Annual report of the Medical Officer of Health / Nairobi Municipality.

Nairobi Municipality
Kenya.

SIXTH

ANNUAL REPORT

OF THE

Medical Officer of Health

1934

E. A. Standard, Ltd.

Nairobi Municipality
Kenya.

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OF THE

Medical Officer of Health

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Contents.

MUNICIPAL OFFICES,
NAIROBI,
March 14th, 1935.

His Worship the Mayor and Councillors
of the Municipal Council of Nairobi.

Gentlemen,

I have the honour to present to you herewith my annual report on the sanitary circumstances, sanitary administration, vital statistics and other matters of a health nature, of the Municipality of Nairobi for the year 1934, as required by " The Local Government (Municipalities) Ordinance, 1928," " The Medical Officers of Health Rules, 1929," Sec. 2 (12)d.

1. GENERAL.

The Local Government (Municipalities) Ordinance came into force as from 1929, thus this is the sixth year that the Municipal Council of Nairobi has been the local public authority for Nairobi.

For the past three years, the personnel of the public health department has not included any officer seconded from Government.

During the year the office of the public health department has been situated in the Rahimtulla Trust Building, Government Road, but by the middle of 1935, it is anticipated transferring to the new Municipal Offices now being built in the City Square.

The annual expenditure of the department compared favourably with that during 1933. Although the total was somewhat higher, the difference is more than accounted for by extraordinary expenditure.

The estimated population of the Municipality shows an increase for 1934 of 13.7%, thus counterbalancing the decrease of 11.9% shown last year. All races shared in the increase, the Europeans gaining 4.9%, Asiatics 12.2%, and Natives and others 16.5%.

The rainfall for the year was only 23.12 inches compared with an average over 28 years of 35.94 inches. This constitutes the fourth lowest rainfall during the 38 years that records have been available.

The year under review has not been a healthy one, the death rate having risen to 14.8. The European rate now stands at 8.5, the Asiatic at 15.1, and the Native at 15.9. This is the second consecutive year that the death rate for all races has risen and the third consecutive year that the European death rate has risen.

This is the first year that it has been possible to calculate birth rates; therefore no comparison can be made, but during 1934, the rate per thousand married women between the ages of 20 and 49 is estimated at 46.2 for Europeans and 97.9 for Asiatics.

The proportion of stillbirths to total births is still very high among the Indian communities, the percentage being 17.8 during 1934.

The infant mortality although standing at a high figure, was somewhat less than the previous year, the rate among Europeans being largely increased but the rate for Asiatics and Natives was slightly decreased.

Excluding malaria, the number of infectious diseases notified compared favourably with 1933, the only notable increase being in regard to blackwater fever. Enteric fever showed a slight increase. None of the infectious diseases assumed epidemic proportions.

Over 2,000 cases of malaria were notified during the year. This is about double the number notified during 1933. About two-thirds of these cases occurred during the middle four months of the year. In about 75% of the cases notified, it is estimated that the source of infection was the Nairobi swamp.

In the middle of the year, it was found necessary, on account of the proximity of smallpox, to undertake emergency work in connection with vaccination.

Of the 81¾ miles of roads within the Municipality taken over by the Council, 39¾ miles are now macadam surfaced, the remainder being surfaced with murram.

Negotiations concerning the new water supply have been continued and it is to be hoped that during the coming year, a start will be made on the construction of the pipe line.

Special attention has continued to be made to the quality of meat passing through the abattoir. In this connection, the increased number of grade oxen slaughtered should be noted.

A report on the work in connection with Child Welfare and Clinics by the Medical Officer in charge has been omitted from this year's report.

2. STAFF.

The establishment of the public health department includes the following staff:—

1 Medical Officer of Health.
1 Chief Sanitary Inspector.
4 District Inspectors.
1 Meat and Food Inspector.
1 Sanitary Overseer.
1 Clerk.
Native staff.

The details of the personnel of the staff employed during the year are as under:—

Medical Officer of Health.

Dr. H. W. Tilling was absent for six months on overseas leave. During his absence the work was undertaken by Dr. M. Mackinnon.

Chief Sanitary Inspector.

This post is still vacant but the duties have been carried out by Mr. R. C. Forster. It has been mentioned in previous reports that the filling of this post would facilitate the working of the department considerably.

Sanitary Inspectors.

Mr. R. C. Forster, Mr. F. G. Ward, Mr. D. Mackintosh, and Mr. S. W. White all carried out their duties throughout the year.

Meat and Food Inspector.

Mr. A. A. Watts carried out the duties during the year.

SANITARY OVERSEER.

Mr. T. Bagnall was kept occupied throughout the year.

CLERK.

The duties have been carried out by Miss A. Ritchie as part time services in conjunction with the Town Clerk's department.

NATIVE STAFF.

The number of boys employed on the office staff comprise one notice server and two messengers. The number employed on outside work comprise one motor driver, six rat boys, four oiling boys, and one boy to assist in food inspection. Twenty boys are employed on anti-malarial work.

Personnel of Health Department during 1934.

	From	To
MEDICAL OFFICER OF HEALTH.		
Dr. H. W. Tilling	1-1-34	31-12-34
CHIEF SANITARY INSPECTOR.		
Vacancy.		
SANITARY INSPECTORS.		
Mr. R. C. Forster	1-1-34	31-12-34
Mr. F. G. Ward	1-1-34	31-12-34
Mr. D. Mackintosh	1-1-34	31-12-34
Mr. S. W. White	1-1-34	31-12-34
INSPECTOR OF MEAT AND FOODS.		
Mr. A. A. Watts	1-1-34	31-12-34
CLERK (part time).		
Miss A. Ritchie	1-1-34	31-12-34
SANITARY OVERSEER.		
Mr. T. Bagnall	1-1-34	31-12-34

NATIVE STAFF.	
Notice server	1
Messengers	2
Motor driver	1
Rat boys	6
Oiling boys	4
Food inspection	1
Anti-malarial boys	20

3. EXPENDITURE.

The expenditure of the public health department for the year 1934 amounted to £6,547 of which the Government by grants made on account of public health, contributed £3,273, leaving a similar amount to be borne by the Council.

Under the provisions of the Local Government (Municipalities) Ordinance, the Government contributes one half of the cost of the salaries of the medical officer of health and of qualified sanitary inspectors and also one half of the expenditure in connection with infectious diseases.

Details of the expenditure by the public health department are given under:—

EXPENDITURE.

ADMINISTRATION.

	£	£
Salaries: M.O.H. and Sanitary Inspectors	4,368	
Clerk	150	
Boys' wages, etc.	37	
Travelling allowances	208	
Passages	139	
Rent and telephone	168	
Printing, stationery, etc.	67	
Miscellaneous	5	
	——	5,142
INFECTIOUS DISEASES PREVENTION.		
Notification fees	151	
Hospital fees	418	
Overseer's salary	350	
Boys' wages, etc.	254	
Oil and stores	39	
Upkeep of lorry	102	
Emergency work	73	
	——	1,387
FOOD INSPECTION.		
Boys' wages, etc.	18	18
	——	
Total		6,547
Less Government grants		3,273
		£3,274

Comparison of the expenditure with previous years is as follows:—

Year.	Expenditure.	Paid by Government.	Paid by Council.
	£	£	£
1929 ...	7,948 ...	6,955 ...	993
1930 ...	6,993 ...	6,118 ...	875
1931 ...	5,978 ...	3,736 ...	2,242
1932 ...	5,967 ...	2,983 ...	2,984
1933 ...	6,144 ...	3,072 ...	3,072
1934 ...	6,547 ...	3,273 ...	3,274

It is noted that the expenditure for the year was £403 greater than for 1933. Extraordinary expenditure connected with emergency vaccination work and also with the salary of a *locum tenens* during the absence of the M.O.H. on overseas leave, accounted for a total of £523.

The payment of notification fees increased from £42 in 1933 to £151 in 1934, whereas hospital fees declined from £552 to £418. Should the Council decide to take over the auxiliary health services the cost to the public health department will increase correspondingly.

The total expenditure for 1934 was £1,401 or 17.6% less than the amount expended in 1929.

Since 1929, the Government contribution has fallen from £6,955 to £3,273, a decrease of £3,682 or 53%, whilst the Council contribution has increased from £993 to £3,274, a difference of £2,281 or 229%.

The boys engaged on anti-malarial work, although working under the supervision of the public health department, are on the pay roll of the engineering department.

4. GEOGRAPHICAL.

Nairobi, the capital of Kenya, is situated in the highlands about 250 miles from the coast and is 330 miles by rail from Mombasa and 257 miles by rail from Kisumu on Lake Victoria.

The geographical position is:—

Latitude: 1° 16′ 43″ South.

Longitude: 36° 50′ East.

Height above sea level: From 5,452 to 5,700 feet.

Area of Municipality: 22,230 acres or approximately 34¾ square miles.

5. RAINFALL.

The following rainfall records are from the Hill Station at 5,700 feet:—

Month.	Rainfall. 1934.	Rainfall. Average 28 years.	Days of Rain. 1934.	Days of Rain. Average 27 years.
	ins.	ins.		
January	0.14	1.72	1	5
February	2.06	2.08	3	5
March	0.65	4.63	3	10
April	2.95	8.23	12	17
May	5.75	5.25	19	16
June	2.15	1.50	12	8
July	1.54	0.72	10	5
August	0.37	0.96	6	6
September	0.03	1.16	1	6
October	2.62	2.15	9	8
November	3.05	4.80	11	14
December	1.81	2.74	9	10
Annual	23.12	35.94	96	110

Very little rain fell in Nairobi during 1934; in fact it constituted the fourth lowest rainfall for the 38 years since records have been available.

The lowest record was in 1921 when 18.49 inches fell; the second lowest, 1933, with 22.68; and the third lowest, 1918, with 23.05 inches.

The average monthly rainfall for the year was 1.92 inches compared with the average over 28 years of 2.99 inches.

The average fall of rain per day for 1934 was 0.240 inches compared with the average over 27 years of 0.326 inches.

The rainfall was distributed through the seasons of the year as follows:

Season.	1934.	28 years average.
Short dry season (January, February)	2.20	3.80
Long rains (March, April, May)	9.35	18.11
Long dry season (June to September)	4.09	4.34
Short rains (October, November, December) ...	7.48	9.69
Annual	23.12	35.94

Taking the rainfall by seasons, it will be noted that whilst all the seasons were below the average, the main difference between the actual rainfall and the average occurred during the long rains when there was a deficiency of 48% and during the short rains when the deficiency amounted to nearly 23%; the short dry season had a deficit of 42% and the long dry season was about 6% below the average.

January with 0.14 inches against an average of 1.71, constituted the seventh lowest record for the month. Previous low falls for January occurred in 1908, 1911, 1913, 1915, 1924, and 1926, all these years with the exception of 1911 having an annual rainfall below the average.

The fall during February was 2.06 inches compared with the average of 2.07.

March was a very dry month, only 0.65 inches being recorded, the average being 4.63. In three previous years only has a lesser amount fallen, namely in 1907, 1909, and 1918.

April was also a dry month, 2.95 inches falling compared with the average of 8.23. 1934 constituted the second lowest record for this month, the lowest being in 1933 with 1.36 inches.

May with 5.75 inches exceeded the average of 5.25.

June and July were relatively good months, 2.15 and 1.54 inches falling respectively compared with the average of 1.50 and 0.72.

August and September were poor months, only 0.37 inches falling during the former against an average of 0.96 and 0.03 inches falling during the latter month compared with the average of 1.16. August had the sixth lowest for that month whilst September held the third lowest record.

The rainfall for October exceeded the average of 2.15 inches by about half an inch.

November and December were both drier than the average, the former with 3.05 inches and the latter with 1.81 inches, the averages being 4.80 and 2.74 respectively.

The longest dry spell during the year occurred from the middle of August to the middle of October, a period of 65 days, during which a total of only 0.08 inches fell on four widely separated occasions.

ANNUAL RAINFALL.

Year.	Inches.	Year.	Inches.	Year.	Inches.
1897	27.5	1910	25.64	1923	56.22
1898	28.1	1911	41.49	1924	26.72
1899	27.5	1912	56.01	1925	27.83
1900	44.3	1913	31.04	1926	33.25
1901	40.7	1914	42.18	1927	24.86
1902	32.9	1915	28.88	1928	28.91
1903	40.7	1916	43.59	1929	36.50
1904	26.9	1917	51.44	1930	58.88
1905	59.3	1918	23.05	1931	39.58
1906	46.7	1919	38.74	1932	39.85
1907	41.98	1920	51.19	1933	22.68
1908	27.90	1921	18.49	1934	23.12
1909	29.02	1922	37.28		

Records for the years 1897 to 1906 are relatively accurate only.

6. POPULATION.

The population of the Municipality of Nairobi for 1934 has been estimated as under:—

	Males.	Females.	Total.
Europeans	2,750	2,650	5,400
Asiatics	8,500	6,500	15,000
Natives and others	23,000	4,000	27,000
All races	34,250	13,150	47,400

These figures show an increase of 13.7% for the whole population compared with the estimated population for 1933.

It is noted that all the races share in the increase, the European to the extent of 4.9%, the Asiatic by 12.2%, and the Native by 16.5%.

7. MARRIAGES.

The following marriages were celebrated in Nairobi during 1934:—

British	58
German	2
Dutch	2
Danish	1
Norwegian	1
Goan	4
	68

These figures are not corrected for persons habitually resident in Nairobi.

8. BIRTHS.

During 1933, the Municipal Council passed by-laws entitled "The Nairobi Municipality (Notification of Births) By-laws 1933." These by-laws lay down that every birth whether alive or dead occurring within the Municipality shall be notified within 48 hours, no nationalities or races being exempt.

The statistics obtained from these notifications are set out in the accompanying table:—

BIRTHS NOTIFIED.

RACE.	RESIDENTS.						NON-RESIDENTS.						TOTAL.	
	Births.			Stillbirths.			Births.			Stillbirths.				
	M.	F.	Tot.	M.	F.	Tot.	M.	F.	Tot.	M.	F.	Tot.	Births.	Still-births.
British	34	26	60	1	1	2	17	15	32	—	1	1	92	3
Danish	1	—	1	—	—	—	—	—	—	—	—	—	1	—
Swedish	—	—	—	—	—	—	1	2	3	—	—	—	3	—
Dutch	—	1	1	—	—	—	—	—	—	—	—	—	1	—
Italian	—	2	2	—	—	—	—	—	—	—	—	—	2	—
German	—	1	1	—	—	—	—	—	—	—	—	—	1	—
Goan	22	15	37	—	—	—	—	2	2	—	—	—	39	—
Indian	84	67	151	11	16	27	5	2	7	—	—	—	158	27
Native	96	111	207	11	5	16	35	33	68	8	4	12	275	28
Seychellois	2	1	3	—	—	—	—	—	—	—	—	—	3	—
Arab	—	1	1	—	—	—	—	—	—	—	—	—	1	—
Somali	2	1	3	—	—	—	—	—	—	—	—	—	3	—
Sudanese	1	—	1	—	—	—	—	—	—	—	—	—	1	—
Nubian	1	—	1	—	—	—	—	—	—	—	—	—	1	—
ALL RACES	243	226	469	23	22	45	58	54	112	8	5	13	581	58

In two cases only were multiple births recorded, one European, both births being female and born alive, the other Indian, both births being female and born alive.

Estimated on the number of women of all ages, the 65 births among Europeans, gives a birth rate of 2.4%, the 188 births among Asiatics, makes a birth rate of 2.9% and the 216 births among Natives and others, gives a birth rate of 5.4%.

Calculated on the estimated number of married women between the ages of 20 and 49, the European birth rate works out at the rate of 46.2 per thousand and the Asiatic rate at 97.9 per thousand.

As the age group distribution is not known for the Native race, no rate can be calculated.

STILLBIRTHS.

The proportion of stillbirths to total births recorded were as under:—

Race.	Births.	Stillbirths.	Percentage of births.
European ...	65	2	3.0
Goan ...	37	0	0.0
Indian ...	151	27	17.8
Natives ...	207	16	7.7
Other ...	9	0	0.0
TOTAL ...	469	45	9.5

For non-residents the percentage of stillbirths to total births for Europeans amounted to 5.7% or a percentage of 5.0 for total Europeans both resident and non-resident.

The percentage for total Goans and Indians, comes to 0.0% and 17.0% respectively, whilst the percentage for total Natives and others amounts to 9.8%.

9. DEATHS.

Unless otherwise stated, the following statistics refer to residents of Nairobi only, but also include the prison population.

Rates have been calculated according to the estimated population for 1934.

The total number of deaths reported in Nairobi during the year was 878, equivalent to a crude death rate for all races of 18.51, compared with the figure of 17.83 for 1933.

The number of deaths from all causes among persons stated to be normally resident in Nairobi was 705, equivalent to a recorded death rate

for all races of 14.86 per thousand persons, compared with 14.03 for the previous year and 11.08 for 1932.

Of the 705 deaths among residents, 478 were of males and 227 were of females.

187 deaths were of infants of one year or under.

46 deaths occurred among Europeans, 22 male and 24 female, equivalent to a rate of 8.51 per thousand.

228 deaths occurred among Asiatics, 132 male and 96 female, equivalent to a rate of 15.19 per thousand.

431 deaths occurred among Natives and other races, 324 males and 107 females, equivalent to a rate of 15.95 per thousand.

DEATHS BY RACE AND SEX.

		White.	Indian.	Goan.	Native.	Somali.	Seychellois.	Sudanese.	Arab.	Abyssinian.	Nubian.	Mauritian.		TOTAL.
Resident	M.	22	125	7	304	11	3	1	3	2	—	—	...	478
	F.	24	91	5	96	2	4	—	2	—	2	1	...	227
	Total	46	216	12	400	13	7	1	5	2	2	1	...	705
Non-Resident	M.	10	3	1	102	1	—	—	—	1	—	—	...	118
	F.	8	1	—	46	—	—	—	—	—	—	—	...	55
	Total	18	4	1	148	1	—	—	—	1	—	—	...	173
	TOTAL	64	220	13	548	14	7	1	5	3	2	1	...	878

COMPARISON OF DEATH RATES FOR EIGHT YEARS.

Year.		Crude Rate.		Recorded Rate.
1927	...	21.66	...	18.90
1928	...	25.11	...	17.94
1929	...	17.91	...	13.77
1930	...	20.79	...	16.20
1931	...	16.21	...	13.78
1932	...	13.51	...	11.08
1933	...	17.84	...	14.03
1934	...	18.51	...	14.86

COMPARISON OF DEATH RATES FOR RACES FOR 10 YEARS

	European.	Asiatic.	Native.	All Races.
1925*	10.3	16.1	18.3	16.6
1926	13.5	30.3	17.3	20.5
1927	13.8	29.2	16.5	18.9
1928	12.8	23.3	16.1	17.9
1929	8.4	17.0	13.4	13.7
1930	11.8	20.7	15.2	16.2
1931	4.7	14.3	15.2	13.7
1932	5.6	13.5	10.7	11.0
1933	7.1	14.8	15.0	14.0
1934	8.5	15.1	15.9	14.8

*Crude rates.

AVERAGE DEATH RATES.

Race	10 years' average 1925-34.	5 years' average 1925-29.	5 years' average 1930-34.	1934.
European	9.6	11.7	7.5	8.5
Asiatic	19.4	23.1	15.6	15.1
Native	15.3	16.3	14.4	15.9
All Races	15.7	17.5	13.9	14.8

The above tables illustrate the declining death rates for all races during the past ten years.

It is noted that the European death rate during the past five years has declined 35.9% below that for the previous five years.

Over a similar period, the Asiatic death rate has declined by 32.4%, the Native rate has declined by 11.6%, and the rate for all races has decreased by 20.5%.

The European death rate for 1934 is above that of the average for the past five years to the extent of 1.0.

The Asiatic rate for 1934 compared with a similar period has improved by 0.5 and the Native rate is above the five years average by 1.5.

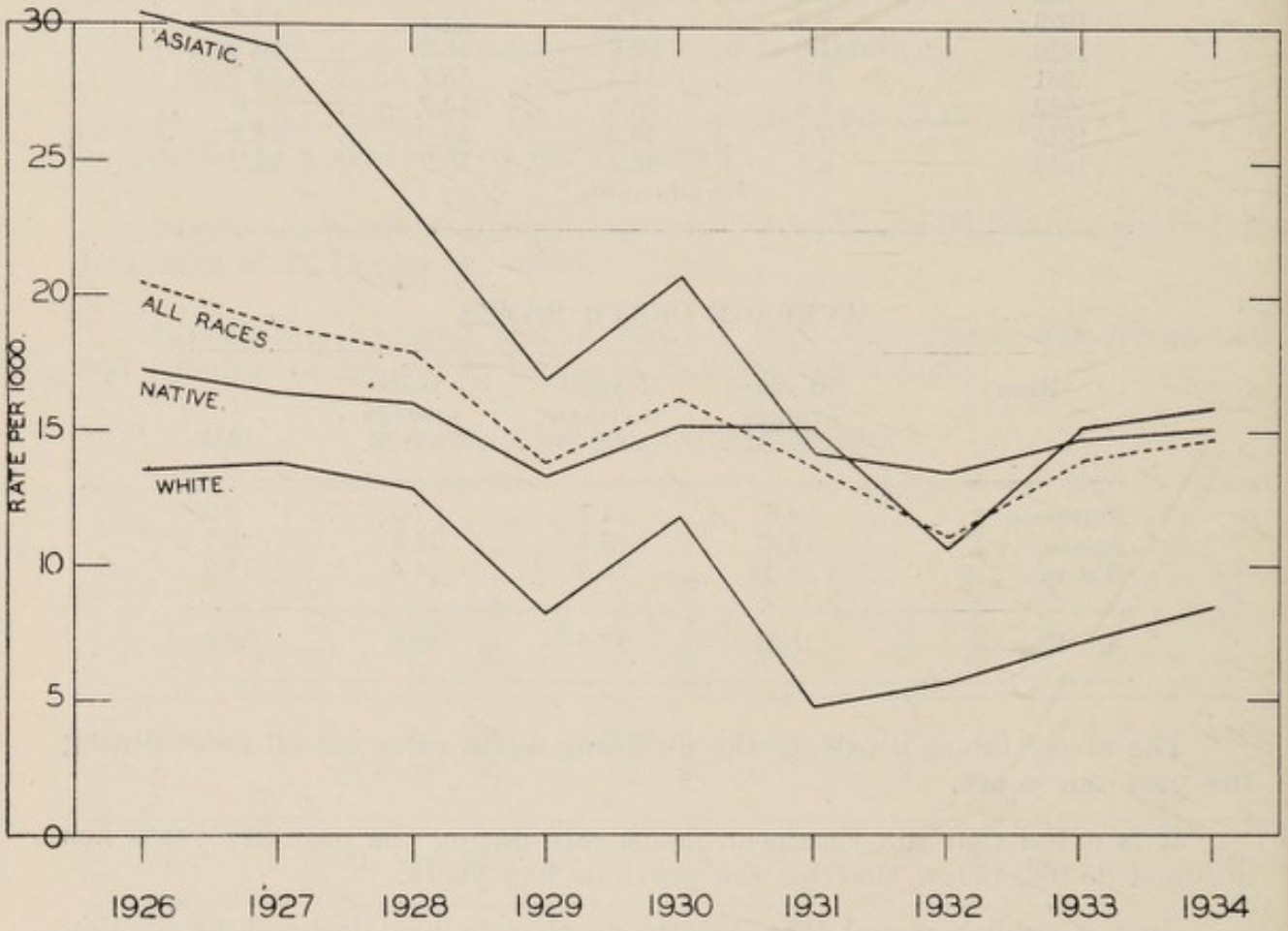
The rate for all races shows an increase over the five years average of 0.9.

As in 1933, all the death rates show an appreciable increase over those for the previous year.

Race.	1932.	1933.	Increase.	1933.	1934.	Increase.
European	5.6	7.1	1.5	7.1	8.5	1.4
Asiatic	13.5	14.8	1.3	14.8	15.1	0.3
Native	10.7	15.0	4.3	15.0	15.9	0.9
All races	11.0	14.0	3.0	14.0	14.8	0.8

The following graph illustrates the death rates for the races for the past nine years. It is hoped that the increase indicated for the last two years is only of a temporary nature.

DEATH RATES FOR THE RACES.



MONTHLY INCIDENCE OF DEATHS BY RACE.

Month.	White.	Indian.	Goan.	Native.	Somali.	Other.	Total.	% of total.
January	6	27	1	53	1	1	89	12.62
February	2	19	2	42	2	2	69	9.79
March	2	10	2	29	—	2	45	6.38
April	—	16	1	18	—	2	37	5.25
May	8	16	—	31	1	2	58	8.23
June	5	18	1	34	—	—	58	8.23
July	1	27	—	43	—	3	74	10.50
August	6	27	3	25	2	—	63	8.93
September	4	15	—	34	1	2	56	7.94
October	2	16	—	28	3	2	51	7.23
November	3	10	1	30	3	—	47	6.67
December	7	15	1	33	—	2	58	8.23
Total	46	216	12	400	13	18	705	100.00

DEATHS BY QUARTERS.

	Number of deaths.	Percentage of total.
First quarter	203 ...	28.79
Second quarter	153 ...	21.70
Third quarter	193 ...	27.38
Fourth quarter	156 ...	22.13
Total	705 ...	100.00

The most deaths occurred in January (89), February (69), August (63), and the fewest in April (37), March (45), November (47).

CAUSES OF DEATH BY GROUP AND RACE.

International causes of death.	White.	Indian.	Goan.	Native.	Somali.	Others.	Total.
1. General diseases	6	41	2	90	6	5	150
2. General diseases (not included above)	6	14	—	11	—	1	32
3. Diseases of the nervous system ...	6	3	2	18	—	1	30
4. Diseases of the circulatory system	4	3	—	6	1	—	14
5. Diseases of the respiratory system	4	102	5	172	5	7	295
6. Diseases of the digestive system ...	4	10	—	20	—	1	35
7. Non-venereal diseases of the genito-urinary system and annexa	5	5	—	4	—	1	15
8. The puerperal state	—	1	—	5	1	—	7
9. Diseases of the skin	—	—	—	2	—	—	2
10. Diseases of the bones	—	—	—	—	—	—	—
11. Congenital malformations	1	—	—	—	—	—	1
12. Diseases of early infancy	5	25	3	17	—	1	51
13. Old age	2	—	—	1	—	—	3
14. External causes	1	6	—	30	—	1	38
15. Ill defined causes	2	6	—	24	—	—	32
Total	46	216	12	400	13	18	705

CAUSES OF DEATH BY GROUP WITH THE PERCENTAGE TO TOTAL AND RATE PER 1000 POPULATION.

International cause of death.	Number.	% of total.	Rate per 1000 population.
1. General diseases	150 ...	21.28 ...	3.163
2. General diseases (not included above)	32 ...	4.54 ...	0.674
3. Diseases of nervous system	30 ...	4.26 ...	0.632
4. Diseases of the circulatory system ...	14 ...	1.99 ...	0.295
5. Diseases of the respiratory system ...	295 ...	41.84 ...	6.221
6. Diseases of the digestive system ...	35 ...	4.96 ...	0.738
7. Non-venereal diseases of the genito-urinary system and annexa	15 ...	2.13 ...	0.316
8. The puerperal state	7 ...	0.99 ...	0.147
9. Diseases of the skin	2 ...	0.28 ...	0.042
10. Diseases of the bones	— ...	— ...	—
11. Congenital malformations	1 ...	0.14 ...	0.021
12. Diseases of early infanry	51 ...	7.23 ...	1.075
13. Old age	3 ...	0.43 ...	0.063
14. External causes	38 ...	5.39 ...	0.801
15. Ill defined causes	32 ...	4.54 ...	0.674
Total	705 ...	100.00 ...	14.862

The groups, in the main, in their order of precedence, correspond to the table given in 1933.

The figures in brackets in the text following relate to the returns for 1933.

" Diseases of the respiratory system " as before heads the list as being the group associated with the greatest number of deaths.

This group accounted for 295 (223) deaths or 41.84% (38.12%) of the total deaths, the equivalent rate per thousand of population being 6.221 (5.349).

Deaths under this heading were :—

Pneumonia	239 (159)	Asthma	3
Broncho-pneumonia	40 (56)	Laryngeal conditions	4
Bronchitis	5 (5)	Pulm. haemorrhage	1
Pleurisy	3 (2)		

" General diseases " in Group 1 is second in point of numbers and accounted for 150 (104) deaths or 21.28% (17.78%) of the total deaths, the equivalent rate per thousand of population being 3.163 (2.495).

Deaths under this group include :—

Tuberculosis	40 (27)	Tetanus	3 (1)
Malaria	32 (24)	Measles	2 (8)
Septicaemia	18 (17)	Enceph. leth.	2
Dysentery	12 (5)	Cerebrospinal men.	2 (4)
Syphilis	10 (4)	Diphtheria	1 (1)
Whooping cough	9 (4)	Leprosy	1
Typhoid fever	7 (3)	Erysipelas	1
Influenza	5 (1)	Yaws	1 (2)
Blackwater fever	4 (2)		

Deaths from " Diseases of early infancy " totalled 51 (49) or 7.23% (8.38%) of the total deaths with an equivalent rate per thousand population of 1.075 (1.175).

The causes of death were :—

Prematurity	23 (15)	Asphyxia	2 (1)
Marasmus	21 (27)	Atalectasis	1
Haemorrhage	3	Instrumental delivery	1

It is noted that for some reason the proportion of deaths from prematurity has appreciably increased.

The next group in point of numbers is " External causes " which accounted for 38 (45) deaths or 5.39% (7.69%) of the total deaths, with an equivalent rate per thousand population of 0.801 (1.079).

Deaths under this heading include :—

Judicial hanging	20 (16)	Suicide	2 (6)
Road accidents	8 (5)	Accidental injury	2 (1)
Fracture	3 (3)	Burns	1
Injury by animals	2 (1)		

An increase in the number of deaths from road accidents is noted, the figures for the past five years being 4, 5, 6, 5, 8 respectively.

" Diseases of the digestive system " was responsible for 35 (43) deaths or 4.96% (7.35%) of the total deaths, which is equivalent to a rate of 0.738 (1.031) per thousand population.

The details were :—

Enteritis	22 (23)	Intestinal obstruction	3 (7)
Appendicitis	4 (3)	Yellow atrophy liver	1
Peritonitis	4	Biliary colic	1

The group of " Ill defined diseases " accounts for 32 (16) deaths or 4.54% (4.44%) of the total deaths making a rate per thousand population of 0.674 (0.624).

The recorded causes of death under this group are :—

Natural causes	18	Sudden death	1
Heart failure	5 (11)	Ascites	1
Unknown	3 (10)	P.U.O.	1 (1)
Post operative shock	2 (1)	Found dead	1

Group 2 of " General diseases " is next on the list with 32 (16) deaths or 4.54% (2.74%) of the total deaths, the rate per thousand being 0.674 (0.384).

The diseases concerned were :—

Cancer ...	13 (8)	Purpura ...	2	Rheumatic fever	1
Rickets ...	10 (3)	Adenoma thyroid	1	Scurvy ...	1
Anaemia ...	2 (2)	Tumour kidney ...	1	Alcoholism ...	1

Five of the cancer cases occurred among Europeans, being 10.8% of the total deaths for that race; two among Asiatics, being 0.9% of the total deaths; the remaining six occurred among Natives being 1.5% of the total death of that race.

Deaths recorded from cancer for the past five years have been as under :

Race.	1930	1931	1932	1933	1934
European ...	6	1	4	3	5
Indian ...	3	1	—	1	2
Native ...	3	4	2	4	6
All Races ...	12	6	6	8	13

Diseases of the nervous system " accounted for 30 (16) deaths or 4.26% (2.73) of the total deaths at the equivalent rate per thousand of 0.632 (0.384).

The items under this heading were :—

Meningitis	13 (11)	G.P.I.	2
Cerebral haem.	4 (2)	Cerebral throm.	1
Convulsions	4 (2)	Paralysis	1
Cerebral tumour	2	Dementia	1
Epilepsy	2		

" Non-venereal diseases of the genito-urinary system " was responsible for 15 (17) deaths of 2.13% (2.91) of the total deaths, the rate per thousand being 0.316 (0.408).

The causes of death were :—

Nephritis	14 (13)
Prostatic obst.	1 (1)

" Diseases of the circulatory system " is next on the list with a total of 14 (16) deaths or 1.9% (2.74) of the total at a rate of 0.295 (0.384) per thousand.

The diseases under this heading were:—

Myocarditis	4	Endocarditis	1
Valvular disease	3	Myocardial degeneration	1
Angina	2	Coronary thrombosis	1
Pericarditis	1	Haemorrhage	1

Seven (20) deaths were recorded under the group entitled "The puerperal state," being 0.99% (3.42) of the total deaths, the rate per thousand being 0.147 (0.480).

The causes of death were:—

Puerperal haemorrhage	4
Tubal pregnancy	1
Obstructed labour	1
Pulmonary embolism.	1

"Old age" accounted for 3 deaths, a similar total to that for 1933.

"Diseases of the skin" accounted for two deaths both among natives, the causes being gangrene and cancrum oris.

Only one death was recorded under "Congenital malformation" that of a European with congenital heart disease.

No deaths were recorded under the group of "Diseases of the bones."

AGE GROUP DISTRIBUTION OF POPULATION AND DEATHS BY RACES.

	EUROPEAN.			ASIATIC.			NATIVE.		
Age group.	Distribution population.	No. of deaths.	Distribution deaths.	Distribution population.	No. of deaths.	Distribution deaths.	Distribution population.	No. of deaths.	Distribution deaths.
0— 1	37.865	9	195.651	62.319	107	469.297		88	204.175
2— 4	55.548	1	21.739	93.620	17	74.561		15	34.802
5— 9	81.706	1	21.739	111.620	10	43.859		12	27.842
10—14	50.914	—	—	79.755	4	17.543		16	37.122
15—19	45.609	—	—	91.716	3	13.157		24	55.684
20—24	82.743	2	43.478	135.989	8	35.088		69	160.092*
25—29	124.754	4	86.956	119.539	13	57.017	Not	93	215.776
30—34	126.645	—	—	99.941	14	61.403		50	116.009
35—39	117.864	—	—	72.306	14	61.403	known.	15	34.802
40—44	94.633	5	108.695	52.732	8	35.088		11	25.522
45—49	66.340	2	43.478	31.982	4	17.543		13	30.162
50—54	48.962	4	86.956	20.185	4	17.543		14	32.482
55—59	29.877	5	108.695	7.402	5	21.929		3	6.960
60—64	18.597	2	43.478	9.164	6	26.316		4	9.280
65—69	9.268	5	108.695	4.935	5	21.929		2	4.640
70—74	5.121	3	65.217	3.313	3	13.157		1	2.320
75—79	2.560	3	65.217	1.504	—	—		—	—
80—84	0.914	—	—	1.363	—	—		1	2.320
85—89	0.060	—	—	0.258	1	4.385		—	—
90—94	—	—	—	0.188	—	—		—	—
95—99	—	—	—	0.164	2	8.772		—	—
	999.990	46	999.994	999.995	228	999.990		431	999.990

*90 Native deaths recorded as "adults" have been included equally in the three groups 20—34.

In the above table, the age group distribution for Nairobi has been taken in the same proportion as the age group distribution for the whole Colony, as published in the report on non-Native census taken in 1931.

CAUSES OF DEATH.

International causes of death.	White.	Indian.	Goan.	Native.	Somali.	Seychellois.	Arab.	Other.	TOTAL.
I. General Diseases.									
1. Enteric fever	—	2	—	4	—	1	—	—	7
5. Malaria	1	17	1	10	2	—	—	1 Abys.	32
7. Measles	—	—	—	2	—	—	—	—	2
9. Whooping Cough	—	—	—	9	—	—	—	—	9
10. Diphtheria	1	—	—	—	—	—	—	—	1
11. Influenza	—	—	—	5	—	—	—	—	5
16. Dysentery	—	6	—	3	1	1	1	—	12
20. Leprosy	—	—	—	1	—	—	—	—	1
21. Erysipelas	1	—	—	—	—	—	—	—	1
23. Encephalitis lethargica	—	1	—	1	—	—	—	—	2
24. Cerebrospinal meningitis	—	—	—	2	—	—	—	—	2
25. Blackwater fever	—	2	1	1	—	—	—	—	4
25. Yaws	—	—	—	1	—	—	—	—	1
29. Tetanus	—	1	—	2	—	—	—	—	3
31. Tuberculosis—respiratory system	1	5	—	22	3	—	—	—	31
32. do. central nervous system	—	—	—	1	—	—	—	—	1
34. do. vertebral column	—	1	—	—	—	—	—	—	1
37. do. disseminated	—	1	—	6	—	—	—	—	7
38. Syphilis	—	—	—	10	—	—	—	—	10
41. Septicaemia	2	5	—	10	—	—	—	1 Sud.	18
II. General Diseases not included above.									
43. Cancer, jaw	—	—	—	1	—	—	—	—	1
44. do. stomach	1	—	—	—	—	—	—	—	1
44. do. liver	—	—	—	3	—	—	—	—	3
46. do. uterus	1	—	—	—	—	—	—	—	1
46. do. vulva	—	—	—	1	—	—	—	—	1
47. do. breast	1	1	—	—	—	—	—	—	2
49. do. pancreas	2	—	—	—	—	—	—	—	2
49. do. unspecified	—	1	—	1	—	—	—	—	2
50. Adenoma thyroid	—	—	—	1	—	—	—	—	1
50. Tumour, kidney	—	—	—	1	—	—	—	—	1
51. Rheumatic fever	—	1	—	—	—	—	—	—	1
53. Scurvy	—	—	—	1	—	—	—	—	1
56. Rickets	—	9	—	1	—	—	—	—	10
58. Anaemia	—	1	—	—	—	1	—	—	2
66. Alcoholism	1	—	—	—	—	—	—	—	1
69. Purpura	—	1	—	1	—	—	—	—	2
III. Diseases of the Nervous System.									
71. Meningitis	—	2	1	10	—	—	—	—	13
74. Cerebral haemorrhage	2	—	1	—	—	—	—	1 Maurit.	4
74. Cerebral thrombosis	1	—	—	—	—	—	—	—	1
75. Paralysis unstated	—	—	—	1	—	—	—	—	1
76. General paralysis of insane	—	—	—	2	—	—	—	—	2
77. Dementia	—	1	—	—	—	—	—	—	1
78. Epilepsy	1	—	—	1	—	—	—	—	2
79. Convulsions (over 5 years)	—	—	—	1	—	—	—	—	1
80. Convulsions (under 5 years)	1	—	—	2	—	—	—	—	3
84. Cerebral tumour	1	—	—	1	—	—	—	—	2

CAUSES OF DEATH (continued).

International causes of death.	White.	Indian.	Goan.	Native.	Somali.	Seychellois.	Arab.	Other. TOTAL.
IV. Diseases of the Circulatory System.								
87. Pericarditis	—	1	—	—	—	—	—	1
88. Endocarditis	—	—	—	1	—	—	—	1
88. Myocarditis	1	—	—	3	—	—	—	4
89. Angina	1	1	—	—	—	—	—	2
90. Valvular disease	—	1	—	2	—	—	—	3
90. Myocardial degeneration	1	—	—	—	—	—	—	1
91. Coronary thrombosis	1	—	—	—	—	—	—	1
95. Haemorrhage	—	—	—	—	1	—	—	1
V. Diseases of the Respiratory System.								
98. Necrosis larynx, Strep. laryngitis	—	2	—	—	—	—	—	2
98. Oedema glottidis, Laryn. obst.	—	—	—	2	—	—	—	2
99. Bronchitis	1	3	—	1	—	—	—	5
100. Bronchopneumonia	—	25	1	13	—	—	—	1 Nubian 40
101. Pneumonia	2	68	3	155	5	2	3	1 Abys. 239
102. Pleurisy	—	2	1	—	—	—	—	3
105. Asthma	1	2	—	—	—	—	—	3
107. Pulmonary haemorrhage	—	—	—	1	—	—	—	1
VI. Diseases of the Digestive System.								
113. Enteritis (under 2)	1	6	—	12	—	1	—	20
114. Enteritis (over 2)	—	1	—	1	—	—	—	2
117. Appendicitis	3	—	—	1	—	—	—	4
118. Intestinal obstruction	—	1	—	2	—	—	—	3
120. Acute yellow atrophy liver	—	—	—	1	—	—	—	1
123. Biliary colic	—	1	—	—	—	—	—	1
126. Peritonitis	—	1	—	3	—	—	—	4
VII. Non-Venereal Diseases of the Genito-urinary System.								
128. Acute nephritis	3	—	—	2	—	—	—	5
129. Chronic nephritis	1	5	—	2	—	—	—	1 Nubian 9
135. Prostatic obstruction	1	—	—	—	—	—	—	1
VIII. The Puerperal State.								
143. Tubal pregnancy	—	—	—	1	—	—	—	1
144. Puerperal haemorrhage	—	1	—	2	1	—	—	4
145. Obstructed labour	—	—	—	1	—	—	—	1
147. Pulmonary embolism	—	—	—	1	—	—	—	1
IX. Diseases of the Skin and Cellular Tissue.								
151. Gangrene, Cancrum oris	—	—	—	2	—	—	—	2
X. Diseases of the Bones.								
XI. Congenital Malformations.								
159. Congenital heart disease	1	—	—	—	—	—	—	1
XII. Diseases of Early Infancy.								
160. Marasmus	—	9	—	12	—	—	—	21
161. Prematurity	3	14	2	3	—	1	—	23
161. Instrumental delivery	1	—	—	—	—	—	—	1
162. Haemorrhage	1	—	1	1	—	—	—	3
162. Asphyxia	—	2	—	—	—	—	—	2
162. Atelectasis	—	—	—	1	—	—	—	1

CAUSES OF DEATH (continued).

International causes of death.	White.	Indian.	Goan.	Native.	Somali.	Seychellois.	Arab.	Other.	TOTAL.
XIII. OLD AGE.									
164. Senility	2	—	—	1	—	—	—	—	3
XIV. EXTERNAL CAUSES.									
168. Suicide by hanging	—	—	—	2	—	—	—	—	2
178. Burns	—	—	—	1	—	—	—	—	1
183. Accidental injury by firearms .	—	—	—	1	—	—	—	—	1
185. Accidental injury by fall ...	—	—	—	1	—	—	—	—	1
188. Accidental injury by vehicles .	1	5	—	2	—	—	—	—	8
189. Injury by animals	—	—	—	2	—	—	—	—	2
201. Fracture, unspecified	—	—	—	3	—	—	—	—	3
202. Judicial hanging	—	1	—	18	—	—	1	—	20
XV. ILL-DEFINED DISEASES.									
204. Sudden death	—	—	—	1	—	—	—	—	1
205. Heart failure	1	4	—	—	—	—	—	—	5
Ascites	—	1	—	—	—	—	—	—	1
P.U.O.	—	1	—	—	—	—	—	—	1
Natural causes	—	—	—	18	—	—	—	—	18
Found dead	—	—	—	1	—	—	—	—	1
Post operative shock	1	—	—	1	—	—	—	—	2
Unknown	—	—	—	3	—	—	—	—	3
TOTAL ...	46	216	12	400	13	7	5	6	705

10. INFANT MORTALITY.

The total number of deaths in infants of one year of age and under during 1934 was 187 or 26.52% of the total deaths.

Taking the distribution of the 0—1 age group for Europeans as 37.865 per thousand, the eight deaths produce an infant mortality rate of 173.912 per thousand.

With a distribution of the 0—1 age group for Asiatics of 62.319 per thousand, the 96 deaths equal an infant mortality rate of 420.960 per thousand.

As the age group distribution is not known for Natives, it is not possible to calculate a mortality rate for this race.

As in previous years, infant mortality has been expressed as a percentage of total deaths, the practice will be continued for comparative purposes.

INFANT DEATHS.

Race.	Infant. deaths.	Total deaths.	Percentage of total deaths.
White	8 ...	46 ...	17,39
Asiatic	96 ...	228 ...	42.10
Native and other	83 ...	431 ...	19.25
All races	187 ...	705 ...	26.52

INFANT DEATHS FOR EIGHT YEARS.

Race.	Percentage of total deaths.								Average
	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	8 years.
White ...	13.5	8.3	23.7	13.2	12.0	9.6	5.4	17.3	12.8
Asiatic ...	37.7	34.5	44.9	42.7	44.6	45.8	52.2	42.1	43.0
Native ...	5.8	13.1	15.4	10.6	20.6	17.3	21.2	19.2	15.4
All races ...	18.6	20.6	24.3	20.6	29.5	23.0	30.7	26.5	24.8

It is noted that the percentage of infant deaths to total deaths for Europeans for the year 1934 shows a very large increase over that for the previous year and also over that for the eight years' average.

The percentage for Asiatics, although standing at a high figure, is considerable less than that for 1933 and also a trifle less than the eight years average.

The percentage for Natives and other races, and also for all races, compares favourably with that for the previous year although it is higher than the eight years' average.

The causes of the infant mortality and the seasonal incidence are stated in the tables following.

INFANT MORTALITY.

	White.	Indian.	Goan.	Native.	Somali.	Seychellois.	Total.
Asphyxia	—	2	—	—	—	—	2
Bronchitis	—	3	—	1	—	—	4
Broncho-pneumonia	—	10	1	7	—	—	18
Burns	—	—	—	1	—	—	1
Convulsions	1	—	—	3	—	—	4
Diarrhoea	1	5	—	10	—	1	17
Erysipelas	1	—	—	—	—	—	1
Haemorrhage ...	1	—	—	2	—	—	3
Ill defined	—	2	—	2	—	—	4
Influenza	—	—	—	1	—	—	1
Intussusception ...	—	1	—	—	—	—	1
Laryngial infection	—	1	—	1	—	—	2
Malaria	—	7	—	3	—	—	10
Marasmus	—	9	1	8	—	—	18
Meningitis	—	—	—	1	—	—	1
Nephritis	—	—	—	1	—	—	1
Pneumonia	—	27	1	23	1	—	52
Prematurity ...	4	15	2	2	—	1	24
Rickets	—	8	—	2	—	—	10
Scurvy	—	—	—	1	—	—	1
Septicaemia ...	—	—	—	4	—	—	4
Syphilis	—	—	—	3	—	—	3
Tuberculosis ...	—	1	—	1	—	—	2
Whooping cough ...	—	—	—	3	—	—	3
	8	91	5	80	1	2	187

SEASONAL INFANT MORTALITY.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Asphyxia	—	—	1	—	—	1	—	—	—	—	—	—	2
Bronchitis	1	—	—	—	—	—	2	—	—	1	—	—	4
Broncho-pneumonia	6	1	1	1	—	—	2	—	2	3	1	1	18
Burns	—	—	—	—	—	—	—	—	—	1	—	—	1
Convulsions	—	1	—	—	—	1	—	—	1	1	—	—	4
Diarrhoea	2	4	2	—	—	1	4	2	—	—	1	1	17
Erysipelas	1	—	—	—	—	—	—	—	—	—	—	—	1
Haemorrhage ...	—	—	1	—	—	—	—	—	1	—	—	1	3
Ill defined	1	—	—	—	1	—	—	—	—	1	1	—	4
Influenza	—	1	—	—	—	—	—	—	—	—	—	—	1
Intussusception ...	—	—	—	—	—	—	—	—	1	—	—	—	1
Laryngial infection	—	—	—	—	—	—	—	—	—	—	1	1	2
Malaria	1	2	—	3	—	1	1	1	1	—	—	—	10
Marasmus	3	2	1	—	1	2	2	3	2	—	1	1	18
Meningitis	—	—	—	—	—	1	—	—	—	—	—	—	1
Nephritis	1	—	—	—	—	—	—	—	—	—	—	—	1
Pneumonia	3	8	3	2	7	2	8	4	3	7	2	3	52
Prematurity	1	—	2	4	4	4	2	3	1	1	—	2	24
Rickets	—	—	—	1	1	1	2	—	1	2	—	2	10
Scurvy	—	—	—	—	1	—	—	—	—	—	—	—	1
Septicaemia	—	1	—	—	—	—	1	1	—	—	1	—	4
Syphilis	—	—	1	—	—	—	—	—	1	—	1	—	3
Tuberculosis	1	—	—	—	1	—	—	—	—	—	—	—	2
Whooping cough ...	1	1	—	—	—	—	—	—	1	—	—	—	3
	22	21	12	11	16	14	24	14	15	17	9	12	187

SEASONAL MORTALITY FOR THE RACES.

	White.	Indian.	Goan.	Native.	Somali.	Seychellois.	Total.
January	1	11	1	9	—	—	22
February	1	6	—	12	1	1	21
March	—	3	1	7	—	1	12
April	—	7	—	4	—	—	11
May	2	5	—	9	—	—	16
June	—	9	1	4	—	—	14
July	—	13	—	11	—	—	24
August	—	7	2	5	—	—	14
September	3	8	—	4	—	—	15
October	—	12	—	5	—	—	17
November	—	4	—	5	—	—	9
December	1	6	—	5	—	—	12
	8	91	5	80	1	2	187

COMPARISON OF THE PERCENTAGE OF THE FOUR PRINCIPAL CAUSES OF INFANT MORTALITY TO TOTAL INFANT DEATHS FOR EIGHT YEARS.

	Percentage to total of Infant Deaths.								Average
	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	8 years.
Pneumonia	47.9	32.6	32.0	44.6	41.7	36.1	41.1	37.4	26.6
Congenital debility ...	15.4	10.6	11.9	10.0	15.9	12.9	14.4	9.6	12.6
Prematurity	6.5	11.3	13.2	15.0	7.7	17.0	8.3	12.8	11.4
Diarrhoea and enteritis	6.5	7.8	9.4	6.9	8.7	9.5	8.8	9.0	8.3

Pneumonia still holds the first position of the four principal causes of infant mortality and in 1934 accounted for 37.4% of the total infant deaths, a figure which was below that for the previous year but above the average for eight years.

Congenital debility as a cause of death, compared favourably with the figure for 1933 and also the eight years average.

The percentage of deaths from prematurity and diarrhoea were appreciably higher than in 1933 and the figures for the eight years average were exceeded.

11. NOTIFIABLE INFECTIOUS DISEASES.

No alteration to the list of notifiable infectious diseases has been made since malaria was added in 1930.

The number of cases of infectious diseases notified during the year was 2,232 as compared with 1,196 in 1933, the difference being mainly accounted for by the increase of malaria cases.

Excluding the 2,102 malaria cases notified, the total of 130 compares not unfavourably with the totals for the past seven years which were, 466, 368, 124, 249, 177, 128 and 125 respectively.

The number of malaria cases notified totalled 2,102 compared with 836, 419, 789 and 1,071 respectively for the four previous years.

Notifications for blackwater fever showed a large increase during the year, being 14 compared with 5, 2, 2, and 4 for the previous four years.

Pulmonary tuberculosis was notified in 40 instances, against 36 for 1933 and tuberculosis other than pulmonary accounted for 10 notifications compared with 20 during 1933.

The enteric group was notified in 35 instances, this was a slight increase, the notifications for the previous five years being 27, 26, 23, 31 and 24 respectively.

Erysipelas also showed an increase over previous records there being 6 cases notified.

Puerperal sepsis was notified on 5 occasions against 13 in 1933.

Cerebrospinal meningitis and diphtheria each accounted for four notifications, compared with 4 and 5 respectively for the previous year.

Three cases of encephalitis lethargica were reported compared with 1, 2 and 0 in the previous three years.

As in 1933, anthrax was notified on two occasions.

Relapsing fever and ophthalmia neonatorum were each notified twice during the year, compared with four times in 1933 for the former and once for the latter condition.

One case each of leprosy, malta fever and acute anterior poliomyelitis were reported in 1934, compared with 3, 0 and 0 respectively for the previous year.

There was no case of plague within the Municipality during 1934.

INFECTIOUS DISEASES NOTIFIED.

	White.	Indian.	Native.	Goan.	Seychellois.	Somali.	Sudanese.	Total.
Malaria	127	1187	788	—	—	—	—	2102
Acute poliomyelitis	—	—	—	—	—	—	1	1
Anthrax	—	1	1	—	—	—	—	2
Blackwater fever	2	7	3	2	—	—	—	14
Cerebrospinal meningitis ...	—	3	1	—	—	—	—	4
Diphtheria	2	—	1	1	—	—	—	4
Encephalitis lethargica	1	1	1	—	—	—	—	3
Erysipelas	3	2	1	—	—	—	—	6
Leprosy	—	—	1	—	—	—	—	1
Malta fever	—	—	1	—	—	—	—	1
Ophthalmia neonatorum ...	—	—	2	—	—	—	—	2
Puerperal sepsis	1	4	—	—	—	—	—	5
Relapsing fever	—	—	2	—	—	—	—	2
Tuberculosis, pulmonary ...	1	14	23	—	—	2	—	40
do. glands ...	—	—	2	—	—	—	—	2
do. general ...	—	—	1	—	—	—	—	1
do. abd.	—	—	2	—	—	—	—	2
do. mening. ...	—	—	1	—	—	—	—	1
do. spine	—	1	2	—	—	—	—	3
do. knee	—	—	1	—	—	—	—	1
Typhoid fever	8	11	14	—	2	—	—	35
TOTAL ...	145	1231	848	3	2	2	1	2232

SEASONAL INCIDENCE OF INFECTIOUS DISEASES NOTIFIED.

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
Malaria ...	38	86	75	122	282	295	517	304	109	120	74	80	2102
Acute poliomyelitis ...	—	—	1	—	—	—	—	—	—	—	—	—	1
Anthrax ...	—	—	—	1	—	1	—	—	—	—	—	—	2
Blackwater fever ...	—	4	1	—	1	—	—	4	1	1	—	2	14
Cerebrospinal men.	—	2	—	—	—	—	1	—	—	—	—	1	4
Diphtheria ...	3	—	1	—	—	—	—	—	—	—	—	—	4
Enceph. leth. ...	—	—	3	—	—	—	—	—	—	—	—	—	3
Erysipelas ...	3	—	1	—	1	—	—	—	—	—	—	1	6
Leprosy ...	—	—	—	—	—	—	—	—	—	1	—	—	1
Malta fever ...	—	—	—	—	—	1	—	—	—	—	—	—	1
Ophthalmia neo. ...	—	—	—	—	—	—	2	—	—	—	—	—	2
Puerperal sepsis ...	—	—	—	1	1	1	—	—	1	—	1	—	5
Relapsing fever ...	—	—	1	—	—	—	—	—	—	—	1	—	2
Tuberculosis, pulm.	8	4	5	—	4	3	—	6	—	6	4	—	40
do. glands ...	—	—	—	1	1	—	—	—	—	—	—	—	2
do. general ...	—	—	—	1	—	—	—	—	—	—	—	—	1
do. abd. ...	—	2	—	—	—	—	—	—	—	—	—	—	2
do. menin. ...	1	—	—	—	—	—	—	—	—	—	—	—	1
do. spine ...	—	—	—	2	—	—	1	—	—	—	—	—	3
do. knee ...	—	—	1	—	—	—	—	—	—	—	—	—	1
Typhoid fever ...	4	4	6	4	3	—	2	3	—	2	1	6	35
TOTAL ...	57	102	95	132	293	301	523	317	111	130	81	90	2232

INCIDENCE AND DEATH RATES FOR NOTIFIABLE INFECTIOUS DISEASES.

	No. of cases.	No. of deaths.	Incidence per 1000 pop.	Deaths per 1000 pop.
Malaria	2102	32	44.33118	0.67488
Tuberculosis	50	40	1.05450	0.84360
Enteric fever group ...	35	7	0.73815	0.99123
Blackwater fever ...	14	4	0.29526	0.08436
Erysipelas	6	1	0.12654	0.02109
Puerperal sepsis ...	5	—	0.10545	—
C.S.M.	4	2	0.08436	0.04218
Diphtheria	4	1	0.08436	0.02109
Encephalitis lethargica ...	3	2	0.06327	0.04218
Anthrax	2	—	0.04218	—
Relapsing fever	2	—	0.04218	—
Ophthalmia neonatorum ..	2	—	0.04218	—
Leprosy	1	1	0.02109	0.02109
Malta fever	1	—	0.02109	—
Ac. ant. poliomyelitis ...	1	—	0.02109	—

COMPARISON OF NOTIFICATIONS OF INFECTIOUS DISEASES FOR 12 YEARS.

	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
Plague	—	23	8	43	70	26	—	112	51	7	—	—
Malaria	Notifiable Feb. 1930.							789	419	836	1071	2102
Tuberculosis ...	23	19	44	47	44	61	48	50	54	52	56	50
Enteric fever group ...	15	12	15	28	29	128	27	26	23	31	24	35
Tropical typhus ...	3	6	7	2	3	2	4	6	11	4	5	—
Anthrax	29	6	5	3	5	8	3	5	7	12	2	2
Cerebro-spinal menin.	18	9	8	7	16	18	6	19	7	3	4	4
Puerperal sepsis ...	1	4	—	—	3	8	16	10	6	2	13	5
Leprosy	4	4	9	14	6	5	1	4	4	1	3	1
Relapsing fever ...	2	20	46	27	9	4	9	3	3	—	4	2
Ophthalmia neonatorum	—	—	—	—	—	—	1	1	2	—	1	2
Blackwater fever ...	Notifiable Nov. 1928.					4	—	5	2	2	4	14
Diphtheria	—	6	1	5	4	7	4	4	2	10	5	4
Scarlet fever	—	—	—	—	—	1	—	1	1	—	—	—
Malta fever	3	5	3	3	5	—	—	—	1	1	—	1
Beri-beri	—	—	2	—	—	1	—	—	—	—	—	—
Erysipelas	—	3	—	1	—	—	2	2	—	1	2	6
Smallpox	1	—	1	1	6	3	—	—	—	—	—	—
Trypanosomiasis ...	—	—	—	1	—	1	2	1	—	—	2	—
Acute ant. poliomyelitis	—	—	—	—	—	—	—	—	2	—	—	1
Encephalitis lethargica	—	—	—	—	—	—	—	—	1	2	—	3
Glanders	—	—	—	—	—	—	—	—	—	—	—	—
Rabies	—	—	—	—	—	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—	—	—	—	—	—

12. INFECTIOUS AND COMMUNICABLE DISEASES.

Acute Anterior Poliomyelitis.

One non-fatal case was reported in a Sudanese. Two cases were previously reported in 1931. These are the only three cases that have been recorded in Nairobi.

Anthrax.

Similar to last year, two non-fatal cases were notified, one Asiatic and one Native. There has been an average of 5 cases notified annually during the past ten years.

Beri beri.

No case has been reported within the Municipality since 1928 when one case was notified.

Blackwater Fever.

During the year there was a large increase in the number of cases of this disease, fourteen being notified, comprising 2 Europeans, 9 Asiatics, and 3 Natives. Three Asiatic cases and one Native were fatal. This disease was made notifiable in 1928 and from that date to the present year, 4, 0, 5, 2, 2, 4 and 14 cases have been notified respectively.

Cerebrospinal Meningitis.

Three Asiatics and one Native were reported as suffering from this disease, two Native cases being fatal. The average number of cases over the previous ten years has been 9.

Chickenpox, Measles, Whooping Cough, Mumps.

These non-notifiable conditions have been prevalent during the year, the first two mostly in the early part of the year and the latter two during the middle months. Whooping cough accounted for 9 deaths among Natives and measles for 2 Native deaths.

Cholera.

There is no record that this disease has occurred in Nairobi.

Diphtheria.

Two European cases, one Asiatic and one Native were reported during 1934, with one European death. This is an improvement over the two previous years when 10 cases and 5 cases were notified respectively.

Dysentery.

This disease not being notifiable, no idea can be obtained of its incidence, but judging from the number of deaths there is every reason to believe that the number of cases was appreciably higher than last year.

Twelve deaths were recorded from this disease among 6 Asiatics and 6 Native and other races, compared with 5 deaths all among Natives during 1933.

Encephalitis Lethargica.

There were three cases reported during 1934, one each among European, Asiatic and Native, with one fatal case each among Asiatic and Native. No case was notified in 1933, the only other cases on record being two fatal Asiatic cases in 1932 and one fatal European case in 1931.

Typhoid Fever Group.

There were 35 cases notified during the year, comprising 8 Europeans, 11 Asiatics and 16 Natives. Two Asiatic and five Native cases were fatal.

Although the number of cases was somewhat more than in 1933, the disease did not assume epidemic proportions. The last epidemic was in 1928 when 128 cases were notified. For the previous five years, the average number of cases annually has been 26.

Erysipelas.

Six cases of this condition were reported among 3 Europeans, 2 Asiatics and 1 Native. One European case was fatal. This is a larger number of cases than in previous years.

Glanders, Rabies.

No case of these diseases have yet been recorded in Nairobi.

Leprosy.

Only one Native case was reported during the year, compared with three for 1933 and an average of five during the previous five years. There was one fatal Native case.

MALTA FEVER.

One case, that of a Native was notified. Only two cases have been reported during the previous six years, one in 1931 and one in 1932.

MALARIA.

Detailed information on the notification of this disease, together with other statistics are given under a separate section in this report.

OPHTHALMIA NEONATORUM.

Two cases of this condition were notified, both among Natives. The average for the previous five years has been one.

PLAGUE.

Similarly to 1933, no case of plague was reported during the year.

In 1932 there were 7 cases with 6 deaths whilst in 1930 and 1931, there were 112 and 51 cases respectively.

PNEUMONIA.

This disease not being notifiable, one can only judge the severity of incidence by relation to deaths. During 1934, pneumonia was responsible for 239 deaths, and broncho-pneumonia for 40, making a total of 279, compared with 215 during 1933.

The percentage of deaths from pneumonia to total deaths in 1934 was 39.5 compared with 36.7% in 1933, the figures for the four years previously to 1933 were 34.1, 36.1, 36.3 and 40.0 respectively.

Of the 219 deaths from this condition, 70 were of infants of one year of age or under.

The annual death rate per thousand of population for the races for the pneumonias during 1934 are as under:—

Race.	Death rate.
White	0.37
Asiatic	6.46
Native	6.66
All races	5.88

For the past nine years, the death rates for all races have been:—

1926	...	5.2	1931	...	4.9
1927	...	5.9	1932	...	3.7
1928	...	7.6	1933	...	5.1
1929	...	5.5	1934	...	5.8
1930	...	5.8			

It will be noted that that the rate is fairly constant, with the exception of the unfavourable year 1928 and the favourable year 1932.

PUERPERAL SEPSIS.

Only one European and four Asiatic cases were notified, compared with 13 for the previous year. Whereas 8 out of the 13 cases during 1933 had a fatal termination, not one of the 5 cases during 1934 was fatal.

Relapsing Fever.

Two Native cases were reported, neither being fatal. The incidence of this disease has been steadily decreasing during the past eight years.

Scarlet Fever.

No case was notified. One case occurred in each of the years 1928, 1930 and 1931.

Smallpox.

No case was recorded. The last case occurred in 1928.

Trypanosomiasis.

No case was recorded. Two cases occurred in 1933 and previous to that date, there was one case in 1930, two in 1929, one in 1928, and one in 1926.

Tropical Typhus.

No case was reported. The annual average over the ten previous years has been five a year.

During 1933, by-laws have been promulgated restricting the movements and grazing of cattle within the Municipality and it is to be hoped that this restriction may cause a decrease in the incidence of this condition.

Tuberculosis.

Tuberculosis of all forms was notified in 50 instances during 1934; 40 of these notifications referred to the pulmonary variety and the remaining 10 to forms other than pulmonary.

One fatal case of pulmonary tuberculosis was reported in a European.

Fourteen pulmonary cases occurred in Asiatics with five deaths and 25 among Natives and others with 25 deaths.

Of the 10 cases reported as other than pulmonary, one fatal case of tuberculosis of the spine occurred in the only Asiatic case notified.

Of the remaining nine Native cases, two were of glands, two abdomen, two spine, and one each generalised, meningitis and joint.

Seven Native deaths were recorded, one from meningitis and six from generalised tuberculosis.

The rate for all forms of tuberculosis equalled 1.05 per thousand population, compared with 1.34 for 1933.

The death rate for this disease was 0.84 per thousand population, which compares unfavourably with the rate of 0.64 for 1933.

13. ADMISSIONS TO HOSPITAL.

The following details are of Municipal patients admitted to each of the three institutions available, namely, European Hospital, Native Hospital, and Infectious Diseases Hospital, for infectious or communicable diseases requiring segregation for the public welfare.

All these institutions are conducted by the Government but the Municipality is responsible for patients from the Municipality to the extent of payment for treatment.

The admissions and number of patient days show an appreciable decrease compared with 1933, the patient days for 1933 being 10,668 and for 1934 7,910.

The days in hospital for tuberculosis have increased from 2,314 during 1933 to 2,901 for 1934, whereas the days in hospital for leprosy have decreased from 2,039 to 1,669.

Chicken pox, measles, mumps, and whooping cough accounted for a total of 2,235 days compared with 5,226 days in 1933.

The accompanying tables give the details of admissions and patient days for the hospitals and also the seasonal incidence of the diseases concerned and the races affected.

EUROPEAN HOSPITAL.

Month.	Admissions.	Patient days.
January	3	28
February	2	56
March	—	22
April	—	—
May	—	—
June	1	12
July	—	—
August	—	—
September	—	—
October	—	—
November	1	16
December	2	54
Total	9	188

NATIVE HOSPITAL.

Month.	Asiatic.		Native.		Total.	
	Admissions.	Patient days.	Admissions.	Patient days.	Admissions.	Patient days.
January	—	—	3	60	3	60
February	1	8	5	104	6	112
March	1	6	9	174	10	180
April	—	—	5	170	5	170
May	1	14	4	218	5	232
June	—	12	1	155	1	167
July	—	—	4	134	4	134
August	1	4	5	163	6	167
September	1	17	2	109	3	126
October	1	42	3	115	4	157
November	—	—	5	113	5	113
December	1	30	9	179	10	209
Total	7	133	55	1694	62	1827

INFECTIOUS DISEASES HOSPITAL.

Month.	White. Admissions.	White. Patient days.	Asiatic. Admissions.	Asiatic. Patient days.	Native. Admissions.	Native. Patient days.	Total. Admissions.	Total. Patient days.
January	1	3	—	—	24	931	25	934
February	—	—	1	13	18	608	19	621
March	—	—	1	20	17	585	18	605
April	2	6	1	5	15	457	18	468
May	—	22	—	17	10	497	10	536
June	—	—	—	—	18	572	18	572
July	—	—	1	2	6	438	7	440
August	—	—	—	—	11	405	11	405
September	—	—	—	—	5	248	5	248
October	—	—	—	—	12	369	12	369
November	—	—	1	2	13	385	14	387
December	—	—	—	—	10	310	10	310
Total	3	31	5	59	159	5,805	167	5,895

MUNICIPAL PATIENTS—SUMMARY.

Hospital.	WHITE Admissions.	WHITE Patient days.	ASIATIC Admissions.	ASIATIC Patient days.	NATIVE Admissions.	NATIVE Patient days.	TOTAL Admissions.	TOTAL Patient days.
European ...	9	188	—	—	—	—	9	188
Native ...	—	—	7	133	55	1694	62	1827
Infectious diseases ...	3	31	5	59	159	5805	167	5895
TOTAL ...	12	219	12	192	214	7499	238	7910

MUNICIPAL PATIENT DAYS BY DISEASES.

	White.	Asiatic.	Native.	Total.
Tuberculosis	—	... 67	... 2834	... 2901
Leprosy	—	... —	... 1669	... 1669
Chickenpox ...	—	... —	... 723	... 723
Measles	28	... —	... 650	... 678
Mumps	—	... —	... 608	... 608
Typhoid fever ...	160	... 56	... 299	... 515
Whooping cough ...	—	... —	... 226	... 226
Scabies	—	... 2	... 186	... 188
Anthrax	—	... —	... 143	... 143
Blackwater fever ...	28	... 4	... 31	... 63
C.S.M.	—	... —	... 61	... 61
Puerperal sepsis ...	—	... 48	... —	... 48
Malta fever	—	... —	... 26	... 26
Relapsing fever ...	—	... —	... 20	... 20
Dermatitis	—	... —	... 12	... 12
Enceph. lethargica ...	—	... —	... 9	... 9
Erysipelas	—	... 6	... 2	... 8
Cellulitis	—	... 7	... —	... 7
Diphtheria	3	... —	... —	... 3
Laryngitis	—	... 2	... —	... 2
TOTAL ...	219	... 192	... 7499	... 7910

MUNICIPAL PATIENT DAYS BY MONTHS.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Tuberculosis ...	295	277	354	239	266	277	204	249	198	199	164	179	2901
Leprosy ...	135	113	156	150	155	150	155	155	130	126	120	124	1669
Chickenpox ...	183	74	77	33	102	68	—	12	8	55	63	48	723
Measles ...	200	117	58	50	66	19	50	56	—	31	18	13	678
Mumps ...	37	62	44	64	37	66	76	32	8	50	93	39	608
Typhoid ...	28	36	23	67	59	16	15	40	16	38	44	133	515
Whooping cough ...	52	11	—	—	—	104	41	16	2	—	—	—	226
Scabies ...	87	25	13	30	20	—	2	—	—	—	—	11	188
Anthrax ...	—	—	24	—	—	31	31	8	—	27	12	10	143
Blackwater ...	—	30	15	—	10	4	—	4	—	—	—	—	63
C.S.M. ...	2	28	17	—	—	—	—	—	—	—	—	14	61
Puerperal sepsis ...	—	—	—	5	31	12	—	—	—	—	—	—	48
Malta fever ...	—	—	—	—	22	4	—	—	—	—	—	—	26
Relapsing fever ...	—	16	4	—	—	—	—	—	—	—	—	—	20
Dermatitis ...	—	—	—	—	—	—	—	—	12	—	—	—	12
Enceph. leth. ...	—	—	9	—	—	—	—	—	—	—	—	—	9
Erysipelas ...	—	—	6	—	—	—	—	—	—	—	—	2	8
Cellulitis ...	—	—	7	—	—	—	—	—	—	—	—	—	7
Diphtheria ...	3	—	—	—	—	—	—	—	—	—	—	—	3
Laryngitis ...	—	—	—	—	—	—	—	—	—	—	2	—	2
TOTAL ...	1022	789	807	638	768	751	574	572	374	526	516	573	7910

14. MALARIA.

Malaria was made notifiable from February, 1930.

During 1934, 2,394 cases were notified as suffering from malaria, 2,102 being residents and 292 non-residents, compared with 1,419 cases reported during 1933 comprising 1,071 residents and 348 non-residents.

MALARIA NOTIFICATIONS.

Month.	Resident. White	Asiatic	Native	Total.	*Non-Resident.* White	Asiatic	Native	Total	Total
January ...	4	6	28	38	—	—	12	12	50
February ...	6	18	62	86	3	—	21	24	110
March ...	4	18	53	75	1	3	17	21	96
April ...	9	36	77	122	7	5	17	29	151
May ...	26	136	120	282	8	3	15	26	308
June ...	25	185	85	295	5	2	20	27	322
July ...	33	365	119	517	12	12	42	66	583
August ...	10	179	115	304	5	2	26	33	337
September ...	6	80	23	109	1	2	12	15	124
October ...	3	72	45	120	1	3	16	20	140
November ...	1	32	41	74	—	1	7	8	82
December ...	—	60	20	80	—	—	11	11	91
TOTAL ...	127	1187	788	2102	43	33	216	292	2394

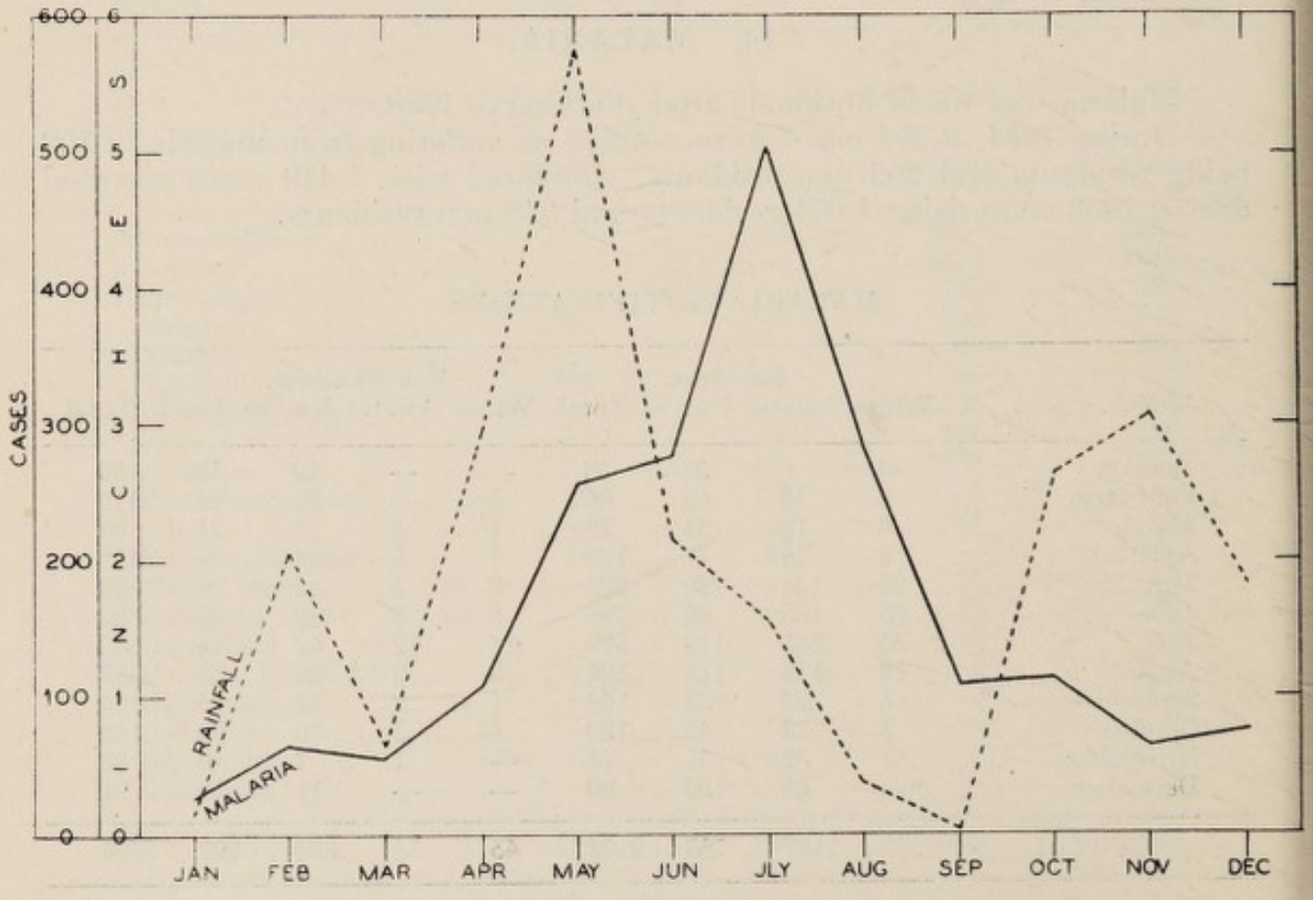
LOCALLY ACQUIRED INFECTIONS.

Month	White.	Asiatic.	Native.	Total.
January	—	4	22	26
February	2	16	47	65
March	—	15	42	57
April	4	34	70	108
May	21	131	105	257
June	23	182	69	274
July	27	361	113	501
August	9	178	95	282
September	6	80	20	106
October	1	70	39	110
November	1	31	30	62
December	—	58	18	76
TOTAL	94	1160	670	1924

The seasonal incidence of the locally acquired infections as shown on the accompanying graph, indicates a rise from the beginning of the year culminating in a peak during July then descending rapidly to the month of November, December showing a slight rise over the preceding month.

The monthly rainfall has been added to the graph for comparative purposes.

MALARIA AND RAINFALL.



INCIDENCE OF NOTIFIED MALARIA PER 1000 PERSONS.

Race.	1930	1931	1932	1933	1934
White ...	23.88	13.19	13.81	8.18	17.40
Asiatic ...	30.51	10.87	7.41	15.36	77.32
Native ...	10.84	6.73	24.20	29.66	24.81
All races ...	16.62	8.81	17.64	22.60	40.57

The following tables present an analysis of the notified resident cases of malaria.

It should be noted that the diagnosis of all the notified cases with the exception of those termed " Clinical " has been supported by laboratory examination.

In the case of those classified as " Clinical " the laboratory finding was either absent or negative and evidence was produced that reasonable care had been taken in diagnosis.

Endeavour has been made since the inception of the notification of malaria to classify each case according to the location of the probable source of infection.

All the cases are placed in one of the following classes:—

1. NAIROBI. More or less conclusive evidence of infection taking place within the Municipality.
2. EX-NAIROBI. Evidence of infection being contracted outside the Municipality.
3. DOUBTFUL. Cases not falling into the previous categories or in which no definite information could be obtained.

PROBABLE SOURCE OF INFECTION.

Source of infection.	Number of Cases. 1930	1931	1932	1933	1934	Percentage. 1930	1931	1932	1933	1934
Nairobi ...	107	79	243	865	1924	13.6	18.8	29.1	80.8	91.5
Ex-Nairobi ...	84	133	214	184	169	10.6	31.7	25.6	17.2	8.1
Doubtful ...	598	208	379	22	9	75.8	49.5	45.3	2.0	0.4
Total ...	789	420	836	1071	2102	100.0	100.0	100.0	100.0	100.0

The percentage of locally acquired infections is higher than in 1933 and now reaches a considerable figure.

The percentage of infections acquired outside the Municipality has decreased considerably.

The exceedingly small percentage of doubtful cases is undoubtedly due to more accurate information being tendered on the notification form.

Classification of the reported cases according to the type of infection and the probable source of infection is indicated in the accompanying tables.

TYPE OF INFECTION AND PROBABLE SOURCE.

Probable source.	Clinical.	Benign tertian.	Quartan.	Sub-tertian.	Double infections.	Total cases.
Nairobi ...	83	231	18	1631	39	1924
Ex-Nairobi ...	9	6	3	154	3	169
Doubtful ...	—	—	—	9	—	9
Total Residents ...	92	237	21	1794	42	2102
Total Non-Residents	20	6	6	263	3	292
TOTAL ...	112	243	27	2057	45	2394

PERCENTAGE OF TYPES OF INFECTIONS.

Type.	Nairobi.	Ex-Nairobi.	Doubtful.	Non-Residents.	Percentage total cases.
Clinical ...	4.2	5.3	—	6.8	4.6
Benign tertian ...	11.8	2.9	—	2.0	9.9
Quartan ...	0.9	1.7	—	2.0	1.1
Sub-tertian ...	83.1	90.1	100.0	89.2	84.4

Subtertian infection, as hitherto, represents the large proportion of the total cases. During 1934 this figure was 84.4% compared with 89.2% for the preceding year.

Benign tertian infection showed over 100% rise during 1934, the percentage to total cases being 9.9 in 1934 and 4.6 in 1933, the actual figures being: White 7, Asiatic 198, Native 26, compared with White 2, Asiatic 31, Native 14, during 1933.

The percentage to total cases of Quartan infection was reduced from 3.9 in 1933 to 1.1 in 1934.

It is noted that the Clinical cases have decreased considerably.

For comparative purposes and for the purpose of this report, the Municipality has been divided into 10 districts, the names of these districts being sufficient to indicate their position.

The following table indicates the number of cases of malaria notified from each of the undermentioned districts:—

NAIROBI INFECTIONS.

	District.	Number of cases notified. 1930	1931	1932	1933	1934
1.	Upper Parklands ...	—	—	1	3	4
2.	Muthaiga ...	3	—	1	8	21
3.	Westlands ...	1	—	1	—	3
4.	Parklands ...	10	4	9	31	47
5.	Forest Road ...	11	6	14	133	266
6.	Racecourse Road ...	—	3	42	128	137
7.	Eastleigh ...	2	—	8	30	36
8.	Kilimani ...	2	2	10	19	12
9.	Hill	5	2	23	63	113
10.	Commercial ...	73	62	134	450	1285
	TOTAL	107	79	243	865	1924

It will be noted that by far the largest incidence occurs in the "Commercial," "Forest Road," and "Racecourse Road" districts.

As pointed out in previous reports, these areas are contiguous to the Nairobi swamp, which is without doubt the causative agent for the large majority of cases reported from these districts.

When the problem of the swamp has been solved, the solution will be attended, with little doubt, by a decreased death rate and also a decreased sickness rate, with a corresponding rise in the health standard of the people concerned as well as a betterment in the health of the inhabitants of Nairobi who live in other districts.

DOUBLE INFECTIONS.

Source of infection.	Subtertian & quartan.	Subtertian benign tertian.	Quartan & benign tertian.	No. of cases notified.
Nairobi	—	35	4	1924
Ex-Nairobi	1	2	—	169
Doubtful	—	—	—	9
Non-Resident	2	1	—	292
TOTAL	3	38	4	2394
Percentage of total cases	0.12	1.58	0.16	

Double infections were recorded in 45 instances or 1.87% of the total cases, compared with a percentage of 1.55 for 1933, 1.97 for 1932, 0.69 for 1931, and 2.3 for 1930.

There was a mortality rate of 1.67% of the total cases notified.

The mortality rate among residents amounted to 1.52% and among non-residents to 2.73%.

The mortality rate for residents for the previous four years was 3.68%, 2.62%, 2.56%, and 2.24% respectively.

The death rate from malaria per thousand of population during 1934 was 0.67, an increase over the previous three years when the figures were 0.35, 0.42, and 0.50 respectively.

Details of the deaths from malaria during the year will be found under:

DEATHS FROM MALARIA.

Month.	Number of cases notified.	Number of deaths.	Percentage mortality rate.
January	38	3	7.89
February	86	4	4.65
March	75	—	—
April	122	3	2.45
May	282	3	1.06
June	295	3	1.01
July	517	3	0.58
August	304	7	2.30
September	109	3	2.75
October	120	1	0.83
November	74	1	1.35
December	80	1	1.25
Total	2102	32	1.52
Non-resident	292	8	2.73
TOTAL	2394	40	1.67

DEATHS FROM MALARIA AND RATES FOR 16 YEARS.

Race.	Number of deaths. 1930.	1931.	1932.	1933.	1934.	Rate per 1000. 1930.	1931.	1932.	1933.	1934.
White	1	—	—	1	1	0.22	—	—	0.18	0.18
Asiatic	12	12	10	6	18	1.09	0.76	0.66	0.39	1.19
Native	26	5	10	17	13	0.81	0.18	0.37	0.63	0.45
All races	39	17	20	24	32	0.82	0.35	0.42	0.50	0.67

DEATHS FROM MALARIA AND RATES FOR 16 YEARS.

Year.	Number of deaths.	Death rate per 1000.
1919	47 ...	—
1920	37 ...	—
1921	22 ...	—
1922	29 ...	—
1923	28 ...	—
1924	32 ...	—
1925	19 ...	—
1926	130 ...	—
1927	25 ...	1.1
1928	27 ...	0.60
1929	27 ...	0.56
1930	39 ...	0.82
1931	17 ...	0.35
1932	20 ...	0.42
1933	24 ...	0.50
1934	32 ...	0.67

15. ANTI-MALARIAL WORK.

As a routine, the whole length of the anti-malarial canals as well as the newly constructed drains and streams, have been inspected weekly, clearing and repairing taking place when necessary.

When not engaged in oiling, the oiling gang have been employed in clearing the canals, cutting, and burning bush, etc.

The work of straightening the stream running from Ngong bridge past the Native Hospital and crossing the Aerodrome road was completed in April.

The newly-formed drains which have been made from Spring Valley Estate to Lower Kabete Road received necessary attention in widening and deepening.

In July a start was made in widening and straightening the Getathuru River from Kiambu bridge to Limuru Road bridge. Up to the end of the year, a distance of approximately 12,400 feet had been completed. This work has successfully done away with all the swamp formation adjacent to the old river.

During the year, 285 tons of sisal have been removed and burned at the destructor.

Many owners have been called upon to clear their land of grass and bush and detainees have been frequently employed in cutting and burning bush on Crown Land plots within the Municipality.

The lorry used in connection with anti-malarial work registered a mileage of 8,052 miles during the year.

16. RODENT DESTRUCTION.

Routine rat trapping was carried out during the year. The rat gang consists of six boys who work under the direction of the sanitary inspectors.

The Railway Administration provide their own rat gang, who operate on railway premises and land.

Only eight dead rats were found during 1934, seven in the commercial area and one in the outskirts of the town. None of these proved to be positive to *b. pestis* on examination.

The number of rats destroyed by the Municipal rat gang totalled 16,340, compared with 16,679 during 1933.

RATS TRAPPED.

Month.	Municipal gang.	Railway gang.	Total.
January	1,429	586	2,015
February	1,276	568	1,844
March	1,506	510	2,016
April	1,423	574	1,997
May	1,506	540	2,046
June	1,339	542	1,881
July	1,418	482	1,900
August	1,360	656	2,016
September ...	1,318	552	1,870
October	1,493	511	2,004
November	1,118	540	1,658
December	1,154	524	1,678
Total	16,340	6,585	22,925

17. SANITATION.

CONSERVANCY.

There has been no change in the method of night soil disposal. During the year approximately 3,350 buckets have been attended to daily by the conservancy department, compared with 3,355 during 1933.

Nineteen premises with 90 closets have been connected with the sewer during 1934, making a total of 1,085 water closets in use connected to the sewerage system of the town.

New septic tanks have been installed in 64 instances, making a total of 387 in the Municipality.

Four more conserving tanks in connection with septic tanks installed on land not capable of dealing with the effluent, have been installed, increasing the total to eight.

Sewers.

During the year, a sewer was constructed from Stewart Street to Fifth Avenue passing to the north of the new Municipal Offices. This new sewer is larger than the sewer to which it is connected, but should prove efficient for some time to come.

Sewer extensions and branches have been constructed in Hardinge Street and across the land at the back of the Library.

A sewer 2,059 feet in length has been provided for the new Law Courts situated in the City Square.

Refuse Collection.

During the year, by-laws became operative controlling refuse disposal and receptacles and as a consequence the appearance of sanitary lanes has improved somewhat, although in those cases where building has been allowed over the whole area of the plot, the bins have been kept on the footpath, where they are at the mercy of natives who scatter the contents in their search for anything of value to them.

The inauguration of a proper dust bin service has eliminated the insanitary method of removal by means of emptying the contents into sacking.

Both motor freighters are fully occupied, the tractor and trailer being no longer employed on a regular service.

18. SANITARY INSPECTIONS.

Details of the work performed by the inspectorial staff of the Public Health Department will be found in the summary which follows.

As no inspector was away on overseas leave, full time services were recorded and the increased amount of work performed compared with the previous year is reflected in the appended figures.

It will be noted that 11,856 premises were inspected for nuisances compared with 6,689 inspected during 1933 and 2,618 defects were remedied compared with 1,580 remedied during the previous year.

The number of statutory notices served was 946, being a large increase over the number served during 1933. This increase was largely due to action taken under the Refuse Receptacles By-laws.

SUMMARY OF WORKS PERFORMED.

Nuisances.

Inspections made to:—

Dwelling houses	3,765
Restaurants and eating houses	492
Laundries	122
Hotels and bars	265
Offensive trades	95
Stables and cattle sheds	27
Offices and trade premises	4.416
Public buildings	196
Open spaces, streets, etc.	2,383

Complaints registered and investigated	50
House to house inspections	95
Defects remedied:—	
Premises dirty or verminous	176
Premises inadequately ventilated or lighted	5
Dwellings without proper water supply	11
Dwellings damp	1
Dwellings unfit for habitation	31
Yards unpaved	43
Rat infestation	9
Dilapidation	10
Latrine accommodation defective	58
Latrine accommodation inadequate	62
Drains, closed water carriage, choked	83
Drains, closed water carriage, defective	18
Drains, open, choked	85
Drains, open, defective	29
Drains absent or inadequate	27
Septic tanks or cesspits defective	28
Septic tanks or cesspits choked	11
Waste water disposal defective or inadequate	90
Soil or waste pipes choked	2
Soil or waste pipes defective	12
Accumulations of refuse	408
Dustbins absent or defective	799
Foodstuffs unprotected against rats	42
Sleeping in kitchens or food stores	27
Mosquito breeding	384
Animals causing nuisance	2
Miscellaneous	165
Defects remedied by verbal intimation	1,222
written intimation	643
statutory notices	753

SEWERAGE CONNECTIONS.

Premises connected to sewer	19
Pail closets, etc., converted into water closets	11
New closets installed to sewer	90

ERECTION AND ALTERATION OF BUILDINGS.

Plans dealt with	323
Inspections made	1,453
Completion certificates issued	185

LICENCING OF TRADE PREMISES.

Inspections made	926
Reinspections made	264

INFECTIOUS DISEASES.

Cases investigated	4
Inspections made	6
Rooms disinfected	93
Articles disinfected	1
Second-hand clothing inspected	18

RATS.

Number destroyed	16,340

NOTICES SERVED.

Public Health Ordinance:—	
Nuisances, Section 119	50
Cleansing and disinfecting, Section 23	6
Basements, unauthorised occupation	5
Municipal By-laws:—	
Cleansing plots, By-law 499	93
Inadequate latrine accommodation, By-law 510	48
Others, By-law 509, 513, 345, 508, 521, 526	48
Refuse receptacles	696
Intimation notices:—	
Number sent	249
Prosecutions	7
Closing orders (Insanitary Dwellings By-laws)	6

19. FOOD CONTROL.

TRADE PREMISES SUBJECT TO CONTROL UNDER SPECIAL BY-LAWS.

	1929.	1930.	1931.	1932.	1933.	1934.
Aerated water factories	5	5	4	4	5	4
Bakeries	13	10	13	11	10	11
Butchers' shops	18	17	21	21	19	13
Dairies and milk shops	12	20	28	26	32	24
Fishmongers	10	9	14	15	11	8
Laundries and dhobies	21	23	21	24	20	19
Restaurants	5	5	6	7	8	6
Eating houses	34	46	40	40	32	29
Vegetable dealers	19	17	19	22	20	16

INSPECTIONS TO PREMISES UNDER SPECIAL CONTROL.

	Number of inspections.
Aerated water factories	557
Bakeries	131
Butchers' shops	1,061
Dairies and Milk shops	1,392
Fishmongers	348
Laundries and dhobies	122
Restaurants	31
Eating houses	461
Vegetable dealers	447
Hotels and boarding houses	27
Markets	513
Grocers	203

FOOD INSPECTED AND CONDEMNED.

	Inspected lbs.	Condemned lbs.
Bread	1,500 ...	—
Fish	74,413 ...	217
Fruit	35,680 ...	804
Provisions	96,791 ...	1,260
Meat	213,055 ...	3,152
Vegetables	55,060 ...	786
Tinned goods ...	37,060 ...	50
Bottled goods ...	14,988 ...	51
Vinegar	42 bottles	42 bottles

20. ABATTOIR.

The amount of work done at the new Municipal abattoir is steadily increasing as will be seen from the tables following, for example, the number of oxen slaughtered in 1923 was approximately 800 a month whereas the monthly average for 1934 was 1233.

Although the actual number of oxen slaughtered during the year has decreased from 15,892 to 14,795 compared with last year, it should be remarked that the number of grade oxen killed has increased from 2,924 to 4,531 and the number of native oxen killed has decreased from 12,968 to 10,264, thus the weight of available meat has actually increased.

The monthly average for calves has increased from 20 for 1930 to 58 during 1934 but the average for sheep has decreased from 784 a month in 1930 to 690 a month in 1934.

The average number of goats slaughtered has increased from 1,552 a month in 1930 to 1,799 a month in 1934, the slaughter of pigs has also increased for a similar period from 123 to 163.

As in the past, the principal cause of condemnation in oxen was infection with cysticercus bovis, a total of 16.3% being rejected for this cause compared with 15.6 in 1933.

Tables are shown giving the number and percentages of condemnation under this heading for the types of oxen for a number of years.

The number of oxen condemned for all causes amounted to 2,894 or 19.5% of the total slaughtered, compared with 19.0% during 1933.

344 of the oxen were condemned for dropsy and fevered condition, 319 of these being native beasts, 40 were rejected for jaundice, 20 for redwater, 20 for emaciation, 14 for anaplasmosis, 10 for tuberculosis, 9 each for bruising and septic conditions, 3 for East Coast fever, and 1 for rinderpest.

Of the 153 calves condemned, 141 were rejected for infection with cysticercus bovis, 4 for redwater, 3 for jaundice.

109 or 1.3% of the sheep slaughtered were condemned, the principal causes being, fevered 37, septic conditions 21, emaciation 20, dropsy 13.

399 or 1.8% of the goats slaughtered failed to pass the examination, the large majority of these condemnations, namely 241, being on account of heartwater and fevered condition, septic conditions accounted for 74 and dropsy and emaciation for 73.

20 or 1.0% of the pigs slaughtered were condemned, the chief cause being fevered condition.

The percentage of oxen condemned for measles is still increasing for both types, in the case of grade oxen the percentage has risen during the past five years from 6.5 to 14.6 and in the case of native oxen over the same period, from 9.4 to 21.7 the percentage for total oxen has increased from 4.5 in 1927 to 19.5 in 1934.

The estimated weight of total meat condemned reached the figure of 1,209,013 lbs. compared with 1,311,685 lbs. for 1933. This condemned meat was passed through the by-products plant for the production of meat, bone and blood meal and fat.

INSPECTIONS.

1934.	Number of carcasses Inspected.	Number of carcasses Condemned.	Percentage of carcasses condemned.
Oxen, Grade	4,531	664	14.65
Native	10,264	2,230	21.72
Total	14,795	2,894	19.56
Calves	702	153	21.79
Sheep	8,288	109	1.31
Goats	21,594	399	1.84
Pigs	1,959	20	1.02
Total	47,338	3,575	7.55

ORGANS CONDEMNED APART FROM CARCASSES.

Hearts	5,506
Tongues	3,761
Kidneys	8,581
Livers	14,801
Other	34,926
Total	67,575

ESTIMATED WEIGHT OF TOTAL MEAT CONDEMNED.

Beef	1,137,545
Veal	20,591
Mutton	14,614
Goat	27,316
Pork	8,947
Total	1,209,013

CONDITIONS NECESSITATING CONDEMNATIONS.

	Oxen. Grade.	Native.	Calves.	Sheep.	Goats.	Pigs.	Total.
Anaplasmosis	1	13	—	—	—	—	14
Bruising	5	4	—	4	4	—	17
Carcinoma	—	1	—	—	—	—	1
Cysticercus bovis	600	1820	141	—	—	—	2561
do. cellulosae ...	—	—	—	—		4	4
Diffused haemorrhage ...	1	—	2	—	—	—	3
Dropsy	15	229	—	13	46	—	303
East Coast fever ...	—	3	—	—	—	—	3
Emaciation	1	19	—	20	27	—	67
Fevered	20	80	1	37	128	13	279
Heartwater	—	—	—	3	113	—	116
Jaundice	8	32	3	8	7	1	59
Lipoma	—	1	—	—	—	—	1
Moribund	—	—	—	1	—	—	1
Pleuropneumonia ...	—	—	1	—	—	—	1
Pleurisy and Peritonitis ...	1	—	—	—	—	—	1
Redwater	6	14	4	—	—	—	24
Rinderpest	1	—	—	—	—	—	1
Septic condition	1	8	1	21	68	1	100
Septic pneumonia	—	—	—	1	6	—	7
Septicaemia	—	—	—	1	—	—	1
Tuberculosis	4	6	—	—	—	1	11
TOTAL	664	2230	153	109	399	20	3575

OXEN SLAUGHTERED AND CONDEMNED FOR ALL CAUSES.

	Grade.			Native.			Total.		
Year.	No. killed.	No. cond.	% cond.	No. killed.	No. cond.	% cond.	No. killed.	No. cond.	% cond.
1927 ...	5,634	232	4.1	5,178	335	6.4	10,812	567	5.2
1928 ...	4,907	290	5.9	6,827	480	7.0	11,734	770	6.5
1929 ...	4,151	252	6.0	7,617	762	10.0	11,768	1,014	8.6
1930 ...	4,214	313	7.4	7,243	738	10.1	11,457	1,051	9.1
1931 ...	4,306	471	10.9	9,375	1,318	14.0	13,681	1,789	13.0
1932 ...	3,054	363	11.8	11,044	1,757	15.9	14,098	2,120	15.0
1933 ...	2,924	399	13.6	12,968	2,625	20.2	15,892	3,024	19.3
1934 ...	4,531	664	14.6	10,264	2,230	21.7	14,795	2,894	19.5

OXEN SLAUGHTERED AND CONDEMNED FOR "MEASLES."

	Grade.			Native.			Total.		
Year.	No. killed.	No. cond.	% cond.	No. killed.	No. cond.	% cond.	No. killed.	No. cond.	% cond.
1927 ...	5,634	—	—	5,178	—	—	10,812	490	4.5
1928 ...	4,907	—	—	6,827	—	—	11,734	740	6.3
1929 ...	4,151	—	—	7,617	—	—	11,768	975	8.2
1930 ...	4,214	277	6.5	7,243	683	9.4	11,457	960	8.3
1931 ...	4,306	388	9.0	9,375	1,227	13.0	13,681	1,615	11.8
1932 ...	3,054	321	10.5	11.044	1,568	14.1	14,098	1,889	13.3
1933 ...	2,924	326	11.1	12,968	2,158	16.6	15,892	2,484	15.6
1934 ...	4,531	600	13.2	10,264	1,820	17.7	14,795	2,420	16.3

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