
Excision of breast	6	6	—	—
Removal tumour	2	2	—	—
Radium into breast	1	—	1	—
Section for examination	1	—	1	—
Others	6	6	—	—
OPERATIONS ON THORAX—				
Resection rib for empyema	22	16	2	4
Empyema drained	5	2	1	2
Aspiration chest	22	17	4	1
Thoracoplasty	2	—	1	1
Others	13	—	13	—
OPERATIONS ON HERNIA—				
Radical cure of inguinal hernia	134	133	1	—
For strangulated hernia	28	22	—	6
Ventral hernia	4	4	—	—
Umbilical hernia	1	1	—	—
OPERATIONS ON ABDOMEN—				
Peritoneal abscess drained	17	16	1	—
General peritonitis	14	5	2	7
Exploratory laparatomy	55	30	8	17
Gastrectomy	1	1	—	—
Perforated duodenal or gastric ulcer	19	10	—	9
Gastro-jejunostomy	28	23	1	4
Splenectomy	6	3	—	3
Cholecystostomy	9	6	—	3
Cholecystectomy	19	15	1	3
Choledochotomy	3	3	—	—
Acute intestinal obstruction	7	3	—	4
Intussusception	2	2	—	—
Appendicectomy (acute or chronic)	164	151	—	13
Colostomy	6	2	—	4
Stab wounds of abdomen	19	11	—	8
Laparatomy; adhesions	5	5	—	—
Carried forward ..	2,837	2,635	179	126

Pathological condition and nature of operation	*Total No. of cases*	*Cured*	*Relieved*	*Died*
Brought forward ..	2,837	2,635	179	126
Perforation of typhoid ulcer	12	—	—	12
Gastrostomy	14	10	3	1
Liver abscess	15	10	—	5
Puloric stenosis	—	—	—	—
Exploratory laparotomy and anastomosis gut ..	6	3	—	3
Ruptured liver	1	—	—	1
Enterostomy	8	4	—	4
Paracentesis abdominis	62	—	59	3
Others	12	8	1	3
OPERATIONS ON RECTUM AND ANUS—				
Excision of hæmorrhoids	164	161	3	—
Ischio rectal abscess	37	34	3	—
Sigmoidoscopy	126	—	126	—
Imperforated anus	18	15	1	2
Dilatation of anal canal	21	19	2	—
Anal fissure	3	3	—	—
Prolapse of rectum	5	5	—	—
Fistula-in-ano	84	80	4	—
Extra-peritoneal abscess	4	4	—	—
Others	6	5	—	1
OPERATIONS ON KIDNEYS, URETERS AND BLADDER—				
External urethrotomy	9	8	1	—
Litholopaxy	1	1	—	—
Cystoscopy	144	13	130	1
Nephrectomy	8	6	—	2
Nephro-lithotomy	5	5	—	—
Pyonephrosis	1	1	—	—
Peri-nephric abscess	2	2	—	—
Suprapubic cystotomy	27	21	2	4
Urethrotomy internal	3	3	—	—
Transplantation of ureters	2	2	—	—
Others	3	1	1	1
OPERATIONS ON THE MALE GENERATIVE ORGANS—				
Amputation of penis	8	8	—	—
Hydrocele radical cure	118	118	—	—
Varicocele	3	3	—	—
Plastic of penis	5	5	—	—
Circumcision	173	173	—	—
Archiotectomy	11	11	—	—
Ruptured urethra	14	13	—	1
Peri urethral abscess	6	5	—	1
Prostatic abscess	1	1	—	—
Epididymectomy	1	—	—	1
Dilation stricture	165	76	86	3
Dorsal slit of prepuce	5	5	—	—
Prostatectomy	1	1	—	—
Others	19	16	3	—
OPERATIONS ON THE FEMALE GENERATIVE ORGANS—				
Ovariotomy	12	12	—	—
Salpingectomy	19	17	—	2
Hysterectomy	17	15	—	2
Perineorrhaphy	393	393	—	—
Amputation of cervix	1	—	1	—
Hymenectomy	3	3	—	—
Per vaginal examination	21	1	20	—
Vesico vaginal fistula	14	9	5	—
Dilatation and curettage	145	144	—	1
Colporrhaphy	3	3	—	—
Ventral suspension	12	12	—	—
Oopharectomy	14	14	—	—
Cæsarian section	10	6	1	3
Ruptured ectopic gestation	13	8	—	5
Recto vaginal fistula	4	2	2	—
Insertion of radium into cervix	23	—	23	—
Induction of labour	21	21	—	—
Myomectomy	3	3	—	—
Marsuplalisation of uterus	1	1	—	—
Insufflation of tube	1	1	—	—
Application of forceps	179	173	—	6
Manual removal of placenta	52	52	—	—
For complicated labour	202	202	—	—
Others	16	13	3	—
OPERATIONS ON CYST—				
Sebaceous	55	55	—	—
Ranula	1	1	—	—
Others	56	55	—	1
OPERATIONS FOR ABSCESS—				
Incision	1,088	1,066	17	5
Abscesses aspirated	37	31	6	—
Carried forward ..	6,586	5,807	682	199

Pathological condition and nature of operation	*Total No. of cases*	*Cured*	*Relieved*	*Died*
Brought forward ..	6,586	5,807	682	199
OPERATIONS ON NERVES—				
Injections into nerves	3	3	—	—
Ramisectomy	2	2	—	—
Peri-arterial sympathectomy	5	4	1	—
Others	5	5	—	—
OPERATIONS ON THE SPINE, CORD AND MENINGES—				
Lumbar puncture	26	7	19	—
Plaster of spine	1	1	—	—
Laminectomy	3	1	1	1
OPERATIONS ON THE SKIN AND SUBCUTANEOUS TISSUE—				
Skin grafting	57	54	3	—
Removal of nail	31	31	—	—
Suturing wounds	1,164	1,159	3	2
Exploration of wound	4	3	—	1
Cellulitis incised	62	55	4	3
Carbuncle	15	14	—	1
Keloid, excision	14	14	—	—
Sinuses scraped	137	121	14	2
Removal of papilloms	8	8	—	—
Excision of ulcers	67	67	—	—
Whitlows	39	39	—	—
Others	6	5	1	—
OPERATIONS ON TUMOUR—				
Fibroma	13	12	1	—
Lipoma	9	9	—	—
Nævus	5	5	—	—
Rodent ulcer	3	3	—	—
Tumour unspecified removed	64	29	35	—
Osteomata	1	1	—	—
Excision of lympho-sarcoma	3	2	—	1
Others	5	5	—	—
Total ..	8,438	7,468	759	211

APPENDIX "E"

Report on Treatment of Opium Habit for the Year 1932

I.—SINGAPORE

Remained on 31st December, 1931	Nil
Admitted during 1932	11
Total ..	11
Discharged	11
Absconded	Nil
Discharged for breaking rules	Nil
Unfit for treatment	Nil
Remaining on 31st December, 1932	Nil
Total ..	11

The number seeking admission decreased during the second-half of the year.

Before commencing treatment, all patients are carefully examined. Urine, sputum and fæces are also fully examined.

If found physically fit, they are given a dose of hydrag subclor gr. 3 with sod. bicarb gr. 10, followed by mist. alba 2 ounces, 3 hours after.

Every morning atropine sulph. injections are given subcutaneously, beginning with gr. 1/75 and increasing the dose daily to gr. 1/53, gr. 1/33 and gr. 1/25 on the fourth day. The latter dose is the maximum and is continued until the end of treatment, which lasts, on an average, 10 days. Mist. ammon. bromide one ounce is given every night, alternating with chloretone gr. 10 when patients complain of sleeplessness. Mist. nuc. vom. et gent. co. is given to all patients.

Patients are weighed daily, and the majority are found at the end of treatment to have gained one to two pounds in weight.

Notices in Chinese are hung up in the ward, warning patients that they will be discharged if they ever leave the ward. No visitors are allowed inside the ward.

A search for opium is made on all patients every day, and if found with the drug, they are immediately discharged.

II.—PENANG

No patients presented themselves for treatment of opium habit during 1932.

III.—MALACCA

Thirty-five patients were admitted during the year 1932. Of these 16 underwent the complete course of treatment and 18 left the hospital before the completion of the treatment. There was one patient remaining at the end of 1932 in the hospital.

APPENDIX "F"

I.—Medical Inspection of English and Malay Girls' Schools, Singapore

I.—The Government and Aided Girls' Schools.
II.—The Malay Girls' Schools.
III.—The Chinese Aided Girls' Schools.
IV.—Twelve Junior Boys' Schools *i.e.* of boys up to the age of 12 years;
V.—The Locally Trained Female Teachers.

The last forms a separate report.

This is the first year that Chinese Aided Girls' Schools have been medically examined.

The services of a girl clerk and a sanitary inspector of schools were available throughout the year.

The examinations followed on the lines of former years, a routine examination and a re-examination of those found defective. Vaccinations were performed and anthelmintic treatment was given to those found infected with worms. Out of 477 girls examined 51 had hookworm, 276 had roundworm, 233 whipworm and 2 had thread-worm. The hookworm infection in the Malay Girls' Schools was 10% in 1932 compared with 39% in 1931. There was no clinically noticeable anæmia in these girls.

Many routine visits were made this year for the purpose of examining children with defective vision with the result that 75.7% obtained correctly fitting glasses compared with 69.7% last year.

Visits for general school hygiene were made periodically and particular attention was given to the seating accommodation of the pupils.

Private Chinese girls' schools were also visited with regard to their sanitary condition. The reports on these were submitted to the Chinese Inspector of Schools and suitable action was taken where necessary.

Health propaganda work featured more in this year's programme and was carried out in the schools by means of films, posters, gramophone records and talks. The film subjects were food, milk, water, vegetables, flies, tuberculosis, malaria, child welfare and dental hygiene.

The number of children medically examined in 1932 was 7,693 out of a total of 7,937. This was an increase of 588 over the number for 1931. This increase was mainly due to the inclusion this year of four aided Chinese girls' schools. The girls in the English and Malay schools showed an increase but the number of boys had slightly decreased.

One thousand eight hundred and fifty-eight children required re-vaccination, the new Chinese girls showing a high percentage of this number. All were vaccinated either at school by the Health Officer and Government vaccinator or at home, when preferred, by private practitioners.

Five thousand five hundred and sixty-six children were referred for treatment as a result of the routine examinations. Sixty-one per cent. from the English girls' schools, 86% from Malay girls' schools, 91% from Chinese girls' schools and 81% from boys' schools.

The group percentage of 80, was the same as for 1931.

Carious teeth again formed the chief defect. Enlarged tonsils and adenoids and enlarged cervical glands were also commonly found. The percentage for

enlarged cervical glands was very similar to that for carious teeth. Both conditions were found more prevalent in outlying schools. Generally the defects found were slight in character.

Altogether 16,481 examinations, re-examinations, vaccinations, etc., were made during 1932.

Some extracts from the general report are given below and compared with those for 1931 and 1930.

General Nutrition.—

—	Undernourished			Improved at second examination		
	1932	1931	1930	1932	1931	1930
Government Girls ..	0·03%	0·14%	2·3%	0%	80%	42%
Malay Girls ..	0·26%	0·27%	..	0%	100%	..
Chinese Girls ..	0·19%	Not examined		0%	Not examined	
Junior Boys ..	0·2%	0·95%	1·6%	33·3%	51·6%	38·5%

The general condition of school children showed further improvement in 1932. Very few were found undernourished but most of these showed an improvement at the second examination.

There were four cases of early tuberculosis. One had improved by the end of the year.

Cleanliness.—0.10% children were reported dirty compared with 0.2% in 1931 and 2.8% in 1930.

Pediculosis Capitis.—Ninety girls out of 4,853 had dirty heads. These were less than for 1931 and a greater improvement was found at the second examination. It is rare to find pediculosis capitis on a Chinese girl.

Vaccination.—

—	Requiring Re-vaccination			Successful Re-vaccination		
	1932	1931	1930	1932	1931	1930
Government Girls ..	17·8%	26·1%	48·9%	85·01%	68·2%	60·3%
Malay Girls ..	26·8%	30·9%	52·7%	94·1%	72·8%	64%
Chinese Girls ..	73·17%	Not examined		91·7%	Not examined	
Junior Boys ..	23%	29·6%	33%	83·9%	73·9%	70%

The number requiring re-vaccination is steadily declining. "Kuala Lumpur" lymph was used during the year and gave a high percentage of successful vaccinations. School children now form a well protected community.

Dental Caries.—The numbers with dental caries were higher in all groups for 1932. This was undoubtedly due to fewer routine visits being paid to dentists because of widespread financial difficulties. Many parents still regard dental hygiene as a whim of the school doctor. Some Malay mothers are particularly obstructive to treatment of any kind, and progress will only be made through the children of the present school generation. Local dentists carried out the work as usual and the Government dentist treated very poor cases free of charge when required. More principals, particularly of outlying schools, arranged for a visiting dentist to treat their children at school.

—	Decayed Teeth			Treated		
	1932	1931	1930	1932	1931	1930
Government Girls ..	52%	45·7%	51·9%	66%	59%	59%
Malay Girls ..	67·6%	54%	61%	63·8%	61·8%	49·3%
Chinese Girls ..	63·7%	..	..	47·3%	..	..
Junior Boys ..	73·5%	57·7%	65%	79·7%	76·4%	70·4%

Enlarged Tonsils and Adenoids.—The figures for this showed little difference from last year and few improvements were reported.

	1932	*1931*	*1930*
Enlarged tonsils and adenoids in all groups	15.2%	16.2%	10%
Enlarged tonsils, etc. improved ..	28.7%	39.6%	35.5%

Twenty-two children had tonsillectomy performed, but in some children hypertrophy disappeared naturally.

Enlarged Cervical Glands.—62.6% of the children had enlarged cervical glands, this figure corresponds closely with the figure for dental caries.

Defective Vision.—As usual more girls were found to suffer from defective vision than boys. Fewer cases of defective vision were found in 1932 but these were chiefly severe in type *i.e.* V 6/18 or more.

A higher percentage obtained correctly fitting glasses this year. The comparative figures are given below:—

	Defective Vision			Correct glasses fitted		
	1932	1931	1930	1932	1931	1930
Government Girls ..	2·33%	3·19%	3·2%	80·68%	69·37%	35·8%
Malay Girls ..	1·05%	0·54%	0·2%	50%	..	100%
Chinese Girls ..	3·94%	Not examined		57·14%	Not examined	
Junior Boys ..	0·76%	1·23%	1·4%	78·2%	70%	60·9%

Eye Affections.—There were 1.69% cases in all groups compared with 1.8% in 1931. There were few trachoma cases. The chief complaints were catarrhal and follicular conjunctivitis which are readily amenable to treatment. Treatment however is often interrupted with the result that the conditions persist. There was one case of gonorrhœal conjunctivitis. Squints styes and blepharitis were occasionally encountered.

Ear Conditions.—These were generally slight and occurred in 0.61% cases. Otorrhœa was the chief condition found.

Anaemia.—This condition showed an improvement this year, there being a group percentage of 0.82% compared with 4.4% in 1931. The Malay girls had again the greatest number of cases. They received intensive worm treatment. The group improvement figures were 60.3%.

Skin Diseases.—There were still fewer skin diseases in 1932, 3.9% compared with 4.2% in 1931, and 76.18% improvements compared with 81.6% last year. There were 7 cases of ringworm amongst 7,693 children. Skin conditions were generally slight and were dealt with promptly at the school and Government dispensaries or privately. There were no cases of leprosy detected this year.

Infectious diseases.—There were no epidemics of any kind in 1932.

The diseases reported were chicken-pox 105 cases, measles 59, mumps 50, whooping cough 17, diphtheria 11, typhoid fever 3.

This low return for infectious diseases is not indicative of their real prevalence as it is often impossible to get the real cause of a child's absence from school. One school had sporadic cases of diphtheria for three months. A 'carrier' was isolated and no further cases occurred.

Fever.—The Malay girls had a high fever rate due no doubt to worm infection, dirty habits and unhygienic home conditions. The percentages were Malay girls 75.5%, Chinese girls 0.56%, English girls 0.32%, boys 0.73%. There were no cases of malaria or enlarged spleens.

Operations.—There were 22 tonsillectomies and 2 appendicectomies.

Sanitation and food.—These were satisfactory in most of the schools. One English girls' school which has been unsatisfactory for a long time has now been closed and new arrangements have been made, pending the erection of a new building.

Conclusion.—In surveying the year's work one is led to the conclusion that Singapore school children generally are achieving a high standard of health. In certain schools this is very high, in a few schools it can be much improved. There has been more dental caries and fewer improvements in certain cases but this was due to great poverty in many homes. There were fewer other physical defects. Many Chinese girls have taken kindly to games, becoming interested and keen to participate, they have become more alert and vital with improved posture. Principals and teachers have given splendid co-operation and personal interest throughout the year. Less robust children have again been encouraged to drink milk at school; in all schools children have been taught to live and act healthily.

As in former years parents have been encouraged to take their children to private practitioners for treatment, but for very poor children free treatment was obtainable at the Government dispensaries and hospitals.

The various reports are enclosed.

NUMBERS TREATED AND PERCENTAGE OF IMPROVEMENTS DURING 1932

SCHOOLS	Mal-Nutrition	Dirty	Anæmia	Coryza	Otorrhœa	Conjunctivitis	Trachoma	Defective Vision	Enlarged Tonsils	Adenoids	Dental Caries	Sores	Ringworm	Enlarged Spleen	Fever	Tuberculosis
Raffles Girls' School ..	..	..	..	1	..	..	..	21	12	1	191	..	..	..	2	..
The French Convent ..	..	..	..	5	2	4	..	14	23	..	363	7	..	..	4	..
The Fr. Convent—Katong ..	..	..	..	..	1	..	..	2	4	..	83	..	..	..	1	..
Singapore Chinese Girls'	..	..	1	4	1	1	..	1	20	6	141	6	..	..	..	..
Methodist Girls' ..	..	..	2	4	2	3	1	13	24	6	139	5	..	..	2	..
St. Anthony's Convent ..	..	..	1	..	..	2	..	15	10	11	181	5	..	..	1	..
Fairfield Girls' School ..	..	..	..	2	1	..	..	4	14	1	159	4	..	..	3	1
Serangoon English (Girls) ..	..	..	1	2	..	..	..	1	2	1	40	1	..	..	1	..
Kampong Glam Malay Girls'	..	..	1	..	..	..	..	1	7	..	44	..	..	..	31	..
Rochoh Malay Girls' ..	..	..	1	..	..	..	..	..	2	..	20	..	..	..	50	..
Geylang Malay Girls' ..	..	..	..	..	..	1	..	1	3	..	38	2	..	..	51	..
Kampong Roko Malay Girls'	..	..	4	1	..	..	..	..	1	..	11	..	..	..	49	..
Siglap Malay Girls' ..	..	..	..	1	..	..	..	..	2	1	28	..	..	..	36	..
Teluk Kurau Malay Girls' ..	..	..	2	..	..	..	..	..	2	..	23	..	..	..	32	..
Holy Innocetns Girls' ..	..	..	3	1	..	..	..	..	4	..	18	5	..	..	..	..
Cheng Fong Chinese Girls' ..	..	..	2	2	..	1	..	..	7	..	60	1	..	..	..	..
Chong Poon Chinese Girls' ..	..	..	..	1	1	..	..	1	6	2	29	4	..	..	3	..
Chung Hwa Chinese Girls' ..	..	..	1	1	2	..	..	11	2	..	54	2	1	..	..	..
Anglo-Chinese Boys' School ..	1	..	2	5	2	..	..	4	34	7	306	12	1	..	..	..
St. Andrew's School ..	..	1	1	4	1	..	..	..	17	4	166	6	1	..	2	..
Victoria Bridge School ..	..	..	2	5	1	2	..	..	18	5	88	3	..	..	..	..
Radin Mas Boys' School ..	..	..	1	..	..	1	..	2	14	..	65	5	1	..	..	..
Gan Eng Seng Boys' School ..	..	1	1	10	2	2	..	6	20	4	212	7	1	..	3	..
McNair Road Boys' School ..	1	1	5	10	4	2	..	1	26	14	243	5	..	..	1	..
Pearl's Hill Boys' School ..	..	..	5	10	2	..	..	2	24	5	265	18	..	..	8	..
Teluk Kurau English School	..	..	..	2	..	1	..	..	7	2	94	1	..	..	3	..
Outram Boys' School ..	..	..	..	..	1	2	..	1	6	3	35	..	..	..	1	..
Serangoon Eng. School (Boys)	..	1	1	2	..	2	..	..	12	2	111	12	..	..	2	..
Geylang English Boys' School	..	1	1	5	..	1	..	2	21	4	158	8	..	..	1	..
Convent—Katong (Boys) ..	..	..	..	..	..	..	..	..	2	..	21	..	..	..	1	1
Totals ..	2	5	38	78	23	25	1	103	345	79	2,386	119	5	..	288	2
Percentages 1932 ..	22·2	62·5	60·3	93·98	60·5	36·7	33·3	75·7	41·8	31·8	49·99	88·8	71·4	..	88·89	50
Percentages 1931 ..	77·2	100	67·39	90·83	55·5	63·86	28·5	69·7	39·67	40·41	65·74	89·73	90·9	100	88·24	60

MEDICAL EXAMINATION FOR 1932

OF LOCALLY TRAINED FEMALE TEACHERS IN SINGAPORE SCHOOLS

SCHOOLS	No. of Teachers	Nits	Requiring Re-vaccination	Circulatory System: Anæmia	Skin: Acne Vulgaris	Defective Vision: Slight ($V^6/_9$)	Defective Vision: Severe ($V^6/_{18}$ or more)	Throat: Pharyngitis	Throat: Enlarged Tonsils	Teeth: Dental Caries	Fever	Treatment and Improvements at 2nd Examination: Successful Re-vaccination	Anæmia, etc., Improved	Teeth Improved	Eyes Examined	Throat & Tonsils Improved	Skin Improved
St. Anthony's Convent ..	4	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..
The French Convent ..	23	..	1	..	..	..	..	..	..	7	..	1	..	5	..	..	..
The French Convent—Katong	4	..	2	..	..	..	..	..	..	1	..	2	..	1	..	..	..
Methodist Girls' School ..	23	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Raffles Girls' School ..	16	..	..	..	..	..	..	1	1	1	..	..	..	1	..	1	..
Fairfield Girls' School ..	14	..	..	..	..	..	..	..	..	3	..	..	..	3	..	..	..
S'pore Chinese Girls' School	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chong Poon Chinese Girls' School	6	..	5	1	..	..	1	..	..	..	..	4	1	..	..	..	..
Chung Hwa Chinese Girls' School	12	..	2	..	1	..	2	..	..	3	..	2	..	1	2	..	1
Cheng Fong Chinese Girls' School	6	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Holy Innocents Girls' School	3	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Gan Eng Seng Boys' School	6	..	..	..	..	..	..	..	..	2	..	..	..	2	..	..	..
Radin Mas Boys' School ..	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Anglo-Chinese Boys' School	9	..	..	..	1	..	..	..	..	1	..	..	..	1	..	..	1
Victoria Bridge School ..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Serangoon English School ..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Andrew's Boys' School ..	10	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..
Geylang English School ..	7	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
McNair Boys' School ..	12	..	..	..	..	..	..	..	..	2	..	..	..	2	..	..	..
Pearl's Hill Boys' School ..	17	..	..	..	1	..	..	..	1	1	..	..	..	1	..	..	1
Teluk Kurau English School	3	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Kampong Glam Malay Girls' School	4	..	..	..	..	..	..	..	..	2	..	..	..	1	..	..	..
Rochoh Malay Girls' School ..	5	1	..	..	..	..	..	..	1	..	2	..	..	..	..	..	..
Geylang Malay Girls' School	5	..	..	..	..	..	..	..	..	2	..	..	..	2	..	..	..
Siglap Malay Girls' School ..	3	1	..	1	..	..	..	..	..	1	1	..	..	..	..	..	..
Kampong Roko Malay Girls'	4	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..
Teluk Kurau Malay Girls' School	4	..	..	..	..	..	..	..	..	3	..	..	..	2	..	..	..
Rangoon Road Boys' School ..	7	..	..	..	2	..	1	2	..	1	..	..	..	1	1	..	..
St. Anthony's Boys' School ..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assistant Supervisor Malay Girls' Schools	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Joseph's Institute ..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals ..	237	2	10	2	8	1	4	4	4	36	3	9	1	23	4	1	4
Percentages 1932 ..	..	·84	4·22	·84	3·38	2·1		3·38		15·19	1·27	90	50	63·89	80	12·5	50
Percentages 1931 ..	..	1·41	9·39	..	2·35	1·41		7·51		13·2	·47	40	..	71·43	66·67	37·5	..

MEDICAL EXAMINATIONS FOR 1932

SUMMARY OF RESULTS, GOVERNMENT AND AIDED GIRLS' SCHOOLS, SINGAPORE

Treatment and Improvements at 2nd Examination

SCHOOLS	No. of pupils	No. Examined	Average Height	Average Weight	Condition: Fair or Poor	Dirty	Nits	Requiring Re-vaccination	Affections of Respiratory System	Affections of Circulatory System	Throat Affections	Ear Affections	Eye Affections	Defective Vision	Dental Caries	Skin Affections
St. Anthony's Convent	490	469	..	..	..	..	26	98	..	3	74	1	10	18	249	12
Methodist Girls' School	717	700	..	..	..	..	4	87	5	6	64	2	7	15	237	16
Fairfield Girls' School	445	438	..	..	..	..	..	89	3	1	51	2	5	7	245	9
The French Convent ..	1,100	1,085	..	..	1	..	24	155	5	7	93	3	12	20	631	30
The French Convent—Katong	165	160	..	..	..	..	8	107	..	..	20	1	1	4	120	2
Raffles Girls' School ..	589	576	..	..	..	..	5	64	1	2	48	..	3	22	266	11
S'pore Chinese Girls' School	277	269	..	..	..	..	..	51	7	3	59	1	3	1	166	11
Serangoon English School	78	76	..	..	..	..	..	23	2	1	12	..	..	1	50	3
Totals ..	3,861	3,773	..	..	1	..	67	674	23	23	421	10	41	88	1,964	94
Totals 1931 ..	3,604	3,483	Percentages 1932		·03	..	1·78	17·86	·61	·61	11·16	·27	1·09	2·33	52·05	2·49
			Percentages 1931		·14	·2	2·04	26·1	·51	1·64	10·13	·09	1·78	3·19	45·74	3·82

SCHOOLS	Tuberculosis	Enlarged Spleen	Enlarged Glands	Fever	Abnormalities	General Condition Improved	Successful Re-vaccination	Anæmia Improved	Teeth Improved	Eye Conditions Improved	Eyes Examined	Tonsils Improved	Skin Improved	Tuberculosis Improved	Ear Condition Improved
St. Anthony's Convent	..	..	295	1	4	..	89	1	181	2	15	10	..	..	..
Methodist Girls' School	1	..	274	2	2	..	70	2	139	4	13	24	..	..	..
Fairfield Girls' School	1	..	216	2	2	..	81	..	159	4	4	14	..	..	..
The French Convent ..	..	..	630	4	2	..	121	..	363	8	14	23	..	..	..
The French Convent—Katong	..	..	94	1	..	..	101	..	83	..	2	4	..	..	..
Raffles Girls' School ..	1	..	256	1	2	..	50	..	191	2	21	12	..	..	..
S'pore Chinese Girls' School	..	..	181	..	2	..	40	1	141	2	1	20	..	..	..
Serangoon English School	..	..	45	1	..	..	21	1	40	..	1	2	..	..	..
Totals ..	3	..	1,991	12	14	..	573	5	1,297	22	71	109	54	1	7
Percentages 1932 ..	·08	..	52·77	·32	·37	..	85·01	21·74	66·04	53·66	80·68	25·89	57·45	33·3	70
Percentages 1931 ..	·06	·03	44·59	3·36	·69	80	68·21	52·17	58·69	41·94	69·37	28·61	62·41	50	66·67

MEDICAL EXAMINATIONS FOR 1932

SUMMARY OF RESULTS, MALAY GIRLS' SCHOOLS, SINGAPORE

Treatment and Improvements at 2nd Examination

SCHOOLS	No. of pupils	No. Examined	Average Height	Average Weight	Condition: Fair or Poor	Dirty	Nits	Requiring Re-vaccination	Affections of Respiratory System	Affections of Circulatory System	Throat Affections	Ear Affections	Eye Affections	Defective Vision	Dental Caries	Skin Affections
Kampong Glam Malay Girls'	85	81	..	..	..	..	3	19	..	1	17	..	2	2	55	..
Rochoh Malay Girls' School	79	67	..	..	..	..	10	14	..	2	10	1	1	1	41	1
Geylang Malay Girls' School	90	74	..	..	..	..	5	26	..	1	14	..	2	1	57	3
Teluk Kurau Malay Girls' School ..	52	46	..	..	..	..	2	12	..	2	12	..	2	..	35	1
Siglap Malay Girls' School	51	50	..	..	1	..	1	19	1	1	14	..	3	..	35	..
Kampong Roko Malay Girls'	62	62	..	..	..	..	2	12	1	6	11	..	4	..	34	1
Totals ..	419	380	..	..	1	..	23	102	2	13	78	1	14	4	257	6
Totals 1931 ..	408	368	Percentages 1932		·26	..	6·05	26·84	·53	3·42	20·52	·26	3·68	1·05	67·63	1·58
			Percentages 1931		·27	..	18·75	30·98	2·17	9·78	24·18	1·36	2·45	·54	54·08	2·72

SCHOOLS	Tuberculosis	Enlarged Spleen	Enlarged Glands	Fever	Abnormalities	General Condition Improved	Successful Re-vaccination	Anæmia Improved	Teeth Improved	Eye Conditions Improved	Eyes Examined	Tonsils Improved	Skin Improved	Tuberculosis Improved	Ear Condition Improved
Kampong Glam Malay Girls'	..	..	51	35	..	..	17	1	44	..	1	7	..	..	..
Rochoh Malay Girls' School	..	..	46	55	..	..	14	1	20	..	..	2	1	..	..
Geylang Malay Girls' School	..	..	53	59	..	..	24	..	38	1	1	3	3	..	..
Teluk Kurau Malay Girls' School ..	..	..	29	39	..	..	12	2	23	..	..	2	1	..	..
Siglap Malay Girls' School	1	..	39	41	..	..	19	..	28	..	..	1	..	..	..
Kampong Roko Malay Girls'	..	..	37	58	..	..	10	4	11	..	..	1	1	..	..
Totals ..	1	..	255	287	..	..	96	8	164	1	2	16	6	..	..
Percentages 1932 ..	·26	..	67·11	75·53	..	..	94·12	61·54	63·81	7·14	50	20·51	100	..	..
Percentages 1931 ..	..	..	80·71	68·21	·27	100	72·81	75	61·81	88·89	..	43·82	100	..	20

MEDICAL EXAMINATIONS FOR 1932

SUMMARY OF RESULTS, CHINESE GIRLS' SCHOOLS, SINGAPORE

Treatment and Improvements at 2nd Examination

Schools	No. of pupils	No. Examined	Average Height	Average Weight	Condition: Fair or Poor	Dirty	Nits	Requiring Re-vaccination	Affections of Respiratory System	Affections of Circulatory System	Throat Affections	Ear Affections	Eye Affections	Defective Vision	Dental Caries	Skin Affections
Cheng Fong Chinese Girls'	185	177	..	..	1	..	..	105	2	5	15	..	6	4	96	9
Chong Poon Chinese Girls'	103	89	..	..	..	..	..	91	1	1	23	1	..	2	71	8
Chung Hwa Chinese Girls'	178	170	..	..	..	1	..	97	1	3	13	2	4	15	104	5
Holy Innocents Girls' School	107	97	..	..	..	..	..	97	1	6	15	..	4	..	69	10
Totals ..	573	533	..	..	1	1	..	390	5	15	66	3	14	21	340	32
Percentages ..	..	..	..	..	·19	·19	..	73·17	·94	2·81	12·38	·56	2·63	3·94	63·79	6

Schools	Affections of Genito Urinary System	Enlarged Spleen	Enlarged Glands	Fever	Abnormalities	General Condition Improved	Successful Re-vaccination	Anæmia Improved	Teeth Improved	Eye Conditions Improved	Eyes Examined	Tonsils Improved	Skin Improved	Ear Condition Improved	Tuberculosis Improved
Cheng Fong Chinese Girls'	..	..	106	..	1	..	89	2	60	1	..	7	7	..	..
Chong Poon Chinese Girls'	..	..	64	3	1	..	87	..	29	..	1	6	4	1	..
Chung Hwa Chinese Girls'	..	..	91	..	..	..	92	1	54	..	11	2	5	2	..
Holy Innocents Girls' Schools	..	..	66	..	..	..	90	3	18	1	..	4	6	..	..
Totals ..	..	..	327	3	2	..	358	6	161	2	12	19	22	3	..
Percentages ..	..	..	61·35	·56	·38	..	91·79	40	47·35	14·29	57·14	28·79	68·75	100	..

MEDICAL EXAMINATIONS FOR 1932

SUMMARY OF RESULTS, GOVERNMENT BOYS' SCHOOLS, SINGAPORE

Treatment and Improvements at 2nd Examination

Schools	No. of pupils	No. Examined	Average Height	Average Weight	Condition: Fair or Poor	Dirty	Tuberculosis	Requiring Re-vaccination	Affections of Respiratory System	Affections of Circulatory System	Throat Affections	Ear Affections	Eye Affections	Defective Vision	Dental Caries	Skin Affections
Radin Mas Boys' School	115	113	..	..	..	..	..	34	..	1	26	1	1	3	75	10
Outram Boys' School	81	78	..	..	..	..	..	..	..	1	17	2	4	2	46	1
Gan Eng Seng Boys' School	330	325	..	..	1	1	..	62	10	3	54	4	10	7	241	17
McNair Road School ..	419	410	..	..	1	2	..	135	11	6	90	7	6	2	340	19
Anglo-Chinese Boys' School	467	457	..	..	3	..	..	63	5	3	59	4	9	4	335	21
Victoria Bridge School	188	170	..	..	..	..	..	32	5	3	41	1	6	1	116	9
Geylang English School	261	260	..	..	1	1	..	68	5	3	48	..	2	2	190	19
Pearl's Hill Boys' School	518	504	..	..	..	..	..	156	11	6	73	3	10	2	364	38
St. Andrew's School	336	327	..	..	..	1	..	66	4	2	45	1	5	..	223	12
Serangoon English Boys' School ..	172	170	..	..	..	2	..	35	2	1	22	..	5	..	133	18
Teluk Kurau English School	156	152	..	..	..	..	..	32	2	1	25	..	2	..	117	5
French Convent— Katong	41	41	..	..	..	..	..	9	..	..	7	1	..	..	32	..
Totals ..	3,084	3,007	..	..	6	7	..	692	55	30	507	24	60	23	2,212	166
Totals 1931 ..	3,381	3,257	Percentages 1932		·2	·23	..	23·01	1·83	1	16·86	·8	2	·76	73·56	5·52
			Percentages 1931		·95	·4	·09	29·66	2·76	1·84	14·43	·77	2·15	1·23	57·75	7·65

Schools	Affections of Genito Urinary System	Enlarged Spleen	Enlarged Glands	Fever	Abnormalities	General Condition Improved	Successful Re-vaccination	Anæmia Improved	Teeth Improved	Eye Conditions Improved	Eyes Examined	Tonsils Improved	Skin Improved	Tuberculosis Improved	Ear Condition Improved
Radin Mas Boys' School	1	..	65	..	1	..	25	1	65	1	2	14	..	..	..
Outram Boys' School ..	1	..	47	1	1	..	..	..	35	2	1	6	..	..	1
Gan Eng Seng Boys' School	6	..	235	3	2	..	54	1	212	3	6	20	..	..	2
McNair Road School ..	11	..	250	1	1	1	109	5	243	3	1	26	..	..	4
Anglo-Chinese Boys' School	6	..	352	..	1	1	49	2	306	4	4	34	..	..	2
Victoria Bridge School	4	..	116	..	2	..	22	2	88	4	..	18	..	..	1
Geylang English School	10	..	166	1	2	..	59	1	158	1	2	21	..	..	..
Pearl's Hill Boys' School	10	..	377	8	3	..	140	5	265	3	2	24	..	..	2
St. Andrew's School ..	10	..	220	2	2	..	57	1	166	1	..	17	..	..	1
Serangoon English Boys' School ..	3	..	118	2	..	..	32	1	111	2	..	12	..	..	..
Teluk Kurau English School	5	..	116	3	2	..	25	..	94	1	..	7	..	..	..
French Convent— Katong	1	..	27	1	..	..	9	..	21	..	..	2	..	..	..
Totals ..	68	..	2,089	22	18	2	581	19	1,764	25	18	201	145	..	13
Percentages 1932	2·26	..	69·47	·73	·6	33·33	83·96	63·33	79·75	41·67	78·26	39·64	87·35	..	54·17
Percentages 1931	2·79	..	17·15	2·79	1·32	51·61	77·02	75	76·4	58·57	70	46·6	83·53	66·67	80

REPORT ON THE MEDICAL EXAMINATIONS OF LOCALLY TRAINED FEMALE TEACHERS IN SINGAPORE SCHOOLS, 1932

Two hundred and thirty-seven teachers were examined compared with 213 in 1931. There was the usual routine examination and re-examination of those found defective. As in former years the defects found were slight.

The chief defects were dental caries 15.19% cases with 63.8% improvement; defective vision 2.1% cases with 80% improvement; acne—a fairly chronic condition—3.38% cases. This condition usually shows no improvement. Throat conditions—chiefly pharyngitis or 'teacher's throat'—were fewer this year there being 3.38% cases compared with 7.5% in 1931. Only 12.5% improvement was reported.

The accompanying table summarises the defects found and the improvements which followed treatment. The figures for 1931 are given for comparison.

The standard of health amongst the teaching staff of the Singapore schools remained high during the year.

II.—Medical Examination of Boys' Schools, Singapore

Systematic routine medical inspection was carried out in the following schools during the year under review:—

(a)	Government English Schools	10
(b)	Government Aided English Schools	6
(c)	Government Malay Vernacular Schools	19
(d)	Government Aided Chinese Vernacular Schools ..	6
	Total ..	41

The following table shows the total number of boys examined as above:—

Year	*In Government and Aided English Schools*	*In Malay Vernacular Schools*	*In Aided Chinese Schools*	*Total*
1930 ..	.. 6,067	2,371	Nil	8,438
1931 ..	.. 6,224	2,388	Nil	8,612
1932 ..	.. 6,618	2,395	561	9,574

There is a noticeable increase in the number of children examined this year as compared with the two previous years. During the latter part of 1931 it was arranged that routine medical inspection of pupils and teachers should be extended to the Chinese Aided Schools. This was carried out during the year under review in 6 schools with a total of 561 pupils.

The following schools were inspected as to their sanitary arrangements and accommodation capacity:—

(a)	Government English Schools	12
(b)	Government and Aided English and Chinese Schools ..	11
(c)	Private English Schools	42
(d)	Malay Vernacular Schools	19
(e)	Tamil Vernacular Schools	11
(f)	Chinese Vernacular Schools	200

The total number of visits to these schools was 758.

Sanitary inspection of the premises which it was proposed to use is a routine preliminary to the registration of all new schools. Reports and recommendations were submitted to the Inspector of Schools through the Chief Health Officer. The majority of the private English schools and the Chinese and Tamil vernacular schools use buildings originally meant for shop houses and dwelling houses hence the sanitation and accommodation of these schools are not all that should be desired. The Sanitary Inspector, Schools, devoted most of his time to these schools and it is gratifying to note that the sanitation of the majority of the Chinese and private English schools is now much improved, although the present general economic depression prevents sufficient money being spent in this direction. The private Tamil schools are of a very poor standard as far as sanitation is concerned. The sanitation of the Government and aided English schools and the Malay vernacular schools was maintained satisfactorily.

Data elicited from systematic examination of boys:—

(a) General Condition.—

	1930	*1931*	*1932*
Good	83.52%	88.72%	92.12%
Fair	13.25%	9.23%	6.86%
Poor	.94%	2.05%	.02%

These figures indicate that the general condition of school children has steadily improved in spite of the continued general low economic level. There were fewer under-nourished children this year.

(b) Cleanliness.—The percentage of dirty children was 0.96% as against 1.93% in 1931 and 6.11% in 1930. There is a general improvement in this condition in all the Malay schools during 1932.

(c) Vaccination.—This was performed by the vaccinator attached to the Health Branch. The figures below show a summary of work done. The total number vaccinated was 3,183.

Year	*English Schools*	*Chinese Schools*	*Malay Schools*	*Total*
1930 ..	.. 1,287	Nil	1,082	2,369
1931 ..	.. 1,022	Nil	812	1,834
1932 ..	.. 1,901	488	794	3,183

(d) Diseases of the Eye.—(1) defective vision and (2) diseases of the eye proper. The total number of pupils with defective vision was 215 as against 228 in 1931 and 226 in 1930. Pupils with defects greater than 6/9 were enabled to see an optician. There were 166 cases of diseases of the eye as against 305 in 1931 and 345 in 1930. The above figures show a slight decrease in defective vision and a marked decline in diseases of the eye. The numbers of trachoma and conjunctivitis cases are much less as compared to the previous years:—

Year	*Trachoma*	*Conjunctivities*	*Other Eye Conditions*
1930 ..	.. 207	117	17
1931 ..	.. 134	132	39
1932 ..	.. 54	69	43

These cases were sent for treatment either to the General Hospital or to an outdoor dispensary.

(e) Dental Caries.—The percentage of dental caries amongst school children was 19.89% as against 25.37% in 1931 and 28.53 in 1930; a steady improvement is evident from the above figures. Since the early part of the current year the Professor of Dentistry treated school children at the General Hospital dental clinic once a week. Free dental treatment is given to really poor children and other deserving cases. The Malay vernacular school children receive free dental treatment once a week as a routine at the General Hospital dental clinic; free transport is provided by the Government Health Branch lorries. Some Malay schools had 100% treatment as a result of this arrangement. It is hoped to have the other Malay schools also treated similarly. At least two local private dentists treated school children at reduced rates.

(f) Enlarged Tonsils and Adenoids.—The percentage of enlarged tonsils and adenoids amongst school children was 13.48% as against 22.98% in 1931. There was a decrease this year in the number of enlarged tonsil cases probably due to an improvement in oral hygiene amongst school children and the intensive campaign for the proper treatment of tonsil cases in previous years.

(g) Infectious Diseases.—These were mainly of a mild type and were sporadic cases only. (1) Chicken-pox 52 cases, (2) Diphtheria 5 cases, (3) Measles 3 cases, (4) Leprosy 2 cases.

(h) Malaria.—There were 11 cases of enlarged spleens in English schools out of the 6,618 children examined or 9.17% only. In Malay schools there were 13 cases out of the 2,395 children examined or 0.54%. There were no cases of enlarged spleens in the Chinese schools examined. In the Pulau Tekong Malay School, (an island which is in the rural area), the spleen rate was 13.8% of the pupils as against 15% in 1931.

Medical Certificates of Class Room Accommodation.—These were given whenever necessary to all the classes of schools requiring them and were sent to the Principals of the schools through the Inspector of Schools stating the number to be accommodated according to Regulation 14 of the General Regulations for Schools.

Lectures.—Short talks and demonstrations on health habits were given whenever necessary during the routine medical examination of pupils.

Treatment of Diseases of School Children.—Treatment was carried out at special hours at all the out-door dispensaries and the General Hospital. Since

the beginning of 1932 the accommodation provided for the free treatment (indoor) of school children at the Mandalay Road Hospital has been transferred to the General Hospital where there are better facilities for treatment at the hands of specialists.

The travelling dispensary visited during its usual itinerary the Vernacular schools en route and treatment was given to the pupils free of charge. The travelling dispensary also visited and treated other Malay schools once a week.

Systematic examination of school teachers and other staff of Government, aided and vernacular schools.—The total number examined was 318 teachers and 113 other staff. There were no cases of tuberculosis amongst them. The health of the school staff was generally good. The principal diseases found amongst teachers were 36 cases of dental caries, 12 cases of enlarged tonsils, 2 trachoma cases and 3 diabetes cases.

Propaganda.—Propaganda work is carried out through posters, gramophone records and cinema films dealing with health subjects.

Gramophone Record.—The gramophone record "Care of the Teeth" dealing with the cause, prevention and treatment of dental caries was lent to schools in rotation for the benefit of the teachers and pupils and was appreciated by the teachers and higher class pupils.

Cinema Films.—The cinema films "Your Mouth" and "Beware of the Demon", which deal with the cause, prevention and treatment of dental caries. "Fly Danger" which deals with the nuisance and diseases caused by flies and how to prevent them. "War on the Mosquito" which deals with the nuisance and diseases caused by them and how to prevent them. "Mother's Milk Best" which deals with the dangers of infection in milk and how to prevent it and the advantages of breast feeding, and the two locally produced films "Aminah" and "Rescue of Swee Kim" dealing with infant welfare and the cause and prevention of tuberculosis, were shown to the following schools and associations and elicited great interest:—

Schools.—

1.	Raffles Institution (twice) ..	210 pupils and teachers attended.
2.	Outram School	400 pupils and teachers attended.
3.	Rochoh Malay School ..	400 pupils and parents attended.
4.	Serangoon English School ..	500 pupils and parents attended.
5.	Telok Kurau English School ..	250 pupils and parents attended.
6.	Telok Kurau Malay School ..	300 pupils and parents attended.
7.	Sepoy Lines Malay School ..	200 pupils and parents attended.
8.	Toa Nam Chinese School ..	250 pupils attended.
9.	Kian Hwa Kindergarten School ..	300 pupils and parents attended.
10.	Chinese Technical Institute ..	350 pupils and parents attended.

Associations.—

1.	Chinese Students Literary Association	60 men attended.
2.	Rovers Badminton Party ..	120 men attended.
3.	No. 15 Java Road	100 Malay women and children attended.

A summary of school sanitation inspections made in Chinese, English and other schools for the year 1932 is given in tabulated form on page 70.

Results of treatments carried out as reported by the Principals are given in tabulated form on pages 71 and 72.

General.—A review of the year's work shows a continued improvement in the health of the school children amongst boys' schools generally. The general health of the school child has been of a fairly high standard in spite of the continued general low economic level during the year. Teachers and scholars continued to take more interest in getting defects treated.

The important question of providing proper and suitable school furniture, especially seats and desks for the pupils, was fully investigated by the Chief Health Officer, and the Assistant Health Officer, Schools, with the co-operation of the officers of the Education Department during the early part of the year, as a result of which certain improvements were recommended to the existing types of school desks and seats. These improvements will be incorporated in any new furniture ordered in future. A number of schools have at present some of the old type of long and unhygienic benches and desks. These are being gradually replaced by the new approved type of desks and seats according to the financial position of the schools concerned. A general improvement is

noticeable now in the seating accommodation for the pupils in the Government and aided English schools and the Malay vernacular schools. The private English schools and the Chinese schools are, almost entirely equipped with a poor and unhygienic type of furniture—long desks and seats.

A new feature of the school health service during 1932 was the taking over the care of the Government grant-in-aid Chinese vernacular schools. The health of the pupils in these schools is fair, but some difficulty is experienced at present in getting the children treated for defects. A systematic routine medical inspection of all the pupils in these schools was made for the first time in the history of these schools.

As usual the Inspector of Schools and the heads of schools have given their hearty co-operation and encouragement in this work.

SUMMARY OF SCHOOL SANITATION INSPECTIONS FOR THE YEAR 1932

—	Chinese Schools	English Schools	Malay Schools	Tamil Schools	Total
1. Number of inspections for general sanitation for the year ..	742	238	74	52	1,106
2. Number of new premises inspected as to their accommodation capacity and sanitary arrangements	136	33	..	4	173
3. Number of new school premises granted with accommodation certificates ..	121	33	..	4	158
4. Number of schools reported as housed in unsuitable premises and consequently asked to remove to more suitable ones	15	..	..	..	15
5. Number of schools reported to Asst. Director of Education (Chinese) and Inspector of Schools, Singapore for action resanitary improvements, overcrowding, insanitary conditions or undesirable cubicles	50	23	9	1	83
6. Number of schools where sanitary arrangements have been improved, overcrowding relieved, cubicles demolished or other sanitary improvements made	136	21	3	13	173

TREATMENT AS CARRIED OUT SINCE LAST MEDICAL EXAMINATION

English Schools	Anæmia	Enlarged Tonsils and Adenoids	Defective Vision	Conjunctivitis	Trachoma	Dental Caries	Pyorrhœa	Sores	Scabies	Ringworm	Other Skin Affections	Hernia	Leprosy	Enlarged Spleen	Asthma	Congenital Syphilis	Syphilis Primary
Anglo-Chinese School ..	4	50	33	2	2	52	1	..	..	12	6	1	..	..	1	..	1
Gan Eng Seng School ..	1	..	3	2	1	28	..	2	..	2	4	..	..	..	..	1	..
Geylang English School ..	..	21	8	1	1	37	..	3	..	1	9	..	..	..	..	..	..
Government Trade School ..	..	..	..	3	1	4	..	..	..	2	..	..	..	..	..	..	..
Holy Innocents School ..	1	52	..	1	..	17	..	4	..	6	..	..	1	..	..	..	..
Raffles Institution	..	28	23	..	3	94	..	4	2	25	5	..	..	..	..	..	..
Radin Mas School	..	24	3	..	3	24	..	..	..	..	5	..	..	..	..	..	..
Serangoon English School ..	1	15	..	..	..	20	..	6	1	1	2	..	..	..	1	..	..
St. Andrew's School	..	13	8	..	1	24	..	..	..	4	1	1	..	1	..	..	..
St. Anthony's Boys School ..	3	44	6	1	..	39	..	..	4	1	2	..	..	1	..	..	..
St. Joseph's Institution ..	..	150	15	1	..	193	..	..	4	19	6	..	..	..	..	..	..
Teluk Kurau Englih School ..	..	2	..	2	2	62	..	1	..	4	10	..	..	..	..	..	..
Victoria Bridge School ..	7	59	6	1	6	33	..	9	1	10	..	..	..	1	..	..	..
Bukit Panjang English School	..	5	..	1	1	8	..	..	..	..	..	..	..	..	..	..	..
Rangoon Road School ..	..	36	3	..	1	46	..	6	2	1	..	..	..	..	..	..	..
Totals ..	17	499	108	15	22	681	1	35	14	88	50	2	1	3	2	1	1

TREATMENT AS CARRIED OUT SINCE LAST MEDICAL EXAMINATION

Chinese and Malay Schools	Anæmia	Nasal Catarrh	Bronchial Catarrh	Enlarged Tonsils and Adenoids	Defective Vision	Conjunctivitis	Trachoma	Dental Caries	Sordes	Sores	Scabies	Ringworm	Other Skin Affections	Gum Affections
CHINESE SCHOOLS														
Chong Cheng School ..	..	..	..	11	2	2	..	12	..	4	..	..	..	..
Holy Innocents Chinese School	..	1	..	15	..	..	..	3	..	5	..	..	2	..
Hop Kwan Free School ..	1	2	..	..	..	1	..	15	2	2	..	..	1	..
Kian Hwa Kindergarten ..	1	11	1	..	..	4	..	16	..	..	..	3	2	..
Nanyang Pin Min School ..	..	5	..	..	..	..	..	6	..	..	..	..	1	..
Sam Sui Free School ..	..	..	..	..	1	1	..	12	..	1	..	..	4	..
Totals ..	2	19	1	26	3	8	..	64	2	12	..	3	10	..
MALAY SCHOOLS														
Tanglin Besar Malay School ..	..	..	..	37	1	2	..	24	..	..	..	2	..	..
Tanah Merah Besar Malay School ..	..	..	..	7	..	1	..	11	1	1	..	1	..	..
Teluk Kurau Malay School ..	..	..	..	44	..	..	5	71	4	..	1	2	12	1
Siglap Malay School ..	..	..	..	24	..	..	..	..	3	..	..	..	..	..
Rochoh Malay School ..	1	..	..	36	..	2	1	28	..	..	..	2	3	..
Totals ..	1	..	..	148	1	5	6	134	8	1	1	7	15	1

III.—Schools, Penang Settlement

There are 23 vernacular boys schools in Penang island with a total enrolment of 3,379 scholars. These boys are medically examined each year by the Assistant Health Officer who records the health and sickness statistics of the scholars in Penang. In addition, this officer visits these schools monthly to supervise treatment of minor ailments, to give treatment for worm and yaws infections, and to deliver public health lectures. Two hundred and seventy-six such visits were made to these schools during the year and sixty-two lectures were delivered dealing principally with hookworm and malaria prevention, illustrated by posters and diagrams.

There are thirteen English Schools in George Town where medical inspection is carried out by the Assistant Health Officer Schools, who is aided in this work by the Assistant Medical Officer in charge of Chowrasta Dispensary.

Public health lectures were delivered in boys' English schools and cinema films on malaria and hookworm were shown on two occasions.

The girl schools in Penang island number 17, four of these are English schools and 13 vernacular, with a nominal roll of 3,433. These are visited by the Lady Medical Officer attached to the Women and Children's Outdoor-Dispensary. In addition there are 13 girls schools in Province Wellesley and Dindings with a roll of 907 pupils; these are also inspected annually by the Lady Medical Officer.

In Province Wellesley there are 49 boys' schools with an attendance of 6,440. The boys receive medical inspection and treatment through the Health Officer who is assisted in this work by the Assistant Medical Officers attached to the three hospitals situated in the north, south and central districts of Province Wellesley.

In the Dindings, where there are 9 boys schools with an enrolment of 580 boys, medical inspection is done by the Deputy Medical Officer, who is a part-time Health Officer.

The following is a summary of the records obtained in school medical examination during 1932:—

SCHOOL MEDICAL DATA, 1932

Details of Medical Inspection	Boys			Girls	
	English Schools, Penang	Vernacular Schools, Penang	Vernacular Schools, P. W.	English	Vernacular
No. of schools visited	13	25	49	5	31
No. of pupils examined	4,938	3,611	5,582	2,541	1,814
No. of individual children requiring treatment (excluding those with dental defects and worms)	981 (19·8%)	906 (25·1%)	1,223 (21·9%)	269 (10·6%)	189 (10·4%)
No. with gross dental defect	2,591 (52·5%)	1,860 (51·6%)	1,319 (23·6%)	1,425 (56·0%)	956 (52·7%)
No. with defects of ear, nose and throat	653 (13·2%)	506 (14·0%)	356 (6·4%)	102 (4·0%)	83 (4·4%)
No. with skin infections	346 (7·0%)	361 (10·0%)	650 (10·8%)	198 (7·7%)	198 (10·9%)

An examination of the figures above reveals the great number of physical defects amongst the pupils and the need for re-medical and sanitary measures.

There is a medical examination record card for each child attending school, upon which details of the annual inspection are entered. Medical examinations in schools in rural areas are followed by visits of the Travelling Dispensary. Headmasters of urban schools are required to address a special memorandum form to the parents or guardians of any pupil who is in need of treatment, informing them of the nature of the ailment and advising treatment.

Dr. ETHEL MORRIS officiated as Lady Medical Officer during the year, and a complete medical survey of girls' schools in the Settlement was completed by the end of the year.

IV.—Schools, Malacca

Twenty-three schools were visited during the year. Eleven of these were Vernacular schools and 12 were Chinese schools. Complete examinations of 1,218 pupils were made. One thousand and thirteen of these were at Malay schools and the rest at the 2 largest Chinese schools in the district. The majority of the Chinese schools contained less than 25 pupils who were absent at the time of examination or were not registered. Five of the largest Vernacular Schools were not attended, but are now being seen to. This was due to holidays coming in earlier this year, and to the loss of time entailed by the detention of the Assistant Health Officer in Hospital last year for a period of over 3 months.

APPENDIX "G"

Social Hygiene Branch, Medical Department, S.S.

ANNUAL REPORT FOR 1932

1. *Treatment Centres.*—

I.—SINGAPORE

Male Clinics—

(a) Bencoolen Street Clinic.
(b) Sago Street Clinic.
(c) General Hospital Clinic.
(d) Tanjong Pagar Clinic.

Female Clinics—

(a) Outdoor Dispensary, General Hospital.
(b) Kandang Kerbau Women and Children Outdoor Dispensary.

Outdoor Dispensaries which treat Venereal Diseases—

(a) Bukit Timah Outdoor Dispensary.
(b) Kandang Kerbau Outdoor Dispensary.
(c) Paya Lebar Outdoor Dispensary.

II.—PENANG

(a) Kampong Kolam Clinic.
(b) General Hospital Clinic.
(c) Chowrasta Outdoor Dispensary.
(d) Balik Pulau Outdoor Dispensary.
(e) Government Travelling Dispensary.
(f) Butterworth and Penagga Dispensary.
(g) Sungei Bakap Outdoor Dispensary.
(h) Lumut Hospital.
(i) Bukit Mertajam Dispensary.
(j) Penkalam Bahru Outdoor Dispensary.
(k) Prison Hospital.
(l) Women and Children Outdoor Dispensary.

III.—MALACCA

(a) Durian Daun Hospital.
(b) Travelling Dispensary.
(c) Venereal Disease Clinic, Malacca.
(d) Government Outdoor Dispensary, Jasin.
(e) Government Outdoor Dispensary, Alor Gajah.
(f) Prison Dispensary.

2. *Classification of Cases.—*

	Singapore		*Penang*		*Malacca*	
New cases—	*1931*	*1932*	*1931*	*1932*	*1931*	*1932*
Males	17,378	14,926	6,412	7,272	2,531	2,785
Females	746	1,046	1,200	1,274	538	443
Total ..	18,124	15,972	7,612	8,546	3,069	3,228
Re-attendances—						
Males	252,975	244,643	41,169	60,086	10,086	12,486
Females	4,310	5,376	7,862	7,915	851	1,024
Total ..	257,285	250,381	49,031	68,908	10,937	13,510
Total attendances including new cases—	275,409	266,353	56,642	77,454	14,006	16,738

3. *Classification of Diseases.—*

	1931			*1932*		
Singapore—	*New cases*	*Re-attendances*	*Total*	*New cases*	*Re-attendances*	*Total*
Syphilis	5,589	62,534	68,123	5,306	62,232	67,538
Soft Sore ..	5,390	77,322	82,712	4,009	76,186	80,195
Gonorrhœa ..	4,404	95,861	100,265	3,462	84,435	87,897
Others	2,741	21,586	24,327	3,195	27,528	30,723
Total ..	18,124	257,285	275,427	15,972	250,381	266,353
Penang—						
Syphilis	2,759	27,219	29,978	4,112	31,417	35,529
Soft Sore ..	577	6,189	6,766	583	6,962	7,543
Gonorrhœa ..	1,440	7,721	9,161	1,544	17,907	19,451
Others	2,836	7,901	10,737	2,307	12,622	14,929
Total ..	7,612	49,030	56,642	8,546	68,908	77,454
Malacca—						
Syphilis	1,904	5,614	7,518	1,763	4,904	6,667
Soft Sore ..	104	624	728	292	1,383	1,675
Gonorrhœa ..	512	3,603	4,115	660	5,492	6,152
Others	549	1,096	1,645	513	1,731	2,244
Total ..	3,069	10,937	14,006	3,228	13,510	16,738

Number of Attendances by Nationalities

	New cases	Re-attendances	Total
Singapore—			
Europeans	302	3,248	3,550
Chinese	10,666	135,477	146,143
Malays	1,015	18,871	19,886
Indians	3,641	79,595	83,236
Others	348	13,190	13,538
Total	15,972	250,381	266,353
Penang—			
Europeans	135	308	441
Chinese	4,006	33,367	37,373
Malays	1,264	5,548	6,812
Indians	2,969	28,439	31,408
Others	174	1,246	1,420
Total	8,546	68,908	77,454
Malacca—			
Europeans	12	61	73
Chinese	1,285	7,002	8,827
Malays	395	919	1,314
Indians	834	4,921	5,755
Others	49	451	500
Total	3,115	13,354	16,469

Ratio of Attendances to New Cases

Ratio of total attendances to new cases—

Singapore			*Penang*			*Malacca*		
1930	*1931*	*1932*	*1930*	*1931*	*1932*	*1930*	*1931*	*1932*
9.45	14.2	15.6	4.3	6.5	8.06	1.8	3.5	4.2

Treatment of Seamen.—

The clinic situated at the docks at Tanjong Pagar caters for men of the Mercantile Marine and conform to the International Agreement by treating seamen of all nationalities free and providing them with therapeutic agents to carry them through to the next port of call.

Numbers of seamen treated—

	1931	*1932*
New cases	607	636
Re-attendances	4,505	5,830
Total	5,112	6,466

Nationalities of seamen treated—

	1931	*1932*
British	158	146
Other Europeans	80	75
Chinese	286	316
Malays	11	25
Indians	40	55
Others	23	19
Total	607	636

Treatment by Private Practitioners—

There are at present nine private practitioners on our list who are supplied by Government with drugs and who have agreed to treat poor patients at a reduced fee.

Number of patients treated by general practitioners are:—

	Syphilis		*Gonorrhoea*		*Total*	
	1931	*1932*	*1931*	*1932*	*1931*	*1932*
New cases	1,230	1,130	459	397	1,698	1,527
Re-attendances	1,469	1,246	590	362	1,049	1,608
Total	2,699	2,376	1,049	759	2,747	3,135

Ablution Centre, Bencoolen Street Clinic—

The following are the attendances at the Ablution Centre:—

	1931	*1932*
Europeans	178	590
Chinese	641	715
Malays	131	138
Indians	428	327
Others	436	438
Total ..	1,814	2,208

Serological Examinations—

These are carried out at Singapore by the Professor of Bacteriology and at Penang and Malacca by the officers attached to the Pathological Departments at these settlements.

	No. of blood tests	*Positive*	*Negative*
Singapore	12,008	5,566	6,442
Penang	3,955	1,911	2,084
Malacca	1,741	1,104	637

Analysis of work done in V. D. Clinics—

	Singapore	*Penang*	*Malacca*
(a) Intravenous—			
Arsenobenzol	19,208	11,782	4,155
Mercury	16	219	—
Collosol Iodine	3,959	409	53
Thiostab	121	113	16
Neosilbersalvarsan	327	34	—
Trypaflavine	478	—	207
(b) Intramuscular—			
Bismuth	15,768	6,439	802
Contramine	1,436	83	11
Trimine	21	44	16
Manganese Butyrate	475	75	—
Collosol Manganese	53	123	44
(c) Hypodermic—			
Vaccine gonococcus	22,184	2,319	2,410
Sulphostab	1,151	1,376	121
Gonoyatren	137	213	—
Arthigon	42	460	—
Miscellaneous—			
Irrigations	106,785	22,010	6,702
Dressings	126,830	35,215	5,070
Prostatic massage	3,654	442	419
Minor operations	1,039	194	175
Dilatations	795	6	2
Microscopic Examinations—			
Gonococci	+4,114 −2,396	+1,593 − 690	+625 −302

Propaganda—

The Social Hygiene Branch continues to distribute pamphlets and leaflets to the public. Applications from outstations for these were promptly attended to.

Large posters in Chinese, Malay and Tamil are daily posted throughout the streets. These explain the dangers of venereal diseases and the location of the clinics, and call the attention of the public to the facilities offered by Government in the form of free and confidential treatment.

Cinema films—

The local made cinema film "Retribution" was shown to the following Associations:—

Chinese Students' Literary Association Chinese Industrial & Continuation School Hui Ann Association Nanyang Chinese Association Ngai Sheung Association	About 620 persons attended.

The film was also demonstrated to large numbers of coolies of the Singapore Harbour Board and the F.M.S. Railways.

Lectures—

Lantern lectures in the Chinese language were given to the following:—

Hui Ann Association Shanghai Club Chinese Industrial and Continuation School Kheh Community Nanyang Chinese Students' Society Hee Kee Club Cantonese Fitters' Guild	1,320 persons attended.

Schools—

The Chief Medical Officer, Social Hygiene, gave lectures on Venereal Diseases to the senior boys of the following schools:—

1. Anglo-Chinese School, about 100 boys attended.
2. Raffles Institution—160 boys attended.
3. Outram Road School—160 boys attended.
4. St. Joseph's School—70 boys attended.
5. St. Andrew's School—120 boys attended.
6. Victoria Bridge School—120 boys attended.

General—

The Social Hygiene Advisory Board held two meetings during the year.

TABLE I

Staff

The authorised number of the European staff of the Medical Department of the Straits Settlements in 1932, including officers to be seconded for service in the Unfederated Malay States, was 199.

General

Director of Medical and Health Services, Straits Settlements.
Deputy Director of Medical and Health Services, Straits Settlements.
Secretary to Director.
Chief Medical Officer, Singapore.
Chief Medical Officer, Penang.
Chief Medical Officer, Malacca.

Hospitals and Dispensaries

Senior Surgeon, Singapore.
One Radiologist, Singapore.
Surgeon Penang.
Eight Medical Officers, Singapore.
Five Medical Officers, Penang.
One Medical Officer, Malacca.
One Anæsthetist, Singapore.
One Dental Officer, Singapore.
One Dispensing Chemist, Singapore.
One Medical Officer, Labuan.
Secretary, General Hospital, Singapore.
One Matron, Super-scale, General Hospital, Singapore.
One Matron, Grade I, Singapore.
One Matron, Grade I, Penang.
Four Matrons, Grade II, Singapore.
Two Matrons, Grade II, Penang.
One Matron, Grade II, Malacca.
Forty-three Sisters, Singapore.
Fourteen Sisters, Penang.
One Sister, Malacca.
Two European Attendants, Singapore.
One Lay Superintendent, Leper Settlement, Pulau Jerejak.

Health Branch

Chief Health Officer, Singapore.
Senior Health Officer, Penang.
Five Health Officers, Singapore.
One Health Officer, Penang.
One Health Officer, Malacca.
One Chief Sanitary Inspector, Singapore.
One Chief Sanitary Inspector, Penang.
One Lay Superintendent, Quarantine Station, Singapore.
Two Public Health Sisters, Singapore.
One Sister, Quarantine Station, Singapore.
One Lay Superintendent, Quarantine Station, Penang.
One Public Health Sister, Penang.
One Public Health Sister, Malacca.

Pathological Branch

One Pathologist, Singapore.
One Pathologist, Penang.
One Bacteriologist, Singapore.

COLLEGE OF MEDICINE, SINGAPORE

Principal.
Professor of Physiology.
Professor of Anatomy.
Professor of Medicine.
Professor of Surgery.
Professor of Clinical Surgery.
Professor of Midwifery.
Professor of Bacteriology.
Professor of Biology.
Professor of Bio-chemistry.
Professor of Dental Surgery.
Dental Mechanic.
Janitor.

MENTAL HOSPITAL, SINGAPORE

Medical Superintendent.
Assistant Medical Superintendent.
One Matron, Grade I.
One Sister.
Four European Attendants.

SOCIAL HYGIENE BRANCH

Chief Medical Officer, Singapore.
One Medical Officer, Singapore.

In addition, 7 superscale and 15 time-scale supernumerary Medical and Health Officers and 2 supernumerary Matrons and 13 supernumerary Nursing Sisters are borne on the establishment for service in the Unfederated Malay States, making a total of 199.

The locally qualified medical staff (Senior Deputy Grades, Deputy Medical Officers, Deputy Health Officers, Assistant Medical Officers, Assistant Health Officers, etc.) number 79.

TABLE II

(c) FINANCIAL

1932

(a) Revenue

Settlement	Hospital Fees, etc.	Government contribution to Hospitals Board	Total Revenue of Hospitals Board	Medical, General and Health	Total
	$	$	$	$	$
Singapore ..	234,651	521,456	756,107	25,324	781,431
Penang ..	102,708	273,533	376,241	9,675	385,916
Malacca ..	8,342	79,697	88,039	1,364	89,403
Labuan ..	153	2,640	2,793	485	3,278
Total ..	345,854	877,326	1,223,180	36,848	1,260,028

EXPENDITURE

OF THE SINGAPORE EXPENDITURE UNDER HOSPITALS AND DISPENSARIES, $6,973 IS MET BY PROVISION OTHER THAN CONTRIBUTION TO THE HOSPITALS BOARD AND $840 SIMILARLY, IN THE CASE OF MALACCA

(b) Expenditure

Settlement	Item of Expenditure	Medical General	Hospitals & Dispensaries	Health Branch	Social Hygiene Branch	General Clerical Service	Total
		$	$	$	$	$	$
Singapore	Personal Emoluments ..	347,142	750,559	157,504	60,007	48,678	1,363,890
	Other Charges ..	54,328	731,916	53,150	28,340	..	867,734
	Special Expenditure ..	3,848	24,191	56,237	..	..	84,276
	Sub-total ..	405,318	1,506,666	266,891	88,347	48,678	2,315,900
Penang ..	Personal Emoluments ..	48,103	340,626	111,274	7,645	20,965	528,613
	Other Charges ..	3,034	376,242	34,564	7,458	..	421,298
	Special Expenditure ..	..	..	67,056	..	...	67,056
	Sub-total ..	51,137	716,868	212,894	15,103	20,965	1,016,967
Malacca ..	Personal Emoluments ..	20,941	105,088	36,474	6,171	10,600	179,274
	Other Charges ..	3,393	88,039	15,382	775	..	107,589
	Special Expenditure ..	..	..	32,550	..	..	32,550
	Sub-total ..	24,334	193,127	84,406	6,946	10,600	319,413
Labuan ..	Personal Emoluments ..	7,580	5,061	2,280	..	..	14,921
	Other Charges ..	..	2,792	552	..	..	3,344
	Special Expenditure ..	..	..	4,996	..	...	4,996
	Sub-total ..	7,580	7,853	7,828	..	..	23,261
Total ..	Personal Emoluments ..	423,766	1,201,334	307,532	73,823	80,243	2,086,698
	Other Charges ..	60,755	1,198,989	103,648	36,573	..	1,399,965
	Special Expenditure ..	3,848	24,191	160,839	..	..	188,878
	GRAND TOTAL ..	488,369	2,424,514	572,019	110,396	80,243	3,675,541

The above statement excludes the revenue and expenditure of the Tan Tock Seng's Hospital, the funds of which are administered by a Special Committee.

The following is a brief summary of the Revenue and Expenditure for 1932:—

		$
Balance brought forward from 1931		58,739
Government contribution, 1932		95,000
Rent, interests, etc.		7,986
		$161,725
Less:—		
	$	
Salaries and wages	26,626	
Drugs, equipment and special upkeep ..	127,920	
		154,546
Balance carried forward to 1933		$7,179

The Hospital is staffed and administered by officers paid from Hospitals and Dispensaries, Personal Emoluments, Colonial Estimates.

The total cost of the King Edward VII College of Medicine, excluding expenditure met from Council funds was $223,287 for 1932 of which $111,643 will be refunded to the Government by the Government of the Federated Malay States.

Fourteen thousand eight hundred and fifty-nine dollars expended on vitamin research by Professor ROSEDALE was met from the Colonial Development Fund.

Sums expended by the Public Works Department on upkeep of buildings, minor repairs, etc., are not included in the financial statement.

The amounts expended by the Municipalities of the Colony on health services during 1932 were as follows:—

	$
Singapore	796,740
Penang	151,394
Malacca	38,186
	$986,320

TABLE IIIA

Estimated Population, with Births and Death-rates, for the Years 1931 and 1932

—	Population		Births		Deaths		Birth-Ratio per mille		Death-Ratio per mille	
	Estimated 1931	Estimated 1932	1931	1932	1931	1932	1931	1932	1931	1932
Singapore	562,866	580,438	20,470	20,762	13,623	11,840	36·37	35·77	24·20	20·40
Penang	199,150	204,011	7,083	6,782	4,898	4,941	35·57	33·24	24·59	24·22
Province Wellesley ..	141,635	142,820	5,281	5,389	3,246	3,145	37·29	37·73	22·92	22·02
Dindings	19,628	20,862	552	587	421	359	28·12	28·14	21·45	17·21
Malacca	187,627	191,335	7,700	7,309	4,951	4,048	41·58	38·20	26·39	21·17
Labuan	7,605	7,739	275	277	230	208	43·74	35·79	30·24	26·88
Total ..	1,118,511	1,147,205	41,361	41,106	27,369	24,541	36·98	35·83	24·47	21·39

TABLE IIIB

Quarterly Death-rates for Various Parts of the Colony during the past Three Years were:—

Year	1930				1931				1932			
Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Singapore and Labuan ..	23·36	31·68	28·35	27·64	20·62	27·93	23·81	21·98	20·51	21·57	19·24	20·75
Penang Island ..	25·79	28·73	26·30	25·85	23·03	28·30	22·63	23·34	23·60	26·44	22·81	24·40
Province Wellesley ..	22·97	28·61	26·03	24·52	19·39	27·17	20·68	21·19	21·84	22·90	19·31	23·59
Dindings ..	25·31	32·39	30·79	27·47	19·02	26·51	19·41	20·23	18·14	16·73	17·15	19·94
Malacca	24·57	34·98	26·31	26·45	21·38	25·53	22·57	26·91	21·82	22·56	18·47	21·81

TABLE IIIC

Population Estimated racially and collectively of the Straits Settlements for the Years 1932, 1931 and 1930

Settlement or Province	Europeans 1932	Eurasians 1932	Chinese 1932	Malays 1932	Indians 1932	Other Nationalities 1932	Estimated 30th June 1932	Estimated 30th June 1931	Estimated 1930
Singapore	8,422	7,155	434,920	68,594	52,746	8,601	580,438	562,866	596,209
Penang	1,304	2,122	128,075	41,453	29,109	1,948	204,011	199,150	196,586
Province Wellesley ..	234	266	45,116	71,454	25,118	632	142,820	141,635	144,967
Dindings	23	17	7,462	8,185	5,088	87	20,862	19,628	19,068
Malacca	338	2,056	66,793	97,668	23,814	666	191,335	187,627	205,820
Labuan	22	35	2,330	5,157	139	56	7,739	7,605	6,156
Total S.S. ..	10,343	11,651	684,696	292,511	136,014	11,990	1,147,205	1,118,511	1,168,806

TABLE IIID

Births Registered in the Straits Settlements during 1932 and their Ratio per Mille of Population

Settlement or Province	Male	Female	Total 1932	Total 1931	Total 1930	Ratio per mille 1932	Ratio per mille 1931	Ratio per mille 1930
Singapore	10,808	9,954	20,762	20,470	21,461	35·77	36·37	36·00
Penang	3,437	3,345	6,782	7,083	7,430	33·24	35·57	38·21
Province Wellesley	2,701	2,688	5,389	5,281	5,273	37·73	37·29	40·19
Dindings	296	291	587	552	692	28·14	28·12	34·39
Malacca	3,801	3,508	7,309	7,700	9,007	38·20	41·58	43·76
Labuan	153	124	277	275	317	35·79	43·74	51·49
Total S.S. ..	21,196	19,910	41,106	41,361	44,703	35·83	36·98	38·25

TABLE IIIE

BIRTHS REGISTERED IN THE STRAITS SETTLEMENTS DURING 1932 ACCORDING TO NATIONALITIES

Settlement or Province	Europeans		Eurasians		Chinese		Malays		Indians		Other Nationalities		Total	
	No.	Ratio	No.	Ratio	No.	Ratio	No.	Ratio	No.	Ratio	No.	Ratio	No.	Ratio
Singapore ..	165	19·59	178	24·88	16,090	37·00	2,826	41·19	1,249	23·67	254	29·53	20,762	35·77
Penang ..	59	45·24	52	24·51	4,556	35·57	1,277	30·81	797	27·38	41	21·05	6,782	33·24
Province Wellesley	1	4·27	6	22·56	1,969	43·64	2,621	36·68	782	31·13	10	15·82	5,389	37·73
Dindings ..	..	..	..	..	185	24·79	253	30·91	148	29·09	1	11·49	587	28·14
Malacca ..	4	11·83	64	31·13	2,712	40·45	3,914	40·07	609	25·57	6	9·01	7,309	32·97
Labuan ..	..	..	2	57·14	86	36·91	178	34·52	3	21·58	· 8	142·86	277	35·79
Total S.S. ..	229	22·14	302	25·92	25,598	37·39	11,069	37·84	3,588	26·38	320	26·69	41,106	35·83

TABLE IIIF

DEATHS REGISTERED IN THE STRAITS SETTLEMENTS DURING 1932 ACCORDING TO NATIONALITIES

Settlement or Province	Europeans		Eurasians		Chinese		Malays		Indians		Other Nationalities		Total	
	No.	Ratio	No.	Ratio	No.	Ratio	No.	Ratio	No.	Ratio	No.	Ratio	No.	Ratio
Singapore ..	55	6·53	91	12·72	9,013	20·72	1,812	26·42	764	14·48	105	12·21	11,840	20·40
Penang ..	15	11·50	31	14·61	3,022	23·59	1,106	26·68	743	25·52	24	12·32	4,941	24·22
Province Wellesley	..	..	3	11·20	959	21·26	1,632	22·84	535	21·29	16	25·32	3,145	22·02
Dindings ..	..	..	..	..	127	17·02	164	20·04	67	13·17	1	11·49	359	17·21
Malacca ..	3	8·88	34	16·54	1,440	21·56	2,144	21·95	421	17·65	6	9·01	4,048	21·16
Labuan ..	..	..	..	..	53	22·75	152	29·47	1	7·19	2	35·71	208	26·88
Total S.S. ..	73	7·06	159	13·65	14,614	21·34	7,010	23·96	2,531	18·61	154	12·84	24,541	21·39

TABLE IIIG

DEATHS REGISTERED IN THE STRAITS SETTLEMENTS IN 1932 UNDER DIFFERENT GROUPS OF AGES

Ages	Singapore	Penang	Province Wellesley	Dindings	Malacca	Labuan	Total
Under 3 months	2,174	598	474	66	1,038	39	4,389
4 months to 12 months ..	1,504	371	160	23	386	32	2,476
1 year to 4 years	1,129	532	380	45	382	26	2,494
5 years to 9 years	278	196	157	10	127	13	781
10 years to 14 years ..	136	84	69	5	67	3	358
15 years to 19 years ..	183	130	60	3	88	5	469
20 years to 24 years ..	451	221	87	9	134	5	907
25 years to 29 years ..	658	265	139	21	197	3	1,283
30 years to 34 years ..	706	281	191	22	243	8	1,451
35 years to 39 years ..	690	321	135	29	189	4	1,368
40 years to 44 years ..	721	322	157	23	205	8	1,436
45 years to 49 years ..	710	270	136	19	150	1	1,286
50 years to 54 years ..	659	332	188	16	192	9	1,396
55 years and above ..	1,847	1,007	810	68	649	52	4,433
Unknown	..	11	2	..	1	..	14
Total ..	11,840	4,941	3,145	359	4,048	208	24,541

TABLE IIIH

TABLE SHOWING THE INFANTILE MORTALITY (UNDER ONE YEAR) IN THE STRAITS SETTLEMENTS INCLUDING DEATHS IN CHILDREN BORN ELSEWHERE

Settlements	Births	Deaths	Ratio per mille of Births		
			1932	1931	1930
Singapore	20,792	3,659	176·24	197·65	216·07
Penang	6,782	964	142·14	133·70	148·05
Province Wellesley	5,389	634	117·65	121·00	123·53
Dindings	587	89	151·62	130·43	182·08
Malacca	7,309	1,424	194·83	243·51	252·91
Labuan	277	71	256·31	287·27	290·22
Total ..	41,106	6,841	166·42	185·15	200·19

TABLE IIII

TABLE SHOWING THE INFANTILE MORTALITY (CHILDREN UNDER ONE YEAR) IN THE STRAITS SETTLEMENTS AND NATIONALITIES EXCLUDING DEATHS IN CHILDREN BORN ELSEWHERE

Nationalities	Singapore			Penang			Province Wellesley			Dindings			Malacca			Labuan			Total		
	Deaths	No. born elsewhere	Ratio	Deaths	No. born elsewhere	Ratio	Deaths	No. born elsewhere	Ratio	Deaths	No. born elsewhere	Ratio	Deaths	No. born elsewhere	Ratio	Deaths	No. born elsewhere	Ratio	Deaths	No. born elsewhere	Ratio
Europeans ..	1	..	6·06	1	..	16·95	..	..	..	..	..	..	..	..	..	..	..	..	2	..	8·73
Eurasians ..	11	..	61·80	6	..	115·38	..	..	..	..	..	..	9	1	140·63	..	..	..	26	1	86·09
Chinese ..	2,680	68	166·56	591	34	129·72	189	3	95·99	23	2	124·32	464	11	171·09	16	1	186·04	3,963	119	154·81
Malays ..	714	23	252·65	190	6	145·65	322	3	122·85	44	..	173·91	838	2	214·10	53	1	297·75	2,161	35	195·22
Indians ..	136	4	108·88	130	1	163·11	114	2	145·78	20	..	135·13	99	..	162·56	..	..	..	499	7	139·07
Other Nationalities and Unknown ..	20	2	78·74	5	..	121·95	1	..	100·00	..	..	..	..	..	..	..	..	..	26	2	81·25
Total ..	3,562	97	171·56	923	41	136·09	626	8	116·16	87	2	148·21	1,410	14	192·91	69	2	249·10	6,677	164	162·43

TABLE IIIJ

DEATHS REGISTERED IN THE STRAITS SETTLEMENTS AS REGARDS CERTIFICATES IN THE YEAR 1932

Particulars	Singapore	Penang	Province Wellesley	Dindings	Malacca	Labuan	Total
Died in Hospitals	3,413	1,019	311	54	510	..	5,307
Certified by outside Medical Practitioners	2,611	715	..	1	259	18	3,604
Certified by registering Officers after death	3,456	1,983	11	1	478	..	5,929
Uncertified	2,360	1,224	2,823	303	2,801	190	9,701
Total ..	11,840	4,941	3,145	359	4,048	208	24,541

TABLE IV

Meteorological returns for the Straits Settlements for the year 1932.

Singapore

METEOROLOGICAL RETURN FOR THE YEAR 1932

—	TEMPERATURE					RAINFALL		WINDS		Remarks
	Minimum on Grass	Shade Maximum	Shade Minimum	Range	Mean	Amount in Inches	Degree of Humidity	General Direction	Average Force	
January	70·7	84·9	71·9	13·0	78·4	6·52	80	N.E.	3	
February ..	71·3	88·1	72·3	15·8	80·2	5·12	78	N.E.	3	
March	72·0	87·1	73·0	14·1	80·1	7·18	80	N.E.	2	
April	73·3	87·4	74·1	13·6	80·7	6·37	83	N.E.	2	
May	74·2	87·5	74·9	12·6	81·2	11·41	80	S.	2	
June	74·0	86·4	74·6	11·8	80·5	7·07	79	S.S.W.	2	
July	74·6	87·1	75·7	11·4	81·4	10·00	79	S.E.	2	
August	73·9	86·5	74·9	11·6	80·7	3·54	82	S.S.E.	2	
September ..	73·6	86·8	74·4	12·4	80·6	9·74	79	S.	2	
October	74·0	87·3	74·9	12·4	81·1	3·57	79	S.S.W.	2	
November ..	72·8	86·1	73·4	12·7	79·2	4·51	80	S.W.	2	
December ..	71·9	86·7	72·8	13·9	79·7	2·46	80	N.E.	2	
Mean ..	73·0	86·8	73·9	12·9	80·4	77·49	80			

Penang

METEOROLOGICAL RETURN FOR THE YEAR 1932

—	TEMPERATURE					RAINFALL		WINDS		Remarks
	Minimum on Grass	Shade Maximum	Shade Maximum	Range	Mean	Amount in Inches	Degree of Humidity	General Direction	Average Force	
January	67·9	89·5	72·9	16·6	81·2	0·24	..	N.N.E.	3	
February ..	70·7	91·8	73·6	18·2	82·7	8·87	..	S.	2	
March	71·0	91·1	74·3	16·8	82·7	6·32	..	N.E.	2	
April	72·5	90·2	74·6	15·6	82·4	14·80	..	S.S.W.	2	
May	73·0	91·1	75·9	15·2	83·5	4·85	..	S.S.W.	2	
June	73·5	89·6	74·9	14·7	82·3	14·56	..	S.	2	
July	72·8	89·5	74·4	15·1	81·9	3·34	..	S.	3	
August	70·8	89·6	74·5	15·1	82·1	3·11	..	S.S.W.	3	
September ..	71·3	87·9	73·8	14·1	80·9	15·27	..	N.E.	2	
October	72·0	89·0	74·2	14·8	81·6	19·24	..	N.E.	2	
November ..	71·6	86·6	73·8	12·8	80·2	16·08	..	N.E.	2	
December ..	68·4	88·7	74·0	14·7	81·3	2·44	..	N.N.E.	2	
Mean ..	71·3	89·5	74·2	15·3	81·9	109·12	..			

TABLE IV—*continued*

Malacca

METEOROLOGICAL RETURN FOR THE YEAR 1932

—	Temperature					Rainfall		Winds		Remarks
	Minimum on Grass	Shade Maximum	Shade Minimum	Range	Mean	Amount in Inches	Degress Humidity	General Direction	Average Force	
January	70·7	85·0	72·0	13·0	78·5	2·99	76	N.E.	4	
February ..	71·8	87·6	73·0	14·6	80·3	3·55	79	N.N.E.	3	
March	72·1	87·6	73·2	14·4	80·4	4·97	79	N.E.	3	
April	73·3	86·3	74.0	12·3	80·1	5·20	81	N.E.	3	
May	71·2	85.9	74·2	11·7	80.1	4·54	83	N.E.	2	
June	72·8	85·3	73·6	11·7	79·5	6·80	80	S.W.	2	
July	72·3	84·6	73·5	11·1	79·1	9·52	79	S.S.E.	2	
August	72·0	84·4	73·1	11·3	78·7	5·45	85	S.E.	2	
September ..	72·3	84·5	73.6	10·9	79·1	5·70	82	S.W.	2	
October	72·5	84.8	73·6	11·2	79·2	8·29	82	N.E.	2	
November ..	72·0	83·6	72·7	10·9	78·1	13·06	84	W.	2	
December ..	71·4	85·1	73·2	11·9	79·1	1·53	79	N.N.E.	3	
Mean ..	72·0	85·4	73·3	12·1	79·3	71·60	81			

Labuan

METEOROLOGICAL RETURN FOR THE YEAR 1932

—	Temperature					Rainfall		Winds		Remarks
	Minimum on Grass	Shade Maximum	Shade Minimum	Range	Mean	Amount in Inches	Degrees Humidity	General Direction	Average Force	
January	..	84·3	76·3	8·0	80·3	8·43	85	..	..	
February ..	..	85·3	75·5	9·8	80·4	5·59	80	..	..	
March	..	86·3	75·6	10·7	80·9	6·48	82	..	..	
April	..	88·5	76·1	12·4	82·3	10·34	80	..	..	
May	..	88·1	75·6	12·5	81·9	10·38	82	..	..	
June	..	88·4	74·8	13·6	81·6	15·74	79	..	..	
July	..	88·2	76·0	12·2	82·1	11·12	80	..	..	
August	..	88·5	68·9	19·6	78·7	14·78	78	..	..	
September ..	..	87·7	73·9	13·8	80·8	13·49	77	..	..	
October	..	87·8	73·6	14·2	80·7	22·01	78	..	..	
November ..	..	85·8	73·7	12·1	79·7	21·67	80	..	..	
December ..	..	84·9	74·8	10·1	79·9	15·55	81	..	..	
Mean ..	..	87·0	75·4	11·6	80·8	155·58	80	..	..	

TABLE V

HOSPITALS OR INSTITUTIONS STRAITS SETTLEMENTS

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1932

DISEASES	*Remaining in Hospital at end of 1931	YEARLY TOTAL		†Total Cases Treated	‡Remaining in Hospital at end of 1932	REMARKS
		Admissions	Deaths			
I.—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES						
1. Enteric Group—						
(*a*) Typhoid Fever ...	15	199	75	214	12	
(*b*) Paratyphoid ...	...	72	5	72	...	
2. Typhus, Tropical ...	...	3	1	3	...	
3. Japanese River Fever ...	...	1	1	1	...	
4. Undulant Fever ...	1	...	...	1	...	
5. Malaria—						
(*a*) Tertian	23	1,152	20	1,175	23	
(*b*) Quartan ...	4	166	7	170	3	
(*c*) Aestivo-autumnal ...	59	2,173	153	2,232	42	
(*d*) Cachexia ...	26	711	37	737	20	
(*e*) Blackwater Fever ...	...	6	2	6	...	
(*f*) Unclassified ...	51	1,336	45	1,387	26	
(*g*) Mixed Infection ...	3	213	14	216	5	
6. Small-pox—	2	6	1	8	...	
7. Measles	...	16	...	16	1	
8. Scarlet Fever	...	...	...	...	...	
9. Whooping Cough ...	...	19	...	19	...	
10. Diphtheria	1	54	14	55	...	
11. Influenza	23	968	1	991	14	
12. Miliary Fever ...	...	...	...	...	...	
13. Mumps	...	12	...	12	...	
14. Cholera	...	...	...	...	...	
15. Epidemic Diarrhœa ...	...	...	...	...	...	
16. Dysentery—						
(*a*) Amœbic ...	24	324	78	348	14	
(*b*) Bacillary ...	20	306	83	326	22	
(*c*) Undefined or due to other causes ...	5	116	24	121	8	
17. Plague —						
(*a*) Bubonic	...	...	...	...	...	
(*b*) Pneumonic ...	...	...	...	...	...	
(*c*) Septicæmic ...	...	...	...	...	...	
(*d*) Undefined ...	...	...	...	...	...	
18. Yellow Fever ...	...	...	...	...	...	
19. Spirochætosis Ictero-hæmorrhagica ...	...	...	...	...	...	
20. Leprosy	903	519	113	1,422	1,010	
21. Erysipelas	...	14	2	14	...	
22. Acute Poliomyelitis ...	1	1	1	2	...	
23. Encephalitis Lethargica ...	1	6	...	7	2	
24. Epidemic Cerebro-spinal Fever	1	10	2	11	...	
Total carried forward ...	1,163	8,403	679	9,566	1,202	

The form shows in the main the arrangement of diseases in the *International Nomenclature, 1921 Edition*. To save space the unimportant diseases of any class can be grouped in their places as "Other Diseases" of the Class.

* *i.e.* the year previous to that for which the return is made

† "Total cases treated" includes those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

TABLE V

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1932—*continued*

DISEASES	Remaining in Hospital at end of 1931	YEARLY TOTAL		Total Cases Treated	Remaining in Hospital at end of 1932	REMARKS
		Admissions	Deaths			
Brought forward ...	1,163	8,403	679	9,566	1,202	
I.—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES.—*(contd.)*						
25. Other Epidemic Diseases—						
(*a*) Rubeola (German Measles) ...	...	...	...	...	...	
(*b*) Varicella (Chicken-pox)	1	83	...	84	5	
(*c*) Kala-azar ...	2	...	...	2	...	
(*d*) Phlebotomus Fever	...	...	...	...	...	
(*e*) Dengue	...	66	...	66	...	
(*f*) Epidemic Dropsy ...	...	1	...	1	...	
(*g*) Yaws	3	28	...	31	...	
(*h*) Trypanosomiasis ...	...	...	...	...	...	
26. Glanders	...	...	...	...	...	
27. Anthrax	...	...	...	...	...	
28. Rabies	...	1	1	1	...	
29. Tetanus	1	105	85	106	5	
30. Mycosis	...	5	...	5	1	
31. Tuberculosis, Pulmonary and Laryngeal ...	217	1,910	770	2,127	255	
32. Tuberculosis of the Meninges or Central Nervous System	1	31	28	32	1	
33. Tuberculosis of the Intestines or Peritoneum ...	1	28	12	29	1	
34. Tuberculosis of the Vertebral Column	8	36	6	44	12	
35. Tuberculosis of Bones and Joints	10	38	3	48	17	
36. Tuberculosis of other organs—						
(*a*) Skin or Subcutaneous Tissue (Lupus)	4	12	...	16	...	
(*b*) Bones	4	4	...	8	3	
(*c*) Lymphatic System	2	38	1	40	1	
(*d*) Genito-urinary ...	1	14	3	15	...	
(*e*) Other organs ...	1	19	2	20	1	
37. Tuberculosis disseminated—						
(*a*) Acute	...	1	...	1	...	
(*b*) Chronic	2	6	8	8	...	
38. Syphilis—						
(*a*) Primary ...	41	377	...	418	28	
(*b*) Secondary ...	113	1,231	18	1,344	128	
(*c*) Tertiary ...	34	225	48	259	31	
(*d*) Hereditary ...	10	80	57	90	5	
(*e*) Period not indicated	6	198	58	204	17	
39. Soft Chancre	6	280	...	286	14	
40. A.—Gonorrhœa and its complications ...	56	790	5	846	45	
B.—Gonorrhœal Ophthalmia	3	49	3	52	10	
C.—Gonorrhœal Arthritis	15	176	2	191	19	
D.—Granuloma Venereum	1	2	...	3	1	
Total carried forward ...	1,706	14,237	1,789	15,943	1,802	

TABLE V

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1932—*continued*

DISEASES	Remaining in Hospital at end of 1931	YEARLY TOTAL		Total Cases Treated	Remaining in Hospital at end of 1932	REMARKS
		Admissions	Deaths			
Brought forward ...	1,706	14,237	1,789	15,943	1,802	
I.—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES.—*(concld.)*						
41. Septicæmia	3	46	43	49	...	
42. Other Infectious Diseases	1	32	8	33	2	
II.—GENERAL DISEASES NOT MENTIONED ABOVE—						
43. Cancer or other malignant Tumours of the Buccal Cavity	4	34	8	37	3	
44. Cancer or other malignant Tumours of the Stomach or Liver	4	121	80	125	6	
45. Cancer or other malignant Tumours of the Peritoneum, Intestines, Rectum	3	23	11	26	...	
46. Cancer or other malignant Tumours of the Female Genital Organs ...	3	56	12	59	3	
47. Cancer or other malignant Tumours of the Breast ...	...	11	3	11	2	
48. Cancer or other malignant Tumours of the Skin ...	3	41	5	44	4	
49. Cancer or other malignant Tumours of Organs not specified	8	105	39	113	9	
50. Tumours non-Malignant ...	4	93	3	97	4	
51. Acute Rheumatism ...	4	100	2	104	6	
52. Chronic Rheumatism ...	2	25	1	27	4	
53. Scurvy (including Barlow's Disease)	...	...	...	...	...	
54. Pellagra	...	2	...	2	...	
55. Beri-beri	161	991	154	1,152	122	
56. Rickets	...	2	...	2	...	
57. Diabetes (not including Insipidus)	4	96	9	100	9	
58. Anæmia—						
(*a*) Pernicious ...	...	18	2	18	...	
(*b*) Other Anæmias and Chlorosis ...	8	147	27	155	13	
59. Diseases of the Pituitary Body	...	2	...	2	1	
60. Diseases of the Thyroid Gland—						
(*a*) Exophthalmic Goitre	...	24	1	24	2	
(*b*) Other diseases of the Thyroid Gland, Myxœdema ...	...	6	...	6	...	
61. Diseases of the Para-Thyroid Glands	...	2	1	2	...	
62. Diseases of the Thymus ...	...	1	...	1	...	
63. Diseases of the Supra-Renal Glands	...	...	...	...	...	
64. Diseases of the Spleen ...	...	15	3	15	1	
Total carried forward ...	1,917	16,230	2,201	18,147	1,993	

TABLE V

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1932—*continued*

DISEASES	Remaining in Hospital at end of 1931	YEARLY TOTAL		Total Cases Treated	Remaining in Hospital at end of 1932	REMARKS
		Admissions	Deaths			
Brought forward ...	1,917	16,230	2,201	18,147	1,993	
II.—GENERAL DISEASES NOT MENTIONED ABOVE.—*(contd.)*						
65. Leukæmia—						
(*a*) Leukæmia ...	...	4	1	4	...	
(*b*) Hodgkin's Disease ...	...	8	2	8	2	
66. Alcoholism	...	86	1	86	...	
67. Chronic poisoning by mineral substances (Lead, Mercury, etc.) ...	...	22	5	22	...	
68. Chronic poisoning by organic substances (Morphia, Cocaine, etc.) ...	3	76	...	79	3	
69. Other General Diseases—	...	...	...	...	...	
Auto-intoxication ...	...	2	...	2	...	
Purpura Hæmorrhagica	...	2	2	2	...	
Hæmophilia ...	...	1	1	1	...	
Diabetes Insipidus ...	...	1	...	1	...	
III.—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES—						
70. Encephalitis (not including Encephalitis Lethargica)	1	7	3	8	1	
71. Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis)	1	23	13	24	1	
72. Locomotor Ataxia ...	11	13	1	24	10	
73. Other affections of the Spinal Cord ...	6	27	3	33	8	
74. Apoplexy—						
(*a*) Hæmorrhage ...	6	47	38	53	3	
(*b*) Embolism ...	...	1	1	1	...	
(*c*) Thrombosis ...	...	12	5	12	1	
75. Paralysis—						
(*a*) Hemiplegia ...	49	74	6	123	49	
(*b*) Other Paralyses ...	20	72	1	92	23	
76. General Paralysis of the Insane	27	34	25	61	30	
77. Other forms of Mental Alienation	1,240	704	* 118	1,944	1,315	
78. Epilepsy	9	67	2	76	5	
79. Eclampsia, Convulsions (non-puerperal) 5 years or over	...	5	2	5	...	
80. Infantile Convulsions ...	...	44	22	44	1	
81. Chorea	3	2	1	5	...	
82. A.—Hysteria ...	2	22	...	24	1	
B.—Neuritis	16	324	1	340	40	
C.—Neurasthenia ...	...	32	...	32	1	
83. Cerebral Softening ...	...	6	4	6	1	
Total carried forward ...	3,311	17,948	2,459	21,259	3,488	

* One hundred and twelve of these deaths were from:—Enteric Fever (2) Malaria (1) Dysentery (32) Pulmonary Tuberculosis (29) Septicæmia (4) Cerebral hæmorrhage (1) Epilepsy (4) Cardiac disease (2) Arterio sclerosis (3) Pneumonia (16) Nephritis (8) Colitis (2) etc.

TABLE V

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1932—*continued*

DISEASES	Remaining in Hospital at end of 1931	YEARLY TOTAL		Total Cases Treated	Remaining in Hospital at end of 1932	REMARKS
		Admissions	Deaths			
Brought forward ...	3,311	17,948	2,459	21,259	3,488	
III.—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES.—*(contd.)*						
84. Other affections of the Nervous System, such as Paralysis Agitans ...	7	72	...	79	8	
85. Affections of the Organs of Vision—						
(*a*) Diseases of the Eye	12	97	...	109	23	
(*b*) Conjunctivitis ...	12	248	...	260	8	
(*c*) Trachoma ...	4	122	...	126	12	
(*d*) Tumours of the Eye	1	2	1	3	1	
(*e*) Other affections of the Eye ...	161	432	...	593	166	
86. Affections of the Ear or Mastoid Sinus ...	12	183	1	195	7	
IV.—AFFECTIONS OF THE CIRCULATORY SYSTEM—						
87. Pericarditis	1	13	9	14	1	
88. Endocarditis	2	26	18	28	2	
89. Angina Pectoris ...	...	2	...	2	...	
90. Other Diseases of the Heart—						
(*a*) Valvular :—						
Mitral ...	7	89	33	96	5	
Aortic ...	5	57	23	62	12	
Tricuspid ...	...	...	...	...	...	
Pulmonary ...	...	3	1	3	...	
(*b*) Myocarditis ...	12	111	45	123	13	
91. Diseases of the Arteries—						
(*a*) Aneurism ...	2	35	13	37	3	
(*b*) Arterio-Sclerosis ...	11	89	56	100	10	
(*c*) Other diseases ...	1	11	2	12	1	
92. Embolism or Thrombosis (non-cerebral) ...	2	13	1	15	4	
93. Diseases of the Veins—						
Hæmorrhoids ...	6	203	1	209	10	
Varicose Veins ...	2	16	...	18	1	
Phlebitis	1	8	1	9	1	
94. Diseases of the Lymphatic System—						
Lymphangitis ...	1	33	...	34	2	
Lymphadenitis, Bubo (non-specific) ...	... 23	... 217	... 1	... 240	... 19	
95. Hæmorrhage of undetermined cause ...	...	9	7	9	...	
96. Other affections of the Circulatory System ...	...	89	12	89	4	
Total carried forward ...	3,596	20,128	2,684	23,724	3,801	

TABLE V.

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1932—*continued*

DISEASES	Remaining in Hospital at end of 1931	YEARLY TOTAL		Total Cases Treated	Remaining in Hospital at end of 1932	REMARKS
		Admissions	Deaths			
Brought forward ...	3,596	20,128	2,684	23,724	3,801	
V.—AFFECTIONS OF THE RESPIRATORY SYSTEM—						
97. Diseases of the Nasal Passages—	2	36	...	38	5	
Adenoids	...	3	...	3	...	
Polypus	2	8	...	10	1	
Rhinitis	...	76	...	76	2	
Coryza	...	123	...	123	2	
98. Affections of the Larynx—						
Laryngitis	...	18	1	18	...	
99. Bronchitis—						
(*a*) Acute	12	716	2	728	25	
(*b*) Chronic ...	20	313	8	333	19	
100. Broncho-Pneumonia ...	12	498	337	510	15	
101. Pneumonia—						
(*a*) Lobar	17	526	233	543	11	
(*b*) Unclassified ...	1	33	18	34	1	
102. Pleurisy, Empyema ...	12	131	29	143	8	
103. Congestion of the Lungs ...	...	3	...	3	...	
104. Gangrene of the Lungs ...	...	19	10	19	...	
105. Asthma	28	613	12	641	30	
106. Pulmonary Emphysema ...	1	12	2	13	...	
Atalectasis	...	...	...	...	...	
107. Other affections of the Lungs—						
Pulmonary Spirochætosis	2	41	17	43	4	
VI.—DISEASES OF THE DIGESTIVE SYSTEM—						
108. A.—Diseases of Teeth or Gums—						
Caries, Pyorrhœa, etc. ...	8	239	4	247	3	
B.—Other affections of the Mouth—						
Stomatitis ...	1	36	...	37	...	
Glossitis, etc. ...	2	6	1	8	...	
109. Affections of the Pharynx or Tonsils—						
Tonsillitis ...	9	412	3	421	7	
Pharyngitis ...	3	113	1	116	1	
110. Affections of the Œsophagus	1	18	4	19	1	
111. A.—Ulcer of the Stomach	7	163	24	170	18	
B.—Ulcer of the Duodenum	7	87	10	94	11	
112. Other affections of the Stomach—						
Gastritis	6	291	4	297	21	
Dyspepsia, etc. ...	6	228	...	234	6	
113. Diarrhœa and Enteritis—						
Under two years ...	7	233	113	240	13	
Total carried forward ...	3,762	25,123	3,517	28,885	4,005	

TABLE V

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1932—*continued*

DISEASES	Remaining in Hospital at end of 1931	YEARLY TOTAL		Total Cases Treated	Remaining in Hospital at end of 1932	REMARKS
		Admissions	Deaths			
Brought forward ...	3,762	25,123	3,517	28,885	4,005	
VI.—DISEASES OF THE DIGESTIVE SYSTEM.—*(contd.)*						
114. Diarrhœa and Enteritis—						
Two years and over ...	18	644	30	662	16	
Colitis	11	104	1	115	1	
Ulceration	...	...	...	...	...	
114A. Sprue	2	18	4	20	2	
115. Ankylostomiasis ...	36	1,319	19	1,355	53	
116. Diseases due to Intestinal Parasites—						
(*a*) Cestoda (Tænia) ...	...	3	...	3	...	
(*b*) Trematoda (Flukes)	...	...	...	...	...	
(*c*) Nematoda (other than Ankylostoma—						
Ascaris ...	31	395	7	426	16	
Trichocephalus dispar ...	...	...	...	...	...	
Trichina ...	...	...	...	...	...	
Dracunculus ...	...	1	...	1	...	
Strongylus ...	...	...	...	...	...	
Oxyuris ...	...	...	...	...	...	
(*d*) Coccidia ...	...	...	...	...	...	
(*e*) Other parasites ...	...	18	...	18	...	
(*f*) Unclassified ...	...	...	...	...	...	
117. Appendicitis	12	208	13	220	14	
118. Hernia	9	189	6	198	12	
119. A.—Affections of the Anus, Fistula, etc. ...	17	253	3	270	14	
B.—Other affections of the Intestines—						
Enteroptosis ...	...	6	1	6	...	
Constipation ...	1	98	...	99	2	
120. Acute Yellow Atrophy of the Liver	...	2	2	2	...	
121. Hydatid of the Liver ...	...	1	...	1	...	
122. Cirrhosis of the Liver—						
(*a*) Alcoholic ...	2	11	7	13	1	
(*b*) Other forms ...	11	150	51	161	13	
123. Biliary Calculus ...	...	11	...	11	...	
124. Other affections of the Liver—						
Abscess	4	60	18	64	5	
Hepatitis	1	40	2	41	3	
Cholecystitis, Cholangitis	5	85	17	90	2	
Jaundice	3	65	9	68	4	
125. Diseases of the Pancreas	...	1	1	1	...	
126. Peritonitis (of unknown cause)	1	62	40	63	... 2	
127. Other affections of the Digestive System ...	6	92	13	98	4	
Total carried forward ...	3,932	28,959	3,761	32,891	4,169	

TABLE V

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1932—*continued*

DISEASES	Remaining in Hospital at end of 1931	YEARLY TOTAL		Total Cases Treated	Remaining in Hospital at end of 1932	REMARKS
		Admissions	Deaths			
Brought forward ...	3,932	28,959	3,761	32,891	4,169	
VII.—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL)—						
128. Acute Nephritis ...	26	197	50	223	25	
129. Chronic	28	371	117	399	27	
130. A.—Chyluria ...	3	18	...	21	...	
B.—Schistosomiasis ...	...	...	...	...	...	
131. Other affections of the Kidneys—						
Pyelitis, etc. ...	7	159	22	166	14	
132. Urinary Calculus ...	...	75	1	75	1	
133. Diseases of the Bladder—						
Cystitis, etc. ...	1	86	7	87	2	
134. Diseases of the Urethra—						
(*a*) Stricture ...	6	78	3	84	4	
(*b*) Other	6	99	...	105	7	
135. Diseases of the Prostate—						
Hypertrophy ...	...	1	...	1	...	
Prostatitis, etc. ...	...	26	2	26	...	
136. Diseases (non-Venereal) of the Genital Organs of Man—						
Epididymitis ...	...	45	...	45	3	
Orchitis	...	73	...	73	4	
Hydrocele ...	6	137	...	143	6	
Ulcer of Penis, etc. ...	1	94	1	95	...	
137. Cysts or other non-malignant Tumours of the Ovaries	2	25	1	27	1	
138. Salpingitis	4	49	4	53	3	
Abscess of the Pelvis, etc.	...	19	2	19	...	
139. Uterine Tumours (non-malignant)	...	42	2	42	1	
140. Uterine Hæmorrhage (non-puerperal)	...	2	...	2	...	
141. A.—Metritis	1	10	...	11	...	
B.—Other affections of the Female Genital Organs ...	4	75	2	79	1	
Displacements of Uterus	...	98	1	98	1	
Amenorrhœa	...	5	...	5	...	
Dysmenorrhœa ...	...	19	...	19	1	
Leucorrhœa	1	19	...	20	3	
142. Diseases of the Breast (non-puerperal)—						
Mastitis	...	5	...	5	...	
Abscess of Breast ...	1	27	...	28	2	
VIII.—PUERPERAL STATE—						
143. A.—Normal Labour ...	79	4,203	...	4,282	88	
B.—Accidents of Pregnancy—						
(*a*) Abortion ...	1	108	...	109	3	
(*b*) Ectopic Gestation ...	1	20	3	21	...	
(*c*) Other accidents of Pregnancy ...	5	353	17	358	7	
Total carried forward ...	4,115	35,497	3,996	39,612	4,373	

TABLE V

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1932—*continued*

DISEASES	Remaining in Hospital at end of 1931	YEARLY TOTAL		Total Cases Treated	Remaining in Hospital at end of 1932	REMARKS
		Admissions	Deaths			
Brought forward ...	4,115	35,497	3,996	39,612	4,373	
VIII.—PUERPERAL STATE—*(contd.)*						
144. Puerperal Hæmorrhage ...	...	82	3	82	...	
145. Other accidents of Parturition	4	759	26	763	17	
146. Puerperal Septicæmia ...	...	34	18	34	...	
147. Phlegmasia Dolens ...	...	1	1	1	...	
148. Puerperal Eclampsia ...	1	46	13	47	2	
149. Sequelæ of Labour ...	...	17	1	17	...	
150. Puerperal affections of the Breast	...	1	...	1	...	
IX.—AFFECTIONS OF THE SKIN AND CELLULAR TISSUES—						
151. Gangrene	2	36	14	38	3	
152. Boil	3	58	7	61	4	
Carbuncle	3	51	2	54	3	
153. Abscess	31	799	9	830	51	
Whitlow	2	52	...	54	4	
Cellulitis	20	407	23	427	24	
154. A.—Tinea	4	57	...	61	...	
B.—Scabies	8	219	...	227	14	
155. Other Diseases of the Skin	11	345	5	356	17	
Erythema	1	11	...	12	...	
Urticaria	...	16	...	16	...	
Eczema	7	297	...	304	10	
Herpes	1	38	...	39	3	
Psoriasis	...	5	...	5	1	
Elephantiasis ...	3	24	...	27	3	
Myiasis	...	...	...	...	...	
Chigoes	...	...	...	...	...	
Cutaneous Leishmaniasis	...	...	...	...	...	
Ulcers	217	1,975	7	2,192	122	
X.—DISEASES OF BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS)—						
156. Diseases of Bones—						
Osteitis	4	33	4	37	2	
157.—Diseases of Joints—						
Arthritis	19	254	7	273	22	
Synovitis	4	42	...	46	3	
158. Other Diseases of Bones or Organs of Locomotion	14	191	2	205	12	
XI.—MALFORMATIONS—						
159. Malformations—						
Hydrocephalus ...	1	5	4	6	...	
Hypospadias ...	...	...	...	...	...	
Spina Bifida, Imperforate Anus, etc. ...	1	72	19	73	4	
Total carried forward ...	4,476	41,424	4,161	45,900	4,694	

TABLE V

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1932—*continued*

DISEASES	Remaining in Hospital at end of 1931	YEARLY TOTAL		Total Cases Treated	Remaining in Hospital at end of 1932	REMARKS
		Admissions	Deaths			
Brought forward ...	4,476	41,424	4,161	45,900	4,694	
XII.—DISEASES OF INFANCY—						
160. Congenital Debility ...	...	30	19	30	2	
161. Premature Birth ...	...	9	8	9	...	
162. Other affections of Infancy	...	22	11	22	...	
163. Infant neglect (infants of three months or over) ...	...	9	8	9	...	
XIII.—AFFECTIONS OF OLD AGE—						
164. Senility	61	273	41	334	56	
Senile Dementia ...	...	1	1	1	...	
XIV.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES—						
165. Suicide by Poisoning ...	1	30	8	31	...	23 attempted suicides
166. Corrosive Poisoning (intentional)	...	13	5	13	...	
167. Suicide by Gas Poisoning	...	...	...	...	...	
168. Suicide by Hanging or Strangulation ...	...	5	5	5	...	
169. Suicide by Drowning ...	1	16	2	17	...	15 attempted suicides
170. Suicide by Firearms ...	...	...	...	...	...	
171. Suicide by Cutting or Stabbing Instruments ...	...	18	6	18	...	12 attempted suicides
172. Suicide by jumping from a height	...	...	...	...	...	
173. Suicide by crushing ...	..	...	...	...	...	
174. Other Suicides ...	...	3	...	3	...	attempted suicides
175. Food Poisoning—	...	15	...	15	...	
Botulism	...	...	...	...	...	
176. Attacks of poisonous animals—						
Snake Bite ...	1	8	...	9	...	
Insect Bite ...	...	25	...	25	...	
177. Other accidental Poisonings	1	33	5	34	...	
178. Burns (by Fire) ...	...	51	1	51	3	
179. Burns (other than by Fire)	6	197	12	203	11	
180. Suffocation (accidental) ...	...	2	...	2	...	
181. Poisoning by Gas (accidental)	...	3	...	3	...	
182. Drowning (accidental) ...	...	6	...	6	...	
183. Wounds (by Firearms, war excepted)	...	16	2	16	...	
184. Wounds (by Cutting or Stabbing Instruments) ...	20	544	6	564	14	
185. Wounds (by Fall) ...	26	954	20	980	24	
186. Wounds (in Mines or Quarries)	...	1	1	1	...	
187. Wounds (by Machinery) ...	4	105	2	109	8	
188. Wounds (Crushing, *e.g.* Motor Cars, Railway Accidents, etc.)	37	1,082	42	1,119	31	
Total carried forward ...	4,634	44,895	4,366	49,529	4,844	

TABLE V

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1932—*continued*

DISEASES	Remaining in Hospital at end of 1931	YEARLY TOTAL		Total Cases Treated	Remaining in Hospital at end of 1932	REMARKS
		Admissions	Deaths			
Brought forward ...	4,634	44,895	4,366	49,529	4,844	
XIV.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES—(*contd.*).						
189. Injuries inflicted by Animals, Bites, Kicks, etc.	1	112	...	113	2	
190. Wounds inflicted on Active Service	...	...	...	...	...	
191. Executions of Civilians by Hangmen	...	...	...	...	...	
192. A.—Over fatigue ...	...	14	...	14	...	
B.—Hunger or Thirst ...	...	2	...	2	...	
193. Exposure to Cold, Frost bite, etc.	...	3	2	3	...	
194. Exposure to Heat—						
Heatstroke	...	3	...	3	...	
Sunstroke	...	...	...	...	...	
195. Lightning Stroke ...	...	2	...	2	...	
196. Electric Shock ...	...	4	...	4	...	
197. Murder by Firearms ...	...	...	...	...	...	
198. Murder by Cutting or Stabbing Instruments ...	...	12	12	12	...	
199. Murder by other means ...	...	7	7	7	...	
200. Infanticide (Murder of an infant under one year) ...	...	...	...	...	...	
201. A.—Dislocation ...	1	21	...	22	2	
B.—Sprain	1	97	...	98	3	
C.—Fracture	47	525	27	572	64	
202. Other external injuries ...	52	1,273	4	1,325	21	
203. Deaths by Violence of unknown cause ...	...	1	1	1	...	
XV.—ILL-DEFINED DISEASES—						
204. Sudden Death (Cause unknown)	...	...	...	...	...	
205. A.—Diseases not already specified or ill-defined ...	16	680	...	696	27	
Ascites	1	6	...	7	1	
Œdema	...	3	...	3	...	
Asthenia, Marasmus, etc.	...	53	8	53	3	
Shock	...	15	12	15	...	
Hyperpyrexia ...	...	...	...	...	...	
Pyrexia of Uncertain Origin	33	912	7	945	23	
B.—Malingering ...	2	33	...	35	...	
XVI.—DISEASES, THE TOTAL OF WHICH HAVE NOT CAUSED 10 DEATHS						
Accompanying Patients ...	16	492	...	508	19	
Under Observation ..	2	471	...	473	13	
	4,806	49,636	4,446	54,442	5,022	