

Health Officer's annual report / the Municipality of George Town, Penang, Straits Settlements.

Contributors

George Town (Pinang). Municipal Health Office.

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AC. 226

**THE
Municipality of George Town,**

PENANG.

STRAITS SETTLEMENTS.



HEALTH OFFICER'S

ANNUAL REPORT

FOR THE YEAR 1932.

PRICE 50 CENTS PER COPY.

OBTAINABLE FROM THE MUNICIPAL SECRETARY.

1933.

THE CRITERION PRESS CO., LTD., PENANG.



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STATISTICAL SUMMARY.

Situation	...	...	...	Lat. 5° 24' N., Long. 100° 20' E.
Average Elevation above L.W.M.O.S.T.	...	...	...	Town area 12 feet 6 inches Suburban area 25 feet 0 inch.
O. S. Tides rise and fall	...	...	...	9 feet 0 inch.
Rainfall 1932 (average of three readings within Municipal limits)	...	...	...	115.55 inches.
Average annual rainfall for preceding 51 years (up to 1931) at the Prison	...	...	...	106.28 inches.
Rainfall for 1932 at the Prison	...	...	...	141.47 inches.
Mean Temperature 1932 (maximum and minimum readings)	...	...	...	81.89° F.
Maximum Temperature 1932 (recorded on February 12th)	...	...	...	95° F.
Minimum Temperature 1932 (recorded on February 4th)	...	...	...	68° F.
Total area of Penang Island	...	...	...	108 square miles.
Area within Municipal limits	...	...	...	9.4 square miles or 5,845 acres.
Estimated population (mid-year)	...	...	...	152,908.
Density of population	...	...	...	26.16 per acre.
Houses occupied (Census 1931)	...	...	...	16,149.
Houses unoccupied (Census 1931)	...	...	...	1,959.
Number of persons per occupied house (Census 1931)	...	...	...	9.3.
Crude death rate	...	...	...	23.34 per mille.
Infant Mortality	...	...	...	134.
Birth rate	...	...	...	33.54 per mille.
Sterling equivalent	...	...	...	2s. 4d.



STAFF OF THE HEALTH DEPARTMENT ON 31ST DECEMBER, 1932.

G. S. Glass	...	B.A., M.B., D.P.H., D.T.M., and H.,		
		Health Officer,		
		Registrar of Births and Deaths,		
		Deputy Superintendent of Vaccination,		
		Registrar of Midwives,		
		Medical Superintendent of Infectious Diseases Hospital,		
		Medical Superintendent of Chinese Small-pox Hospital.		
W. H. Brodie	...	M.B., Ch.B., D.P.H.,		
		Deputy Health Officer,		
		Deputy Registrar of Births and Deaths,		
		Deputy Superintendent of Vaccination.		
T. P. Khoo	...	M.B., B.S., (Hong Kong),		
		Deputy Registrar of Deaths.		
J. S. Reutens	...	Chief Sanitary Inspector, joined the service	1st January,	1905.
H. L. McCulloch	...	Sanitary Inspector,	do.	1st January, 1912.
R. J. Rangel	...	do.	do.	1st October, 1913.
Ow Leong Chye	...	do.	do.	1st July, 1921.
M. D'Souza	...	Sanitary Sub-Inspector,	do.	1st April, 1919.
John Loh	...	do.	do.	17th May, 1921.
E. V. Jessler	...	do.	do.	1st July, 1921.
V. E. Rozells	...	do.	do.	1st September, 1921.
Yeap Hin Tat	...	do.	do.	14th August, 1922.
Lim Khay Seng	...	do.	do.	1st March, 1923.
Lo Siew Tean	...	do.	do.	1st July, 1923.
Teoh Cheng Hoe	...	do.	do.	1st December, 1923.
M. S. d'Orville	...	do.	do.	18th February, 1924.
Oh Cheng Guan	...	do.	do.	18th May, 1926.
Liew Ah Foo	...	do.	do.	20th May, 1926.
P. Gautier	...	do.	do.	6th July, 1928.

MUNICIPAL HEALTH OFFICE,

Penang, 17th February, 1933.

To

THE MUNICIPAL COMMISSIONERS.

GENTLEMEN,

I have the honour to submit the following report on the health of the Municipality during 1932.

1. Population.

The estimated mid-year population was 152,908. This figure is arrived at by the Registrar General's method of estimation, which is commonly adopted at Home, and probably the best available.

The distribution of the population among the various nationalities is as follows:—(a) as shown in the 1931 census and (b) as estimated at the middle of 1932.

TABLE I(a).

Distribution of population shown in census 1931.

Nationality	Males	Females	Total	Per cent. of Total
European ..	703	471	1,174	1
Eurasian ...	910	1,066	1,976	1
Chinese ...	58,519	42,723	101,242	68
Malay ...	9,618	9,518	19,136	13
Indian ...	18,314	5,806	24,120	16
Others ...	986	774	1,760	1
Total ...	89,050	60,358	149,408	100

TABLE I(b).

Estimated distribution of population at middle of 1932.

Nationality	Males	Females	Total	Per cent. of Total
European ...	792	454	1,246	1
Eurasian ...	799	937	1,736	1
Chinese ...	62,659	42,180	104,839	69
Malay ...	10,014	10,187	20,201	13
Indian ...	18,212	5,194	23,406	15
Others ...	874	606	1,480	1
Total	93,350	59,558	152,908	100

2. BIRTHS.

There were 5,129 births registered of whom 2,579 were males and 2,550 females, the birth rate being 33.54 per thousand. The figures for 1931 were, births 5,315 and birth rate 35.44.

Reckoned on the estimated female population alone the birth rate was 86.12 per thousand compared to 90.99 per thousand in 1931.

The number of births and birth rates for the various nationalities were as follows:—

TABLE II.

Nationality	Number of births.			Birth rate per thousand.	
	Males	Females	Total	Total population	Female population
European ...	28	22	50	40.13	110.13
Eurasian ...	34	29	63	40.32	67.24
Chinese ...	1,878	1,861	3,739	35.66	88.64
Malay ...	284	284	568	28.12	55.76
Indian ...	340	339	679	29.01	111.47
Others ...	15	15	30	20.27	49.50

A comparison with the births registered during the previous ten years is shown here:—

TABLE III.

Year	European	Eurasian	Chinese	Malay	Indian	Others	Total
1922	54	53	2,655	534	404	38	3,738
1923	59	53	2,818	573	499	26	4,028
1924	53	54	2,903	660	544	43	4,257
1925	46	52	3,135	562	497	26	4,318
1926	51	55	3,193	585	514	36	4,434
1927	61	75	3,714	638	631	33	5,151
1928	58	52	3,928	595	661	38	5,332
1929	45	48	3,970	663	656	28	5,410
1930	61	56	4,084	674	730	25	5,630
1931	49	58	3,899	596	677	36	5,315
Average for ten years	54	56	3,430	608	581	33	4,761
1932	50	63	3,739	568	679	30	5,129

A comparison of the births and deaths in the different nationalities may be of interest:—

TABLE IV.

Nationality	Births	Birth rate per thousand.	Deaths	Death rate per thousand.
European	50	40.13	6	4.82
Eurasian	63	40.32	28	16.13
Chinese	3,739	35.66	2,186	20.85
Malay	568	28.12	474	23.46
Indian	679	29.01	490	20.93
Others	30	20.27	16	10.81

There were 182 still-births reported during the year.

3. Deaths.

The gross total of deaths within Municipal limits during the year was 3,569 and crude death rate 23.34; of this number 369 were not normally resident in Penang and had been less than three months within Municipal limits. Omitting these we have 3,200 deaths and a corrected death rate of 20.93 per thousand.

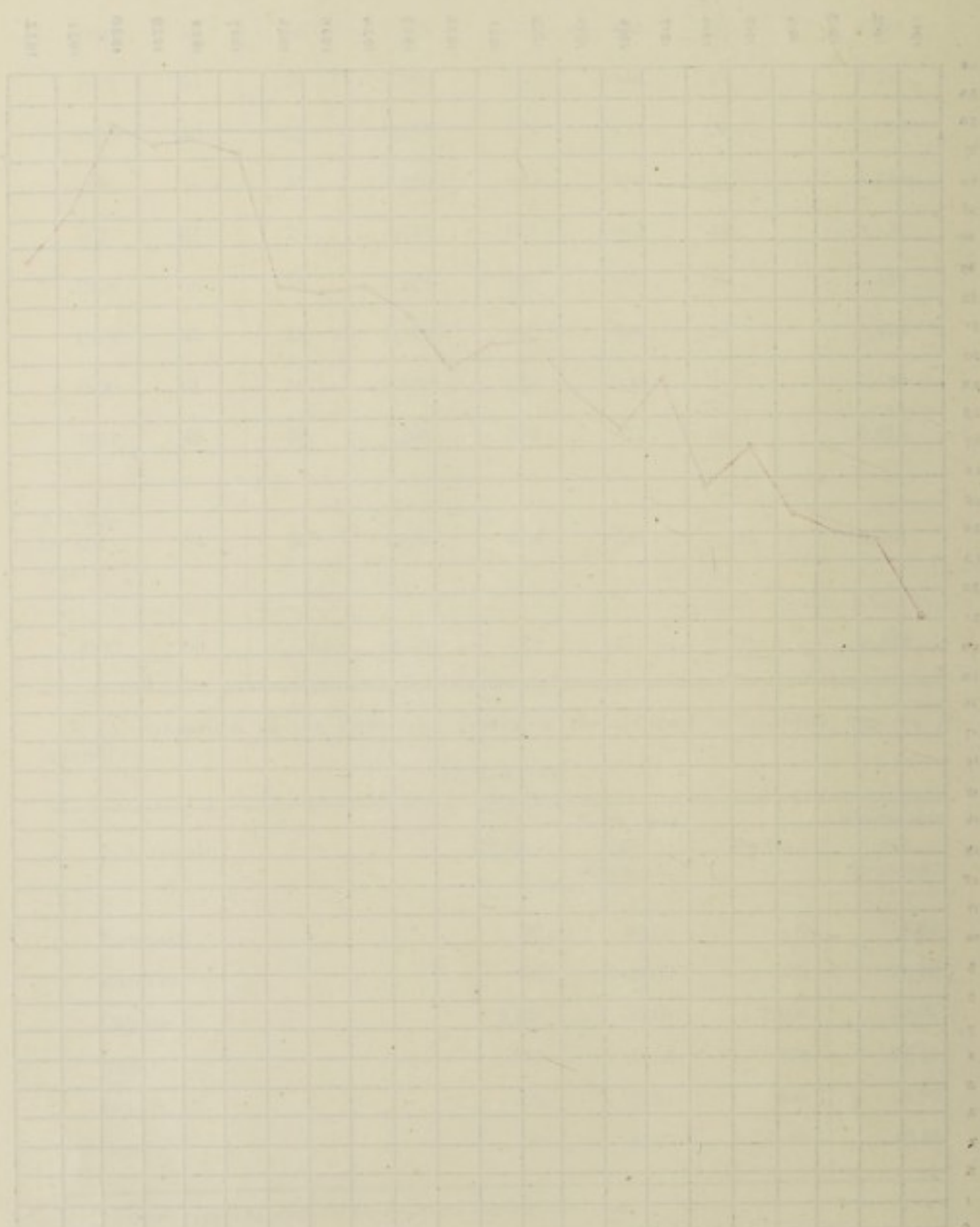
PENANG MUNICIPALITY

BIRTH RATE



PENANG MUNICIPALITY

BIRTH RATE



The following table shows the distribution of the deaths in age groups and nationalities.

TABLE V.

Nationalities	SEX	AGES											Total	Grand Total
		Under 1 year	1 to 5 years	5 to 15 years	15 to 25 years	25 to 35 years	35 to 45 years	45 to 55 years	55 to 65 years	65 to 75 years	over 75 years	Unknown		
European	M.	1	...	...	...	1	3	1	...	...	...	..	6	6
	F.	...	...	...	...	...	...	...	...	...	...	...	...	
Eurasian	M.	3	...	...	2	...	2	3	1	1	...	...	12	28
	F.	3	2	1	...	2	3	1	2	2	...	...	16	
Chinese	M.	289	130	47	84	111	189	207	143	92	24	4	1320	2186
	F.	206	126	62	50	72	96	71	62	75	45	1	866	
Malay	M.	50	17	10	17	40	27	33	27	18	14	1	254	474
	F.	30	26	13	20	35	16	20	22	19	18	1	220	
Indian	M.	57	26	10	19	57	52	36	24	18	5	...	304	490
	F.	44	15	9	26	26	15	17	10	7	7	..	186	
Others	M.	5	1	...	..	..	1	...	3	2	...	...	12	16
	F.	...	...	...	...	1	2	...	...	1	...	...	4	
Total	M.	405	174	67	122	209	274	280	198	181	43	5	1908	3200
	F.	283	169	85	96	136	132	109	96	114	70	2	1292	
Grand Total		688	343	152	218	345	406	389	294	245	113	7	3200	

Compared with 1931, the Chinese deaths have decreased by 58; the Malay deaths have increased by 23 and the Indian deaths by 1.

The total deaths of each nationality in the last ten years is shown here.

TABLE VI.

Year	European	Eurasian	Chinese	Malay	Indian	Others
1923	9	31	2,066	467	573	35
1924	6	30	2,048	519	542	17
1925	5	28	2,165	468	538	36
1926	9	34	2,436	497	568	26
1927	11	29	2,664	550	758	33
1928	11	24	2,544	434	623	32
1929	7	27	2,388	465	560	33
1930	14	23	2,245	409	549	19
1931	10	26	2,244	451	489	21
1932	6	28	2,186	474	490	16

4. Infant Mortality.

Table VII shows according to nationality the infant mortality, that is, deaths of children under one year of age per 1,000 births occurring during the same period, and a comparison with 1931.

TABLE VII.

Nationality	Births	Deaths under one year.	Infant deaths per thousand births.	
			1932	1931
European	50	1	20	20
Eurasian	63	6	95	52
Chinese	3,739	495	132	128
Malay	568	80	141	141
Indian	679	101	149	151
Others	30	5	167	56
Total	5,129	688	134	130

The chief causes of infant deaths and the mortality compared with that in previous years from the same causes are given in Table VIII.

TABLE VIII.

Disease	Infant deaths per thousand births.									
	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
Intestinal diseases ...	37	23	19	21	17	17	18	23	17	20
Respiratory diseases ...	27	23	27	19	32	32	31	26	28	27
Prematurity & Debility...	26	27	23	29	29	29	25	21	19	19
Convulsions ..	23	43	47	60	62	62	57	50	45	44

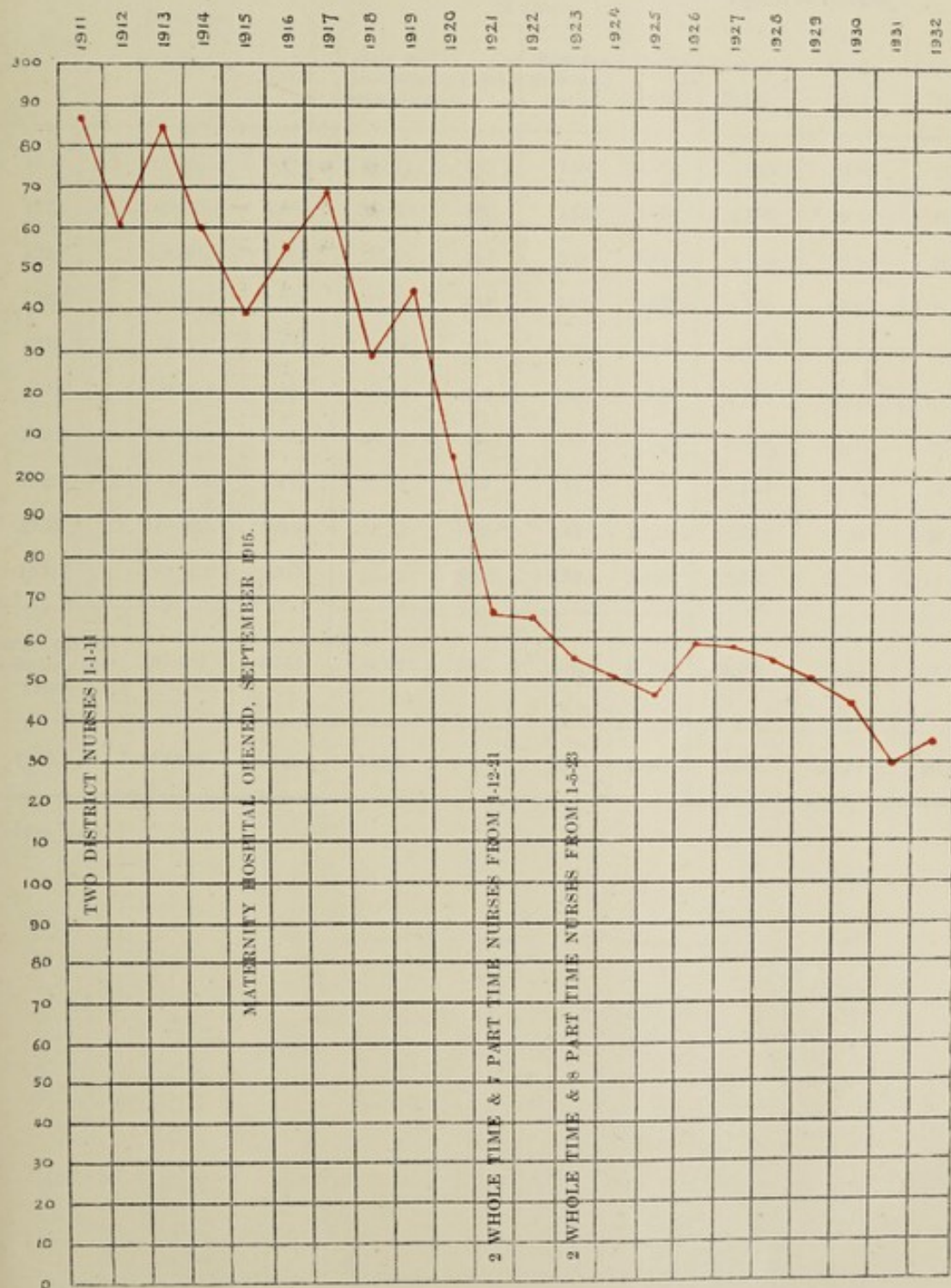
These causes accounted for 566 of the 688 infant deaths which occurred.

225 infants were certified as having died from convulsions; the corresponding figure for 1931 was 282.

Table VIII is unreliable, the only figure that may be used with any exactitude for comparison are those shown in Table VII, and in the Infant Mortality chart.

PENANG MUNICIPALITY

INFANT MORTALITY

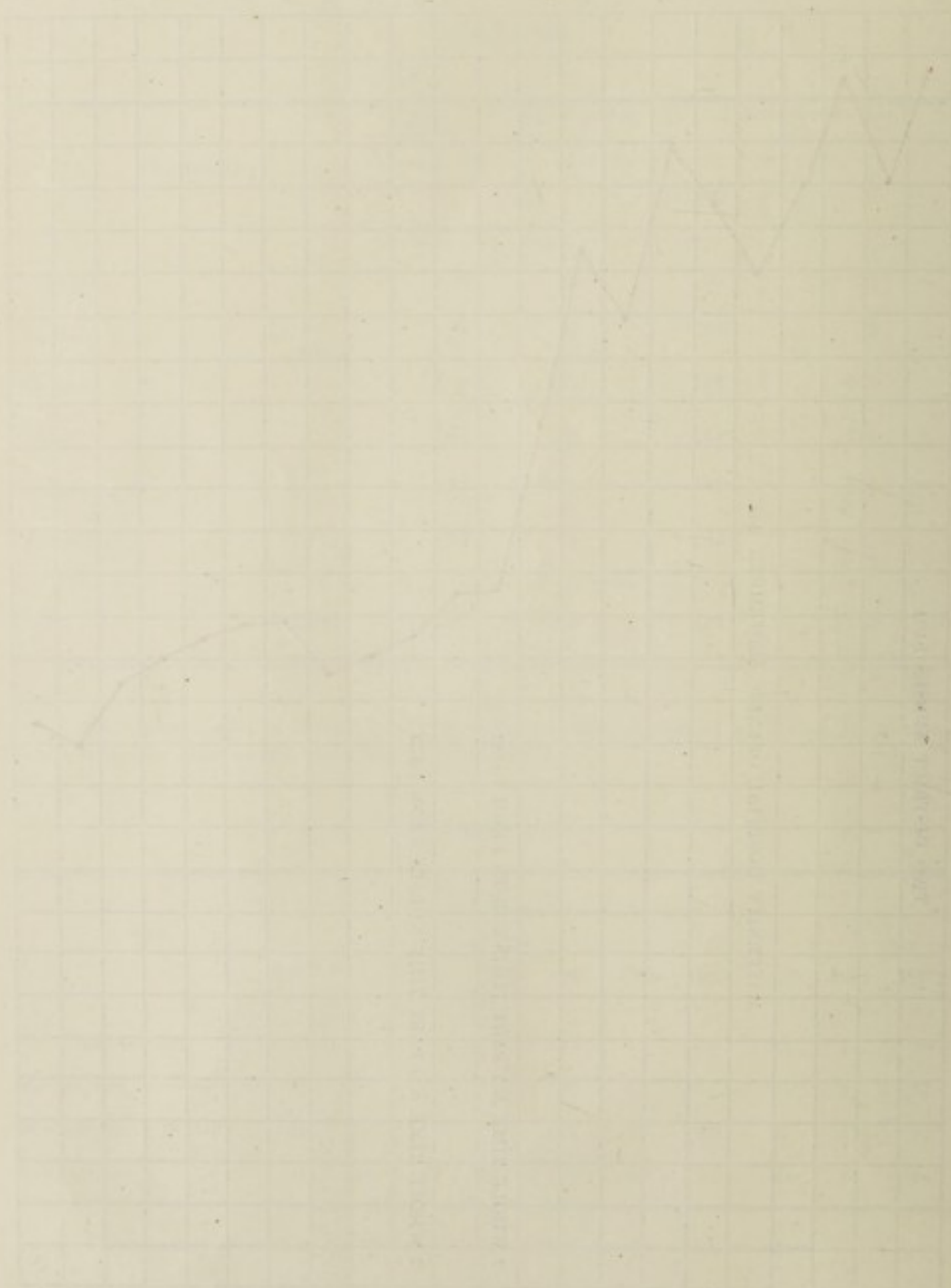


NOTE:—Registration of births is believed to have been more accurate from September, 1920.

PERMANENT QUALITY

PERMANENT QUALITY

PERMANENT QUALITY



PERMANENT QUALITY

Table IX is given below to show a comparison between births, infant mortality and general death rate for the preceding ten years and for 1932.

TABLE IX.

Year.	Estimated population	Births.		Deaths under 1 year.		Deaths at all ages.			
		Total.	Rate per thousand population.	Total.	Rate per thousand births.	Crude Total.	Corrected Total.	Crude rate.	Corrected rate.
1922	125,834	3,738	29.71	622	166	3,768	3,230	29.94	25.67
1923	128,300	4,028	31.39	626	155	3,801	3,183	29.62	24.81
1924	130,810	4,257	32.54	641	151	3,811	3,162	29.13	24.17
1925	133,373	4,318	32.38	634	147	3,858	3,240	28.93	24.29
1926	136,000	4,434	32.60	705	159	4,396	3,570	32.32	26.25
1927	138,635	5,151	37.15	816	158	4,860	4,045	35.05	29.18
1928	141,348	5,332	37.72	826	155	4,670	3,668	33.04	25.95
1929	144,114	5,410	37.54	815	151	4,126	3,480	38.63	24.15
1930	146,985	5,630	38.32	809	144	3,939	3,259	26.81	22.18
1931*	149,964	5,315	35.44	690	130	3,710	3,241	24.74	21.61
Average for the preceding ten years.	137,531	4,761	34.62	718	151	4,194	3,408	29.77	24.77
1932	152,908	5,129	33.54	688	134	3,569	3,200	23.34	20.93

*Census year.

5. CAUSE OF DEATH.

Table X shows the age, sex and cause of death certified: 1,383 of the certificates were from Hospitals and Private Practitioners, 62 from the Coroner and 1,755 or 54.84% of the total from the Deputy Registrar of Deaths.

In other words less than half of the cases were under medical attention before death. As the number of post-mortem examinations made was so small as to be negligible the diagnoses here tabulated must be accepted with reserve.

Since the year 1921, the Deputy Registrar of Deaths has been instructed to use the term "Unspecified Fever" for the cause of death, where the information obtainable does not seem to warrant a more definite diagnosis.

F 8
TABLE X.

DEATHS.	SEX	AGES											Total	Grand Total.
		Under 1 year	1 to 5 years	5 to 15 years	15 to 25 years	25 to 35 years	35 to 45 years	45 to 55 years	55 to 65 years	65 to 75 years	over 75 years	Unknown		
typhoid fever ...	M.	...	...	3	8	5	4	3	...	...	...	...	23	37
	F.	...	...	5	4	2	1	2	...	...	...	...	14	
cholera ...	M.	29	17	8	...	3	3	5	1	...	...	...	61	110
	F.	26	12	2	2	3	1	2	1	...	...	...	49	
enteric ...	M.	3	1	...	...	2	2	6	4	1	...	2	21	32
	F.	...	...	2	...	1	2	1	1	4	...	...	11	
intermittent fever ...	M.	...	...	...	...	...	1	...	...	...	...	...	1	3
	F.	...	2	...	...	...	...	...	...	...	...	...	2	
unspecified fever ..	M.	41	47	25	21	38	39	44	32	5	1	...	293	507
	F.	27	44	32	23	28	20	19	15	6	...	...	214	
dysentery ...	M.	5	...	1	1	9	13	11	3	2	...	...	45	53
	F.	2	...	...	...	5	1	...	...	...	...	...	8	
paratyphoid fever ...	M.	...	...	...	...	...	...	...	...	...	...	...	...	8
	F.	...	...	...	6	1	1	...	...	...	...	...	8	
septic diseases ...	M.	5	1	2	4	7	5	8	6	3	1	...	42	72
	F.	7	3	2	2	4	5	2	2	2	1	...	30	
typhus ...	M.	1	1	2	33	51	65	54	25	8	...	...	240	324
	F.	...	1	4	9	22	32	8	5	3	...	...	84	
tubercular diseases...	M.	...	1	2	...	2	...	1	2	1	...	...	9	14
	F.	...	...	2	1	...	1	1	...	...	...	...	5	
typhoid ...	M.	...	...	1	...	...	...	...	1	...	...	...	2	9
	F.	...	...	...	2	2	...	2	...	...	1	...	7	
typhus ...	M.	3	...	2	...	1	1	...	...	...	...	...	7	7
	F.	...	...	...	...	...	...	...	...	...	...	...	...	
typho-Spinal Meningitis	M.	...	...	...	...	...	1	...	...	...	...	...	1	1
	F.	...	...	...	...	...	...	...	...	...	...	...	...	
typhoid ...	M.	1	5	1	...	1	...	...	...	...	...	...	8	13
	F.	...	5	...	...	...	...	...	...	...	...	...	5	
typhoid ...	M.	1	...	...	...	...	...	...	...	1	...	...	2	9
	F.	2	2	...	...	1	...	1	...	1	...	...	7	
whooping Cough ...	M.	2	...	...	...	...	...	...	...	...	...	...	2	2
	F.	...	...	...	...	...	...	...	...	...	...	...	...	
totals to carry forward...	M.	91	73	42	67	119	134	132	74	21	2	2	757	1201
	F.	64	69	49	49	69	64	38	24	16	2	...	444	

DEATHS.	SEX	AGES											Total
		Under 1 year	1 to 5 years	5 to 15 years	15 to 25 years	25 to 35 years	35 to 45 years	45 to 55 years	55 to 65 years	65 to 75 years	over 75 years	Unknown	
Brought forward ...	M.	91	73	42	67	119	184	132	74	21	2	2	757
	F.	64	69	49	49	69	64	38	24	16	2	...	444
Malaria ...	M.	...	3	1	8	9	4	7	2	1	...	...	35
	F.	1	2	2	5	3	2	2	1	3	1	...	22
Malaria cachexia ...	M.	...	...	...	...	...	...	...	...	...	...	...	...
	F.	...	...	...	...	...	1	...	...	...	...	...	1
Worms ...	M.	2	2	1	...	...	...	...	...	...	...	...	5
	F.	...	5	3	1	...	...	1	...	...	...	...	0
Rheumatism ...	M.	...	...	...	...	1	...	2	3	...	...	...	6
	F.	...	...	...	...	...	...	3	...	...	...	...	3
Cancer ...	M.	...	...	...	...	3	5	10	5	...	...	...	23
	F.	...	...	...	...	...	...	7	3	1	3	...	14
Anaemia ...	M.	...	1	...	...	1	...	1	1	1	...	...	5
	F.	...	...	...	1	3	...	1	1	...	...	...	6
Beri-beri ...	M.	...	...	...	6	14	6	8	4	1	...	...	39
	F.	...	...	...	2	4	3	1	1	...	...	...	11
Premature birth ...	M.	40	...	...	...	...	...	...	...	...	...	...	40
	F.	27	...	...	...	...	...	...	...	...	...	...	27
Old age ...	M.	...	...	...	...	...	...	...	26	55	34	...	115
	F.	...	...	...	...	...	...	...	20	48	54	...	112
Convulsions ...	M.	131	35	1	...	...	...	...	...	...	...	...	167
	F.	94	40	2	...	...	...	...	...	...	...	...	136
Other diseases of Nervous system ...	M.	3	1	2	4	3	8	6	3	...	...	...	30
	F.	2	2	1	3	6	5	...	2	1	...	1	23
Organs of special sense ...	M.	...	...	...	...	...	...	...	...	...	...	1	1
	F.	1	...	...	...	...	1	...	...	...	...	...	2
Circulatory system ...	M.	11	2	2	5	13	24	30	27	14	2	1	131
	F.	4	2	3	11	12	18	15	11	13	3	1	93
Totals to carry forward ...	M.	278	117	49	90	163	181	196	145	93	38	4	1354
	F.	193	120	60	72	97	94	68	63	82	63	2	914

DEATHS.	SEX	AGES.											Total	Grand Total
		Under 1 year	1 to 5 years	5 to 15 years	15 to 25 years	25 to 35 years	35 to 45 years	45 to 55 years	55 to 65 years	65 to 75 years	over 75 years	Unknown		
Brought forward	M.	278	117	49	90	163	181	196	145	93	38	4	1354	2268
	F.	193	120	60	72	97	94	68	63	82	63	2	914	
Bronchitis ...	M.	20	8	2	2	2	8	15	21	12	2	..	92	135
	F.	18	7	2	...	1	4	8	15	7	1	...	63	
Pneumonia ...	M.	10	13	2	5	9	17	12	7	4	1	...	80	120
	F.	13	11	4	1	4	4	1	1	1	...	...	40	
Other diseases of respiratory system	M.	50	20	8	11	11	15	13	3	2	1	..	134	224
	F.	25	22	11	6	3	7	8	4	3	1	...	90	
Peritonitis ...	M.	23	8	2	3	2	1	2	1	1	...	...	43	72
	F.	17	5	3	1	1	1	...	...	1	...	...	29	
Diseases of liver ...	M.	...	...	...	1	1	8	7	2	...	...	...	19	26
	F.	...	...	1	1	...	2	1	2	...	...	...	7	
Other diseases of digestive system	M.	6	...	...	2	8	11	14	5	1	...	...	47	64
	F.	1	1	1	3	3	1	3	2	2	...	...	17	
Glandlike organs of uncertain use	M.	...	...	...	...	...	...	1	...	...	...	..	1	1
	F.	...	...	...	...	...	...	...	...	...	...	...	...	
Uinary System ...	M.	...	4	2	2	4	25	19	9	12	...	..	77	145
	F.	1	...	3	6	10	12	15	7	11	3	...	68	
Generative organs ...	M.	...	..	...	1	...	1	...	...	...	...	...	2	4
	F.	...	...	...	...	1	...	1	...	...	...	...	2	
Still birth and abortion	F.	...	...	...	4	11	4	1	...	...	...	..	20	20
Bones & Joints ...	M.	...	1	...	...	1	...	...	...	...	...	...	2	2
	F.	...	...	...	...	...	..	...	..	...	...	...	...	
Ident & Negligence	M.	...	2	2	4	3	2	...	...	1	...	..	14	16
	F.	...	...	...	...	...	1	1	...	...	...	...	2	
Homicide, Suicide & Execution	M.	...	...	...	1	4	3	1	1	1	...	...	11	19
	F.	...	...	...	2	5	1	...	...	...	...	...	8	
Idiotism ...	M.	18	1	...	...	2	2	1	...	1	1	..	26	50
	F.	15	3	...	...	...	1	...	...	5	...	...	24	
Unknown ...	M.	...	...	...	...	...	...	...	...	...	...	1	1	1
	F.	...	...	...	...	...	...	...	...	...	...	...	...	
Diabetes ...	M.	...	...	...	...	...	...	...	3	2	...	...	5	13
	F.	...	...	...	...	...	...	2	2	2	2	...	8	
Total ...	M.	405	174	67	122	210	274	281	197	130	43	5	1908	3200
	F.	283	169	85	96	136	132	109	96	114	70	2	1292	

A comparison between the number of deaths attributed to some of the principal causes in 1932 and in the preceding ten years is shown here.

TABLE XI.

Disease	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	Average for preceding ten years	1932
Phthisis	455	454	511	499	460	422	432	485	374	420	451	324
Pneumonia	266	222	188	276	349	413	312	300	249	231	281	120
Bronchitis	88	112	58	113	91	142	190	133	122	106	116	155
Other Respi- ratory diseases	106	95	119	115	82	140	168	190	145	226	139	224
Enteric Fever	6	8	9	11	8	12	23	14	15	25	13	37
Enteritis	73	97	9	35	42	36	35	44	62	68	50	72
Dysentery	108	75	81	58	89	87	94	42	49	58	74	32
Diarrhoea	147	166	157	125	144	149	154	157	158	116	147	110
Malaria	134	101	52	97	134	147	168	103	89	72	110	51
Unspecified Fever	504	524	589	659	809	767	413	435	400	427	553	507
Syphilis	43	38	39	30	26	31	43	30	53	48	38	53
Convulsions	244	106	202	218	318	438	424	380	360	316	301	303
Tetanus	14	39	20	4	4	9	11	5	6	11	12	7
Beri-beri	71	30	15	6	9	16	11	30	14	30	23	50
Debility	44	77	82	61	62	61	79	56	69	51	64	50
Old Age	203	274	302	287	211	293	290	242	255	236	259	237

The distribution of the Chief causes of death among the various nationalities is shown in Table XII.

TABLE XII.

Certified cause of death.	European	Eurasian	Chinese	Malay	Indian	Others	Total
Phthisis	—	5	238	35	46	—	324
Pneumonia	—	2	86	5	27	—	120
Bronchitis	—	1	123	17	13	1	155
Other Respiratory diseases	1	—	166	19	35	3	224
Enteric fever	—	1	28	5	3	—	37
Enteritis	—	1	56	2	12	1	72
Dysentery	—	—	26	5	1	—	32
Diarrhoea	—	—	100	5	5	—	110
Malaria	—	—	41	1	13	2	57
Unspecified fever	—	—	260	147	98	2	507
Syphilis	—	—	39	6	8	—	53
Convulsions	—	3	216	58	26	—	303
Tetanus	—	—	5	—	2	—	7
Beri-beri	—	—	40	6	4	—	50
Debility	—	1	27	5	16	1	50
Old Age	—	—	142	63	30	2	237

Some details of the sources of certification are appended.

TABLE XIII.

Cause of Death	Number certified by			
	Hospitals	Private Practitioners	Deputy Registrar of Deaths	Coroner
Enteric Fever	19	18	—	—
Diarrhoea	5	14	91	—
Dysentery	19	9	4	—
Unspecified fever	8	38	461	—
Phthisis	161	47	113	3
Tetanus	6	1	—	—
Influenza	—	9	—	—
Malaria	34	21	—	2
Beri-beri	34	12	—	4
Old Age	12	10	215	—
Convulsions	9	64	230	—
Diseases of the Circulatory System ...	54	66	91	13
Bronchitis	2	16	137	—
Pneumonia	45	29	41	5
Enteritis	18	34	20	—

6. Seasonal Mortality.

The deaths and death rate for each month are here recorded.

TABLE XIV.

Month.	Deaths.	Death rate per thousand.	Month.	Deaths.	Death rate per thousand.
January	267	20.62	July	249	19.23
February	274	22.62	August	267	20.62
March	251	19.38	September	251	20.03
April	237	18.91	October	252	19.46
May	312	24.09	November	271	21.62
June	266	21.22	December	303	23.39

7. INFECTIOUS DISEASES.

Table XV shows the incidence among the various nationalities of the principal infectious diseases which occurred during the year.

TABLE XV.

Nationality		Small-pox	Chicken-pox	Enteric fever	Tuberculosis	Influenza	Puerperal fever	Diphtheria	Measles	Erysipelas	Whooping Cough	Cerebro-spinal meningitis	Total
European	M.	...	2	..	...	...	...	...	...	...	...	...	2
	F.	...	...	...	...	...	...	...	...	...	...	...	...
Eurasian	M.	...	1	...	3	...	...	...	...	...	...	...	4
	F.	...	2	4	2	...	..	...	...	...	...	...	8
Chinese	M.	...	10	26	187	1	...	17	...	1	2	1	245
	F.	...	3	21	61	6	8	10	...	...	..	...	109
Malay	M.	...	8	9	23	...	...	1	...	...	...	...	41
	F.	...	5	2	14	1	1	...	...	...	...	...	23
Indian	M.	...	66	5	36	1	...	...	1	...	...	...	109
	F.	1	20	4	12	...	5	1	...	...	...	...	43
Others	M.	...	1	...	...	...	...	...	...	...	...	...	1
	F.	..	1	...	...	...	...	...	..	...	...	...	1
Total	M.	...	88	40	249	2	...	18	1	1	2	1	402
	F.	1	31	31	89	7	14	11	...	...	...	...	184
Grand Total	..	1	119	71	338	9	14	29	1	1	2	1	586

8. General Progress in Public Health.

Table XVI shows the main figures for the last 24 years relating to births, deaths, and infant mortality.

It is thought that, while the registration of deaths has been reasonably accurate throughout this period, notification of births was far from complete in the earlier years here recorded.

Steady improvement, however, in this respect has occurred, due to many causes, the chief one probably being the increased facilities offered for making the notifications.

Up to September 1920, all births were supposed to be reported at the office of the Registrar; since that date the Police have rendered invaluable help by allowing all Police Stations within our limits to be used as birth reporting centres.

The Census figures show that there has been a relative increase in the proportion of females to males in the population, there being approximately 38 per cent. of females in 1921, and 44 per cent. in 1931.

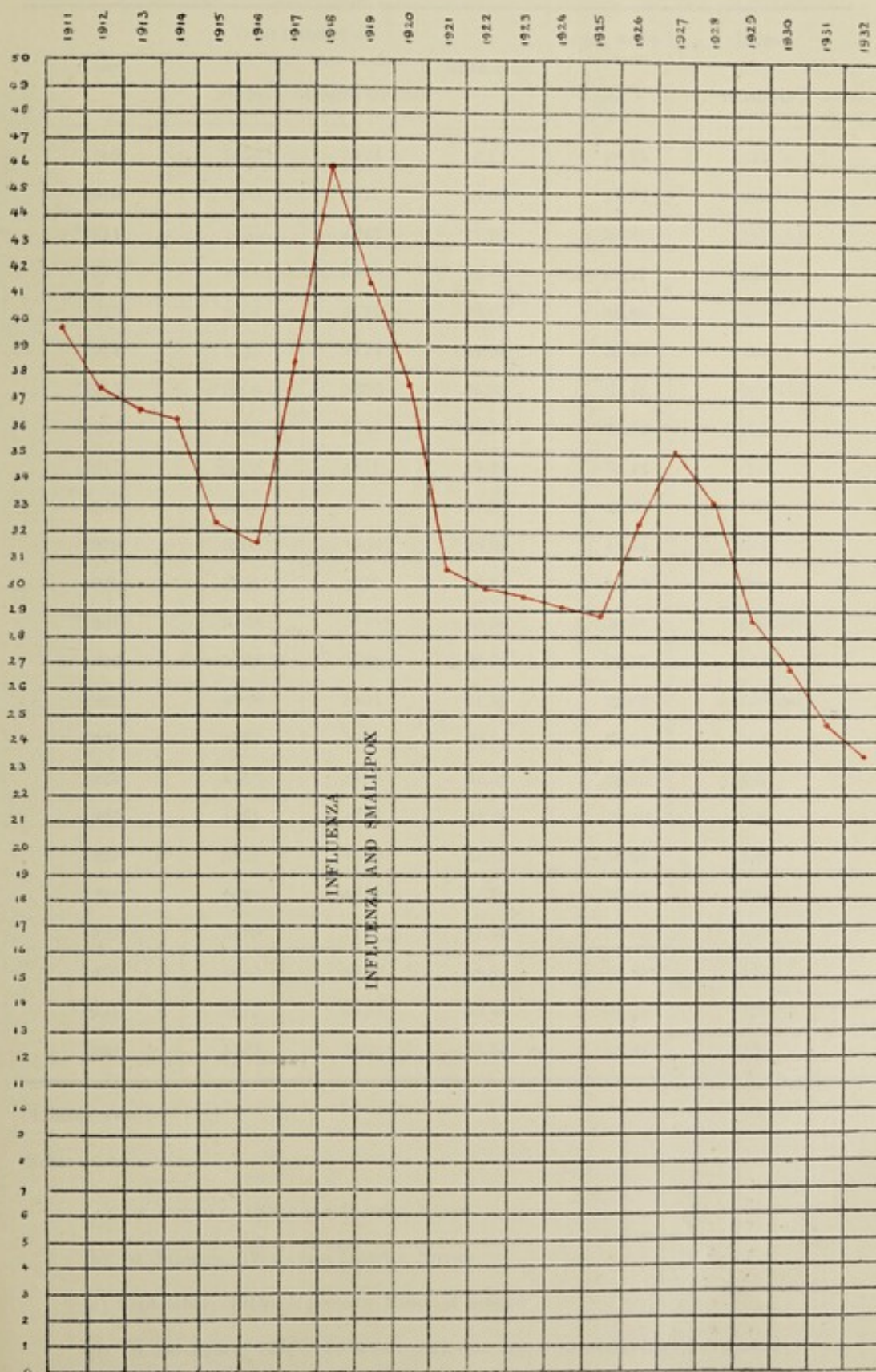
The birth rate per thousand females (estimated population) in 1922 was 77.71, and in 1932 it was 86.12.

The uncorrected death rate may give rise to an erroneous impression, unless it is remembered that we have here a large mobile population of people entering or leaving the country, many of whom have never normally resided in Penang.

Apart from such transient visitors, there are those who, when afflicted with serious illness, are attracted by the large and well-equipped Hospitals, and by the many lodging-houses of various kinds where they may find sympathetic compatriots.

PENANG MUNICIPALITY

CRUDE DEATH RATE



PENANG MUNICIPALITY

CHIEF DEATH RATE

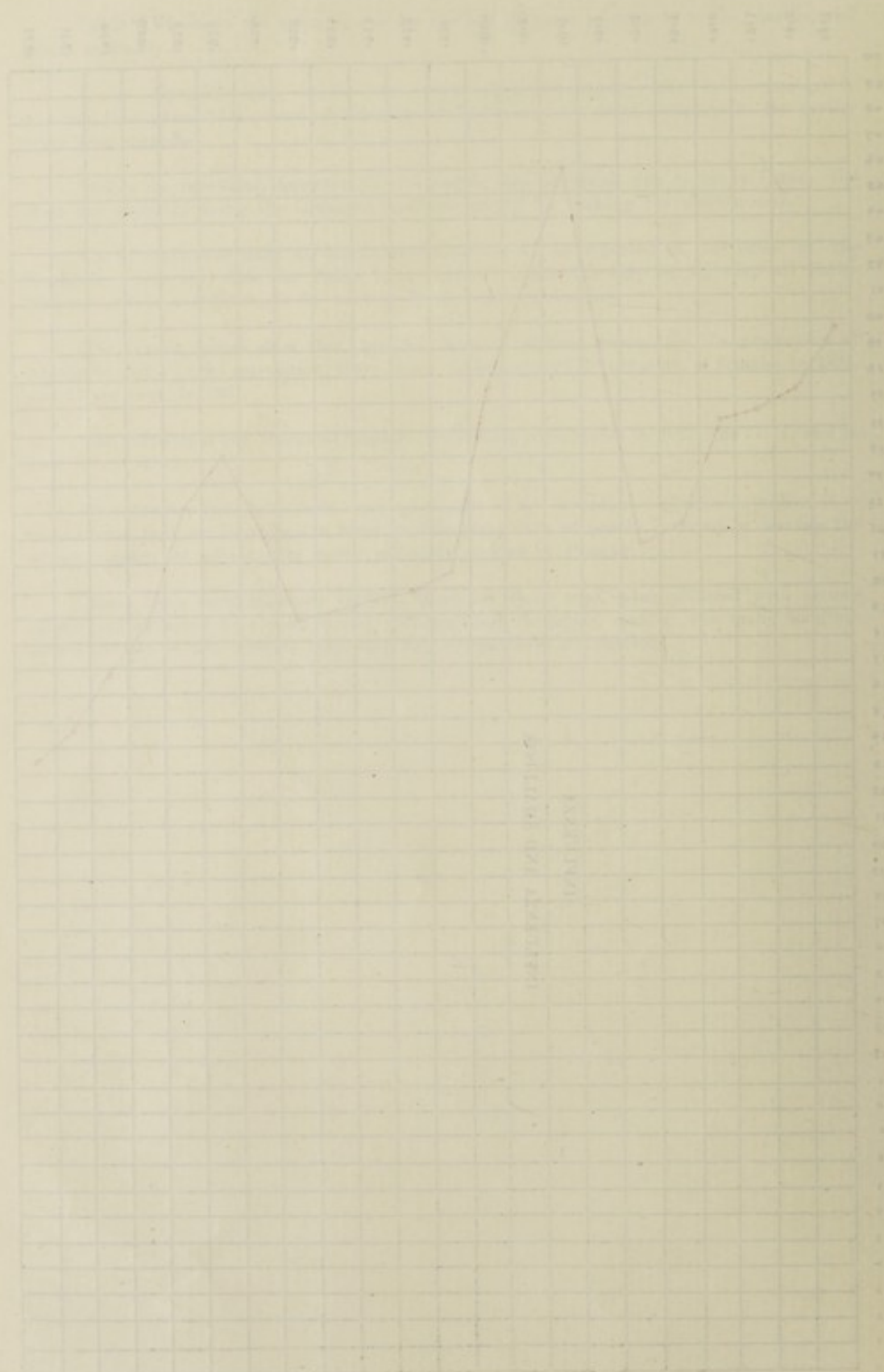


TABLE XVI.

Year.	Total number of		Birth rate.	Crude death rate.	Infant Mortality.
	Births.	Deaths (crude)			
1909	1656	3923	16.15	38.25	337 (a)
1910	1905	3912	18.39	37.76	290
*1911	2133	4045	21.02	39.88	287 (b)
1912	2421	3829	23.69	37.47	261
1913	2464	3794	23.95	36.86	284
1914	2545	3774	24.55	36.40	260
1915	2808	3390	26.89	32.46	239 (c)
1916	2708	3341	25.74	31.76	255
1917	3099	4071	29.25	38.42	269
1918	2940	4909	27.55	45.99	229
1919	3203	4166	28.86	41.54	244
1920	3321	4090	30.67	37.75	205
*1921	3768	3775	30.56	30.61	167 (d)
1922	3738	3768	29.71	29.94	166
1923	4028	3801	31.39	29.62	155 (e)
1924	4257	3811	32.54	29.13	151
1925	4318	3858	32.38	28.93	147
1926	4434	4396	32.60	32.32	159
1927	5151	4560	37.15	35.05	158
1928	5332	4670	37.72	33.04	155
1929	5410	4126	37.54	28.63	151
1930	5630	3939	38.32	26.81	144
*1931	5315	3710	35.44	24.74	130
1932	5129	3569	33.54	23.34	134

*Census year

Note:—

(a) 1st January, 1909 - one District Nurse.

(b) 1st January, 1911 - two District Nurses.

(c) September, 1915 - Maternity Hospital opened.

(d) 1st December, 1921 - two whole-time and seven part-time District Nurses.

(e) 1st May, 1923 - two whole-time and eight part-time District Nurses.

9. REGISTRATION OF BIRTHS AND DEATHS.

The system of registration is simple and well carried out.

Notification may be made at any Police Station or Government Hospital or at the Municipal Office.

Deaths must be notified within twelve hours, or, on payment of a late fee within three days.

Births are notified within fourteen days, or, with late fee within forty-two days. Earlier notification might of course result in the saving of many lives through the efforts of our District Nurses, but unfortunately we cannot alter the law.

When the cause of death has not been certified by a registered medical practitioner, or by the Coroner, the Deputy Registrar of Deaths must make the best diagnosis he can on the information which he can elicit. This happened in 54.84 per cent. of the total.

10. MATERNITY AND CHILD WELFARE.

In this department the work has been carried on by Miss H. Flint and Miss F. M. Sloan, both whole-time District Nurses.

Two Municipal cars are kept for their use.

Eight locally qualified midwives were employed as part-time nurses, their work being house visitation.

The main part of the town is divided for this purpose into eight districts: to each district a midwife is allocated: each District Nurse superintends the work in four districts.

The total number of visits and revisits made by the District Nurses and the eight midwives was about 54,800.

At the end of the year 76 midwives were registered (under the Midwives Ordinance 1923) as Class "A", 199 as Class "B", and 14 as Class "C".

Class "C" are the local "bidans"—unqualified midwives—who were registered after the Central Midwives Board had certified that they possessed a competent practical knowledge of conducting midwifery cases.

The following is the routine method of getting in touch with the mother and newly born child. When a birth is reported a Sanitary Sub-Inspector proceeds to verify or correct the address given. A daily list of the addresses is then given to the District Nurses who on the following day visit the houses to see what is required. If the case is already under medical supervision, we have no further responsibility.

In all other cases the District Nurses examine the baby and the mother. If there is not a registered midwife in attendance one of our part-time qualified midwives takes charge of the case for as long as may be necessary, the District Nurses revisiting as required.

The infant mortality for 1932 was 134.

144 babies died less than seven days old, and 40 between the ages of seven and fourteen days.

Of the 688 infants who died under the age of one year, 212 were less than one month old, and 149 were between one month and three months old.

That 361 infants should have perished in the first three months of life is a strong argument in favour of earlier notification of births, for there is little doubt that a great deal of this appalling mortality is due to ignorance. Our Nurses can and do constantly

spread useful instruction as to the proper care and management of mother and child, but it would seem to be in the best interests of the people, and of even greater importance than the Nurses' work, that more intensive methods should be adopted in the instruction of school girls in the elementary principles of mothercraft.

Early in the year Messrs. Anglo-Siam Corporation Ltd., kindly presented five cases of "Glaxo" for use in special cases, and a further case in each of the last two months. They also presented one case of "Woodward's Gripe Water" and one gross packets of safety pins.

I have to acknowledge also a present from the George Town Dispensary Ltd., of four dozen tins of "Cow and Gate" milk.

All these gifts proved most useful, and were much appreciated, as our Nurses visit plenty of families who are in great financial difficulty.

II. VACCINATION.

Public vaccination within Municipal limits is performed chiefly by our staff.

Our system of infant vaccination is the same as in recent years.

When a birth is reported, a Sub-Inspector proceeds to verify the address if possible, and gives advice as to vaccination and how to get free vaccination if desired, at the same time giving the formal vaccination notice as required by law.

After six months if the vaccination, or the removal from the town, or the death of the child has not been reported, the house is revisited and the parents reminded, both verbally and by a formal notice, that vaccination is overdue.

Most of the vaccination is done on house to house visitation, by three of our Sub-Inspectors and the results are satisfactory: this method though it costs us a heavy expenditure in Inspector's time, seems the best practicable and worth continuing.

5,129 births were reported during the year.

Our staff did 3,838 vaccinations of which 3,599 were primary and 239 secondary. In addition Government vaccinators performed during the year 6,403 secondary vaccinations mostly in schools and private practitioners performed 1,013 primary vaccinations.

688 infants died under the age of one year of whom 628 were unvaccinated.

No serious results have been reported here from vaccination.

12. ANTI-MOSQUITO WORKS.

At the beginning of the year our Indian labour force consisted of 64 coolies and 60 boys or "chokras".

The men were divided into four gangs, one of their number being appointed head man in each to supervise the others and not to do manual labour himself. In addition there were two gangs of oilers with eight and ten men in each, each gang working under a supervisor.

The working gangs were employed chiefly on making ditches, clearing and training streams and stagnant ditches, filling in pools and hollows, and cutting undergrowth, much of the work being done on so-called "reserve roads".

The boys, divided in five gangs of twelve boys, each gang working under supervisor, were most useful in collecting and where possible burying coconut shells, tins and other receptacles likely to be mosquito breeding places. They also do some minor oiling work.

Apart from the Health Officer's personal visits to these gangs, they were inspected and directed daily by the Sanitary Inspector in whose districts they were working.

It is very encouraging to find an increasing number of people dispensing with the use of mosquito nets. This is no doubt the reward of careful supervision: for in houses from which complaints are received, we seldom fail to find mosquitoes breeding in the bath room, or under the ice chest, or in the containers under the legs of tables or even in flower vases.

Malaria, though seldom acquired at any place which is well within Municipal limits, is still a menace to health.

Our most dangerous malaria-carrying mosquito, *A. maculatus*, is commonly found at many places along our boundary from the Pulau Tikus area in the north to Bukit Dambir in the south.

Towards the end of the year larvae of another carrier, *A. aconitus*, was found in the Bukit Dambir stream, close to our boundary, both by our own scouts and by Rural Board officials. The Senior Health Officer, who is in charge of the rural area, took immediate steps to deal with this pest. *A. barbirostris* was found a few times at the upper part of Kelawei Road and near Bagan Jermal village. It was also found in Batu Lanchang Road, Scotland Road and in Ayer Itam Road beyond Scotland Road.

A. kochi was found on five occasions, twice at Bagan Jermal and once each at Scotland Road, Bukit Dambir and Vermont Road.

A. subpictus var. *malayensis* and *A. vagus* are the anophelines most commonly found and are liable to appear occasionally in almost any part of the town.

Various species of *Aëdos* and *Culex* still make a gallant struggle for existence, but they cause much less annoyance than they did even a few years ago.

There was no serious outbreak of dengue during the year, though as usual sporadic cases occurred.

The danger of an outbreak of malaria in the Sungei Pinang and Brick Kiln Road area, due to a possible infestation of the River Road swamp with *A. ludlowi* has in the past been a source of great anxiety, and it is satisfactory to note that the filling in of this swamp by the Municipal Engineer is proceeding steadily.

The area so dealt with amounted at the end of the year to 12,000 square yards approximately.

We used 32,000 gallons of "Graham's" anti-malarial mixture, the total cost of the oil during the year was \$9,600.00.

The amount recovered from Government and from private owners for work performed by the coolies during the year was \$1,569.90.

In spite of the apathy so often shown by residents here, the mosquito nuisance is very definitely less now than it was a few years ago, and the expenditure on mosquito control seems fully justified.

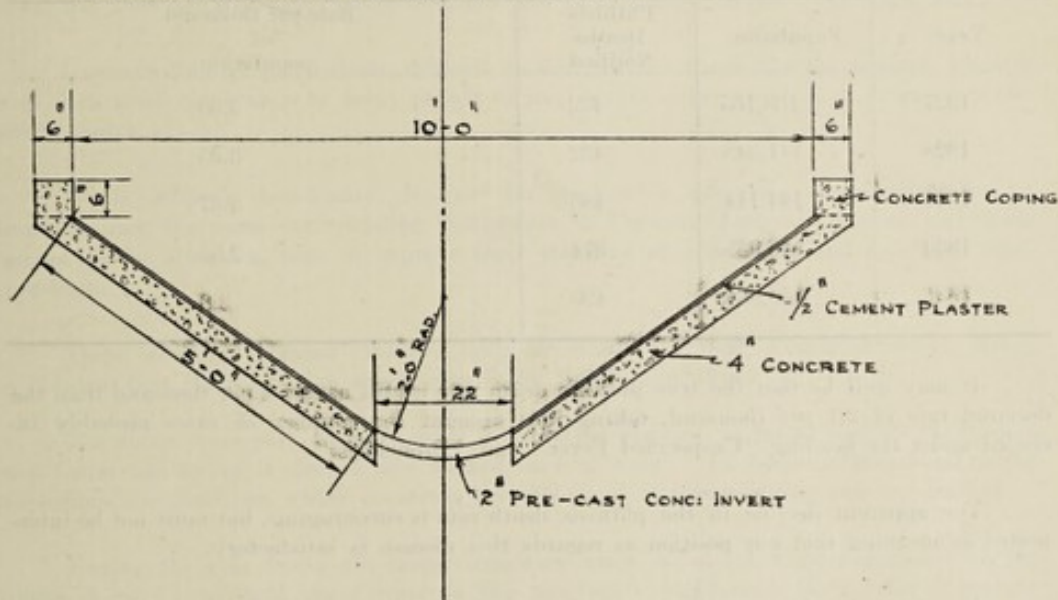
13. PERMANENT ANTI-MALARIA WORKS.

During the year permanent anti-malaria works were continued near our north-western border, the labour force employed consisting of 76 men with 3 head men, one watchman, one driver for the concrete mixer and two supervisors at the beginning of the year.

Owing to the completion of the work in one difficult sector and to other circumstances, this force was gradually reduced, and at the end of the year it consisted of ten men, one head man, one watchman and one supervisor.

In the Municipal Quarry area, near the west end of the Western Road Cemetery, one of the main streams was dealt with for a distance of 1115 feet, by straightening and grading, and making a concrete channel for the stream. The bottom of the channel was a concrete invert, 22 inches wide and two inches thick, the sides were four-inch concrete rising five feet above the invert and plaster-finished, the width at the top being ten feet. Above the concrete the slopes were graded and turfed.

A sectional diagram of the drain is shown here.



SECTION OF OPEN DRAIN IN THE QUARRY AREA

These streams at the foot of the hill not only carry a great volume of water in heavy rains, but are liable to be blocked in places owing to silting occurring where the channel has become obstructed by fallen trees, pieces of rock, coconut leaves or other debris. As great damage would be done if storm waters were allowed to scour the bank above the concrete wall, ample allowance must be made for the troubles which are liable to occur during usually wet weather.

When the Quarry area had been dealt with, the streams at Batu Gantong Cemetery, where *A. maculatus* had frequently been found, were next tackled.

Here the main stream at the north side of the cemetery was trained, straightened in places, and made into an open concrete channel of similar type but smaller than those in the quarry area, the dimensions being, invert 22 inches, concrete sides 3½ feet, and width at the top 7 feet.

In addition some smaller streams were buried in sub-soil pipes, of which 660 feet of 4-inch, 926 feet of 6-inch, and 28 feet of 8-inch pipes were laid.

14. TUBERCULOSIS.

During the year, phthisis was given as the cause of 324 deaths, 208 being certified by Hospitals or private practitioners, 113 by the Deputy Registrar of Deaths and three by the Coroner.

Since the cause of death is diagnosed, often on meagre or even misleading information, in more than 50 per cent. of the total number, it must be constantly borne in mind that the actual number of deaths due to phthisis is in all probability very much greater than the number diagnosed. Owing to insufficient evidence being available, it seems inevitable that many cases of true phthisis must be placed under the headings "Unspecified Fever" or "Bronchitis."

Table XIII shows the very large proportion placed under these headings by the Deputy Registrar, as the natural result of the vagueness of the statements elicited from relations or friends of the deceased, where a qualified practitioner would often have been able to arrive at a more accurate diagnosis if he had had an opportunity of making a physical examination a few days before.

The declared phthisis death rate is 2.1 per thousand of the estimated population, the figures for the previous five years being.

Year	Population	Phthisis Deaths Notified	Rate per thousand of population
1927	138,165	422	3.05
1928	141,348	432	3.05
1929	144,114	485	3.37
1930	146,935	374	2.55
1931	149,964	420	2.8

It may well be that the true phthisis death rate is still nearer 4 per thousand than the declared rate of 2.1 per thousand, taking into account the number of cases probably included under the heading "Unspecified Fever" and "Bronchitis."

The apparent decline in the phthisis death rate is encouraging, but must not be interpreted as meaning that our position as regards this disease is satisfactory.

It is very far from satisfactory and every known means of combating phthisis must still be kept in mind, and adopted as circumstances indicate.

In the 'Lancet' of 22nd October, 1932, comment is made on the progress of the campaign against tuberculosis in Sheffield.

It is stated that the Medical Officer of Health, Dr. John Rennie," gives five factors as being the most important in securing the success obtained. (1) The complete co-operation of the medical profession; (2) the provision of adequate sanatorium and hospital accommodation; (3) the treatment of a large number of early cases discovered by the examination of suspects and contacts; (4) intensive work in the isolation of infectious cases; and, latterly, (5) the re-housing of families which include an infectious case of tuberculosis."

None of these factors operates in Penang.

If we were in a position to offer sanatorium and hospital accommodation, and facilities for the treatment of early cases, isolation of the infectious cases, and re-housing of families which include infectious cases, then doubtless we should have the full and ready co-operation of the medical profession.

As it is, although tuberculosis has been notifiable since 1918, practitioners can hardly be expected to incur the odium of notification where there is no prospect of gaining any corresponding benefit for their patients.

On the other hand, it may be said in Penang as in England that real advance has been made in the general spread of knowledge as to the dissemination, prevention, and treatment of tuberculosis, and it would seem that for further progress we must for the present rely chiefly on educative methods and on securing improved housing conditions.

In Penang, attention has always been specially directed to improving housing conditions and to efforts to reduce overcrowding.

In his "Outline of the Practice of Preventive Medicine" (1926) Sir George Newman, Chief Medical Officer of the Ministry of Health says, "In the train of overcrowding, ill-ventilation or insanitation follows a mass of trouble, incapacity, disease and death. There is no subject in the whole range of Preventive Medicine in which the evidence is so general and incontrovertible as in regard to the ill effects of bad housing upon the human organism. Commission after commission, and report after report for a hundred years prove the case."

Gradual improvement in housing conditions is taking place year by year all over the town, but there are still many badly designed and ill-ventilated houses to be dealt with.

Overcrowding is particularly difficult to deal with in times like the present, when it is of such vital importance to many people to pay in rent either nothing, or at any rate the least possible.

While ordinary shop-houses, designed for one family, may now accommodate two or more families, the worst overcrowding still occurs in Common Lodging Houses, and these receive special attention, both to improve their standard of cleanliness and to check overcrowding.

There were 852 licensed Common Lodging Houses in 1932, a number which serves to indicate that their effective supervision is no light undertaking.

For many years past, we have made it a routine practice, as far as possible, to inspect each house and to see it cleaned and washed once a week. In addition occasional night inspections are held, on which occasions positive proof of overcrowding can be obtained.

During the year two night inspections were made, 50 of the worst Common Lodging Houses were visited, and gross overcrowding was found in 24 houses, the number of persons found sleeping on the premises being from 40 to 166 per cent. in excess of the number allowed in the licence. On prosecution, convictions resulted in all cases and fines to the amount of \$472-00 were inflicted.

Some worthy citizens, who are not troubled with any sanitary conscience, may say that unlimited overcrowding should be allowed in these hard times, but a Health Department must oppose this view, in the interests of the health and lives of those who dwell in lodging houses.

It must be remembered that sleeping in a makeshift shelter in this climate is not a hardship to be compared with sleeping in similar conditions in cold weather at home, and that it is nothing like so dangerous to health as spending the night in the stuffy, germ-laden atmosphere of a densely overcrowded room.

It is interesting to note that in a recent Annual Report it is shown that in London there were 152 licensed Common Lodging Houses and 22 Seamen's Lodging Houses, and that there were 7,582 day visits during the year 1930, which amounts almost to weekly inspection, and 212 night visits.

While remembering the vast difference that exists between a Common Lodging House in London and one in Penang, both in character and in the sanitary standard expected, it will be seen that the need for frequent inspection is realized in both places.

Much improvement in domestic sanitation is obtained by the issue of Nuisance Notices and other notices. During 1932 we had 672 houses altered to suit our requirements as to light and ventilation, 169 under Nuisance Notices, and 503 under other notices.

The creation of new insanitary buildings and areas is checked by the examination of all building plans, with the exception of plans for Government buildings, first by various inspectors and finally by the Municipal Engineer and the Health Officer conjointly, before the plans are put before the Commissioners.

In houses where phthisis exists or has recently existed, our staff offer to attend to or assist in the disinfection of the premises and of such articles as may require steam disinfection.

When a patient suffering from phthisis is discharged from Hospital, the Medical Officer communicates to me the home address and the date of discharge, so that we may offer advice and assistance.

A leaflet has been prepared giving an outline of the routine which should be followed in a house where phthisis is present, and a copy of this in the appropriate language is left in such houses.

Some instruction on this subject is given by teachers in some of the larger schools, and this most important procedure will probably be continued and will have good results.

During the year the Inspector of Schools distributed copies of our leaflet, 8,000 in English, 8,000 in Malay (Jawi), 3,000 in Romanized Malay, 5,000 in Chinese, and 300 in Tamil.

15. SMALL-POX.

On 25th August, a woman who came from India ten months previously and was well vaccinated, was admitted suffering from Chicken-pox.

She had with her a baby, eleven days old, who developed Chicken-pox on 1st September, the rash being typical on the trunk and rather scanty on the limbs.

By 4th September this rash had cleared off the trunk and a Small-pox rash appeared on the head and on all four limbs.

This rash aborted in a few days and the infant made a good recovery.

Probably the mother conveyed the infection to the baby without herself contracting Small-pox.

No other cases were reported either among the fisher folk, with whom this woman associated, nor in the rest of the town.

16. ENTERIC FEVER.

71 cases were reported: 4 were Eurasians, 47 Chinese, 11 Malays and 9 Indians.

38 cases were treated in Hospital: 18 died and 20 recovered.

33 remained at home: 19 died and 14 recovered.

17. CHICKEN-POX.

119 cases were reported, 86 of which were admitted to the Quarantine Camp.

Of the total 2 were Europeans, 3 Eurasians, 13 Chinese, 13 Malays, 86 Indians, and 2 Other Nationality.

30 cases were under ten years of age, 89 were over that age, their ages ranging from 1 to 65 years.

As usual the Indians showed a distinct susceptibility to this disease, the number affected being quite out of proportion to the size of the community.

18. PUERPERAL FEVER.

14 cases were reported compared to 16 in 1931.

8 were Chinese, 1 Malay and 5 Indians: 8 died and 6 recovered.

19. INFLUENZA.

Under Ordinance No. 157 (Quarantine and Prevention of Disease) this is classified as a dangerous infectious disease.

9 cases were reported, 7 were Chinese, 1 Malay and 1 Indian: all died.

One case each was reported during the months of January, April and November, and 2 each in February, June and July.

All were notified by General Practitioners.

20. MEASLES.

This infectious disease is not notifiable under Ordinance No. 157 (Quarantine and Prevention of Disease). Each year some cases come under our attention, but the disease has never assumed epidemic proportions.

One case of Measles, an Indian, was reported in April. He was treated at the Quarantine Camp and recovered.

21. ERYSIPELAS.

One case of Erysipelas, a Chinese, was reported in July. He was treated at home and recovered.

22. WHOOPING COUGH.

2 cases were reported in April and September. Both were treated at home and died.

23. CEREBRO-SPINAL MENINGITIS.

One case of Cerebro-spinal Meningitis, a Chinese, was reported in December. He was treated in hospital and died.

24. DIPHTHERIA.

In the 1931 Annual Report, comment was made on the apparent increase in the incidence of Diphtheria, and on the fact that the figures given in Table XVIII indicate that the chief cause of the increase must be the better notification of the disease in recent years.

The figures seem to indicate beyond doubt that mild cases were not recognised as a rule before the year 1928, and that in all probability many such cases are still not diagnosed.

About the middle of the year under review temporary arrangements were made whereby any medical practitioner could obtain from the Municipal Health Office a sterilized throat swab and have a bacteriological examination made without any charge in necessitous cases.

At home, in most towns of corresponding size practitioners can have free bacteriological examinations of various kinds made in Municipal or other Laboratories, but this is the first attempt to introduce any such scheme in Penang.

I show here the monthly incidence (Table XVII).

XVII.

Diphtheria 1932.

Month.	Cases Notified.	Deaths.
January ...	2	1
February ...	6	5
March ...	1	...
April ...	2	...
May ...	1	...
June ...	3	2
July ...	2	1
August ...	...	...
September ...	5	2
October ...	2	1
November ...	2	...
December ...	3	1
Total ...	29	13

TABLE XVIII.

Diphtheria in Penang Municipality.

	Estimated population (mid-year)	Year	Total cases reported	Deaths
Census (10th March)	98,381	1905	1	1
	99,400	1906	...	...
	100,429	1907	3	1
	101,469	1908	4	2
	102,520	1909	1	1
	103,582	1910	4	2
	101,182	1911	2	1
	102,167	1912	3	3
	102,913	1913	3	2
	103,664	1914	1	1
	104,420	1915	2	2
	105,183	1916	...	...
	105,950	1917	4	4
	106,723	1918	2	2
	107,502	1919	4	3
Census (25th April)	108,286	1920	1	1
	123,187	1921	5	4
	125,834	1922	4	2
	128,300	1923	4	4
	130,800	1924	4	2
	133,373	1925	8	6
	136,000	1926	6	5
	138,635	1927	8	5
	141,348	1928	15	5
	144,114	1929	11	5
Census (2nd April)	146,935	1930	20	10
	149,964	1931	23	9
	152,908	1932	29	13

25. PLAGUE.

No cases were notified.

In June, it was reported that a certain store-room was infested with swarms of biting insects believed to be fleas.

As this was in an area where rats are plentiful, some anxiety was felt, although there seemed to be no food stuffs in the store.

The examination of some specimens however showed them to be *Ctenocephalus felis* the common cat flea, which, as is well known, will readily attack man but does not convey plague.

26. INFECTIOUS DISEASES HOSPITAL, PERAK ROAD.

90 patients, 21 contacts, and 12 cases for observation were admitted.

Details of disease and nationality are shown in Tables XIX and XX.

TABLE XIX.

Disease.	Remaining on 31-12-31	Admitted	Total	Discharged	Transferred	Absconded	Died	Remaining on 31-12-32
Small-pox	...	1	1	1	...	...	...	...
Chicken-pox	5	86	91	88	1*	...	1**	1
Measles	...	2	2	2	...	...	...	...
Eczema	...	1	1	1	...	...	...	...
Observation	...	12	12	12	...	...	...	...
Contacts	...	21	21	21	...	...	...	...
Total ...	5	123	128	125	1	...	1	1

*Developed Beri-beri two days after admission, and was transferred to General Hospital on his recovery from Chicken-pox.

**Died of Ascariasis, aged 2 years.

TABLE XX.

Nationality.	Remaining on 31-12-31	Admitted	Total	Discharged	Transferred	Absconded	Died	Remaining on 31-12-32
Chinese	...	13	13	13	...	...	...	...
Malay	...	12	12	10	1	...	1	...
Indian	5	96	101	100	...	...	...	1
Others	...	2	2	2	...	...	...	...
Total ...	5	123	128	125	1	...	1	1

Notes:—

1. During the month of August 1932 the Camp was vacant from the 6th to the 24th inclusive.

2. 18 cases were admitted on personal application.

27. MARKETS.

We have one private general market, five public general markets, one public pig market and one public fish market.

The Municipal Engineer's Department is responsible for the sanitation of the public markets, and the importance and difficulty of the work are appreciated.

28. THEATRES.

All theatres and cinemas were inspected once a week. The standard of sanitation remains good.

29. MEDICAL ATTENDANCES.

Medical advice or treatment was given to Municipal employees 4,011 times.

The total for 1931 was 3,814 and for 1930 was 5,363.

The number seen per month varied from 209 in January to 407 in May.

The number seen in the different departments were.—

Engineer 2,563, Health 731, Electrical 181, Fire Brigade 34, Jinricksha 12, Water 392, Secretariat 87, and Veterinary 11.

30. SALE OF FOOD AND DRUGS ACT.

As one of our best defences against the onset of infectious or other disease is the possession of really sound bodily health, increasing attention is being paid by public health authorities to the need for an adequate supply of wholesome nourishing food.

The paramount importance of milk is due to its remarkable nutritive value, and, in order to make this value safely available to consumers, much effort is being spent in many parts of the world.

It therefore seems advisable to study our present position in Penang as regards this problem.

It may be confessed at the outset that the question of the possibility of obtaining a pure and clean supply of fresh cows' milk is still unsolved.

We had during the year 79 cattlesheds and cowhouses licensed, and 212 milksellers.

Our staff cannot possibly see that the milk is always sold without adulteration, or that the sheds are kept constantly clean and the cows properly washed before milking and the milk cans always sterilized.

At the Congress of the Royal Sanitary Institute held at Brighton in July 1932, an address was given by Dr. Winslow, Professor of Public Health at Yale, in the course of which he said, 'With every passing year the evidence grows stronger that no other procedure than heating can possibly guarantee safety, and that no raw milk is ever a reliable source of supply.'

Most of our cattlesheds are reasonably well designed and kept fairly clean, but we cannot supervise the milking. The milk is usually far from clean even if it is supplied unadulterated, and we know that large quantities of cows' milk, buffalo milk, and mixtures of the two, all often adulterated with variable quantities of water of unknown quality, are imported from other parts of the Island and from Province Wellesley.

Such being the sources of our supply, the possibility of establishing a central milk market has long been considered.

In his Annual Report for 1919, Dr. Rose mentioned a suggestion that milk stalls might be kept in markets, and that the milk might be sterilized; and in 1920 he recorded that a definite invitation had been given to vendors to sell in the Market, after the milk had been tested and, if thought fit, sealed and certified, but they did not accept the offer.

As the above quotation from Dr. Winslow indicates, the general trend of opinion at present is in favour of pasteurization.

Apart from the difficulties inherent in introducing into Penang a system which would ensure a general pooling of all our fresh milk supplies, there are some other considerations which have prevented me from advocating the attempt.

1. I believe that fresh milk is very rarely used in Penang for infants, and that for whatever purpose it is used, it is generally boiled.

2. Tinned milk may be boiled, but it has probably been produced under good conditions and some brands are pasteurized.

Some labels state that the contained milk is free from bacteria, but even apart from this standard of excellence, it may be accepted that the tinned milk sold here is nearly always good.

3. The milk powders and reconstituted milk are also reckoned as generally good.

4. Pasteurization is open to fallacy in (a) the design of the machinery, (b) the machinery not being kept clean, (c) the machinery not being kept in perfect order, and (d) mistakes of ignorance or carelessness made by the operators.

5. The establishment of an efficient pasteurizing station would involve great expense.

To sum up, we may draw three main conclusions from the foregoing notes:—

(a) There is plenty of good milk available at a reasonable price on the market.

(b) Milk sold here as fresh milk is not reliable, and cannot be recommended for human consumption.

(c) It does not seem worth while, under the conditions prevailing in Penang, to recommend the establishment of a central milk station with an efficient pasteurization plant and the staff which would be required for its control and operation.

It may be that before very long the sale of loose milk, by dipping from cans, will be prohibited by law. Many towns in U.S.A. have such a law, and by September 1931, New York was the only large city in the country which permitted its sale.

The sale of graded bottled milk, such as is issued by large dairy companies, might be allowed, if the dairy keepers would combine to form such a company under efficient control, but they seem quite unwilling to do so at present.

As usual, milk sold in open cans in the street was frequently inspected and tested, some 6,116 lactometer tests being made by the Laboratory Assistant, and 771 by the Sanitary Inspectors: 8 seemed to be below standard and samples of these were bought and analysed by the Deputy Government Analyst.

6 samples were found to be adulterated containing respectively, 7, 7, 10, 12, 16 and 31 parts per cent. of added water and 2 samples were reported as having buffalo milk added.

The vendors were prosecuted: 4 were convicted during the year and fines inflicted ranging from \$30 to \$80: one summons was withdrawn and the remaining 3 were carried forward to 1933.

13 vendors were prosecuted on other charges: 7 were convicted and 6 discharged: one for failing to carry his licence, two for failing to expose their badges, one for conveying milk in bottles of other than the approved type, one for selling milk without licence, seven for selling milk containing foreign matter and one for having plantain leaves in contact with his milk.

209 milk vendors were registered during the year after medical examination.

The total amount of fines inflicted on milk vendors was \$265-00.

31. DESTRUCTION OF RATS.

As there is no record of the occurrence of plague in Penang in recent years, the destruction of rats is perhaps to be regarded as an economic rather than as a sanitary proceeding.

A special gang of seven coolies was detailed: they used direct slaughter after smoking out the runs, and to a less extent poison and traps.

By direct slaughter they accounted for 10,227 rats during the year.

32. WATER SUPPLY.

There was throughout the year an ample supply of good drinking water, the average daily consumption being 47 gallons per head, including water used for trade purposes and shipping.

33. FINANCIAL.

The total expenditure of the Health Department for 1932 was \$151,393-44.

This includes the Quarantine Camp, the District Nurses Scheme, Vaccination, Anti-Mosquito Work, all pay and allowances and the Commissioners' donations to the Provident Fund of our staff.

The total receipts amounted to \$17,762-79 leaving \$133,630-65 as the cost of the department to the ratepayers.

This represents a rate of 2.101 per cent. or 5.042 pence in the pound sterling.

These figures are supplied by the Municipal Secretary.

The estimated population being 152,908, the total cost of the department for the year per head of population is about 87 cents or about two shillings sterling.

34. STAFF.

Dr. W. H. Brodie, Dy. Municipal Health Officer went on home leave on 29th May.

Mr. A. M. Gangadhar, Temporary Supervisor, was discharged on 14th February on the completion of the special work for which he had been engaged.

In conclusion I wish to express my appreciation of the steady work and loyal co-operation of the Staff throughout the year which alone made it possible for the Department to cope with the heavy tasks which had to be faced.

I have the honour to be,
Gentlemen,

Your obedient servant,

G. S. GLASS,

Municipal Health Officer.

Penang, 22nd February, 1933.

To

The Municipal Health Officer,
Penang.

Sir,

I have the honour to submit the report of the work done by the staff during the year ending 31st December, 1932.

GENERAL SANITATION.

The staff made 34,794 inspections and 54,248 reinspections, in which 1,532 premises were found defective and 2,216 dirty.

The following table shows how the notices were dealt with during the year.

Notices.	Outstanding on 31.12.31	Unserved on 31.12.31	New notices issued 1932	New notices served 1932	Unserved on 31.12.32	Complied with in 1932	Work proceeding on 31.12.32	Cancelled in 1932	Brought forward to 1933
Nuisance	116	2	200	202	...	183	29	1	134
Lime Washing	33	...	330	330	...	355	...	1	7
Latrines	42	6	383	388	1	364	8	4	62
Drains	22	4	259	262	1	256	2	2	26
Filthy Premises	3	1	1030	1031	...	1027	...	1	6
Common Lodging Houses	13	1	907	908	...	908	...	7	6
Trades	3	...	1183	1133	...	1044	1	3	89
Bakeries	...	...	1007	1007	...	1005	...	2	...
Bylaws	17	...	708	708	...	726	1	...	5
Wells	24	2	46	48	...	57	...	9	6
Partitions	58	...	294	294	...	322	3	7	18
Open Space	19	...	181	181	...	181	...	3	16
Mosquito Orders	58	2	347	346	3	363	12	3	38
Rats	2	...	99	99	...	99	...	1	1
Disinfection	...	...	457	457	...	454	...	2	1
Closing Order	9	...	57	57	...	61	...	...	5
Lodging House (Minor Offences Ordinance)	...	...	14	14	...	14	...	...	...
Total	414	18	7452	7465	5	7419	56	46	420

46 notices were cancelled for various reasons.

183 nuisance notices were complied with during the year. These dealt with 304 houses of which 169 were structurally altered to provide light and ventilation, 68 houses were generally repaired and 67 for other nuisance.

71 complaints were received and dealt with during the year.

WELLS.

48 notices under Section 247, Ordinance No. 135 (Municipal), were served and 24 brought forward from 1931. 57 were complied with: 57 wells were closed.

CEMETERIES.

The Sub-Inspector in charge visited the cemeteries 257 times.

EXHUMATIONS.

38 applications for exhumation of bodies were received, but only 32 bodies were exhumed under special licence.

PASSENGERS.

105 passengers arrived from infected ports and passed through this office as against 351 last year.

PLANS.

397 plans were sent in and examined in this office as against 481 last year.

PROSECUTIONS.

568 summonses were issued during the year	544 convictions 29 withdrawn
120 were brought forward from 1931	8 discharged 107 carried forward
Total 688	Total 688

52 Abatement of Nuisance, 10 Closing, 3 Prohibition and 13 Mandatory Orders were obtained.

The fines imposed by the Magistrates amounted to \$3,599-10 against \$6,079-50 last year.

DISINFECTIONS.

476 houses were disinfected during the year for the following causes:—

Phthisis	...	...	...	237
Diarrhoea	...	...	...	78
Enteritis	...	...	...	58
Dysentery	...	...	...	18
Chicken-pox	...	...	...	29
Enteric Fever	...	...	...	18
Diphtheria	...	...	...	16
Beri-beri	...	...	...	21
Puerperal Sepsis	...	...	...	1

Total 476

The houses disinfected being distributed as follows:—

PHTHISIS:—Hutton Lane, Chulia Street (9 each); Cintra Street (8); Dato Kramat Road, Noordin Street, Perak Road, East Jelutong, Rope Walk (7 each); Bridge Street, MacAlister Road, Magazine Road, Jelutong Road, Campbell Street (6 each); Maxwell Road, Burmah Road, Perak Lane, Kimberley Street, Beach Street (5 each); Tye Sin Street, Argyll Road (4 each); Presgrave Street, Gladstone Road, Patani Road, Caunter Hall, Batu Lanchang, Seang Tek Road, Penang Road, Malay Street, Armenian Street, (3 each); China Street, King Street, Ayer Etam Road, Rangoon Road, Clove Hall Road, Kinta Lane, Transfer Road, Anson Road, Kajang Road, Irving Road, Soo Hong Lane, Carnarvon Street, Kuala Kangsar Road, Chulia Street, West Jelutong, Green Lane, Aboo Sittee Lane, Perlis Road (2 each); Pitt, Queen, Penang, Malacca, Bishop, Klang, Muntri, Victoria Streets, Kampong Java Bharu, Barrack, Scott, Anson, Gopeng, Siam, Prangin, Krian, Burmah, Kuantan, York, Jahudi, Trusan, Scotland Roads, Bagan Jermal Road, Sungei Ujong Road, Burmah Lane, Bukit Dunbar, Ngha Aboo Lane, Lumut Lane, Madras, Drury, Singora, Muda, New, Carnarvon, Bertam, Stewart Lanes, Cheap Side, Kampong Deli, Merican Road, Weld Quay, Market Street, Acheen Street, Leith Street, Kadersah Square, Macalister Lane, Lorong Saratus Tahun, and Lorong Salamet (1 each).

DIARRHOEA:—West Jelutong (6); Bridge Street (4); Dato Kramat Road, Brick Kiln Road, Jelutong Road, McNair, Noordin Street (3 each); Muntri, Beach, Chulia Streets, Perak, Prangin, Penang Roads, Bukit Dunbar, Market Lane, Magazine Road, East Jelutong (2 each); Tek Soon, Malay, Queen, Pitt, King, Presgrave, Katz, Tye Sin, Cintra, Acheen, Carnarvon, Tamil, Kimberley, Cross, Malay Streets, Kuala Kangsar, Patani, Gottlieb, Tanjong Tokong, Gladstone, Kedah Roads, Green Lane, Soo Hong, Chulia, Bagan Jermal, Hutton, Toh Aka Lanes, Caunter Hall, Khoo Cheow Teong Court, Cannon Square, and Batu Lanchang (1 each).

ENTERITIS:—Bridge Street (5); Dato Kramat Road, Brick Kiln Road, East Jelutong (3 each); Acheen Street, Edgecumbe, Sungei Pinang Roads, Carnarvon, Hutton Lanes, West Jelutong (2 each); Noordin, McNair, Malacca, Beach, Chulia, Macallum, Muntri, Cintra, Cecil, Tek Soon, Katz, Presgrave Streets, Penang, Batu Lanchang, Prangin, Waterfall, Magazine, Gladstone, York, Bagan Serai, Transfer, Kedah, Anson, Dunlop, Jahudi Roads, Stewart, Aboo Sittee, Bertam, Perak Lanes, Batu Lanchang, Seh Tan Court and Rope Walk (1 each).

DYSENTERY:—Kedah Road (3); Hutton Lane (2); Bridge, Keng Kwee, Tek Soon Streets, Western, Magazine, Patani, Jelutong, Macalister Roads, East Jelutong, West Jelutong, Caunter Hall, Cannon Square and Carnarvon Lane (1 each).

PUERPERAL SEPSIS:—Cintra Street (1).

CHICKEN-POX:—Patani Road (6); Perak Road (3); Jelutong Road, Queen Street (2 each); King, Noordin, Church, Penang, Chulia Streets, Kuantan, Burmah, Jahudi, Chow Thye, Irving, Brook, Penang Roads, Market Lane, Hutton Lane, West Jelutong and Prangin Road Ghaut (1 each).

ENTERIC FEVER:—Macalister Lane (2); Hong Kong, Tye Sin, Presgrave, Beach, Armenian, Noordin, Malay, Bridge, Muntri, Ah Quee Streets, Burmah, York, Jelutong Roads, Hutton Lane, East Jelutong and Kampong Java Bharu (1 each).

DIPHTHERIA:—Bridge, Campbell, Chulia, Carnarvon, King, Victoria Streets, Brick Kiln, Northam, Kedah, Dato Kramat, Anson, Jelutong Roads, Hutton, Ceylon, Stewart and Aboo Sittee Lanes (1 each).

BERI-BERI:—Jelutong Road, Hutton Lane, Perak Road (2 each), Chulia, Carnarvon, Bridge, Tye Sin, Beach, Noordin, Muntri, Malacca Streets; Barrack, Prangin Roads, Madras Lane, West Jelutong, East Jelutong, Seh Tan Court and Rope Walk (1 each).

TRADES.

The fees collected during the year for trade licences amounted to \$9,009-40 against \$9,102-30, a decrease of \$92-90.

COMMON LODGING HOUSES.

906 common Lodging Houses were licensed during the year against 903 in 1931, the fees collected amounted to \$1,711-10 as against \$1,664-40, a decrease of 3 houses and fees \$46-70.

Two night raids were made during the year. 50 houses were raided of which 24 had persons in excess. 24 summonses were issued and fines amounting to \$472-00 were imposed.

LODGING HOUSES UNDER THE MINOR OFFENCES ORDINANCE.

30 lodging houses were licensed under the Minor Offences Ordinance against 34 in 1931.

M I L K.

209 milk sellers were registered in 1932 as against 212 in 1931, a decrease of 3.

The Sanitary Inspectors spent an afternoon each month in testing milk by lactometer from the various milk sellers whom they met in different parts of the town.

771 samples were tested during the year by them and 6,116 by the Laboratory Assistant.

8 samples which seemed to be below the standard were purchased and sent for analysis of which 6 samples were found to contain 7% to 31% of added water, and two samples were found adulterated with buffalo milk.

21 summonses were issued (8 for selling adulterated with added water or buffalo milk and 13 for offences against the by-laws and regulations).

57 brought forward from 1931

Total 78

11 convictions were obtained.

1 withdrawn

6 discharged

60 carried forward to 1933

Total 78

Fines amounting to \$265 were imposed against 81076 in 1931, a decrease of \$811.

V A C C I N A T I O N.

Our vaccinators made 3,599 primary and 239 secondary vaccinations. 1,200 tubes of lymph were used at a cost of \$300.

Private practitioners and public vaccinators made 1,013 primary vaccinations.

The Government vaccinator made 6,403 secondary vaccinations within Municipal limits.

RATS.

Our gang of rat-catchers caught and destroyed 10,506 rats during the year by means of smoking, trapping and using of poison.

ANTI-MOSQUITO WORKS.

Four anti-mosquito gangs did good work, cutting down vegetation, digging, levelling and clearing ditches in Reserved roads within Municipal limits; they also do works at the request and expense of owners. All streams including tributaries were cleared when necessary; and special attention was paid to the stream at the Chetty Temple during the Thaipusam festival.

Five gangs of chokras, each under a supervisor, were allotted certain areas to go through regularly once a week, and they were useful in collecting and where possible burying tins, coconut shells, and other receptacles.

The oiling gangs under supervisors regularly oiled all ditches, swamps and streams within Municipal limits and the Race Course, Kelawei Road, Bagan Jermal, Mount Erskine, Western Road, Waterfall Road and Scotland Road including the foothills to Kampong Bharu, Batu Gantong and foothills, Green Lane and foothills, Caunter Hall, Perak Road, East and West Jelutong and Jelutong Village, Bukit Dunbar, Perak Lane, Burmah, Anson, Larut, Gottlieb, Sungei Pinang, River, Patani, Jelutong and Batu Lanchang Roads; 32,000 gallons of "Graham's" anti-malarial mixture were used, the cost was \$9,600.00.

At the request of some owners, oiling was done in private properties, the income received from such sources being \$1,569.90.

STAFF.

Mr. A. M. Gangadhar, Temporary Supervisor, was discharged on 14th February, owing to the completion of the special work for which he had been engaged.

The staff worked satisfactorily throughout the year.

I have the honour to be,

Sir,

Your obedient servant,

H. L. McCULLOCH,

for Chief Sanitary Inspector.

Prosecutions	Brought forward from 1931	Issued in 1932	Cases in Court	Convictions	Withdrawn	Discharged	Abatement of Nuisance Order	Closing Order	Ejectment Order	Prohibition Order	Mandatory Order	Total Orders Obtained	Fines		Costs	
													\$	c.	\$	c.
Nuisance Notice	5	68	66	62	4	—	52	4	—	3	—	59	15	00	31	00
Abatement of Nuisance Order	5	28	25	25	—	—	—	6	—	—	—	6	95	10	12	50
Latrines	—	17	15	13	2	—	—	—	—	—	7	7	—	—	6	50
Drains	1	8	9	9	—	—	—	—	—	—	3	3	20	00	4	50
Partitions	—	10	10	9	1	—	—	—	—	—	1	1	70	00	4	50
Trades	—	38	38	36	—	2	—	—	—	—	—	—	207	00	18	00
Open Space	—	5	5	4	1	—	—	—	—	—	1	1	7	00	2	00
Common Lodging Houses	4	74	71	66	5	—	—	—	—	—	—	—	506	00	33	00
Breach of C.L.H. By-laws	—	34	33	32	1	—	—	—	—	—	—	—	269	00	16	00
Filthy Premises	—	4	4	3	1	—	—	—	—	—	—	—	12	00	1	50
Breach of Bakery By-laws	10	143	139	128	11	—	—	—	—	—	—	—	861	00	64	00
Breach of Milk Regulations	57	21	18	11	1	6	—	—	—	—	—	—	265	00	25	50
Failing to report birth	2	19	19	19	—	—	—	—	—	—	—	—	15	00	9	50
Breach of Pig By-laws	1	32	33	33	—	—	—	—	—	—	—	—	117	00	16	50
Breach of Cattleshed By-laws	—	1	1	—	1	—	—	—	—	—	—	—	—	—	—	—
Lime Washing	—	—	1	1	—	—	—	—	—	—	—	—	8	00	—	50
Mosquitoes	2	14	13	13	—	—	—	—	—	—	—	—	35	00	6	50
Destruction of Rats	—	1	1	1	—	—	—	—	—	—	—	—	7	00	—	50
Closing Order	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mandatory Order	1	2	3	3	—	—	—	—	—	—	—	—	—	—	1	50
Prohibition Order	—	1	1	1	—	—	—	—	—	—	—	—	5	00	—	50
Infringing Terms of C.L.H. License	32	32	64	63	1	—	—	—	—	—	—	—	1085	00	31	50
Wells	—	10	10	10	—	—	—	—	—	—	1	—	—	—	5	00
Failing to report death	—	2	2	2	—	—	—	—	—	—	—	—	—	—	1	00
Total	120	568	581	544	29	8	52	10	—	3	13	78	3599	10	291	50

Licenses issued in 1932.	No. 1931	Fees		No. 1932	Fees		No. In- crease	Fees		No. De- crease	Fees	
		\$	c.		\$	c.		\$	c.		\$	c.
Coal Depot	5	60	00	4	48	00	—	—	—	1	12	00
Charcoal Depot	31	186	00	33	198	00	2	12	00	—	—	—
Wood Depot	68	408	00	64	384	00	—	—	—	4	24	00
Candle Factory	14	112	00	13	104	00	—	—	—	1	8	00
Braziers, Foundries and Smithies	50	100	00	44	88	00	—	—	—	6	12	00
Atap, Kajang and Straw	36	108	00	33	99	00	—	—	—	3	9	00
Cattleshed and Cow- house	79	329	00	74	298	00	—	—	—	5	31	00
Pig Sties	622	1244	00	578	1156	00	—	—	—	44	88	00
Stables and Horses	1	1	00	1	1	00	—	—	—	—	—	—
Sheep and Goats	11	30	30	14	35	40	3	5	10	—	—	—
Storing and Curing Hides	6	72	00	7	84	00	1	12	00	—	—	—
Soap Factory	15	120	00	16	128	00	1	8	00	—	—	—
Fish Storing and Curing	35	420	00	32	384	00	—	—	—	3	36	00
Rags, Bones and Feathers	5	60	00	6	72	00	1	12	00	—	—	—
Dyeing House	4	40	00	4	40	00	—	—	—	—	—	—
Drying Cloth	2	10	00	2	10	00	—	—	—	—	—	—
Tanneries	15	360	00	13	312	00	—	—	—	2	48	00
Blanchan Factory	2	24	00	2	24	00	—	—	—	—	—	—
Sago Factory	1	10	00	—	—	—	—	—	—	1	10	00
Sugar Factory	12	72	00	6	36	00	—	—	—	6	36	00
Pepper Washing Factory	1	10	00	1	10	00	—	—	—	—	—	—
Pottery Making	2	4	00	2	4	00	—	—	—	—	—	—
Market Gardens	96	—	—	93	—	—	—	—	—	3	—	—
Milksellers	212	212	00	209	209	00	—	—	—	3	3	00
Bakeshops	35	175	00	20	100	00	—	—	—	15	75	00
Cookshops	157	785	00	191	955	00	34	170	00	—	—	—
Eatingshops	786	3930	00	798	3990	00	12	60	00	—	—	—
Fresh Fish and Meat	44	220	00	48	240	00	4	20	00	—	—	—
Lodging Houses (Minor Offences Ordinance)	34	34	00	30	30	00	—	—	—	4	4	00
Common Lodging Houses	903	1664	40	906	1711	10	3	46	70	—	—	—
Total	3284	10800	70	3244	10750	50	61	345	80	101	396	00

