

Annual report of the Medical Officer of Health / City Council of Pretoria.

Contributors

Pretoria (South Africa). Health Department.

Publication/Creation

Pretoria : City Council, [1937]

Persistent URL

<https://wellcomecollection.org/works/g6d3m4tw>

License and attribution

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

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



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

166

2nd copy



City Council of Pretoria

THIRTY-THIRD

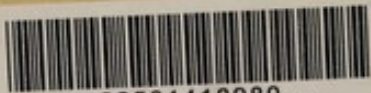
Annual Report

of the

Medical Officer of Health

for the

YEAR 1936-37



22501418980



City Council of Pretoria

THIRTY-THIRD

Annual Report

of the

Medical Officer of Health

for the

YEAR 1936-37

INDEX.

	Page.
Abattoirs Report	27 to 28
Anti-Plague Measures	32 to 33
Area of Municipality	6
Asiatic Bazaar	41
By-Laws, Sanitary Removal	44
Business Natives, Licensing of	41
Child Welfare	18 to 20
Climatic Data	6
Cowkeepers	30
Dental Clinic	22 to 24
Drainage, Sewerage and Refuse Disposal	32
Foodstuffs, Departmental Supervision of	31
Health Committee and Staff	4 to 5
Health Inspectors' Work	37 to 40
Housing, European	42
Housing, Non-European	43 to 44
Infectious Diseases	13 to 18
Introductory Letter	3
Isolation Wards	25 to 26
Milk Supplies and Dairy Control	28 to 30
Municipal Compound	41
Native Medical Services	43
Population	7
Poultry, Inspection of	31
Pretoria Nursery School	24 to 25
Public Conveniences	41
Rateable Values	6
Sewage Works Report	33 to 36
Special Diseases Clinics	20 to 22
Statistical Statements	45 to 57
Vital Statistics	7 to 12
Wash Houses	32
Water Supply	32

INTRODUCTORY LETTER.

TO HIS WORSHIP THE MAYOR

and MEMBERS OF THE CITY COUNCIL OF PRETORIA.

Your Worship, Madam, and Gentlemen,

I have the honour to present to you the 33rd Annual Report on all Health matters pertaining to the City of Pretoria for the year ended 30th June, 1937.

The Report deals with the most important items affecting the health of the community. The Statistics contained therein detail an interesting comparative analysis of the health and growth of the population, and give an index of the health conditions prevailing in Pretoria. The records reveal that Pretoria compares favourably with any other City as regards health and sanitation. This year's figures show an improvement in practically every instance on the average for the past years, but should be studied with the bulk of the Report in order that it might be seen in its correct perspective; I refer especially to the figures of the Non-European Infantile Mortality Rates, which require careful examination in order to arrive at a correct interpretation.

I am pleased to be able to record that the incidence of Typhoid Fever this year is the lowest ever recorded in Pretoria. The history of the incidence of this disease as shown in the graph and the commentary thereon, is an interesting review.

The work done by this Department during the year has increased considerably, with practically no augmentation in the personnel. This has only been possible through the loyal, energetic and efficient co-operation of each and every member of the staff. I cannot lay sufficient stress on the importance of such co-operation, as on this depends the smooth and efficient running of the Department. The support given to the Department by the public, the Press, heads and sub-heads of other Departments of this Municipality has been of great assistance.

I have to thank Your Worship and members of the City Council for the assistance extended to me, and in particular do I wish to express my appreciation of the support given to me by the Chairman (Councillor J. Patmore) and members of the Public Health and Asiatic Affairs Committee.

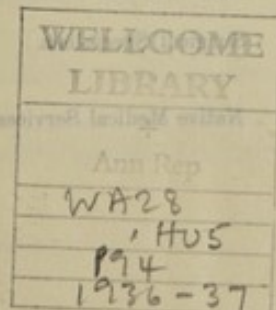
I have the Honour to be

Madam and Gentlemen,

Your obedient servant,

H. NELSON,

Medical Officer of Health.



PUBLIC HEALTH, NATIVE AND ASIATIC AFFAIRS COMMITTEE.

Councillor J. PATMORE (Chairman).
 Councillor Mrs. M. P. ATTERIDGE (Vice Chairman).
 Councillor W. H. HOFMEYER.
 Councillor H. F. JACOBS.
 Councillor P. M. VANLEER.

STAFF OF THE PUBLIC HEALTH DEPARTMENT AS AT 30th JUNE, 1937.

H. NELSON, M.A., M.B., ChB., B.A.O., D.P.H.	Medical Officer of Health.
T. LOTTER, M.B., ChB., D.P.H.	Asst. Medical Officer of Health.
A. PIJPER, M.D., D.Sc.	Bacteriologist (part time).
R. DICKS, M.B., ChB.	Resident Medical Officer (Isolation Wards).
J. G. BEKKER, B.Sc., Agric. D.V.Sc.	Veterinary Officer.
W. G. GRAHAM	Chief Health Inspector.
F. T. E. NICHOLSON	Senior District Health Inspector.
H. M. DE VAAL, B.Sc. Applied and Industrial Chemistry	Municipal Chemist and Analyst.
G. J. STANDER, M.Sc., Dip. Analytical Chemistry	Asst. Municipal Chemist and Analyst.

SENIOR HEALTH INSPECTORS.

A. VELTHUYSEN (District).	K. C. J. LUCOUW (Infectious Diseases).
J. B. FISHER (Dairies).	J. L. COETZEE (Abattoirs).
L. E. THOMAS (Dairies).	

FIRST GRADE HEALTH INSPECTORS.

H. W. GREGORY.	W. FUNSTON.
R. BLOEMINK.	R. J. DAVIS.
M. VAN R. LEE.	M. C. WILLEMSE (Abattoirs).

SECOND GRADE HEALTH INSPECTORS.

E. J. JAMMINE.	R. C. R. CARRUTHERS.
J. A. HOTINE.	J. VAN RIET (Abattoirs).

THIRD GRADE HEALTH INSPECTOR.

W. SCOTT.

CLERICAL STAFF.

L. DRYSDALE (Senior Clerk).	E. A. THORNLEY (Senior Typist).
A. C. DALRYMPLE (Junior Clerk).	I. M. MALLETT (Junior Typist).
L. SILBERMAN (Clinic Clerk).	T. DAVIDSON (Junior Typist).

CLINIC ATTENDANT AND AMBULANCE ASSISTANT.

V. J. BESTER.

RATCATCHERS.

E. MITCHLEY. J. BRODIE.

MOSQUITO ERADICATORS.

C. J. MYBURGH. H. LUBBE.

HEALTH VISITORS.

S. HEATHER (Senior).	H. M. AUSTIN.
M. DU PLESSIS.	G. S. J. PRETORIUS.
M. G. VAN WYK (Temporary).	F. L. ROSS (Clinic Sister and Tuberculosis Visitor).

HEALTH VISITORS (Non-European).

P. HERMANUS.	G. MSIMANG.
D. F. THOMAS.	A. JEKEGA.

NATIVE MALE NURSES.

JACOB MOHOLO.	SAMSON RANALE (Non-European Clinic Attendant).
---------------	--

SIX EUROPEAN ^{and} ONE EURAFRICAN ATTENDANTS AT PUBLIC CONVENIENCES.

ADDITIONAL MEDICAL STAFF (CLINICS AND ISOLATION WARDS).

PART-TIME STAFF.

Dr. E. A. LEVISEUR	Child Welfare Clinics.
Dr. D. J. THERON	Ante-Natal Clinics.
Dr. S. BEHR	Special Disease Clinics.
Dr. E. A. GRUNBERGER and Dr. F. BEKKER	Ear, Nose and Throat Specialists.
Dr. G. VAN DYK	
Dr. H. J. BESSELAAR	Surgical Specialists.
Dr. B. EPSTEIN	
Dr. J. RUDOLPH	
Dr. B. SHAWSIN	
Dr. A. J. BAIRD	Native Medical Services.

STAFF MATTERS.

It was with regret that the Department noted the resignation of the Medical Officer of Health, Dr. F. A. Donnolly, as at the 30th June, 1936. Dr. Donnolly resigned his position here to take up a similar post in another Municipality.

The Health Department of the Pretoria City Council wishes to take this opportunity of recording the energetic, capable and courageous manner in which Dr. Donnolly conducted its affairs during his tenure of office.

Dr. H. Nelson was appointed Medical Officer of Health as from the 1st July, 1936.

Dr. T. Lotter was appointed Assistant Medical Officer of Health as from the 12th October, 1936.

CLIMATIC DATA.

Latitude : 25 degrees 44 minutes East.
Longitude : 1 hour 21 minutes 48 seconds South.
Mean Altitude : 4,400 feet.

Temperatures : Statistics kindly supplied by the Chief Meteorological Officer.

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Max	87.0	86.0	85.0	84.0	83.0	82.0	81.0	80.0	79.0	78.0	77.0	76.0
Min	67.0	66.0	65.0	64.0	63.0	62.0	61.0	60.0	59.0	58.0	57.0	56.0
Mean	77.0	76.0	75.0	74.0	73.0	72.0	71.0	70.0	69.0	68.0	67.0	66.0
Max with wind	92.0	91.0	90.0	89.0	88.0	87.0	86.0	85.0	84.0	83.0	82.0	81.0
Min with wind	62.0	61.0	60.0	59.0	58.0	57.0	56.0	55.0	54.0	53.0	52.0	51.0
Max with rain	88.0	87.0	86.0	85.0	84.0	83.0	82.0	81.0	80.0	79.0	78.0	77.0
Min with rain	64.0	63.0	62.0	61.0	60.0	59.0	58.0	57.0	56.0	55.0	54.0	53.0
Mean with rain	74.0	73.0	72.0	71.0	70.0	69.0	68.0	67.0	66.0	65.0	64.0	63.0
Max with snow	—	—	—	—	—	—	—	—	—	—	—	—
Min with snow	—	—	—	—	—	—	—	—	—	—	—	—
Mean with snow	—	—	—	—	—	—	—	—	—	—	—	—
Max with hail	—	—	—	—	—	—	—	—	—	—	—	—
Min with hail	—	—	—	—	—	—	—	—	—	—	—	—
Mean with hail	—	—	—	—	—	—	—	—	—	—	—	—
Max with fog	—	—	—	—	—	—	—	—	—	—	—	—
Min with fog	—	—	—	—	—	—	—	—	—	—	—	—
Mean with fog	—	—	—	—	—	—	—	—	—	—	—	—
Max with ice	—	—	—	—	—	—	—	—	—	—	—	—
Min with ice	—	—	—	—	—	—	—	—	—	—	—	—
Mean with ice	—	—	—	—	—	—	—	—	—	—	—	—
Max with frost	—	—	—	—	—	—	—	—	—	—	—	—
Min with frost	—	—	—	—	—	—	—	—	—	—	—	—
Mean with frost	—	—	—	—	—	—	—	—	—	—	—	—
Max with snow and ice	—	—	—	—	—	—	—	—	—	—	—	—
Min with snow and ice	—	—	—	—	—	—	—	—	—	—	—	—
Mean with snow and ice	—	—	—	—	—	—	—	—	—	—	—	—
Max with rain and snow	—	—	—	—	—	—	—	—	—	—	—	—
Min with rain and snow	—	—	—	—	—	—	—	—	—	—	—	—
Mean with rain and snow	—	—	—	—	—	—	—	—	—	—	—	—
Max with rain and ice	—	—	—	—	—	—	—	—	—	—	—	—
Min with rain and ice	—	—	—	—	—	—	—	—	—	—	—	—
Mean with rain and ice	—	—	—	—	—	—	—	—	—	—	—	—
Max with rain and frost	—	—	—	—	—	—	—	—	—	—	—	—
Min with rain and frost	—	—	—	—	—	—	—	—	—	—	—	—
Mean with rain and frost	—	—	—	—	—	—	—	—	—	—	—	—
Max with rain and snow and ice	—	—	—	—	—	—	—	—	—	—	—	—
Min with rain and snow and ice	—	—	—	—	—	—	—	—	—	—	—	—
Mean with rain and snow and ice	—	—	—	—	—	—	—	—	—	—	—	—
Max with rain and snow and frost	—	—	—	—	—	—	—	—	—	—	—	—
Min with rain and snow and frost	—	—	—	—	—	—	—	—	—	—	—	—
Mean with rain and snow and frost	—	—	—	—	—	—	—	—	—	—	—	—
Max with rain and snow and ice and frost	—	—	—	—	—	—	—	—	—	—	—	—
Min with rain and snow and ice and frost	—	—	—	—	—	—	—	—	—	—	—	—
Mean with rain and snow and ice and frost	—	—	—	—	—	—	—	—	—	—	—	—

AREA OF MUNICIPALITY.

Area of Pretoria and suburbs, including of Town Lands, 10,111 acres. The town is built on and between two parallel ranges of mountains, the Orange River and the Vaal River, the latter being largely barren.

ANNUAL RATEABLE VALUES.

Year	1935-36	1934-35
Land	£4,000,000	£3,800,000
Buildings	£1,200,000	£1,100,000
TOTALS	£5,200,000	£4,900,000

The value of rateable land and buildings was £5,200,000 in 1935-36 and £4,900,000 in 1934-35. The total value of rateable land and buildings was £5,200,000 in 1935-36 and £4,900,000 in 1934-35.

Year	1935-36	1934-35
Land	£4,000,000	£3,800,000
Buildings	£1,200,000	£1,100,000
TOTALS	£5,200,000	£4,900,000

The value of rateable land and buildings was £5,200,000 in 1935-36 and £4,900,000 in 1934-35. The total value of rateable land and buildings was £5,200,000 in 1935-36 and £4,900,000 in 1934-35.

CITY COUNCIL OF PRETORIA

THIRTY-THIRD ANNUAL REPORT

OF THE

Medical Officer of Health

CLIMATIC DATA.

Latitude : 25 degrees, 44 minutes, 3 seconds East.

Longitude : 1 hour, 52 minutes, 48 seconds South.

Mean Altitude : 4,480 feet.

Temperature : Statistics kindly supplied by the Chief Meteorologist, Pretoria.

	Mean Max.	Mean Min.	Highest Reading	Lowest Reading	Humidity Mean at 8.30 a.m.	Rainfall Inches	Days
1936							
July	67.36	38.41	75.7	33.3	69.36	0.02	1
August	72.91	42.15	80.6	35.4	60.97	Nil	Nil
September	74.86	46.07	83.9	35.6	55.7	0.56	1
						(Snow with rain)	
October	79.15	55.1	87.9	44.8	63.9	1.44	8
November	79.48	56.95	92.5	51.6	67.93	6.69	18
December	85.2	60.7	93.2	50.6	64.3	2.88	11
1937							
January	82.48	56.0	94.0	56.0	72.35	4.52	15
February	82.16	61.82	88.0	57.4	73.78	9.56	11
March	82.41	57.09	87.5	45.5	70.23	1.79	9
April	77.01	50.13	84.0	39.3	79.90	1.04	6
May	75.65	43.56	82.9	35.6	61.94	—	—
June	69.72	36.07	75.0	30.3	59.80	—	—

AREA OF MUNICIPALITY.

Area of Pretoria and suburbs, inclusive of Town Lands, 60.37 square miles. The town is built on and between three parallel ranges of quartzite hills running East and West, the soil in the valleys being largely shale.

ANNUAL RATEABLE VALUES.

	1935-6	1936-37
Land	£4,905,192	£4,918,705
Buildings	11,684,785	12,789,760
TOTALS	£16,589,977	£17,708,465

The values of unrateable land and buildings were £1,368,310 and £5,885,880 respectively.

The total values therefore were :—

	1935-6	1936-37
Land	£6,267,897	£6,287,015
Buildings	17,543,765	18,675,640
	£23,811,662	£24,962,655

For the year under review the rates imposed were 6d. per £ on land and $\frac{1}{2}$ d. per £ on buildings, plus a sewerage rate of $\frac{1}{4}$ d. per £ on rateable land and buildings within the sewered area.

POPULATION exclusive of inmates of Institutions :—

		Census May, 1936	Estimated at 31st December, 1936
European	Corrected Final Figures	67,041	68,200
Native		33,000	33,500
Asiatic		2,772	2,800
Eurafrican		2,783	2,800
			<u>107,300</u>

Population inclusive of Institutions :—

	Estimated at 31st December, 1936
European	69,600
Non-European	40,500
	<u>110,100</u>

THE PRINCIPAL VITAL STATISTICS FOR THE YEAR, corrected for outward transfers are :—

	European	Native	Asiatic	Eurafrican	All Non-European	Total
Population	68,200	33,500	2,800	2,800	39,100	107,300
Birth Rates	23.94	6.30	53.21	31.79	11.48	19.40
Death Rates	8.02	9.64	20.71	16.07	10.90	9.07
Infantile Mortality Rates per 1,000 live births	52.66	450.24	107.38	112.36	269.49	99.42
Percentage of illegitimate to live births	2.94	44.08	—	33.71	27.39	8.21
Death rates from Tu- berculosis, all forms per 1,000 popula- tion	0.18	0.69	2.86	1.43	0.90	0.44

THE FOLLOWING TABLES GIVE COMPARISONS WITH ENGLAND AND WALES AND WITH LARGER TOWNS IN SOUTH AFRICA.

	Birth Rates (Corrected for Outward Transfers)		Death Rates		Death Rates Total for all races	Infantile Mortality
	Europ.	Non-E.	Europ.	Non-E.		
England and Wales (1936)	14.8	—	12.1	—	—	58
Pretoria (1936-7)	23.94	11.48	8.02	10.90	9.07	52.66
Johannesburg (1936-7)	25.36	—	10.25	—	13.38	66.13
Capetown (1936-7)	17.02	48.55	9.68	19.55	14.43	47.16
Durban (1936-7)	18.78	—	—	—	—	—
Benoni (1936-7)	27.19	9.13	8.63	12.72	11.63	54.67
Germiston (1936-7)	30.176	—	11.657	—	—	68.475
Bloemfontein (1936-7)	19.42	27.57	7.52	31.04	19.88	65.96
Boksburg (1936-7)	28.69	—	10.53	—	—	85.95
Pietermaritzburg (1936-7)	17.69	24.26	8.56	14.68	11.75	37.63
Kimberley (1936-7)	20.8	—	9.36	—	18.45	48.2

BIRTHS.

2,539 Births were registered within the Municipality of Pretoria during the year.

Of these, 36 Europeans and 48 non-Europeans were Still Births, and 292 European and 81 non-European were births where the mothers were not residents of Pretoria.

The local births were therefore 2,082, an increase of 43 over last year's figure, being 1,633 Europeans, 311 Natives, 149 Asiatics and 89 Eurafricans.

The European Birth Rate is 23.94 per 1,000 as compared with 22.96 for the previous year.

The non-European Birth Rates are as follows (figures for previous year are shown in brackets). Native 6.30 (9.61); Asiatic 53.21 (65.45); Eurafrican 31.79 (42.40); All non-European 11.48 (15.89).

Rates of natural increase, being the excess of births over deaths in proportion to population, are as follows:—Europeans 15.92 per 1,000; Asiatics 32.5 and Eurafricans 15.71 per 1,000. Amongst Natives there were 112 more deaths than births recorded.

This figure is definitely inaccurate owing to non-registration of births and is further discussed with the Native Infantile Mortality Rates.

ILLEGITIMACY. 48 of the European births, 24 males and 24 females, were illegitimate, being 2.94% of the total births, a decrease on last year's already very low figure of 3.53%. The percentage of illegitimate to total births in non-European races is 27.31, which is 2.86 lower than last year's figure.

STILLBIRTHS numbered 84—the same number as last year, and comprises 36 Europeans and 48 non-Europeans, as compared with 41 Europeans and 43 non-Europeans last year.

DEATHS.

There were 1,623 deaths registered during the year, being 805 Europeans and 818 non-Europeans. Of these 258 Europeans and 392 non-Europeans were inmates of Hospitals or other Institutions and were not residents of Pretoria, having been brought here for treatment.

These deaths comprise 161 Europeans and 194 non-Europeans at the Pretoria Hospital and other local nursing homes, 59 European and 62 non-Europeans at the Mental Hospital, 17 Europeans and 85 non-Europeans at the Leper Asylum, 5 Europeans and 40 non-Europeans at the Prison and 16 Europeans and 11 non-European visitors to the City.

There were therefore 973 local deaths, giving a total death rate on the estimated population of 9.07 per 1,000 as compared with a rate of 11.77 for the year 1935-36.

The deaths in the various races were:—

	1936-37	1935-36
European	547	665
Native	323	487
Asiatic	58	58
Eurafrican	45	51
	<hr/> 973	<hr/> 1,261

These figures give the following death rates:—

	1936-37	1935-36
European	8.02	9.88
Native	9.64	14.24
Asiatic	20.71	19.54
Eurafrican	16.07	17.58
All Non-Europeans	10.90	14.97

INFANTILE MORTALITY.

261 Infantile deaths were registered in Pretoria during this year. 117 were Europeans and 144 non-Europeans. 31 of the Europeans and 23 of the non-European infants either belonged to mothers who had come from the country for confinement or were infants brought to Pretoria suffering from the illness which caused death.

Europeans. The infantile mortality rate for the year is 52.66 which is 25.01 lower than that for last year; the average rate for the past 5 years was 64.98. The figure for this year, namely 52.66 is indeed very low and is the fifth lowest recorded since 1910. The lowest figure ever recorded was in 1926-27 when the European infantile mortality rate was 48.48. It will therefore be seen that this year's rate is only 4.18 higher than the lowest ever recorded.

Of the 86 infantile deaths, 11 were due to congenital causes, 17 to diarrhoeal diseases, 19 to bronchitis, broncho-pneumonia and pneumonia, 3 to infectious diseases, 19 to prematurity and 17

to other causes. Congenital causes give a mortality rate of 6.73 per 1,000 births as compared with 8.20 for the previous year.

Diarrhoeal diseases rate is 10.41 as against 25.24 for the previous year and diseases of the Respiratory system 11.63 against last year's figure of 18.14.

Whilst one is very satisfied with a low infantile mortality rate figure, it must be made quite clear that in a population as small as that of Pretoria, fluctuations in the infantile mortality rate, within limits of 10 or 20, are not of serious significance. When one deals with a comparatively small total number of births, which in Pretoria amounts to 1,633, it can be readily understood that any slight increase in the infantile deaths appreciably affects the infantile mortality rate, and the fact that we have a low infantile mortality rate this year in comparison with previous years, apart from being a satisfactory report, does not carry the significance which the public might attribute to it, unless taken in its proper perspective.

It would be sufficient to say that the health of the European infants of the City of Pretoria is indeed satisfactory and that this is in no small measure due to the excellent sanitary conditions existing, the work done by the Child Welfare Clinics, the Health Visitors and the Child Welfare Society in the City.

Non-Europeans.

Local deaths in non-European infants under one year of age numbered 121 (185) comprising 95 (150) Natives, 16(20) Asiatics and 10(15) Eurafrians. (Figures for 1935-36 are shown in brackets.)

Infantile rates in these races were as follows :—

	1936-37	1935-36	Average rate of past five years.
Natives	450.24	585.94	618.33
Asiatics	107.38	152.67	152.48
Eurafrians	112.36	140.19	131.02
Total non-Europeans	269.49	374.49	380.30

Seven of the deaths were due to congenital causes, 33 to diarrhoeal diseases, 45 to diseases of the respiratory system, 1 to infectious disease, 17 to prematurity and 18 to various other causes.

Natives. There were 123 births and 51 deaths registered in Marabas, 28 births and 25 deaths in Bantule and 60 births and 19 deaths in natives in the town.

Asiatics. 97 births and 10 deaths were registered in the Asiatic Bazaar and 52 births and 6 deaths in Indians resident in town.

Eurafrian. 71 births and 8 deaths were registered in the Cape Location and 18 births and 2 deaths in Eurafrians resident in town.

VALUE OF NON-EUROPEAN INFANTILE MORTALITY RATE FIGURES.

The above rates show a general decrease in infantile mortality among all sections of the non-European population. It must again be stressed here that these figures are practically of no value and are only recorded here for the purpose of continuing the records kept in the past. The reasons for the inaccuracy of these figures are the following :—

(1) The extremely low number of births recorded, namely Natives 211, Asiatics 149, Eurafrian 89. Total of 449.

In a small figure totalling 211 in Natives in Pretoria, an increase of, say, 20 deaths would mean a total increase in the rate of approximately 100—the infantile mortality rate being calculated on the number of infantile deaths per 1,000 live births.

(2) In a similar way the non-registration of births would multiply and exaggerate the infantile mortality rate, where the figures are so small and when it is known that the natives do not register all births; in fact, one suspects that more than half the number of births are never registered, whereas every death in the City is notified as it requires a Magistrate's Order to permit of the burying of a deceased person.

Two of the most important reasons which account for the antipathy of the Bantu to register births are :—

(a) The native is suspicious of being "Counted" by the European, and a parent imagines that the registration of the birth of a child enables the authorities to keep track of him, especially in connection with Police matters, and the collection of Poll Tax.

(b) Owing to the large incidence of illegitimacy (this year's figure 44.08% of the total native births), mothers are naturally in some instances loath to report a birth where it involves embarrassing questions regarding the parentage of the infant.

This error alone will more than double the figures of the infantile mortality rate.

A further important cause for this high infantile mortality rate figure, lies in the fact that many native women leave the town for their homes for confinements. This brings down the total number of births registered, and the same mother might bring back her sick baby, who, if it were to die in Pretoria, would be registered as a local infantile death.

(3) Another factor in the inaccuracy of this high figure in non-Europeans is the migratory habits of the natives. The natives from far and wide come into the City when they realise that their children are in need of medical attention. These children are, very often, only brought here after all home remedies have failed and arrive in a very debilitated condition.

A large number of these children who actually do not belong to Pretoria die in the City and are erroneously registered as Pretoria deaths.

An attempt was made by this Department to arrive at a more accurate figure in connection with infantile deaths and births. Health Visitors paid calls to homes in an endeavour to survey a certain area and obtain figures by personal interrogation.

This experiment only served to confirm the statements made here regarding the inaccurate registration, and the resentment of the native in connection with notification of births.

The survey was abandoned on account of the impossibility of arriving at a reasonably correct figure. It may be stated, however, that the figures, such as they were, indicate that the infantile mortality rates amongst natives in Pretoria, would approximate 100 per 1,000 live births.

It is therefore not denied that there is a greater number of deaths amongst the non-European infantile population than amongst Europeans. In regard to the preventable deaths, there can be no doubt that this is largely caused by poor economic conditions, inadequate housing accommodation, and lack of nutrition.

Medical care alone cannot combat this unless the economic position is improved.

DEATHS AT AGE 1-5 YEARS.

Europeans. There were 28 deaths registered in this age period, 15 less than during the previous year. Ten of the deaths were due to diseases of the respiratory system, 4 to diarrhoeal diseases, 3 to accident, 1 to nephritis, 2 to diseases of nasal fossae and adnexa, 2 to diseases of the heart, 2 to meningitis, 1 to purpura, 1 to cerebro-spinal fever, 1 to diphtheria, and 1 to unstated cause.

Non-Europeans. There were 63 deaths in this period, being 82 less than during the previous year. Of these 64 were natives, 11 Asiatics, and 6 Eurafricans.

Natives. 21 of the deaths were due to diseases of the respiratory system, 16 to diarrhoeal disease, 3 to accident, and 6 to other causes.

Asiatics. 9 of the deaths were due to respiratory diseases and 2 to diarrhoeal causes.

Eurafricans. 2 of the deaths were due to broncho-pneumonia, 1 to influenza, 1 to tuberculous meningitis, and 2 to diarrhoea.

DEATHS IN PERSONS OVER FIVE YEARS OF AGE :

These totalled 675 and comprised (figures of 1935-36 shown in brackets), 433 (502) Eurafricans, 182 (220) Natives, 29 (27) Asiatics, and 31 (18) Eurafricans.

The principal causes of death were :—

	Europeans.		Non-Europeans.	
	Yearly 1936-7.	Average for 5 years.	Yearly 1936-7	Average for 5 years.
1. Cancer	55	44.6	7	9.6
2. Diseases of Heart	96	73.6	40	30.0
3. Pneumonia, Broncho Pneumonia and Bron- chitis	45	49.6	48	49.6
4. Influenza	6	9.4	2	4.6
5. Typhoid Fever	1	7.0	5	10.2
6. Appendicitis	2	3.6	1	1.8
7. Tuberculosis (Open)	10	11.0	31	27.4
8. Diabetes	7	6.0	—	0.8
9. Apoplexy	30	26.2	8	5.0
10. Diseases of Kidneys	21	22.0	3	6.8
11. Diseases of Arteries	19	10.4	2	2.4
12. Diseases of Liver	7	10.8	4	2.8
13. Diseases of Parturition	8	6.6	5	4.8
14. Old Age	9	13.8	—	7.0
15. Suicide	4	7.6	1	1.8
16. Accident	9	21.2	11	15.8

1. CANCER.

(a) *Europeans.* There were 55 deaths from the various types of this disease, being 9 more than last year's total. The death rate per 1,000 population is 0.81. The rate for 1935-6 was 0.68 whilst the average yearly rate for the past five years was 0.72. Twenty-one of the deaths were in cancer of the digestive organs, 7 of the respiratory organs, 7 of the breast, 4 of the uterus, 4 of the male genito-urinary system, whilst in 12 cases various other organs were affected.

Five of the deaths were in persons under 40, 7 between 40 and 50, 11 between 50 and 60, 18 between 60 and 70, 10 between 70 and 80 and 4 over 80.

(b) *Non-Europeans.* There were 7 deaths from cancer, 5 in natives (4 of the digestive organs and 1 of the female genito-urinary system), 2 in Asiatics and 1 in a Eurafrican. The site of the cancer in the last 3 cases was not specified.

2. DISEASES OF THE HEART.

(a) *Europeans.* There were 96 deaths from diseases of the heart, a decrease of 35 on the previous year's figure and 23 above the yearly average for the past five years. The death rate for 1,000 population is 1.41 which is 0.38 lower than that of last year.

(b) *Non-Europeans.* In non-Europeans over 5 years of age there were 40 deaths from diseases of the heart, a decrease of one on last year's figure. Twenty-eight were in Natives, 6 in Asiatics and 6 in Eurafricans.

3. BRONCHITIS, BRONCHO-PNEUMONIA, PNEUMONIA.

(a) *Europeans.* There were 45 deaths from these diseases, a decrease of 26 on last year's figure, and 4.6 below the average for the past five years.

(b) *Non-Europeans.* There were 48 deaths, 14 less than last year, the same as the average for the past 5 years. 35(45) of the deaths were in Natives. 8(9) in Asiatics, and 5(8) in Eurafricans. (Figures for 1935-36 are shown in brackets.)

4. INFLUENZA.

There were 8 deaths from this disease, a decrease of 20 over last year's figure.

(a) *Europeans.* One death occurred between the ages of 30 and 40, 2 between 50 and 60, 2 between 60 and 70, and 1 between 70 and 80 years

(b) *Non-Europeans.* Two deaths occurred in natives between 40 and 50. There were no Asiatic or Eurafrican deaths.

5. DIABETES.

There were 7 European deaths as against 12 last year, and none amongst non-Europeans.

6. APOPLEXY.

(a) *Europeans.* There were 30 deaths from this disease which is 1 less than last year, 4 more than the average for the past five years.

(b) *Non-Europeans.* There were 8 deaths amongst non-Europeans, 5 in Natives, 1 in an Asiatic and 2 in Eurafricans.

7. DISEASES OF THE ARTERIES.

There were 19 deaths in Europeans, 3 in Natives, 1 in Eurafricans.

8. APPENDICITIS.

2 Europeans and 1 native died from this disease during the year.

9. DISEASES OF THE LIVER.

7 Europeans and 4 Native deaths occurred from these diseases.

10. DISEASES OF THE KIDNEYS.

(a) *Europeans.* 16 deaths were due to Nephritis and 5 to other diseases of the kidneys.

(b) *Non-Europeans.* 2 Natives and 1 Eurafrican died of nephritis.

11. DISEASES OF PARTURITION.

8 European and 5 non-European deaths occurred.

(a) *Europeans.* The deaths were due, 2 to post abortion sepsis, 2 to other accidents of pregnancy and 1 each to haemorrhage, puerperal sepsis, toxæmia and accidents of childbirth.

(b) *Non-Europeans.* 1 native died from toxæmia and 2 from other accidents of childbirth. 1 Eurafrican and 1 Asiatic died from puerperal sepsis.

12. OLD AGE.

9 Europeans died from this cause. 4 were between 70 and 80 and 5 were over 80 years. There were no non-European deaths.

13. SUICIDAL DEATHS.

There were 6 of these deaths registered from the following causes :

(a) *Europeans.* 1 by poisoning, 1 by hanging, 1 by firearms, 1 by cutting or piercing instruments.

(b) *Natives.* 1 by hanging and 1 by an other unstated means.

14. ACCIDENTAL DEATHS.

(a) *Europeans.* There were 9 deaths reported from the following accidental causes :—1 by machinery, 2 by motor vehicles, 3 by motor cycles and 3 by other causes.

(b) *Non-Europeans.* There were 11 deaths in natives, 3 from burns, 1 by Railway, 2 by motor vehicles, 1 by crushing, 1 by a fall, 1 by lightning and 2 from other causes.

15. TUBERCULOSIS.

There were 41 deaths from Pulmonary Tuberculosis, 10 in Europeans and 31 in non-Europeans.

(a) *Europeans.* The number of Europeans is one below the average for the previous five years. Age and sex incidence is as follows :—

Between 25-30 years	....	....	....	....	1 male.
„ 30-40	„	....	....	....	2 males, 3 females.
„ 40-50	„	....	....	....	1 male, 1 female.
„ 50-60	„	....	....	....	2 males.

In addition there were two cases of tuberculosis involving the intestines and peritoneum.

(b) *Non-Europeans.* Of the Non-Europeans, 22 were in natives, 6 in Asiatics and 3 in Eurafricans. In addition there were, 1 native, 1 Eurafrican and 2 Asiatic deaths from tuberculous meningitis.

16. TYPHOID FEVER.

There were 1 European and 5 native deaths from this disease amongst residents.

The various other causes of death in all races can be found in Tables No. 3 and 4 at the end of the report. A more detailed list of causes of death is kept on record at the Pretoria City Councils' Health Department Offices.

DETAILS OF INFECTIOUS DISEASES NOTIFIED DURING THE YEAR. 1936-1937.

(NOTE:) All figures for 1935-36 are shown in brackets.

1. TYPHOID FEVER.

	Europeans	Non-Europeans
Local cases	48 (69)	28 (56)
Imported cases	21 (48)	21 (61)
	<u>69 (117)</u>	<u>49 (117)</u>

The number of local cases for the past 16 years, average yearly Europeans, 58; Non-Europeans, 38.

There were 1 European and 5 non-European deaths during the year. The attack and death rates amongst residents are :—

	Europeans	Non-Europeans
Attack rate	0.38 (0.71) per 1,000 population	0.54 (1.533) per 1,000 population
Death rate	0.015 (0.104) per 1,000 population	0.537 (0.377) per 1,000 population

The case mortality rates are :—4.76 (14.58) in Europeans and 23.81 (12.59) in non-Europeans.

Of the 42 local cases there was a doubt about 7 cases as to whether these were infected in Pretoria or not; according to the incubation periods the infections may have taken place outside this area, the disease only developing in the city. Four cases occurred in patients at the Mental Hospital, 2 in Europeans and 2 in natives. Six were secondary cases who contracted the illness prior to notification of the original cases. In 2 cases the well water supply was suspected.

One native, a waiter at a school hostel, became ill, but fortunately the disease was diagnosed and notified at an early stage, and before he had infected any of the inmates.

Three cases occurred in an Asiatic family in the central area. The native kitchen boy was found to be a carrier. He was immediately removed to the Typhoid Fever Carrier Camp. Such a carrier, had he been employed in a Dairy or in the handling of dairy products, might have caused a serious outbreak of this disease. He was fortunately discovered when he had only been in the city for 3 weeks.

The rest of the cases were untraced in spite of all possible sources of infection having been carefully investigated.

The following figures give information in regard to the activities of the Department during the year, in connection with Typhoid Fever investigation.

	1935-36	1936-37
No. of Typhoid C.F. tests carried out in connection with suspect carriers	72	25
No. of these tests reported positive	25	13
No. of these tests reported negative	47	12
No. of Stool Examinations for B Typhosus	19	10
No. of Stool examinations from which B Typhosus recovered	—	—
No. of Urine examinations for B typhosus	17	10
No. of Urine examinations from which B Typhosus recovered	—	2

VI AGGLUTINATION RESEARCH IN CONNECTION WITH THE TEST FOR CARRIERS.

Progress in connection with this new test has been reported on by the Pretoria City Council's bacteriologist, Dr. Adrianus Pijper, and his assistant Miss C. G. Crocker, M.Sc., in the Journal of Hygiene (Cambridge) Vol. 37, 1937.

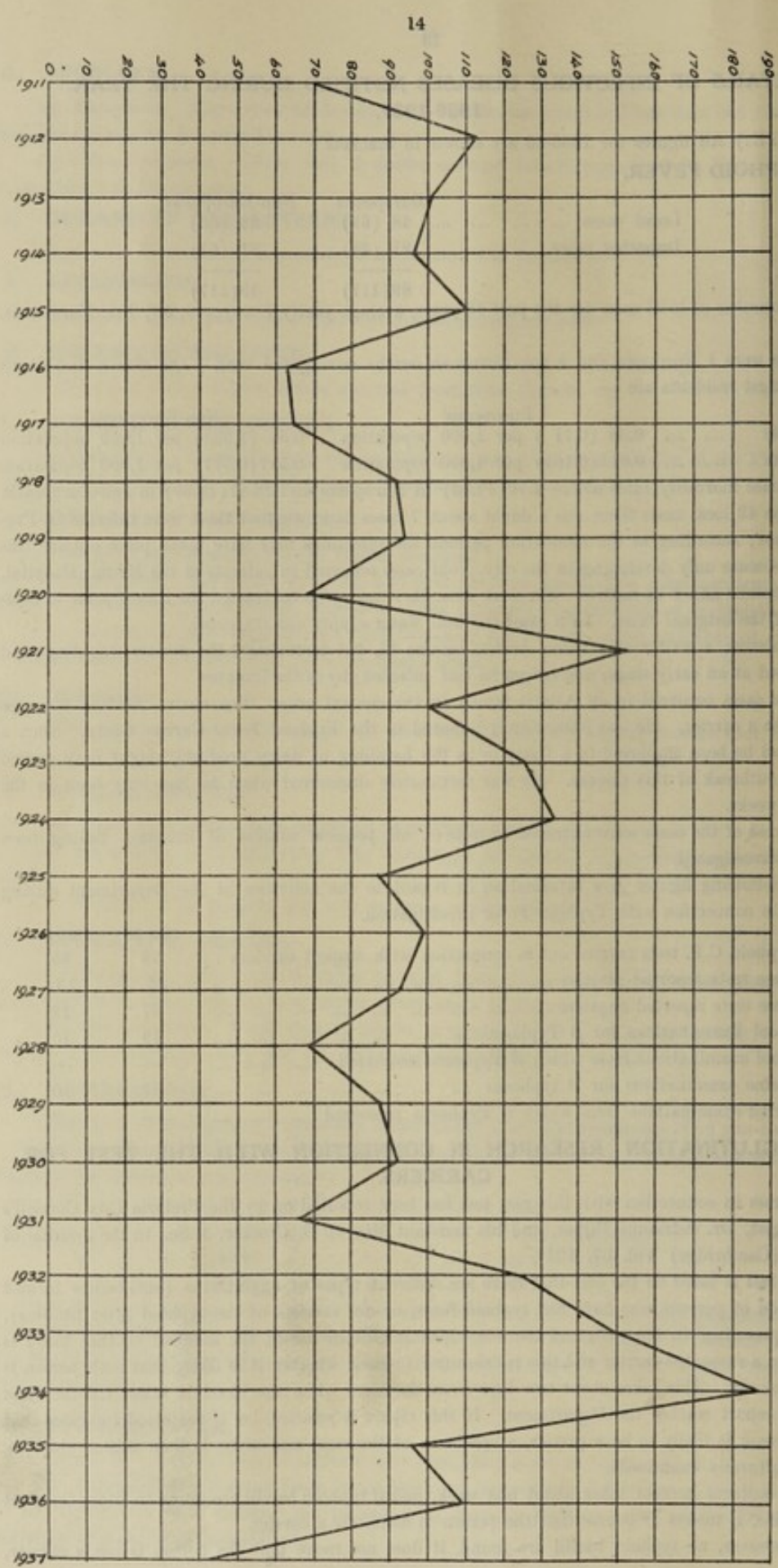
This test is based on the fact that there are different types of agglutinins (anti-bodies formed in the blood of persons who have had typhoid fever, or are carriers of the typhoid fever bacillus).

The procedure in the past, and the one which is still in use at the moment is, that blood is taken from a suspected carrier and this is examined to show whether it is likely that such person is a carrier or not. This takes about two days from the time when the blood is taken till the time when the report reaches the Department. If this report is *positive*, i.e. if the blood indicates that such a person is likely to be a carrier, a specimen of the stool and urine is then taken, which is further culturally examined.

This cultural process takes about one week, and if typhoid bacilli are found in either the stool or the urine, it means of course that the person is definitely a carrier.

If, however, no typhoid bacilli are found, it does not mean that the person is not a carrier,

GRAPH OF TYPHOID FEVER INCIDENCE OVER A PERIOD OF TWENTY-SEVEN
YEARS 1911 - 1937



as repeated stool and urine examinations may have to be done for a very long time, on account of the fact that a carrier may at times excrete the bacilli, and may at times, for months on end, not do so.

For this reason, if a more conclusive blood test taking about 48 hours to complete could be devised which would definitely indicate a carrier, the work would become much easier and much more accurate. That is to say, the search is for a test which would, within 48 hours, definitely indicate whether a person is a carrier or not without having to perform the lengthy, and often inconclusive, stool and urine examinations, and it is in this connection that the new experiments have been undertaken, acting on a suggestion by Dr. Felix of the Lister Institute.

The results so far are very satisfactory, in that a certain type of new agglutinin, namely Vi agglutinin, has been found in every case where the person is a definite carrier, that is, where the bacilli have been discovered in either the stool or the urine.

Complete confirmation of this is, however, not yet to hand as the number of carriers and suspicious carriers available in Pretoria is too small for definite conclusions.

Further investigations are, however, being carried out.

Dr. Pijper's article concludes as follows :—

"It would seem that Vi agglutination would provide a new and efficient method of narrowing down the field for cultural examinations. Vi agglutinins are very rare in normal persons. We have 4 manifest chronic carriers who possess significant quantities of vi agglutinins. We have 3 persons who at one time were chronic stool carriers, in whom we now also find significant quantities of Vi agglutinins, but in whom at the time we cannot demonstrate typhoid bacilli. We also have 5 persons who at one time were chronic carriers, who now do not show any Vi agglutinins, and in whom we also at this time cannot find typhoid bacilli. Two of these were urinary carriers, which makes their negative cultural results more significant. Lastly, we have two persons who at one time obviously were temporary urinary carriers, and who now have lost their bacilli, and in whom we now also cannot detect Vi agglutinins.

"In the search for typhoid carriers negative cultural results carry little weight. Our positive findings support the view that typhoid carriers are characterised by the possession of significant quantities of Vi agglutinins."

The discovery of typhoid fever carriers in Pretoria and the work already done in this connection has led to a most satisfactory reduction in the number of typhoid fever cases in this area.

For this work, thanks are due to the City Bacteriologist, his staff, and the infectious diseases division of this Department.

The total number of tests done in this connection up to June, 1937 were—Blood 21, Stool 154, Urine 111.

Further investigations are being carried out.

TYPHOID FEVER GRAPH.

This graph showing the incidence of Typhoid Fever for the past 27 years, is a most interesting review of the disease in Pretoria.

It will be noted that from the years 1911 to 1915 the incidence of Typhoid Fever ranged between 70 and 112. There is a sudden drop to between 63 and 94 for the years 1916 and 1920. During these years, the town was without a full-time Medical Officer of Health, and the Department was supervised by various locums, with the result that the number of notifications became incomplete. The year 1921 shows a dramatic rise to over 150. This rise is coincident with the coming to Pretoria of Dr. A. Pijper the present City Bacteriologist.

The presence of a bacteriologist in the City instituted readily available facilities for Pretoria Medical Practitioners for the thorough blood examinations of all suspected cases of Typhoid Fever. The Bacteriological confirmation of the diagnosis resulted in an increase in the number of cases diagnosed and notified, and in consequence we have the high figure of over 150 reported cases. Again, through the bacteriological examination of all suspected carriers when Dr. Pijper was appointed City Bacteriologist, a number of carriers were detected and controlled, and coincident with this is shown the decline from the years 1921 to 1931 from 150 cases in 1921, to between 60 and 70 cases for the year 1931.

The years 1931 to 1934 again show an extraordinary rise to over 180 cases for the year 1934. This is explained by the incorporation of the Township of Innesdale adjoining Pretoria. This township, prior to incorporation had no full-time Medical Officer of Health and very

meagre Health facilities. It was also devoid of a controlled town water supply and sewerage system. The rise was practically entirely due to cases coming from this district and it took the Department several years to ameliorate this unhygienic and insanitary state, by the extension of the City's water mains, by the bacteriological examinations of well water, the condemnation of unsuitable sources of water and the institution of proper sanitary services. By these means the figure was again reduced to between 90 and 100 in 1935.

This year shows a drop to 42 cases from 1936 to 1937, the lowest number ever recorded. This must be attributed to improved sanitation, better hygienic conditions, thorough investigation and bacteriological control of this disease in Pretoria. Although one does not wish to emphasize this too much, it must be recorded that this year's reduction in the number of cases coincides with the institution of bacteriological examinations of dairy employees for the Typhoid carrier state. One of the most interesting features in the review is the important part played by the Bacteriologist, in the notification and reduction of the number of typhoid fever cases.

2. TYPHUS FEVER.

There were no cases of Typhus fever notified during the year.

3. UNDULANT (MALTA) FEVER.

There were no local cases notified.

4. MALARIA.

	Europeans.	Non-Europeans.
Local cases	5	3
Imported cases	83	56
Total	88	59

One of the local European and the 3 local non-European cases were recurrent attacks from old infections contracted in malarial districts outside Pretoria. The remaining four European local cases were infected in Pretoria. Pretoria is well controlled as regards possible breeding places of mosquitos, but there is always the danger of a few cases being locally contracted. An interesting feature is that out of 147 cases notified, in only 4 instances was the source of infection at all obscure. The remainder were nearly all in persons who had visited malarial areas, especially during the Easter holiday. A considerable number of cases in natives, who had recently been working in malarial districts, were notified from the Railway Compounds.

5. MEASLES.

	Europeans.	Non-Europeans.
Local cases	38 (714)	2 (55)
Imported cases	1 (11)	— (7)
Total	39	2

As from October, 1936, both Measles and Whooping Cough were removed from the list of diseases notifiable in Pretoria. Both these diseases, however, remain notifiable when they occur in hospitals, nursing homes, boarding houses, hotels, hostels and schools.

6. SCARLET FEVER.

	Europeans.	Non-Europeans.
Local cases	64 (115)	— (—)
Imported cases	14 (7)	1 (—)
Total	78 (122)	1 (—)

Age Distribution.

There were 15 cases in children between 1-5 years, 34 between 5-10 years, 11 between 10-15 years, 1 between 15-20 years, and 3 between 20-30 years.

7. WHOOPING COUGH (see remarks under 5. MEASLES).

	Europeans.	Non-Europeans.
Local cases	167 (384)	13 (13)
Imported cases	3 (10)	— (5)
Total	170 (394)	12 (18)

8. DIPHTHERIA.

	Europeans.	Non-Europeans.
Local cases	39 (41)	2 (12)
Imported cases	12 (12)	2 (1)
	<hr/> 51 (53)	<hr/> 4 (13)

Age Distribution (All Races—Local).

1 case was in an infant under 1 year, 12 between 1-5 years, 13 between 5-10 years, 6 between 10-15 years, 1 between 15-20 years, 2 between 20-30 years, 2 between 30-40 years, 3 between 40-50 years and 1 between 60-70 years.

There was no definite connection between any of the cases, and the incidence was normal.

A number of cases were again immunised departmentally and privately against this disease.

9. ERYSIPELAS.

	Europeans.	Non-Europeans.
Local cases	33 (28)	2 (12)
Imported cases	13 (18)	— (4)
	<hr/> 46 (46)	<hr/> 2 (16)

10. POLIOMYELITIS.

	Europeans.	Non-Europeans.
Local cases	3 (—)	— (—)
Imported cases	4 (—)	— (1)
	<hr/> 7 (—)	<hr/> — (1)

11. CEREBRO-SPINAL-MENINGITIS.

	Europeans.	Non-Europeans.
Local cases	14 (16)	10 (11)
Imported cases	5 (2)	10 (1)
	<hr/> 19 (18)	<hr/> 20 (12)

All the cases were carefully investigated. In one case infection may have been contracted from a previous case in the same house. One native was suffering from a septic scalp wound following upon which the disease developed in hospital.

The other cases were all sporadic and unconnected with one another.

12. ANTHRAX.

There were no local cases reported during the year.

13. OPHTHALMIA NEONATORUM.

	Europeans.	Non-Europeans.
Local cases	5 (4)	1 (4)
Imported cases	2 (1)	1 (4)
	<hr/> 7 (5)	<hr/> 2 (8)

14. TRACHOMA.

There were 2 local and 1 imported non-European cases notified.

15. PUERPERAL SEPSIS.

	Europeans.	Non-Europeans.
Local cases	4 (12)	3 (4)
Imported cases	3 (17)	8 (4)
	<hr/> 7 (29)	<hr/> 11 (8)

Careful investigations with regard to the origin of the disease in all these cases were conducted. All suspect carriers were carefully examined and throat and nasal swabs taken.

16. TUBERCULOSIS.

	Europeans.	Non-Europeans.
Local cases	13 (26)	50 (29)
Imported cases	19 (23)	50 (54)
	<hr/> 32 (49)	<hr/> 100 (83)

THE TYPES OF THE DISEASE WERE :

	Pulmonary.	Meningitis.	Spinal.	Gland.
European	13	—	—	—
Non-European	45	3	1	1

Eleven of the above cases gave a familial history. One patient had been working underground in a gold mine. One gave evidence of contact with another case. One European case was employed in an occupation involving the creation of small particles of dust which was probably the predisposing cause. Two cases were inmates of the Mental Hospital.

During investigations of tuberculosis cases, two European and thirteen non-European houses from which cases were reported were found to be overcrowded.

The incidence of the disease namely 63 notifications is far too great for a population climatically and economically situated as Pretoria is. No less than twenty-five cases of Pulmonary Tuberculosis were notified just prior to or after death.

It is evident, therefore, that many cases of tuberculosis are not notified to the Department early in the disease. The reason for this is usually that the patients cannot afford medical attention or do not come under the care of a doctor until the disease is well advanced. It must be recorded here that the medical practitioners in Pretoria are, on the whole, very helpful in notifying cases which come under their care. The Department is grateful for this co-operation, as it enables prompt preventive measures against the spread of infection to be taken as early as possible.

The fact that twenty-five cases were notified only just prior to or at death, indicates the difficulty of adopting the necessary preventive measures early in the disease, as these cases were highly infective for at least a few weeks prior to death, and in some cases, for many months. It is, therefore, evident that a large number of contacts may probably have been infected by these cases without the Department being able to institute the necessary preventive measures such as educating contacts and infected persons with regard to the methods to be adopted against the spread of the infection, stressing the importance for care in the disposal of sputum when coughing and so forth.

In connection with all this preventive work, including our Tuberculosis clinics, the incidence of this disease will only be satisfactorily reduced when adequate sanatorium accommodation is available, sufficient funds provided for the hospitalisation of patients, after-treatment centres with proper supervision established, and care of dependants provided for. These are essential adjuncts. Better housing conditions will, to a great extent, assist in minimising the incidence of this disease.

MALARIAL COURSE AT TZANEEN.

In January, 1937 the Council approved of the Senior District Inspector and Infectious Diseases Inspector proceeding to Tzaneen for a 10 days anti-malarial course.

This course was held from the 9th to 16th January and included a short revision of Bilharzia and its causes.

Both these inspectors were successful in passing the examination at the end of the week.

CHILD WELFARE CLINICS.

Home visits paid by Health Visitors for the year ended 30th June, 1937.

	European.	Eurafrican.	Native.	Asiatic
First visits to newly born infants	1,531	98	229	149
Subsequent visits to infants and children to 5 years of age	4,593	1,157	2,079	1,037
Visits to sick children	429	45	124	50

ATTENDANCES AT CLINICS.

European.

	Central.	W. End.	Blood St.	Gezina.	Mayville.	W. South.
First visits of newly born infants	292	118	75	54	42	45
Subsequent visits of infants and children to 5 years of age	2,966	1,322	1,055	534	536	621

Non-European .

	Native.	Asiatic.	Eurafrican.
First visits of newly born infants	187	45	76
Subsequent visits of infants and children to 5 years of age	2,287	326	1,154

In addition visits were paid by the Health Visitors as follows:—

	European.		Native.		Asiatics.		Eurafricans.	
	1935/6.	1936/7.	1935/6.	'36/7.	1935/6.	'36/7.	1935/6.	'36/7.
Where patients not at home	1,081	1,189	317	760	122	187	137	154
Where moved to another address	821	871	107	251	75	96	56	78
Visits re Diphtheria Immunisation	—	46	—	—	—	—	—	—

Provision of supplementary food for babies attending the clinics cost the City Council a sum of £327 19s. 6d. whilst the income accruing from the sale of such foods amounted to £108 0s. 4d.

Milk was supplied in certain indigent cases under the Council's grant of £75.

ANTE-NATAL AND POST-NATAL CLINICS.

	Europeans		Non-Europeans	
	1935-6	1936-7	1935-6	1936-7
New cases reporting at clinic	177	296	183	172
Number of attendances at clinic	533	965	743	751
Cases referred :—				
(1) For confinement	153	188	126	163
(2) To S.D. Clinic	3	24	15	45
(3) To Hospital O.P.D.	12	45	49	28
(4) Dental clinic	44	85	8	22
Post natal attendances at clinic	79	100	51	79
Ante natal visits at homes	220	344	1,308	952
*Midwifery cases attended by District Midwives	—	—	101	98
New Midwifery cases booked	22	37	95	78
No. of visits to cases during puerperium	—	—	639	1,380
Post natal visits to homes	186	232	942	386
*No. of cases transferred to Moedersbond	42	34	—	—
Number of infants with discharging eyes	—	12	—	3
Visits paid re puerperal sepsis investigation	—	18	—	10
Visits paid re ophthalmia neonatorum	—	6	—	2

*Note : European cases are not attended to by the Municipal Midwife, but are referred to the Moedersbond Maternity Hospital.

EUROPEAN : Ante-Natal.

The total number of new cases visiting the Ante-Natal Clinics for the year was 296. European births numbered 1,633. The percentage of women attended to by our clinics was therefore 12, which is a slight improvement on last year's figure of 11.5, but still very low when compared with the average percentage of women receiving ante-natal care in overseas cities, namely 25 per cent.

The total number of ante-natal visits to the clinics and to the homes of patients was 1,309. That is to say, of the 296 women each received approximately 4.42 ante-natal attendances from the Health Visitors. The desired number of such attendances should at least average 5, and we are therefore slightly below what is considered requisite. This number, namely 5 visits per patient is purely arbitrary, and should vary for individual patients. That is to say, circumstances such as albuminuria, malposition, abnormal pelvis, pulmonary or cardiac disease, and other abnormalities should be taken into consideration.

All women not under the care of their own medical practitioner should be encouraged to visit the ante-natal clinic at least once a month.

EUROPEAN: Post-natal Visits.

By this is meant visits to the Clinic by the patients, or to the homes of patients by Health Visitors after the birth of the baby, and excludes visits paid during the lying-in period (Puerperium). The total number of women visiting our Clinics post-natally during the period under review was 100 and the total number of visits to the homes of patients was 232 making a total of 332 post-natal attendances. That is to say, each woman received approximately 3.3 attendances, which is considered adequate and is the same as last year's figure, namely 3.

NON-EUROPEAN: Ante-natal.

The total number of non-European births registered was 449 and the number of women visiting the Clinic was 172. The percentage of non-European women attended to by our clinic is 38.3 per cent. as compared with 12.0 per cent. Europeans. The chief reasons for the higher attendance by the non-Europeans are, firstly because there is a greater proportion of non-European women requiring free ante-natal treatment than European, secondly the non-European women appear as a rule, to make more frequent use of the clinics than Europeans and lastly due to non-notification of all births, as explained elsewhere.

These 172 women received 1,703 ante-natal attendances by Health Visitors at home or at the clinics. That is, approximately 10 visits per patient. Last year's figure for this was 11.2.

NON-EUROPEAN: Post-Natal Attendances.

The total number of non-European women who received post-natal attendances was 172. The total number of attendances by Health Visitors to the homes or at the clinics, was 465 that is, about 2.7 post-natal visits per case. The corresponding figure for Europeans is 3.3 and the desired number of visits should average about 3.

All the above figures reflect favourably on the activities of the clinics of the City Council of Pretoria.

In April, 1936, the Public Health, Native and Asiatic Affairs Committee agreed to a request from the Moedersbond Hospital for mothercraft learner nurses of that Institution to attend the Council's clinics for practical instruction

CONTROL OF MIDWIFERY.

There are in Pretoria

	Europeans	Non-Europeans
Qualified Midwives	57	1
Unqualified, but registered midwives	7	—
Unqualified, but midwives allowed to practice under control	—	3

During the year the Medical Officer of Health invited all the midwives to a lecture on "Care in Midwifery." A large number of midwives practising in the City attended this lecture. Midwives were requested to co-operate more closely with the Department's Child Welfare and Ante-Natal Clinics.

SPECIAL DISEASES CLINICS.

In the report to the Public Health Committee during January, 1937, a resume was given of the growth in connection with the European section of the Special Diseases Clinics.

This report stressed the necessity for increase in the staff, and gave an insight into the development of, and control exercised by these clinics. The Medical Officer of Health recommended the following :—

- (1) That an extra full-time Health Visitor be appointed to the Special Diseases Clinics.
- (2) That the Medical Officer in charge of the European Special Diseases Clinics be asked to conduct another clinic for European Males on Thursday mornings from 7.30 to 8.30 a.m.
- (3) That early morning douching of European males requiring the services of a European male attendant be provided.
- (4) That the City Council approach the Pretoria Hospital with a view to extending the present European clinic accommodation for which expenditure the Pretoria City Council in conjunction with the Union Government will be responsible.

The Council agreed to these recommendations and accordingly provision for the extra expenditure in salaries was made on the 1937-38 estimates. A sum of £3,500 was also provided for the extension of the present clinic buildings.

EUROPEAN CLINICS: (Venereal Diseases Section).

The number of new patients seen during the year was 338, of whom 135 were males and 203 females. The figures for the previous year were 124 males and 135 females.

Of the males, 34 had syphilis and 101 had Gonorrhoea. Of the females 84 had syphilis and 119 had gonorrhoea. Of these, 2 males and 30 females were children suffering from congenital syphilis.

In addition to the above, 19 males and 101 females who presented themselves for examination were found to be free from Syphilis in a communicable form. The number of patients who were rendered non-infectious and discharged from the clinic was 100, 44 males and 56 females.

The total number of persons who attended the clinics was 454, and the total attendances at the clinics numbered 7,817, 3,427 males and 4,390 females. The number of attendances paid by Hercules patients was 406, 108 males and 298 females.

The total number of intravenous injections of Salvarsan or similar preparations given was 1,672.

NON-EUROPEAN CLINICS.

The number of new patients seen during the year was 1,020, males 462, females 558. Of the males 299 had Syphilis and 163 had Gonorrhoea, whilst of the females 484 had Syphilis and 74 had Gonorrhoea.

In this figure is included 248 children brought to the clinics during the year as new patients suffering from congenital syphilis 42 being males and 206 females.

In addition to the new patients seen during the year 334 non-Europeans, males 76 and females 258 presented themselves for examination and were found to be free from Syphilis in a communicable form. The number of patients who were rendered non-infectious and discharged from the clinics was 227, 108 males and 119 females.

The total number of persons who attended the clinic was 1,629 and the total number of attendances paid was 14,200, males 6,735, females 7,465.

The total number of intravenous injections of Salvarsan or other similar preparations given, was 8,510.

The following table gives comparative figures of the last five years.

	Number of new patients seen during the year.		Total number of attendances.		Number of Intra- venous injections.	
	Europeans.	non- Europeans.	Europeans.	non- Europeans.	Europeans.	non- Europeans.
1932-33 . . .	202	1,397	2,608	11,282	820	7,573
1933-34 . . .	213	1,559	2,491	11,525	884	7,395
1934-35 . . .	204	1,169	2,920	11,546	1,577	9,223
1935-36 . . .	260	769	5,851	12,505	1,480	7,685
1936-37 . . .	338	1,020	7,817	14,200	1,672	8,510

It was reported to the Department that in several instances patients attending the Pretoria City Council's Special Diseases Clinics had been medically treated for some considerable time by a few of the local chemists without attending a qualified medical practitioner.

A letter explaining the ill effects that might result from such action was addressed by the Department to the Secretary of the Pharmaceutical Society.

The matter was discussed by the Pharmaceutical Society who assured the Department of the co-operation of all chemists.

As it was known that a number of venereal disease patients were attending private practitioners in the City, the local doctors at the request of the Department very kindly co-operated with the Department by supplying statistics with regard to the type of venereal disease, and the number of new patients treated by them monthly.

These statistics are submitted hereunder:—

	European.		non-European.	
	Male.	Female.	Male.	Female.
Gonorrhoea	264	60	62	10
Vulvo-Vaginitis	—	28	—	2
Syphilis—				
Primary	26	2	37	9
Secondary	7	13	38	18
Tertiary	15	14	65	32
Neuro	4	—	—	—
Congenital	1	—	4	8
Other Venereal diseases	9	—	—	2
	326	117	206	81

Total number of cases reported 730.

These statistics are only from 1st September, 1936 to 30th June, 1937.

TUBERCULOSIS CLINIC (SECTION OF SPECIAL DISEASES CLINICS)

The Tuberculosis clinics for Europeans and non-Europeans are conducted at the Special Diseases Department at the Pretoria General Hospital. During the year the attendances at these clinics have been well maintained.

Outdoor Patients.

	European.		Non-European.		Total.	
	1935/6.	1936/7.	1935/6.	1936/7.	1935/6.	1936/7.
No. of new cases coming under treatment during year	20	28	21	28	41	66
No. of Hercules patients	1	3	16	29	17	32
No. of attendances paid by Hercules patients	4	5	26	37	30	42
Total No. of patients who attended	348	448	253	293	601	741
Total number of attendances paid	798	1,354	341	387	1,139	1,741
No. of visits paid during the year to houses of patients by Health Visitors	1,113	1,408	966	1,490	2,079	2,898

The clinics are of great value apart from the treatment and supervision etc., of the actual tuberculosis cases, in that cases are examined for Tuberculosis and that contacts are encouraged to come to the clinic for the necessary medical examination and treatment.

Bi-weekly clinics are conducted by the Department, and medicines and where necessary free milk supplied.

Under the King George V. Jubilee Fund (administered by the S. A. Red Cross Society) valuable assistance has been given to the dependents of tuberculosis patients.

Three children, contacts of cases, have been sent to the Xmas Stamp Fund Preventorium at Pietermaritzburg.

REPORT OF THE PRETORIA DENTAL CLINIC.

July 1st, 1936 — June 30th, 1937.

Dr. T. Ockerse, the Dentist in charge of the Clinic, reports as follows:—

1. CONTROL.

The Clinic is controlled by a Board, known as the Pretoria Dental Clinic Board, consisting of two Provincial Administration representatives, two Councillors of the City of Pretoria, the Medical Officer of Health for Pretoria, and three members of the Pretoria Branch of the Transvaal Dental Association.

2. ADMINISTRATION.

The administration of the Clinic is controlled by the Clinic Committee, elected by the Pretoria Dental Society. Three Dental members constitute the Clinic Committee.

The members of the Pretoria Branch of the Transvaal Dental Association, 31 in number, give two hours service, gratis, daily from 9 to 11 a.m. except on Saturdays, for the treatment of indigent adults and pre-school children.

The attendance of the Society members during the year was excellent, for which the Committee is duly appreciative.

3. GRANTS-IN-AID.

The Grants-in-Aid are as follows:—

£600 from the Provincial Administration.

£600 from the Pretoria City Council, of which £150 is deducted for rent, service, etc.

The Per Capita fee of 2/6 as agreed upon with the Hercules Municipality is still in force.

4. GENERAL HOSPITAL, PRETORIA.

Indigent patients who required dentures were granted benefits under the Samaritan Fund, and were sent to the Clinic for treatment, but owing to the Samaritan Fund now being closed on account of the shortage of funds, the number of patients has considerably decreased.

Indigent patients who cannot afford a shilling and who live in the Municipal Area, are treated at the Out-patients Department of the Pretoria Hospital, free of charge. All the other indigent patients needing dental treatment, and living in the municipal area are sent to the Pretoria Dental Clinic

5. LEAVE.

Dr. Ockerse had long leave from January 4th, 1937—April 1st, 1937, during which period he proceeded overseas. While in England and the Continent he visited Dental Hospitals and Clinics.

The Clinic Secretary-Nurse Sister J. S. Leviser had three weeks' annual leave from January 4th, 1937—January 25th, 1937. Relief nurse acted as locum for her.

6. TREATMENT OF INDIGENT ADULTS AND PRE-SCHOOL CHILDREN.

The number of indigent adults treated at the clinic during the year under review is as follows:—

No.	Extractions.	Fillings.	Examinations.	Scalings.	Dentures.	Pre-school Children	
						No. Extrs.	Fills.
1,531	2,944	22	44	—	23 full upper and full lower 6 full uppers 1 full lower 14 repairs 5 partials	65 155	2

The number of Schools visited is thirty-nine.

Number of examinations made is 19,811.

All the schools in Pretoria were visited once during the year under review and some schools were visited twice.

LECTURES.

Lectures and short talks on the care of the teeth and oral hygiene were given in most schools.

During examinations, it was found that the children in the grades suffer most from extensive decay in nearly all the temporary molars, and our greatest problem to-day is, how the pre-school children can best be treated.

The extraction of all decayed deciduous molars, *when they enter the primary schools*, is certainly not the proper treatment.

SUB-CLINICS.

A sub-clinic is held every Tuesday morning at one of the following schools:—

Mayville, Pretoria North, Hermanstad, Gezina, Voortrekker, Blood Street, Eendracht, Silverton, Eloffsdal, Wonderboom South, Villieria, Gymnasium Jnr., West End Jnr., President Kruger, General Nicolaas Smit, Claremont and Mountain View.

These sub-clinics are held for the benefit of the smaller indigent children. The parents find it very difficult to bring their small children to the Clinic in the City from outlying suburbs. These sub-clinics are a great success and conducted at no extra expense to the Clinic.

Through the courtesy of Dr. Kieser, a Government School nurse assists at these sub-clinics.

COUNTRY SCHOOLS.

The following country schools were visited during the period under review:—

Happy Rest, Alldays, Amersfoort, Mopani, Merensky, Kuschke, Rooipoort, Nooitgedacht, Gembokspruit, Kwaggafontein, Kammelpoort, Tweefontein, Witpoort, Kameelpoortnek, Knoppiesfontein, van Dykspruit, Tweedespruit, Hartebeestpruit, Bekker School Farm and Siekerhoet Schools.

The following are the statistics of indigent children who received treatment during the year under review—

No.	Extractions.	Fills.	Examinations.	Scalings.	Dentures.
4,507	5,015	816	1,482	3	3 partials.

CO-OPERATION OF PRINCIPALS, etc.

I cannot speak too highly of the co-operation and assistance always given me by the Principals and Staffs of the primary schools, the Education Department and the Chief Medical Inspector of Schools

COMPOUND HOSPITAL RETURNS.

The Assistant Medical Officer of Health attends the Compound Hospital, Proes Street, for non-European Council employees only, and out-patient services are provided.

The following details of the work carried out here during the year are given hereunder:—

	1935-6.	1936-7
No. of boys injured on duty and treated at Compound Hospital ..	224	296
No. of boys injured on duty and sent to General Hospital	54	71
No. of boys injured off duty and treated at Compound Hospital .	95	129
No. of boys injured off duty and sent to General Hospital	26	38
No. of sick boys treated at Compound Hospital	98	67
Total number of first attendances of boys at Compound Hospital .	1,152	1,221
Total number of attendances at Compound Hospital	3,725	4,868

PRETORIA NURSERY SCHOOL.

Extracts from the Report of the Chairman of the Pretoria Nursery Schools Committee, Dr. Ruth Arndt, indicate the following:—

Expansion.

The past year has seen considerable expansion in the work of the Pretoria Nursery School Committee.

In July, 1936, an assistant teacher was appointed for the Good Hope School, as the voluntary assistance given during the preceding year had lapsed, and the 40 children enrolled were too many for the one teacher to manage alone.

Toward the end of the year, thanks to the efforts of the Pretoria Parents' Association in organising the White City Fete in the City Hall, and the generous response of the community, the sum of £320 was handed to the Committee for expansion of the Nursery School movement. Also the first payment of the Provincial Grant-in-Aid was made in respect of the Good Hope School.

In view of repeated representations that the work should be extended further west, and also because of the inadequate accommodation at the Good Hope Hall (which was built for twenty-five children only) it was decided to open a branch at the Child Welfare Society in Christoffel Street. So welcome was the proposal to the Child Welfare Society that, in addition to supplying accommodation for the Nursery School, it gave a grant of £115 towards meeting salaries and initial equipment expenses.

In the absence of any available qualified teachers in the country, Miss Sybil Pearson, a graduate of Gypsy Hill Training College, was brought from England to organise and run the new Nursery School, and Miss Elsie Clark, the second teacher at the Good Hope centre, was sent to assist her.

The new Nursery School, in addition to the Shelter children, caters also for children of the neighbourhood. There is very gratifying co-operation between the Child Welfare authorities and the Nursery School workers.

The Good Hope School, while reverting to its original enrolment, at the same time extended its work by providing for an afternoon session from 1.30 to 4 p.m., which makes possible a much needed day-time sleep for the children, many of whom have no opportunity for this in their own homes.

ENROLMENT for the year was as follows:—

GOOD HOPE	April—June, 1936	35		
	July—December, 1936	40		
	January—March, 1937	25		
			Shelter	Outside
Child Welfare Shelter,	January to March, 1937	23	14	37

While the present total enrolment of sixty-two represents a considerable increase over last year's numbers, yet the demand for nursery school services still greatly exceeds the supply.

At the Good Hope School alone, sixty-eight applications have been received during the year, and there is at present a waiting list of thirty-eight. There is urgent need for further extension of facilities.

SERVICES.

All children are given a complete physical examination upon admission, by Dr. E. A. Levisur at the Good Hope Nursery School, and by Dr. M. M. Adams at the Shelter School. This is repeated once quarterly whenever possible.

The Municipal Dentist examines the teeth of the children once a quarter. During the past year, fourteen indigent cases were given free treatment at the Dental Clinic.

A District Health Visitor visits the schools three or four mornings a week for health inspection, and follows up cases needing attention.

In June, 1936, following a case of diphtheria in the Good Hope School, the Medical Officer of Health arranged to have all the children with the consent of their parents, given injections immunising them against diphtheria.

Posture correction work with individual children has been done once a week by Mr. Bronkhorst and Mrs. Verdi Lounsbury.

From April to October, Mrs. Clark Powell came once a month to record heights and weights of the children. Since that date, this work is being carried on by the regular school staffs.

Once a year, the Government Psychologist gives an intelligence test to each child.

Through the Dairy Control Board, under the State-aided milk scheme, the Good Hope School received a supply of cheese (25 lbs.) and, during one term, daily milk rations. The charge of 2s. per term was paid by thirty-two out of forty children receiving this service.

PARENT EDUCATION.

Parents have been visited in their homes by the teachers throughout the year, for consultation and advice concerning the children. For several months, Mrs. H. H. Carey conducted fortnightly a Home Nursing class for mothers.

Dr. Mary Cook and Professor J. C. Bosman gave talks on the *General Care of Children* and *Problems of Parents*, which were attended by fathers and mothers of the Nursery School children.

The progress of the Nursery School movement in Pretoria is encouraging to those who have watched it grow from very small beginnings. Its success is its justification. From one small venture in a little rented house, with twenty children and one teacher, the experiment has in five years grown to two schools with sixty-two children and three teachers, and in addition has inspired parents of the Eastern Suburbs to open a fee-paying self-supporting school in Brooklyn.

Moreover, Pretoria has been able to some small extent, to help other sections of the country. Since the beginning of this year, for example, two teachers from the Free State have worked for a time in the Nursery Schools, in order to gain some knowledge of Nursery School methods.

A supply of trained, bilingual Nursery School teachers is a pressing need for the furtherance of Nursery School work in South Africa. Opportunities for training have not yet been developed in this country. It is of interest to report, however, that the Pretoria Nursery School Committee, in co-operation with the Committee of the Eastern Suburbs Nursery School, has under consideration a plan for making use of the trained experts and the several Nursery Schools in the City and to make a start toward a training course in conjunction with the University of Pretoria. If the Nursery School movement is to realise its aims, it is essential that the work shall go forward only in the hands of properly trained workers.

In conclusion, thanks are due to all members of the Committee and to the Municipal Health Department, and the Medical Officer of Health, whose loyal encouragement and help have been consistently behind all the work that has been done.

ISOLATION WARDS.

The Isolation Wards are situated within the grounds of the Pretoria General Hospital. They consist of three main sections, two for Europeans and one for non-Europeans. These sections are divided into wards for males and females and comprise 70 beds.

The agreement between the Pretoria Hospital Board and the City Council in regard to the administration of these wards remains unchanged, as from last year.

A commencement was made during the month of February in connection with alterations at the Isolation Wards, for which Union Health's approval was obtained.

The alterations and improvements consisted of the following, and were carried out at a cost of £2,568 :—

- (1) Placing of observation windows in the side wards of the two European sections, permitting of closer observation without contact, thus facilitating nursing and minimising the risk of cross-infection.
- (2) The sub-division of the Diphtheria, Scarlet Fever and Typhoid main wards into cubicles by means of glass partitions with steel framework, constituting a "visible barrier" system.
- (3) Repainting of all wards in which these alterations were made.
- (4) Four glass swing doors were placed in the passages in order more effectively to isolate one part of the building from another.
- (5) With regard to the heating arrangements, the radiators, placed high up on the walls, proved unsatisfactory and they were removed and built into the walls 6in. above the floor level.

It is further proposed that small observation squares be made in the doors of the side wards. This will probably be carried out in the near future.

RESIDENT MEDICAL OFFICER'S QUARTERS.

These quarters were completed during the year, and consist of sitting-room, bed-room and bathroom. The structure is situated over the entrance of the Isolation Wards and enhances the appearance of the buildings considerably.

The supply of hot water to the wards by means of separate electric geysers has not proved very successful and arrangements are being made to provide for a continuous supply to be derived from the General Hospital, together with steam to the theatre and sterilizing rooms of all sections.

The following further equipment is recommended :—

- (1) The conversion of the existing crockery sinks into crockery sterilisers (one in each section).
- (2) The purchase of five steam bed-pan sterilisers the Typhoid Fever section being the most urgently required at the moment.
- (3) The provision of three bowl steam sterilisers—one for each section.

The grounds are much improved and the grass has been re-planted in front of the European side wards.

CASES TREATED IN THE WARDS DURING THE YEAR WERE :

	Europeans		Non-Europeans	
	1935-6	1936-37	1935-6	1936-7
Chicken Pox	10	1	12	11
Venereal Disease	25	26	28	25
Other non-infectious diseases	45	47	108	56
Mumps	18	5	14	5
Puerperal Sepsis	28	9	5	10
Phthisis	—	1	—	1
Pulmonary Tuberculosis	47	39	11	26
Impetigo	—	—	—	2
Typhoid Fever	101	59	117	40
Whooping Cough	11	14	1	4
Diphtheria	41	32	2	6
Measles	53	16	61	4
Influenza	92	14	39	7
Scarlet Fever	47	32	1	1
Anthrax	—	1	7	3
Infection of Eyes	—	—	—	1
Encephalitis Lethargica	4	1	7	—
Malaria	6	1	1	2
Erysipelas	44	37	11	—
Cerebro-Spinal-Meningitis	1	4	6	4
Croup	—	1	—	—
Typhus Fever	—	1	—	—
German Measles	1	2	—	—
Pneumonia	1	4	1	1
Poliomyelitis	—	1	—	—
Ophthalmia Neonatorum	1	2	—	—

The total number of cases treated as in-patients at these wards was 559.

374 of the cases, 253 Europeans and 121 non-Europeans were admitted from outside districts, and 185 were Pretoria residents.

ABATTOIRS.

STAFF :

The following staff changes took place during the past year.

Mr. H. N. Parkin, First Grade Health Inspector, resigned to take up an appointment as Manager of an Abattoir elsewhere.

Mr. M. C. Willemse succeeded Mr. Parkin.

Mr. J. van Riet was appointed additional Second Grade Meat Inspector.

FACILITIES FOR STUDY AT THE ABATTOIRS.

Permission was given to students to undertake the practical course in Meat Inspection at the Pretoria Abattoirs.

There were two final year B.Sc. students from Onderstepoort and one R.S.I. student admitted and provided with facilities for obtaining practical experience in meat inspection.

The Veterinary Research Division and the Department of Animal Husbandry of the University of Pretoria undertook several slaughter tests of Experimental animals at the Abattoirs. These Institutions were provided with all possible assistance. Representations were made to the Director of Veterinary Services under the Department of Agriculture, concerning the dispatch of Quarantine stock to the local abattoirs. The Director of Veterinary Services insisted upon certain alterations in the existing quarantine pens before authority could be given for the direct consignment of quarantine stock to the abattoirs. The necessary alterations and improvements were made to comply with the requirements as laid down by the Veterinary Division. The Director of Veterinary Services has now given authority for the direct consignment of quarantine stock to the Pretoria Abattoirs.

In regard to meat supplies the Veterinary Officer reports as follows :—

1. MEAT SUPPLIES :

Animals slaughtered at the Abattoirs :—

	Oxen	Cows	Bulls	Calves	Sheep	Goats	Pigs
1936-37	22,600	4,886	463	2,258	92,885	799	10,796
1935-36	21,220	4,208	445	2,121	78,393	1,623	10,103
				1935-36	1936-37		
Total bovines excluding calves				25,873	27,949		
Total ovines (sheep and goats)				80,016	93,684		
Total animals				118,113	134,687		

Carcases, Organs, etc., condemned :—

	Cattle	Sheep and Goats	Pigs
Entire carcasses	426 (315)	95 (61)	933 (720)
Quarters	32 (15)	54 (24)	— (—)
Plucks	1,024 (482)	1,501 (806)	2 (—)
Livers	2,666 (1,262)	10,665 (8,488)	17 (—)
Lungs	1,062 (300)	2,794 (2,271)	— (—)
Heads	996 (499)	— (—)	71 (37)
Tongues	997 (494)	— (—)	70 (37)
Hearts	75 (22)	— (—)	— (—)
Kidneys	15 (—)	— (—)	— (—)
Udders....	5 (12)	— (—)	— (—)
Spleens	1 (2)	— (—)	— (—)
Viscera	51 (20)	— (—)	— (—)
Intestines	4 (—)	— (—)	— (—)
Tails	4 (—)	— (—)	— (—)

The figures for 1935-36 are given in parenthesis.

Imported meat examined :—

	Cattle	Pigs	Sheep	Goats	Calves
Entire Carcasses	6	918	33	9	2

and 3,180 lbs. beef and 3,059 lbs. pork.

Of the above the following were condemned :—

2 Pigs for measles.

2 Pig heads and 2 tongues for localised Tuberculosis.

Diseases encountered :

(a) The percentage of carcasses condemned for all diseases was as follows :—

	Cattle	Sheep and Goats	Pigs
1935-36	1.484	.062	7.126
1936-37	1.140	.101	8.633

(b) The incidence of disease :—

Tuberculosis : Amongst cattle there were 97 cases, 50 being generalised and 47 localised cases.

Amongst pigs there were 90 cases, 10 being generalised and 80 localised cases.

Measles : Amongst cattle there were 1,193 cases, 254 carcasses were condemned and 939 were detained for freezing. Amongst pigs there were 926 cases all being condemned.*Actinomycosis* : 60 cases, all being localised and the portions affected being condemned.*Anthrax* : One sheep was condemned.*Ext. Bruising* : 13 carcasses of beef, 7,742 lbs. beef, 8 carcasses and 54 lbs. mutton, 4 carcasses and 146 lbs. pork, and 25 lbs. veal were condemned.*Broncho-Pneumonia* : 1 carcass of beef was condemned.*Arsenical poisoning* : 35 sheep carcasses were condemned.*Emaciation* : 33 carcasses of beef; 2 sheep condemned.*Gangrene* : One pig and 2 quarters of beef were condemned.*Jaundice* : 34 sheep and 4 calves were condemned.*Lymphadenitis* : 55 quarters mutton were condemned.*Peritonitis* : 5 head of cattle were condemned.*Pleuritis* : 1 sheep was condemned.*Pyæmia* : 5 carcasses of beef and 1 sheep were condemned.*Septicæmia* : 8 carcasses of beef, one sheep and 2 calves were condemned.*Mastitis Purulenta* : 1 carcass of beef condemned.*Defective Bleeding* : 1 carcass of beef and 12 sheep were condemned.*Follicular Mange* : 1 pig carcass was condemned.*Multiple Haemorrhage* : 1 pig carcass was condemned.*Immaturity* : 1 calf was condemned.*Chronic Nephritis with Uraemia* : Two head of cattle were condemned.

(c) The incidence per 100 tuberculosis and cysticercosis in animals slaughtered is :—

	Cattle Excluding Calves	Pigs
Tuberculosis	.347 (.0027)	.834 (.00603)
Cysticercosis	4.268 (2.674)	8.586 (6.908)

Note : Percentages for 1936-36 given in parenthesis.

There was a considerable increase (viz. 15,881) in the total number of animals slaughtered. The increased amount of meat inspection undertaken necessitated the appointment of an additional meat inspector.

INSPECTION OF BUTCHERS' SHOPS' BY THE MEAT INSPECTORS.

This system of inspection has continued and during the course of the year, 1,673 inspections of butcher shops were undertaken. This follow-up inspection has desirable effects since a continuous check is being kept on all the meat of the City and a satisfactory hygienic standard of butcher shops maintained.

MILK SUPPLIES AND DAIRY CONTROL.

During the year under review 196 dairy licences were approved of by the Health Department. This is a decrease of 9 as compared with the previous year. These licensed dairy premises consist of :—

Producers only	81
Producer-Distributors	63
Distributors	52

It will be noticed that 115 of these dairies are retailers of milk.

The total number of cows kept and the total amount of milk produced and consumed is approximately the same as reported last year. It should be noted that several small producer-distributor dairies which had previously operated in the municipal area have now discontinued as producers. This means that a smaller number of cows are being accommodated in the municipal area. From a public health point of view the gradual elimination of cows and cow byres from the

closely built up areas of the City is very desirable. It should be pointed out, however, that 659 cows are still being kept in dairies within the precincts of the City and its suburbs. This figure does not include cows kept by private persons.

The Health Department is energetically continuing its policy of obtaining a higher standard of milk production and in numerous instances substantial improvements have been achieved; this applies especially to producing concerns.

A number of the large producers have, at considerable expense, installed power refrigeration apparatus on their premises; the milk is properly aerated and cooled before it is dispatched to the City.

During last autumn an acute shortage of milk was experienced. The reason for this is not clear, but apparently insufficient feeding of cows was an important contributory cause. Surplus milk was not available in large quantities for distribution to schools. The school milk scheme of the Government did not, therefore, make much progress. This department has been in close touch with officials of the Dairy Control Board, and every effort is being made to obtain continuity of supplies for the various schools in Pretoria.

PETITION FROM DISTRIBUTORS AND PRODUCER-DISTRIBUTORS OF MILK IN PRETORIA RE DAYLIGHT DELIVERY OF MILK.

The Committee considered a petition signed by 50 distributors and producer-distributors of milk in Pretoria, pointing out the advantages of daylight delivery of milk and suggesting that the Council frame by-laws to the effect that no milk shall be delivered in Pretoria before 8 a.m.

The Medical Officer of Health reported that as far as the Health Department was concerned, a "Daylight" delivery of milk would afford a better control of milk supply and accordingly no objection would be raised against this procedure.

He considered, however, that the petition in regard to "Daylight" delivery of milk should be directed to the Provincial Administration for consideration as the Council had little cause to interfere unless the present system was proving unsatisfactory from a health point of view.

It was resolved that the Medical Officer of Health be requested to advise the above petitioners that the Council, while having no objection to the daylight delivery of milk, was not prepared to take any action in the matter, but suggested that the scheme be forwarded to the Provincial Administration for consideration.

GOVERNMENT STATE AIDED MILK SCHEME PROVIDING FOR FREE MILK SUPPLIES TO SCHOOL CHILDREN.

During the year 4 depots for the distribution of milk, were established in Pretoria.

The children were supplied with pasteurised milk in half pint bottles and provided with straws. An average of about 200 children attended daily.

Unfortunately this scheme had to be abandoned soon after its inception, owing to a shortage of milk in Pretoria and the surrounding districts, but it is hoped to recommence at an early date.

BACTERIOLOGICAL EXAMINATION OF MILK.

(Samples under Dairy By-laws.)

During the year 384 samples of milk were taken, of which 27 were slightly below standard and the sellers were warned. In 10 cases legal proceedings were instituted resulting in the imposition of fines totalling £22 10s.

CHEMICAL ANALYSIS OF MILK.

(Samples taken under Food and Drugs Act.)

380 samples were submitted to the Analyst during the year. 353 complied with the requirements of the Act. In 25 cases the sellers were prosecuted, fines totalling £25 being imposed. In two cases it was only necessary to issue warnings to the sellers.

ICE CREAM.

The number of permits granted to premises for the manufacturing of Ice Cream was 7 and for the sale only 35. As before, close supervision and control was kept over these premises.

BACTERIOLOGICAL EXAMINATION OF ICE CREAM.

29 samples were taken; 24 were satisfactory. In three instances the ice cream was slightly below standard and the sellers were warned. Legal proceedings were instituted in 2 cases.

During the year, 4,902 inspections of Dairy premises were made by the Dairy Inspectors and 1,549 contraventions dealt with.

C.F. (TYPHOID) TESTING OF DAIRY EMPLOYEES FOR THE PREVENTION OF THE SPREAD OF TYPHOID FEVER BY MILK.

An important step forward in the control of typhoid fever, and in the production of a safer milk, was the institution of a scheme whereby all dairy employees are tested for the typhoid carrier state.

Under this scheme the City Council of Pretoria subsidises the typhoid testing of dairy employees to the extent of more than half the cost per test for either blood or stool or urine examination.

Legislation in this connection was promulgated which controls the labelling of milk.

Under this new legislation and in connection with this typhoid testing scheme, it is now permissible for dairymen to label the caps of their milk bottles "TYPHOID TESTED BY THE PRETORIA CITY COUNCIL HEALTH DEPARTMENT," provided that all the requirements of the Health Department are met with.

This Law also makes it an offence for any person to label milk "Typhoid Tested" unless a special certificate to that effect has been issued by the Health Department.

As a result of this scheme, which was only started towards the end of 1936, no less than 50 dairies have sent in 510 employees (86 Europeans and 424 Natives) to be tested. Of this number 57 (55 natives and 2 Europeans) have given a positive C.F. result and 453 negative results.

The positive C.F. result means that these 57 persons are likely to be carriers of Typhoid Fever, and all such persons unless proved otherwise, were debarred from any trade or occupation involving the handling of food stuffs.

Up to 30th June, 1937, 19 dairies have been issued with permits to label their milk "Typhoid Tested."

INSPECTION OF DAIRIES AND DAIRY HERDS.

Dairy premises are inspected at approximately fortnightly intervals by the dairy inspectors. The Veterinary examination of milk cows is undertaken at regular intervals. Eight clinical cases of tuberculosis were encountered and the cows concerned were removed from the herds. Through the endeavours of the Veterinary Officer a large number of cows suffering from Chronic Mastitis were culled from herds.

The herd of one large dairy farmer previously reported upon, is still being submitted to regular tuberculin testing under the regulations laid down by the Government. Another large producer has since also applied the tuberculin test to his herd, and all reactors have been removed. Two large tuberculosis tested herds are, therefore, now being maintained in the Pretoria area. About 400 gallons of milk per day, or approximately 5 per cent. of the City's milk supply, therefore, comes from Tuberculin tested cows.

In addition to the usual bacteriological analysis of milk, the examination of milk samples for tuberculosis infection is being continued. During the course of the year 104 samples of milk were examined for tuberculosis. Infection was found to be present in only two samples. From these results it can be concluded that the Pretoria milk supply is still practically free from infection.

COWKEEPERS.

As a result of an application to the Council by the Health Department, it was decided to make the whole of Pretoria a restricted area for the keeping of cows. Whereas previously it was permissible to keep cows in certain areas on the outskirts of the City, it was decided to declare the whole of Pretoria restricted, on account of the fact that there were already a large number of cows privately stabled in Pretoria and because the outskirts were steadily becoming more densely populated.

Private owners of cows are not always able to comply with the Council's regulations with regard to the erection of cowstables and the keeping of cows, which leads to unhygienic and unsatisfactory health conditions.

STATE-AIDED BUTTER SCHEME.

The Department called a meeting of various Charitable Organisations during June, 1937, when a scheme was considered for the distribution of state-aided butter to necessitous persons living in Pretoria, through a central committee.

It is hoped to bring the scheme into operation in the very near future.

INSPECTION OF LIVE POULTRY AT THE PRODUCE MARKET.

From 1st July, 1936 to 30th June, 1937, 530 diseased live fowls were condemned and destroyed on the order of the Veterinary Officer and the consignees were warned of the requirements of the City Council's By-laws in this regard, namely, that diseased fowls may not be sent to the Pretoria Market for sale to the public.

DEPARTMENTAL SUPERVISION OF FOODSTUFFS.

The following samples were examined on behalf of the Health Department by the Government and Municipal Analysts during the year, namely:—

No. of Samples taken.	Nature of article.	Satisfactory.	Unsatisfactory.
380	Milk	353	27
6	Sugar	6	—
19	Minced Meat	16	3
4	Butter	3	1
1	Lime Juice Soda	1	—
5	Rice	4	1
3	Mealie Meal	3	—
15	Coffee	13	2
1	Sausage Meat	—	1
19	Sausages	15	4
1	Ice Cream	1	—
3	Dripping	3	—
1	Lard	1	—
2	White Pepper	2	—
3	Flour	3	—
2	Boermeal	2	—
4	Cheese	4	—
6	Honey	6	—
4	Bread	4	—
Licensed Premises in the City.		In Locations.	
Bakers and Confectioners	25	4	
Butchers	64	13	
Restaurants	52	2	
Hotels	15	—	
Tea Rooms	74	8	
Native Eating Houses	6	4	
Food Purveyors	205	56	
Fishmongers	6	—	
Fruiterers	122	34	
Bioscope Tea Rooms	2	—	
Hawkers and Pedlars	52	110	
Mineral Water Factories	5	—	
Grain Millers	3	—	
Boarding Houses	420	—	
Laundries	8	9	
Public Halls and Theatres	10	6	
Billiard Rooms	4	—	
Asiatic Tea Rooms	1	—	

WATER SUPPLY

The water supply remains of excellent quality. Repeated bacteriological examinations have, in all instances, proved highly satisfactory. There are still a number of private wells and boreholes in the northern outlying suburbs, but the number of new connections to the town mains is very satisfactory.

MUNICIPAL WASH-HOUSES.

Various useful improvements and alterations were made to the Municipal Wash-houses, especially in regard to the extension of the partition dividing the stove room from the ironing rooms, to prevent soot from the fires soiling the washing.

The extension of the walls separating these two rooms proved a great success and no further complaints have been received since then.

During the year the wash-houses were broken into, and a certain amount of cash stolen from the laundrymen. As a result of this, a night watchman has been appointed.

These wash-houses continue to serve a very useful purpose.

DRAINAGE, SEWERAGE AND REFUSE DISPOSAL.

Drainage:

The water carriage system of house drainage has been installed, during the year, in a further 590 dwelling houses, 60 business premises, and 107 flats.

The total number of premises on the water carriage system, at 30th June, 1937, was 8,308.

13.6 miles of sewer, and 1 mile of stormwater drain were laid in various parts of the town during the year.

CONSERVANCY SYSTEM

At the close of the year, 7,122 sterco removal services were being carried out, of which 172 were daily, and 3,890 were alternate day services. 3,060 were bi-weekly.

The total number of services carried out showed a decrease of 108 on the previous year's figures. The number of premises on the conservancy system is 7,122, of which 6,175 are in town and suburbs and 947 in locations.

RUBBISH REMOVAL SERVICE.

This service is compulsory and is carried out daily and bi-weekly as circumstances warrant.

There were 14,508 services, of which 1,368 were in the locations. The average amount of refuse removed per day is 231 tons at a cost of 6s. 11d. per ton.

ANTI-PLAGUE MEASURES.

Although Pretoria is not an area where plague is prevalent, it is considered that adequate anti-plague measures are constantly necessary as a protection against invasion by animal plague carriers.

The following figures give an indication of the work carried out in regard to rodent eradication for the year ending 30th June, 1937, and demonstrate the good work carried out by the District Health Inspectors in conjunction with the rodent eradication in connection with anti-rodent work such as "building out" of rodents from stores, stables, and dwellings, also the cleaning up and removal of rodent harbourages within the city and maintaining a practically rodent free belt of land beyond the city boundary.

It is pleasing to note that advice given by the Department to occupiers of private premises has resulted in the destruction of a large number of rodents.

(a) The Gerbille area at Rietvlei farm situated in the vicinity of the Springs and above the dam is still heavily infested. Systematic poisoning and a certain amount of gassing has been carried out in this vicinity during the year, but the nature of the soil and the heavy overgrowth of vegetation afford excellent coverage and feeding for the gerbilles, which are liable to migrate from adjoining properties into this area, although everything possible has been done to discourage such migrations.

(b) The regulations regarding the prevention of rodent infestation of buildings and premises in urban areas (Government Notice No. 1380 of 1st August, 1930) are strictly enforced within the area of the city.

	1935-6	1936-7
New impervious floors laid in grain, flour, and other stores	18	43
Floors repaired or walls or roofs made rat-proof in flour, grain or forage stores	63	115
Non-ratproofed grain, forage or other stores disused	6	21
Non-ratproof grain, forage or other stores demolished	1	8
Accumulations of rubbish or lumber likely to harbour rats cleaned up or removed	631	1,143
European dwelling houses: Foundations repaired, floor gratings replaced or rat holes stopped	167	361
Native rooms: Floors relaid or repaired	68	168
Ratproof animal food bins provided at private stables	13	19
Premises inspected or re-inspected and advice given where necessary	1,342	1,754
Notices or intimations to owners or occupiers of premises to use traps or poison	364	443
Approximate number of rats destroyed in private premises (excluding Government properties)	2,281	3,966
Number of rats and mice trapped or killed in Municipal properties and town lands	1,380	2,518
Number of prosecutions for failure to comply with regulations	—	—
Number of poison baits set on town lands and in protective belt	34,889	40,515

Close co-operation is maintained with all other concerned authorities in regard to plague prevention work.

SEWAGE WORKS REPORT.

Table I gives particulars as regards :—

- Daily average sewage flow.
- Raw sludge drawn off daily from Sedimentation Tanks and pumped into Sludge Digestion Tanks.
- Screenings not disintegrated by the stereophagus pumps and retained on $\frac{1}{2}$ in. bar screens—disposed of by burial.
- Grit removed twice daily from detritus channels, screen chambers and Venturi flumes—disposed of by dumping.
- Stream Water as measured over the Daspoort Weir, and consisting of the Aapies Stream, Steenhoven and Skinner Spruits, together with sewage effluent.
- Ratio of Dilution of sewage effluent to stream water.
- Rainfall as measured at the Sewage Works.

The total sewage flow (2,434,000 gallons per day) shows an increase of 16 per cent. over last year's figure, the total rainfall for this and last year being the same. During the next year an appreciable increase in the sewage flow can again be expected as a result of linking up with the new pumping station in Hatfield, and also further linking up in the West End and other parts of the town.

The volume of sewage treated by the New Works during the year averaged 851,000 gallons per day, which represents 85 per cent. full load for the New Works. Approximately half of this is contributed by the West End, and the other half being by-passed from the Old Works.

Mention must be made of the fact that electrical Venturi flume recorders are being installed at the main and west outfall sewers for measuring the total volume of sewage entering the Works. In any large works this is obviously essential, as only by having suitable and accurate meters can correct flow figures be obtained. The method which had to be employed up to the present, viz. of measuring and estimating flows at about eight points all over the Works in order to arrive at a figure for the total flow is both arduous and unsatisfactory. The instruments now being supplied are for free and drowned conditions, and are the first of their type to be installed in this country.

Biological Filters.

The mean rate of dosage calculated over the year on the total filter capacity was 93 gallons per cubic yard per day, or 186 gallons per square yard per day.

Surface ponding is being dealt with very successfully by a method of cultivating a particular type of insect organism which feeds on the organic slime accumulating on the surface. It is hoped to get these organisms well established on all the filters, when surface ponding should disappear completely.

Sewage Analysis.

Table II gives the summarised results of analyses carried out on samples collected hourly over 24 hours once every month at various stages of purification. The standard of purity of the filter bed effluent discharged into the Aapies shows an improvement over the last few years. The filtered filter bed affluent figures show what the effect would be if humus were removed from the final effluent.

Sludge Digestion.

A fourth digestion tank has been built, bringing the total capacity up to 100,000 cubic feet. This amounts to approximately 1 cubic foot per capita, which is very much on the low side, the more so with unheated tanks. Two-stage digestion is now employed, and gives excellent results under summer conditions, but with the low temperatures in winter, excessive foaming takes place in the primary tanks, and the degree of digestion is much below that obtained in summer. This can be remedied either by heating the two tanks which are fitted with heating coils, or by utilising one set of the old rectangular tanks as secondary digesters. Of these alternatives, the latter will involve less expense, and the necessary cross-connections between new and old tanks are being made.

Staff.

Mr. P. B. Vosloo, B.Sc. (Appl. and Ind. Chem.), Assistant Chemist and Analyst, resigned at the end of October to take up the position of Municipal Chemist and Analyst with another Municipality. Mr. G. J. Stander, M.Sc., Dipl. Anal. Chem., was appointed to the vacancy and commenced duty on the 1st February.

TABLE L

MONTH.	Sewage Flow	Raw Sludge	Sludge	Screenings		Grit		Daspoort Weir	Ratio of Dilution		Rainfall at
	Daily Average Gallons.	Daily Average. Gallons.	Sewage Percentage.	Cub. Yards per Mil. Gals.	Cub. Ft. per Mil. Gals.	Daily Average Gallons.	Effluent to Stream Water.	Sewage Works Inches.			
1936											
July	1,962,000	22,600	1.15	0.87	20.0	5,854,000	1: 1.98	0.01			
August	2,071,000	23,700	1.14	1.13	17.6	5,665,000	1: 1.74	Nil			
September	2,094,000	24,600	1.18	0.98	16.7	6,101,000	1: 1.91	0.43			
October	2,188,000	23,400	1.07	1.26	16.3	6,350,000	1: 1.90	1.59			
November	2,675,000	23,800	0.89	0.98	15.1	19,252,000	1: 6.20	6.39			
December	2,550,000	23,500	0.92	0.95	12.8	10,295,000	1: 3.04	2.52			
1937											
January	2,684,000	21,000	0.78	1.04	14.7	15,322,000	1: 4.71	4.46			
February	3,290,000	18,700	0.57	0.80	12.3	42,275,000	1: 11.9	10.29			
March	2,611,000	19,800	0.76	1.02	14.6	7,569,000	1: 1.90	1.28			
April	2,492,000	21,200	0.85	1.20	14.5	8,145,000	1: 2.27	1.17			
May	2,264,000	18,500	0.82	.113	14.7	5,785,000	1: 1.55	0.01			
June	2,402,000	17,000	0.71	0.84	13.2	5,129,000	1: 1.14	Nil			
Year 1936-1937	2,434,000	21,500	0.88	1.02	15.0	11,245,000	1: 3.62	28.15			

TABLE II. SEWERAGE ANALYSES.

PARTS PER 100,000.	Raw Sewage.		Settled Sewage.			Filter Bed Effluent.			Purification Per Cent.			Filtered Filter Bed Effluent.			Purification Per Cent.	
	Max.	Min.	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.
Settleable Solids by Volume ..	5,200	1,400	2,580	125	177	—	—	—	93.1	—	—	—	—	—	—	—
Total Solids by weight ..	390	140	226	78	86	72	59	64	—	—	—	—	—	—	—	—
Loss on Ignition ..	293	95	161	40	52	46	23	32	—	—	—	—	—	—	—	—
Dissolved Solids ..	151	62	91	60	65	64	50	57	—	—	—	—	—	—	—	—
Loss on Ignition ..	87	28	49	24	35	41	17	27	—	—	—	—	—	—	—	—
Suspended Solids ..	288	69	135	28	21	13	4	8	—	—	—	—	—	—	—	—
Loss on Ignition ..	244	67	112	25	4	9	2	5	—	—	—	—	—	—	—	—
Ammoniacal Nitrogen ..	38.0	6.00	13.7	7.50	5.67	1.40	0.80	1.11	91.9	—	—	—	—	—	—	—
Albumenoid Nitrogen ..	6.00	2.00	3.37	1.20	0.95	0.35	0.20	0.28	91.7	—	—	—	—	—	—	—
Nitrous Nitrogen ..	—	—	—	—	—	0.16	0.08	0.09	—	—	—	—	—	—	—	—
Nitric Nitrogen ..	—	—	—	—	—	5.62	0.86	3.43	—	—	—	—	—	—	—	—
Chlorine as Chlorides ..	35.8	10.8	16.7	12.6	10.9	11.4	8.12	9.78	—	—	—	—	—	—	—	—
Oxygen consumed from N/80																
Permanganate in 3 mins. ..	14.4	4.07	6.73	2.23	2.02	0.82	0.34	0.62	90.8	0.42	0.19	0.32	95.2			
Oxygen consumed from N/80																
Permanganate in 4 hours at 27 deg. C.	35.0	11.0	19.4	6.30	5.32	2.31	1.45	1.87	90.4	1.14	0.72	0.93	95.2			
Dissolved Oxygen absorbed in 5 days at 18 deg. C.	128	59.3	85.6	39.0	30.1	3.87	1.29	2.85	96.7	0.89	0.57	0.72	99.2			
"Strength"			279		85.1			25.7	90.8							

Dressed Ducks	13	Pockets Marrows	73
Pounds cheese	124½	" Turnips	9
Gallons cream	3	" Cucumbers	33
Packets Eeze Freeze Powder	38	" Green Mealies	50
Pounds Margarine	14	" Grape Fruit	41
" Meat	5	" Oranges	252
" Sausages	3	" Shadocks	6
" Brawn	1½	" Peaches	186
Ox Kidney	1	" Bringhals	16
lbs. Rhubarb	1	Boxes Apples	45½
Packets Oats	14	" Tomatoes	525
Dressed Turkey	1	" Paw Paws	112½
Chocolates	11	" Grape Fruit	5½
Boxes Egg Fruit	2	" Naartjes	57
" Figs	14	" Mulberries	12
" Pears	12	" Lettuce	3
" Guavas	4	" Apricots	39
" Quinces	5	" Grenadillas	48
" Pineapples	15	" Mangoes	77
Pockets Maracas	1	" Peaches	125
" Chillies	8	" Sweet Melons	2
" Water Melons	46	" Grapes	22
" Parsnips	7	" Bananas	33
Trays Mulberries	4	" Eggs	1
" Apples	1	" Limes	9
" Pears	39	" Cabbages	52
" Grapes	5	" Oranges	53
" Peaches	87	" Gooseberries	6
" Plums	17	Tins Fish	270
" Avocado Pears	17	" Sausages	8
" Figs	5		
" Mangoes	40	" Asparagas	6
" Paw Paws	3	" Baked Beans	24
" Bananas	1	" Meat	5
Bags Peas	14	" Sardines	59
" Rhubarb	5	" Pilchards	9
" Cabbages	193	" Herrings	39
" Onions	85	" Salmon	5
" Gooseberries	8	" Milk	36
" Oranges	6	" Foodstuffs (Mixed)	665
" Paw Paws	134	" Peas	11
" Beans	8½	" Curried Fish	2
" Peaches	5	" Ham	46
" Potatoes	4	Crates Lettuce	5
" Green Mealies	11	" Beetroot	1
Parcel Lettuce	1	" Leaks	1
Baskets Peaches	57	" Rhubarb	2
" Grapes	20	Cases Pears	10
" Apples	9	" Apples	2½
" Apricots	2	" Pineapples	2
" Plums	1		
" Quinces	3		
" Naartjes	18		

MATTERS REFERRED TO OTHER DEPARTMENTS.

(a) City Engineer.

Defective drainage fittings	64
Defective W.C. urinal flush cisterns	82
Buildings erected or altered without permission	176

Dangerous holes in footpaths	3
Dangerous buildings	37
Leaky stop cocks	3
Absence of temporary Municipal latrine accommodation	2
Leaky W.C. basin	1
Broken W.C. basins	14
Choked drains	56
Dirty condition of Municipal latrines	1
Dirty condition of storm water furrows	13
Missing cleaning eyes	12
Outbuildings converted into dwellings	22
Complaints re accumulation of refuse on streets	3
Defective condition of temp. Municipal latrines	4
Choked waste pipe	1
Complaint re dusty streets	2
Leaky waste fittings	8
Choked W.C.'s	25
Premises occupied before completion and without authority of the M.O.H.	12
Water stagnating on street	9
Missing U.T.'s and gulley grids	4
Broken manhole covers	7
Business Prem. being used for habitation purposes	1
Dead animals on streets	5
Missing gratings to U.T.'s	2
Tent used for living purposes	1
Dirty conditions of Municipal Ground	5
Broken drain	1
Growth of noxious weeds on Municipal ground	40
Dangerous wooden bridge	1
Mosquito breeding on Municipal Property	3
Sediment in Town water supply	1
Burst water pipes	2
Broken washhand basin	1
Street fouled by human excreta	1

CHIEF LICENCE OFFICER.

Depositing of tree stumps on footway	1
Ox wagons outspanning on street	1
Unlicenced Tea rooms	2
" Food Purveyor	1
" Native Butchery	1
" Goatkeepers	21
" Cobblers	10
" Junk Yards	3
" Lodging Houses	61
" Cattle Dealer	1
" General Dealers	3
" Laundries	5
" Grocer	1
" Cake Vendors	3
" Cowkeepers	2
" Monumental Mason	1
" Talkie House	1
" Meat Hawkers	2
" Boarding Houses	5
" Wood Hawkers	2
" Public Halls	2

Unlicensed Garage	1
Offal Seller	1
Complaints re noise from dogs and fowls	1
Complaints re Bees	3

CONTROLLER OF STORES AND ESTATES.

Unexempted natives housed at disused brickyard	1
Open and dangerous wells at disused brickyard	1
Dirty and defective condition of latrines on Municipal property	2
Defective condition of native room on Municipal property	1
Unsatisfactory condition of well cover at Municipal property	1
Complaints re number of stray cattle damaging garden	3
Absence of proper latrine accommodation for Europeans at W. South Sports Grounds	2
Defective condition of non-European latrine accommodation at Wonderboom South Grounds	1
Defective drain board to kitchen sink of tea room of Municipal Swimming Baths	1
Complaint re donkeys wandering unattended	1
Growth of noxious weeds on Municipal Ground	2
Housing of native in unsuitable structure	1

THE FOLLOWING CASES WERE TAKEN BEFORE THE MAGISTRATE :

	No. of Cases.	No. of Convictions.	Total Fines
General :			
Failure to comply with terms of notice	40	33	£57 5 0
Exposing for sale tins of unsound foods	4	4	17 10 0
Refusing information and obstructing inspec- tor	1	1	3 0 0
Permitting the occupation of uninhabitable premises after issue of Court Order by Magistrate	2		
Failure to comply with Fumigation by-laws	7	7	13 15 0
Keeping cow without a permit	3	1	0 10 0
Occupying house closed by order of Court .. .	1	—	—
Keeping cow in unsuitable stable	1	1	5 0
Housing unexempted natives	4	2	1 10 0
Sale of cream not up to bacteriological standard	1	1	2 0 0
Dairy By-laws :			
Sale of milk not up to bacterial standard	10	10	20 10 0
Transferring milk from one receptacle to another on street	3	3	3 0 0
Dirty condition of dairy premises	1	1	1 0 0
Failure to wear overalls provided by employer	7	6	0 15 0
Giving Inspector wrong information	2	2	0 15 0
Food, Drugs and Disinfectants Act :			
Sale of milk deficient in non-fatty solids	11	8	19 0 0
Sale of sausages below standard	1	1	5 0 0
Sale of milk deficient in fat	7	4	13 10 0
Sale of minced meat containing preservative	2	2	2 0 0
Bakery By-laws :			
Failure to protect cakes, etc. from contamina- tion whilst in course of delivery	1	1	1 0 0
Butchery By-laws :			
Exposing decomposing meat for sale	2	2	15 0 0

PUBLIC CONVENIENCES.

These conveniences were regularly inspected during the year with regard to cleanliness and general hygienic conditions.

Certain necessary alterations, additions and improvements were carried out in connection with the Market Square, conveniences.

The penny-in-slot charge for use of all conveniences was abolished, and an extra caretaker was appointed as from the 4th January, 1937.

LICENSING OF BUSINESS NATIVES.

Legislation was promulgated in connection with the housing of natives in compounds in the city by business owners under Administrator's Notice No. 385 of 23rd June, 1937 made under Natives (Urban Areas) Act 1923.

This provides for better control of the housing of such natives, and demands satisfactory and hygienic accommodation under proper supervision.

MUNICIPAL COMPOUND.

In view of the gross overcrowding, it was decided to increase the compound accommodation so as to allow for the housing of an additional 250 natives in the employ of the City Council. The approximate cost not to exceed £5,000.

Unfortunately these additions have not as yet been commenced.

FUMIGATION OF MUNICIPAL COMPOUND AND HOSTEL.

The compound and the hostel were thoroughly fumigated during the month of March, 1937, for vermin infestation.

The results were excellent, and after fumigation there was no trace of vermin left.

Following on a report by the Health Department the Council decided that in future the following procedure be adopted in order to avoid the re-infestation of these premises.

(1) That the Compound Manager regularly inspects all rooms and immediately evidence of vermin is found these rooms are to be fumigated by persons so trained by this Department.

(2) That a small fumigating chamber 6ft. x 6ft. x 6ft. be erected in the compound.

The procedure to be adopted with all new boys employed by the City Council, or housed in these premises, to be as follows :—

(a) Before the employee is accommodated, he is brought to the disinfecting room where he is provided with a hot bath, and his clothes and all his belongings placed in the fumigating chamber and fumigated.

(b) Overalls are then provided for the boy until his clothes and belongings have been thoroughly fumigated.

(c) After this thorough cleansing, disinfection and fumigation, the boy is permitted to reside in these premises.

ASIATIC BAZAAR.

The area known as the Asiatic Bazaar still remains, together with the other areas set aside for non-Europeans, namely Marabas, Bantule and the Cape Location, a serious menace to the Health of its own inhabitants as well as to the European population of Pretoria.

There can be no doubt that the health of the European section must be influenced by conditions existing in its immediate surroundings. The present state of hygiene and sanitation in the non-European area of Pretoria, is undoubtedly not compatible with good health.

Overcrowding in the Asiatic Bazaar and the Cape Location is one of the most serious menaces to health, and is largely due to the influx of Natives to these areas from the overcrowded native locations.

The Councils' new Location Scheme will, however, solve this problem.

The Indians and Cape Coloureds have repeatedly requested the Department to evict the Natives from the Asiatic Bazaar and Cape Location.

Whilst realising the overcrowding amongst Cape Coloureds and Indians, chiefly due to the influx of Natives, the Department could not evict them from these areas to the Native Locations, where conditions are already worse than those existing in the Asiatic Bazaar and Cape Location.

Apart from this, the unmade condition of the public streets and sidewalks, further accentuate the uncared-for appearance of this locality.

It is hoped, that with the completion of the new Native Location when the present Native residents in the Asiatic Bazaar and Cape Location will be removed from these areas, the congestion will be relieved.

The Department will then only be able to deal adequately with the Health problems of the Pretoria Locations.

NATIVE MEDICAL SERVICES.

During the year the Pretoria City Council approved of the institution of a clinic for native medical services. The proposed scheme was submitted to a meeting of S.A. Medical Association, Northern Transvaal Branch, and all the proposals were agreed to.

A public meeting of all natives in the locations were held in the Dougall Hall, when the whole scheme was explained.

There was a unanimous feeling of gratitude towards the Council for the institution of such a scheme, which was approved of by the natives themselves as well as the Native Advisory Board.

It was decided for the time being to utilise the present Native Compound Hospital, near the Native Compound in Proes Street. The Clinics to be held on Mondays from 9 to 10 a.m., Wednesdays from 2 to 3 p.m., and Fridays from 6 to 7 p.m. One Medical Practitioner to be in charge of each clinic. The charges were fixed at 1/- for first attendances and 6d. for each subsequent attendance. Medicine and Dressings are provided, and where necessary, patients are directed to hospitals or other clinics for special treatment.

Four medical practitioners, namely Drs. Bella Shawsin, Epstein, Baird and Rudolph were appointed as medical officers to this clinic.

The total number of attendances at the clinic since its inception in December, 1936, is 712.

These services are now in full swing and the clinics are functioning smoothly.

EUROPEAN HOUSING.

European housing conditions in Pretoria still remain unsatisfactory. It is estimated that 630 families living in 335 houses are in need of better accommodation. The present schemes for solving the housing difficulties are :—

(1) Sub-economic Houses.

The Council has at present twenty-seven sub-economic houses and has decided to build 100 houses in the following districts :—

50 on Proclamation Hill.

15 in New Muckleneuk.

35 in Innesdale.

It is proposed to build a further 200 houses of this type in the near future.

(2) Economic Housing Loan Scheme.

Ten persons availed themselves of this loan to date. Qualifications for applicants under this loan, were that they had to be

(1) Two years resident in Pretoria.

(2) Married.

(3) In receipt of a minimum wage of 10/- per day.

(4) Permanently employed.

(5) In receipt of a salary or wage not exceeding £600 per annum.

(3) Economic Housing Scheme.

A third scheme is being considered now in which the Council would build houses and allot them to suitable tenants on a hire purchase basis. This scheme has as yet not been commenced with owing to the present high building costs.

SLUMS ACT.

No properties have been dealt with under this Act, as it was not possible to deal with slum dwellings until the Council's housing scheme was under way.

APPLICATION FROM REDDINGSBOND.

An application from the Reddingsbond Housing Association for a Government Loan in terms of the Housing Act, to erect 100 sub-economic houses in Innesdale was considered during the month of July.

Representatives from this Association were interviewed by the Health Committee, and after due consideration it was decided that the Council could not approve of the loan.

HOUSING OF AGED POOR.

As a result of a Conference on Housing and Slum Elimination held in Capetown in January, 1936, a proposal to provide an amount of £100,000 for the housing of the aged poor was favourably considered, and the Government agreed to ear-mark, for launching such a scheme, a sum of £50,000 as a first instalment.

The City Council of Pretoria informed local charitable associations of this proposed scheme, in order to assist the Council to determine its requirements in this connection.

HOUSING OF NON-EUROPEANS.

The following conditions are existing in the various locations and the Asiatic Bazaar :—

Location Population.

Marabas	....	....	....	....	....	....	....	6,271
Bantule	....	....	....	....	....	....	....	4,005
Cape Location	....	....	....	....	....	....	....	2,061
Asiatic Bazaar	....	....	....	....	....	....	....	2,542
								<u>14,879</u>

There is a non-European population in Pretoria of 39,800, which leaves 24,921 non-Europeans living inside the Municipal area and not in locations.

HOUSES IN LOCATIONS.

There are 394 houses in Marabas and 20 in old Marabas, giving an average of 15.15 persons per house; 444 houses in Bantule, including Hoves Ground, giving an average of 9.0 persons per house; 182 houses in the Cape Location, and 199 in the Asiatic Bazaar, giving an average of 11.32 and 12.77 persons per house respectively.

The average number of persons per house throughout is 12, and the average number of rooms per house is estimated to be about 4.

From the above it will be seen that the non-European population is very unsuitably housed and that overcrowding is prevalent in respect of every section.

During August, 1936, the Council resolved to erect a new Native Location on the Western Town Lands at an approximate cost of £700,000 for which a loan was applied for during the month of March, 1937.

An outline of the details of the estimated expenditure involved in the building of 3,000 houses is given hereunder :—

3,000 houses	....	....	....	....	....	....	....	£300,000
Water supply	....	....	....	....	....	....	....	40,000
Sewerage	....	....	....	....	....	....	....	180,000
Roads in Location	....	....	....	....	....	....	....	54,000
Stormwater drainage	....	....	....	....	....	....	....	17,000
Railway Line	....	....	....	....	....	....	....	15,000
Public Hall	....	....	....	....	....	....	....	3,000
Two Staff houses	....	....	....	....	....	....	....	2,400
Sports Grounds	....	....	....	....	....	....	....	2,000
Electric light	....	....	....	....	....	....	....	14,000
Hospital and Clinic	....	....	....	....	....	....	....	5,000
Offices	....	....	....	....	....	....	....	2,000
Road from Location to Iscor Road	....	....	....	....	....	....	....	8,000
Compensation to be paid to residents in existing location	..							25,000
Contingencies	....	....	....	....	....	....	....	32,600
								<u>£700,000</u>

PROPOSAL TO CREATE A NATIVE VILLAGE IN THE NEW NATIVE LOCATION.

In connection with the new Native Location, the Department submitted to the Health Committee, recommendations in regard to the creation of a native village, on the following lines :—

1 (a) That it is highly desirable that a portion of land be set aside for natives wishing to erect their own houses.

(b) This portion of land to be separate from the Council's Scheme and to form a small suburb of the location.

(c) This area to be properly planned and laid out with parks, streets, etc.

2. The size of the plots to be decided and such plots to be either leased or sold to the Natives.

3. That the houses be built in accordance with the Municipal Building By-laws.

4. That the City Council exercises strict supervision in the building of all houses and materials used.

5. That at least 80 to 90 per cent., if not the total amount of the cost of erection of such houses be advanced by the City Council, and that the repayment be on the hire purchase system.

6. That in connection with the erection of these houses, where compensation is paid to natives for their removal from the present locations to the new site, the natives be encouraged to use such monies in connection with the erection of their own houses.

7. That it be a condition that water and sewerage be laid on to all these premises.

8. That applications be called for in connection with natives wishing to build their own houses, as soon as the Council commences with the new location scheme. This will determine the size of the land which should be made available for this purpose with sufficient provision for future extension.

9. Each and every application for a stand should be considered on its own merits, and particular care should be taken that only residents of Pretoria of a certain standing with regard to duration of residence and financial position be granted these privileges.

On perusal of the above report the Committee resolved that it be submitted to the New Location Sub-Committee for consideration.

For Asiatic Bazaar and Cape Location see under "Asiatic Bazaar."

COMPILATION OF BY-LAWS.

Sanitary Removal By-laws.

During the year the Public Health By-laws of the City Council of Pretoria, as published under Government Notice No. 958 of 1903, were amended in connection with the Refuse Removal Section.

The whole chapter dealing with this subject has been completely revised and altered. This provides for better control and improved services in connection with the rubbish removal system.

CINEMA SHOWS FOR NATIVES.

The Council considered holding open-air Cinema Shows, free of charge, for natives in the Locations.

This proposal was considered at a public meeting of residents of the Location, in Dougall Hall on the 14th January, 1937, when the feeling was expressed that it was not in the interests of the Natives for these shows to be given. The majority of the meeting voted against it.

The Health Committee accordingly resolved that no further steps be taken in this matter.

BIRTHS : ALL RACES, FOR THE YEAR ENDING 30th JUNE, 1937.

Table No. 1.

EUROPEANS.				NATIVES.				ASIATIC.				EURAFRICAN.			
Legitimate.	Illegitimate.	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1936 July	58	1	3	11	6	4	4	4	3	—	—	3	2	3	2
August	61	—	2	5	8	—	2	8	7	—	—	4	3	—	—
September .. .	69	1	3	11	4	2	1	8	7	—	—	3	6	—	—
October .. .	74	2	1	5	6	4	4	7	6	—	—	4	1	1	3
November .. .	74	3	1	2	6	5	3	3	6	—	—	1	4	—	2
December .. .	81	2	4	4	2	4	4	4	4	—	—	1	—	—	1
1937 January ..	68	2	2	5	5	4	4	15	3	—	—	3	1	1	2
February .. .	59	4	2	5	3	8	4	6	7	—	—	2	1	—	1
March .. .	51	3	—	5	5	5	1	5	12	—	—	5	3	3	—
April .. .	62	1	1	3	4	2	—	7	5	—	—	2	—	4	—
May .. .	58	4	2	3	4	9	4	8	5	—	—	3	1	—	3
June .. .	72	1	3	2	4	11	4	4	5	—	—	5	1	2	2
TOTALS ..	812	24	24	61	57	58	35	79	70	—	—	36	23	14	16

STILLBIRTHS (Resident)				BIRTHS TO NON-RESIDENTS.			
Europeans.	Non-Europeans.	Europeans.	Non-Europeans.	Europeans.	Non-Europeans.	Europeans.	Non-Europeans.
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1936 July	2	—	—	13	15	6	1
August	1	3	—	8	14	4	—
September .. .	3	—	—	12	15	1	6
October .. .	—	—	8	8	13	6	5
November .. .	1	1	1	15	8	3	4
December .. .	2	1	—	13	7	3	3
1937 January ..	3	2	1	14	15	8	4
February .. .	—	2	—	12	12	2	2
March .. .	—	2	2	10	8	—	2
April .. .	2	1	—	10	13	5	2
May .. .	2	2	1	14	11	6	2
June .. .	2	4	3	11	21	6	—
TOTALS ..	19	17	31	140	152	50	31

DEVISING OF EUROPEAN CHILDREN UNDER THE AGE OF ONE YEAR ENDED 30th JUNE 1937

AGE INCIDENCE

DEATHS OF EUROPEAN CHILDREN UNDER FIVE YEARS OF AGE FOR THE YEAR ENDED 30th JUNE, 1937.

Table No. 2.

AGE INCIDENCE.

	24 hours and under		Over 24 hrs. to 1 wk.		Over 1 week to 1 mth.		Over 1 month to 3 mths.		Over 3 mths to 6 mths.		Over 6 mths to 12 mths.		Total Inf. Mortality.		Over 1 year to 2 yrs.		Over 2 years to 3 yrs.		Over 3 years to 4 yrs.		Over 4 years to 5 yrs.		Total under 5 years.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Whooping Cough	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	2	—
Diphtheria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Meningococcal Meningitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Purpura	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Simple Meningitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Other disease of nervous system	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Other diseases of Myocardium	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Other diseases of the Heart	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Disease of nasal Fossae and Adnexa	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Bronchitis acute	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4
Broncho Pneumonia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Pneumonia Lobar	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Pulmonary congestion	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10
Other diseases of Respiratory system	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
Diarrhoea (under 2 years)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Diarrhoea (over 2 years)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Intestinal Obstruction	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10
Other diseases of the intestines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
Other diseases of the liver	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Nephritis acute	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Other diseases of childbirth	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Congenital malformation of heart	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Congenital debility	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6
Premature birth	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4
Other diseases of early infancy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8
Accidental burns	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Accidental Asphyxia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Accident—Motor Vehicles	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Accident—Fall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Unstated or ill-defined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
MALES	8	—	7	—	4	—	9	—	10	—	7	—	45	—	11	—	4	—	3	—	—	—	63	—
FEMALES	—	6	—	3	—	4	—	9	—	11	—	8	—	41	—	5	—	4	—	1	—	—	51	—

Table No. 3.
DEATHS OF EUROPEANS OVER FIVE YEARS OF AGE WITHIN THE MUNICIPALITY FOR THE YEAR ENDED 30th JUNE, 1937.

	5-10 years.		-15 years.		-20 years.		-25 years.		-30 years.		-40 years.		-50 years.		-60 years.		-70 years.		-80 years.		Over 80 years.		TOTAL	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Males.	Females.
Infectious Diseases	1	1	1	1	1	1	2	1	1	1	4	4	3	2	5	1	4	1	1	1	—	—	21	12
Malignant and other tumours	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21	34
Diseases of nutrition, of Endocrine glands and other general diseases	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	1	1	1	2	1	5	4
Diseases of blood and blood forming organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	1	—	—	—	3	5
Diseases of nervous system and sense organs	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diseases of Circulatory system	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24	35
Diseases of Respiratory system	1	—	—	—	—	—	—	—	—	—	3	1	7	5	21	5	18	14	16	8	9	5	76	40
Diseases of the Digestive organs	—	—	—	—	—	—	—	—	—	—	1	3	3	9	2	—	4	9	4	4	8	2	32	24
systems	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Non venereal of the genito urinary system and adnexa	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17	12
Diseases of pregnancy and puerperal state	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	10
Diseases of Skin and Cellular tissue	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8
Diseases of bones and organs of locomotion	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Old Age	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Suicide	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5
Deaths from violence	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	1
Ill-defined diseases	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	3
TOTAL MALES	3	—	3	—	8	—	6	—	8	—	13	—	32	—	38	—	57	—	45	—	21	—	234	—
TOTAL FEMALES	—	3	—	7	—	2	—	8	—	5	—	18	—	23	—	31	—	51	—	34	—	17	—	199

Figures for Euraficans and Asiatics are not tabulated as the numbers are small and have been dealt with in the general summary of the causes of death.

Table No. 4.
DEATHS OF NATIVES WITHIN THE MUNICIPALITY FOR THE YEAR ENDED 30th JUNE, 1937.

	-1 yr. -5 yrs.		-10 yrs. -15 yrs.		-20 yrs. -25 yrs.		-30 yrs. -40 yrs.		-50 yrs. -60 yrs.		-70 yrs. -80 yrs.		Over 80 yrs.		TOTAL	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Males	Females
Infectious & Parasitic diseases	2	—	1	5	1	2	—	4	3	2	1	4	5	—	32	17
Malignant & other tumours	1	—	—	—	—	—	—	—	—	—	—	—	—	1	4	1
Diseases of the blood and blood forming organs	—	—	—	—	—	—	—	—	1	—	—	—	—	—	3	1
Diseases of the nervous system and sense organs	1	1	—	—	—	—	—	5	1	1	2	1	1	—	9	8
Diseases of circulatory system	—	—	—	—	—	—	—	5	1	4	3	4	2	—	24	8
Diseases of respiratory system	18	16	7	12	—	2	—	1	1	7	—	3	—	—	58	34
Diseases of the digestive system	7	18	8	8	1	—	—	—	1	2	—	3	—	—	25	28
Non-venereal diseases of the genito urinary system	—	—	—	—	—	—	—	—	1	—	—	—	—	—	3	3
adnexa	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diseases of pregnancy and puerperal state	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
Diseases of skin and cellular tissue	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Diseases of bones and organs of locomotion	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Genital Malformations	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Diseases of early infancy	16	9	—	1	—	—	—	—	—	—	—	—	—	—	16	10
Suicide	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—
Accident	—	1	1	2	1	—	—	—	2	1	1	—	2	—	12	4
Ill-defined causes	3	1	—	1	—	—	—	—	—	—	—	—	—	—	13	2
TOTAL MALES	48	—	17	—	3	—	8	—	16	—	14	—	27	—	202	—
TOTAL FEMALES	—	47	—	29	—	4	—	2	—	6	—	7	—	5	—	121

Table No. 5.
INFANTILE MORTALITY: Causes of Death and Mortality Rates in the Districts for the Year ended 30th June, 1937.

	Infectious Diseases		Diarrhoeal Diseases		Bronchitis Pneumonia		Congenital Causes		Other Diseases		Prematurity		Total Deaths		Total Births		Mortality Rates per 1,000 live Births		Total Rate
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
N.W. Central	—	—	—	1	1	1	—	1	1	—	1	2	3	4	55	59	54.55	67.80	61.40
N.E. Central	—	1	—	2	—	—	2	4	2	2	1	—	5	12	71	64	70.42	187.50	125.93
S.E. Central	—	—	1	1	—	—	—	—	1	—	—	1	2	3	58	58	34.48	51.73	43.10
S.W. Central	—	—	—	—	—	—	—	—	—	1	—	—	—	2	49	57	—	35.09	18.87
Good Hope	—	—	—	—	—	—	—	—	—	1	—	1	—	3	18	21	—	142.87	76.92
Pretoria West	—	—	—	2	2	2	—	—	2	—	—	1	8	5	120	118	66.67	42.37	54.62
Leper, Mental Hospital, Defence and Prison Reserves	—	—	—	—	—	—	1	—	—	—	—	—	1	—	9	15	111.11	—	41.67
Railway Reserve	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13	13	—	—	—
Roberts Heights	—	—	—	—	—	—	—	—	1	—	1	—	2	—	25	17	80.00	—	47.62
Greenloof and New Muckleneuk	1	—	—	—	—	—	1	—	—	—	—	—	2	—	11	4	181.82	133.33	50.00
Brooklyn and Hillcrest	—	—	—	—	—	—	1	—	1	—	—	—	1	1	23	17	43.48	58.82	35.71
Hatfield	—	—	—	—	—	—	—	—	2	—	1	—	3	3	43	41	69.77	58.82	45.11
Sunnyside and Muckleneuk	—	—	—	—	—	—	1	—	1	1	1	1	3	3	82	51	36.59	25.00	38.10
Arcadia	—	—	—	—	—	—	—	—	1	—	2	—	3	1	65	40	46.15	—	57.14
Riviera and Rietondale	—	—	—	—	—	—	—	—	—	—	2	—	2	—	13	22	153.85	—	15.87
Gezina	—	—	—	—	—	—	—	—	—	—	—	—	1	—	31	32	32.26	—	33.75
Rietfontein	—	—	—	—	—	—	—	—	—	—	—	1	1	1	29	32	34.48	33.75	32.79
Villieria	1	—	—	—	—	—	—	—	—	—	—	1	2	1	24	26	83.33	38.46	60.00
Wonderboom South	—	—	—	—	—	—	—	—	—	—	—	—	3	4	31	46	96.77	86.96	90.91
Mayville, Parktown and Roseville	—	—	—	1	1	1	—	—	—	—	—	—	3	—	19	19	157.89	—	78.95
Eloffsdal, Les Marais	—	—	—	—	—	—	—	—	—	—	1	—	—	—	9	13	—	—	—
Capital Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	38	32	—	33.75	14.29
TOTALS	2	1	9	8	7	12	6	5	11	6	10	9	45	41	836	797	53.83	51.44	52.66

Table No. 6.
INFANTILE MORTALITY: ALL NON-EUROPEAN RACES: District Incidence for the Year ended 30th June, 1937.

	Infectious Diseases.		Diarrhoeal Diseases.		Bronchitis Pneumonia.		Congenital Causes.		Other Diseases.		Prematurity		Total Deaths.		Total Births.		Mortality Rates per 1,000 live Births.		Total Rate.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
NATIVE :																			
Marabas	—	—	7	12	11	5	2	1	5	2	4	2	29	22	73	50	—	—	414.63
Bantule	—	—	1	3	6	9	1	—	2	2	—	1	10	15	15	13	—	—	892.86
Town	—	—	1	1	2	4	—	1	4	1	2	3	9	10	31	29	—	—	316.67
TOTAL NATIVE	—	—	9	16	19	18	3	2	11	5	6	6	48	47	119	92	403.36	510.88	450.24
ASIATIC :																			
Location	—	—	3	3	2	1	—	—	1	—	—	—	6	4	51	46	—	—	103.09
Town	—	—	—	2	—	1	—	—	—	—	1	1	2	4	28	24	—	—	115.38
TOTAL ASIATIC	—	—	3	5	2	2	—	—	1	—	1	1	8	8	79	70	101.27	114.29	107.38
EUROPEAN :																			
Location	—	—	—	—	1	2	—	1	—	1	1	2	2	6	43	28	—	—	112.68
Town	—	—	—	—	—	1	—	—	—	1	—	—	—	2	7	11	—	—	111.11
TOTAL EUROPEAN	—	—	—	—	1	3	—	1	—	2	1	2	2	8	50	39	40.00	205.13	112.36
ALL NON-EUROPEAN :																			
Locations	—	—	11	18	20	17	3	2	8	5	5	5	47	47	184	135	—	—	294.67
Town	—	1	1	3	2	6	1	1	4	1	3	4	11	16	65	65	—	—	207.69
TOTAL NON-EUROPEAN	—	1	12	21	22	23	4	3	12	6	8	9	58	63	249	200	232.93	315.00	269.49

Table No. 7.
DEATHS IN INSTITUTIONS IN PRETORIA FOR THE YEAR ENDED 30th JUNE, 1937

0-1		-5		-10		-15		-20		-25		-30		-40		-50		-60		-70		-80		Over 80		Total				
Year	M. F.	Years	M. F.	Years	M. F.	Years	M. F.	Years	M. F.	Years	M. F.	Years	M. F.	Years	M. F.	Years	M. F.	Years	M. F.	Years	M. F.	Years	M. F.	Years	M. F.	Years	M. F.	Euro-peans	Non-Euro-peans	
PRETORIA AND OTHER HOSPITALS:																														
European	21	7	9	9	2	2	2	3	3	1	3	4	10	—	4	3	12	6	9	10	14	11	12	4	—	—	101	60	—	
Non-European	6	9	7	10	5	4	2	7	4	3	19	5	11	8	19	12	10	8	20	4	15	1	5	—	—	—	—	123	71	
MENTAL HOSPITAL:																														
European	—	—	—	—	—	—	—	—	—	1	—	—	—	1	1	2	2	8	2	7	1	14	6	7	3	4	—	43	16	
Non-European	—	—	—	—	—	—	—	1	2	—	4	1	2	—	6	5	8	1	6	4	7	1	4	5	3	2	—	—	42	20
LEPER ASYLUM:																														
European	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	1	6	1	2	4	—	—	—	—	—	—	10	7	—	
Non-European	2	1	—	—	1	1	—	—	4	—	2	2	4	5	10	8	14	5	11	5	5	2	1	2	—	—	—	54	31	
PRISONS:																														
European	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1	1	1	—	—	—	—	—	—	—	4	1	
Non-European	—	—	—	—	—	—	—	—	—	—	3	1	13	—	12	1	2	—	4	—	2	—	1	—	1	—	—	—	38	2
VISITORS																														
European	1	—	1	—	—	—	—	—	1	—	3	—	—	—	—	—	—	—	3	—	2	—	4	—	—	1	15	1	—	8
Non-European	3	—	—	2	—	—	—	—	1	—	—	—	3	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	8
TOTAL																														
European	22	7	10	9	2	2	2	3	4	2	7	4	11	1	8	6	27	10	22	15	31	17	23	8	4	1	173	85	—	
Non-European	11	10	7	12	6	5	2	8	11	3	28	9	33	14	47	26	34	14	41	13	30	4	11	7	4	2	265	127	—	

Table No. 10.
NOTIFICATION OF INFECTIOUS DISEASES: Imported Cases: All Races: for the Year Ended 30th June, 1937.

	0-1 Years		1-5 Years		5-10 Years		10-15 Years		15-20 Years		20-30 Years		30-40 Years		40-50 Years		50-60 Years		60-70 Years		Over 70 Years		Totals	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
EUROPEAN.																								
Typhoid Fever	—	—	—	—	1	1	—	4	6	8	5	11	4	3	1	3	—	—	1	—	—	—	31	17
Malaria	—	—	1	1	1	4	3	4	1	7	3	6	4	21	5	8	1	6	2	3	3	—	60	23
Measles	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Scarlet Fever	—	—	1	1	3	5	1	—	—	1	1	—	2	—	—	—	—	—	—	—	—	—	5	9
Whooping Cough	—	—	1	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	2
Diphtheria	—	—	2	2	2	2	2	—	—	—	1	—	1	1	—	—	—	—	—	—	—	—	5	7
Anthrax	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Undulant Fever	—	—	—	—	—	—	—	—	—	—	—	—	2	—	1	—	—	—	—	—	—	—	—	3
Erysipelas	1	—	—	—	—	—	1	—	—	—	1	3	1	—	—	—	2	1	1	1	1	—	7	6
Polio-myelitis	1	—	2	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
Meningococcal Meningitis	2	—	1	—	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	5	—
Tuberculosis	—	—	1	—	—	—	—	—	—	—	—	3	3	5	2	1	—	2	1	1	—	—	13	6
Ophthalmia Neonatorum	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Puerperal Fever	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	3
NON-EUROPEAN.																								
Typhoid Fever	—	—	1	—	—	—	1	1	4	3	2	8	2	3	—	1	—	2	—	—	—	—	19	9
Malaria	—	—	—	—	1	—	2	—	—	4	1	19	2	11	—	15	—	1	—	—	—	—	53	3
Scarlet Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	—
Diphtheria	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Anthrax	—	—	—	1	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1
Meningococcal Meningitis	—	—	1	1	—	—	—	—	2	2	—	2	—	2	—	—	—	—	—	—	—	—	8	2
Trachoma	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Tuberculosis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28
Puerperal Fever	—	—	3	2	3	—	1	2	2	5	4	4	6	3	4	5	1	6	—	1	2	—	—	8

Table No. 12.

SEASONAL INCIDENCE OF INFECTIOUS DISEASES FOR THE YEAR ENDED
30th JUNE, 1937.

			Typhoid Fever.	Typhus Fever.	Undulant Fever.	Malaria.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria.	Leprosy.	Erysipelas.	Pollomyelitis.	Encephalitis Lethargica.	Meningococcal Meningitis.	Anthrax.	Tuberculosis.	Ophthalmia Neonatorum.	Lead Poisoning.	Trachoma.	Puerperal Fever.		
1936																							
July	..	European	Resident	1	—	—	1	5	6	64	3	—	8	—	—	2	—	3	1	—	—		
			Imported	2	—	—	4	—	—	2	1	—	2	—	—	—	1	—	—	—	—		
		Non-European	Resident	—	—	—	—	—	—	—	—	2	—	—	2	—	5	—	—	1	—		
			Imported	1	—	—	—	—	—	1	—	—	—	—	—	1	—	3	—	—	1	—	
August	..	European	Resident	1	—	—	—	8	7	36	1	—	—	—	3	—	2	—	—	—	1	—	
			Imported	5	—	—	—	—	—	—	—	—	4	—	—	1	—	3	—	—	—	1	—
		Non-European	Resident	1	—	—	1	2	—	2	—	—	—	—	3	—	3	—	—	—	—	—	
			Imported	1	—	—	—	—	—	1	—	—	—	—	—	—	—	7	—	—	—	1	—
September		European	Resident	3	—	—	—	3	5	46	4	—	4	—	2	—	—	—	—	—	—	—	
			Imported	1	—	1	—	—	—	2	—	—	—	—	1	—	1	—	—	—	—	1	—
		Non-European	Resident	—	—	—	—	—	—	3	—	—	—	—	2	—	10	—	—	—	—	—	
			Imported	—	—	—	—	—	—	—	—	—	—	—	3	—	8	—	—	—	—	—	—
October	..	European	Resident	—	—	—	—	—	4	4	4	—	4	—	2	—	2	—	—	—	—	—	
			Imported	10	—	2	—	—	1	—	—	—	1	—	—	1	—	2	1	—	—	—	—
		Non-European	Resident	1	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	
			Imported	5	—	—	1	—	—	—	—	—	—	—	—	1	—	5	—	—	—	1	—
November		European	Resident	5	—	—	—	—	4	3	1	—	3	1	—	—	—	—	—	—	—	—	
			Imported	4	—	—	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
		Non-European	Resident	1	—	—	2	—	—	—	—	—	—	—	1	—	4	—	—	1	—	—	
			Imported	—	—	—	1	—	—	—	1	—	—	—	—	1	—	4	—	—	—	—	—
December	..	European	Resident	3	—	—	—	—	7	3	5	—	1	1	—	1	—	2	1	—	—	—	
			Imported	8	—	—	6	—	3	—	2	—	1	—	—	2	—	2	—	—	—	—	—
		Non-European	Resident	3	—	—	—	—	—	—	—	—	—	—	2	—	4	1	—	—	—	1	
			Imported	9	—	—	—	—	—	—	—	—	—	—	—	—	—	5	—	—	—	—	—
1937																							
January	..	European	Resident	1	—	—	—	—	4	—	1	—	2	—	—	—	—	1	1	—	—	—	
			Imported	5	—	—	1	—	3	1	1	—	—	3	—	1	—	2	—	—	—	—	—
		Non-European	Resident	5	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	
			Imported	4	—	—	3	—	—	—	—	—	—	—	—	1	3	5	—	—	—	1	—
February	..	European	Resident	1	—	—	—	—	3	6	2	—	3	—	—	2	—	—	2	—	—	—	
			Imported	6	—	—	1	—	2	—	1	—	2	—	—	—	—	5	—	—	—	—	—
		Non-European	Resident	3	—	—	—	—	—	—	1	—	—	—	—	—	—	4	—	—	—	—	—
			Imported	1	—	—	1	—	—	—	—	—	—	—	—	1	—	5	—	—	—	—	—
March	..	European	Resident	1	—	—	—	—	9	1	1	—	1	1	—	—	—	—	—	—	—	—	
			Imported	4	—	—	1	—	3	—	4	—	2	—	—	—	—	—	—	—	—	—	—
		Non-European	Resident	3	—	—	—	—	—	—	1	—	—	—	—	—	—	6	—	—	—	2	—
			Imported	4	—	—	3	—	—	—	—	—	—	—	—	—	—	6	1	—	—	—	1
April	..	European	Resident	1	—	—	4	4	9	—	5	—	—	—	—	—	—	1	—	—	—	—	
			Imported	1	—	—	53	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—
		Non-European	Resident	3	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—
			Imported	1	—	—	26	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	1
May	..	European	Resident	3	—	—	—	8	4	—	9	—	4	—	2	—	—	—	—	—	—	—	
			Imported	1	—	—	14	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1
		Non-European	Resident	1	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—
			Imported	—	—	—	14	—	—	—	—	—	—	—	—	—	—	5	—	—	—	—	—
June	..	European	Resident	1	—	—	—	10	—	4	3	—	3	—	—	—	—	2	—	—	—	—	
			Imported	1	—	—	2	1	2	—	2	—	—	—	—	—	—	3	—	—	—	—	—
		Non-European	Resident	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	—	—	—	—	—
			Imported	2	—	—	7	—	—	—	—	—	—	—	—	1	—	2	—	—	—	—	1

Table No. 12.

ANNUAL INCIDENCE OF ENTERIC FEVERS FOR THE YEAR ENDING
JUNE 1907

Year	1906	1905	1904	1903	1902	1901	1900	1899	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	1888	1887	1886	1885	1884	1883	1882	1881	1880	1879	1878	1877	1876	1875	1874	1873	1872	1871	1870	1869	1868	1867	1866	1865	1864	1863	1862	1861	1860	1859	1858	1857	1856	1855	1854	1853	1852	1851	1850	1849	1848	1847	1846	1845	1844	1843	1842	1841	1840	1839	1838	1837	1836	1835	1834	1833	1832	1831	1830	1829	1828	1827	1826	1825	1824	1823	1822	1821	1820	1819	1818	1817	1816	1815	1814	1813	1812	1811	1810	1809	1808	1807	1806	1805	1804	1803	1802	1801	1800	1799	1798	1797	1796	1795	1794	1793	1792	1791	1790	1789	1788	1787	1786	1785	1784	1783	1782	1781	1780	1779	1778	1777	1776	1775	1774	1773	1772	1771	1770	1769	1768	1767	1766	1765	1764	1763	1762	1761	1760	1759	1758	1757	1756	1755	1754	1753	1752	1751	1750	1749	1748	1747	1746	1745	1744	1743	1742	1741	1740	1739	1738	1737	1736	1735	1734	1733	1732	1731	1730	1729	1728	1727	1726	1725	1724	1723	1722	1721	1720	1719	1718	1717	1716	1715	1714	1713	1712	1711	1710	1709	1708	1707	1706	1705	1704	1703	1702	1701	1700	1699	1698	1697	1696	1695	1694	1693	1692	1691	1690	1689	1688	1687	1686	1685	1684	1683	1682	1681	1680	1679	1678	1677	1676	1675	1674	1673	1672	1671	1670	1669	1668	1667	1666	1665	1664	1663	1662	1661	1660	1659	1658	1657	1656	1655	1654	1653	1652	1651	1650	1649	1648	1647	1646	1645	1644	1643	1642	1641	1640	1639	1638	1637	1636	1635	1634	1633	1632	1631	1630	1629	1628	1627	1626	1625	1624	1623	1622	1621	1620	1619	1618	1617	1616	1615	1614	1613	1612	1611	1610	1609	1608	1607	1606	1605	1604	1603	1602	1601	1600	1599	1598	1597	1596	1595	1594	1593	1592	1591	1590	1589	1588	1587	1586	1585	1584	1583	1582	1581	1580	1579	1578	1577	1576	1575	1574	1573	1572	1571	1570	1569	1568	1567	1566	1565	1564	1563	1562	1561	1560	1559	1558	1557	1556	1555	1554	1553	1552	1551	1550	1549	1548	1547	1546	1545	1544	1543	1542	1541	1540	1539	1538	1537	1536	1535	1534	1533	1532	1531	1530	1529	1528	1527	1526	1525	1524	1523	1522	1521	1520	1519	1518	1517	1516	1515	1514	1513	1512	1511	1510	1509	1508	1507	1506	1505	1504	1503	1502	1501	1500	1499	1498	1497	1496	1495	1494	1493	1492	1491	1490	1489	1488	1487	1486	1485	1484	1483	1482	1481	1480	1479	1478	1477	1476	1475	1474	1473	1472	1471	1470	1469	1468	1467	1466	1465	1464	1463	1462	1461	1460	1459	1458	1457	1456	1455	1454	1453	1452	1451	1450	1449	1448	1447	1446	1445	1444	1443	1442	1441	1440	1439	1438	1437	1436	1435	1434	1433	1432	1431	1430	1429	1428	1427	1426	1425	1424	1423	1422	1421	1420	1419	1418	1417	1416	1415	1414	1413	1412	1411	1410	1409	1408	1407	1406	1405	1404	1403	1402	1401	1400	1399	1398	1397	1396	1395	1394	1393	1392	1391	1390	1389	1388	1387	1386	1385	1384	1383	1382	1381	1380	1379	1378	1377	1376	1375	1374	1373	1372	1371	1370	1369	1368	1367	1366	1365	1364	1363	1362	1361	1360	1359	1358	1357	1356	1355	1354	1353	1352	1351	1350	1349	1348	1347	1346	1345	1344	1343	1342	1341	1340	1339	1338	1337	1336	1335	1334	1333	1332	1331	1330	1329	1328	1327	1326	1325	1324	1323	1322	1321	1320	1319	1318	1317	1316	1315	1314	1313	1312	1311	1310	1309	1308	1307	1306	1305	1304	1303	1302	1301	1300	1299	1298	1297	1296	1295	1294	1293	1292	1291	1290	1289	1288	1287	1286	1285	1284	1283	1282	1281	1280	1279	1278	1277	1276	1275	1274	1273	1272	1271	1270	1269	1268	1267	1266	1265	1264	1263	1262	1261	1260	1259	1258	1257	1256	1255	1254	1253	1252	1251	1250	1249	1248	1247	1246	1245	1244	1243	1242	1241	1240	1239	1238	1237	1236	1235	1234	1233	1232	1231	1230	1229	1228	1227	1226	1225	1224	1223	1222	1221	1220	1219	1218	1217	1216	1215	1214	1213	1212	1211	1210	1209	1208	1207	1206	1205	1204	1203	1202	1201	1200	1199	1198	1197	1196	1195	1194	1193	1192	1191	1190	1189	1188	1187	1186	1185	1184	1183	1182	1181	1180	1179	1178	1177	1176	1175	1174	1173	1172	1171	1170	1169	1168	1167	1166	1165	1164	1163	1162	1161	1160	1159	1158	1157	1156	1155	1154	1153	1152	1151	1150	1149	1148	1147	1146	1145	1144	1143	1142	1141	1140	1139	1138	1137	1136	1135	1134	1133	1132	1131	1130	1129	1128	1127	1126	1125	1124	1123	1122	1121	1120	1119	1118	1117	1116	1115	1114	1113	1112	1111	1110	1109	1108	1107	1106	1105	1104	1103	1102	1101	1100	1099	1098	1097	1096	1095	1094	1093	1092	1091	1090	1089	1088	1087	1086	1085	1084	1083	1082	1081	1080	1079	1078	1077	1076	1075	1074	1073	1072	1071	1070	1069	1068	1067	1066	1065	1064	1063	1062	1061	1060	1059	1058	1057	1056	1055	1054	1053	1052	1051	1050	1049	1048	1047	1046	1045	1044	1043	1042	1041	1040	1039	1038	1037	1036	1035	1034	1033	1032	1031	1030	1029	1028	1027	1026	1025	1024	1023	1022	1021	1020	1019	1018	1017	1016	1015	1014	1013	1012	1011	1010	1009	1008	1007	1006	1005	1004	1003	1002	1001	1000	999	998	997	996	995	994	993	992	991	990	989	988	987	986	985	984	983	982	981	980	979	978	977	976	975	974	973	972	971	970	969	968	967	966	965	964	963	962	961	960	959	958	957	956	955	954	953	952	951	950	949	948	947	946	945	944	943	942	941	940	939	938	937	936	935	934	933	932	931	930	929	928	927	926	925	924	923	922	921	920	919	918	917	916	915	914	913	912	911	910	909	908	907	906	905	904	903	902	901	900	899	898	897	896	895	894	893	892	891	890	889	888	887	886	885	884	883	882	881	880	879	878	877	876	875	874	873	872	871	870	869	868	867	866	865	864	863	862	861	860	859	858	857	856	855	854	853	852	851	850	849	848	847	846	845	844	843	842	841	840	839	838	837	836	835	834	833	832	831	830	829	828	827	826	825	824	823	822	821	820	819	818	817	816	815	814	813	812	811	810	809	808	807	806	805	804	803	802	801	800	799	798	797	796	795	794	793	792	791	790	789	788	787	786	785	784	783	782	781	780	779	778	777	776	775	774	773	772	771	770	769	768	767	766	765	764	763	762	761	760	759	758	757	756	755	754	753	752	751	750	749	748	747	746	745	744	743	742	741	740	739	738	737	736	735	734	733	732	731	730	729	728	727	726	725	724	723	722	721	720	719	718	717	716	715	714	713	712	711	710	709	708	707	706	705	704	703	702	701	700	699	698	697	696	695	694	693	692	691	690	689	688	687	686	685	684	683	682	681	680	679	678	677	676	675	674	673	672	671	670	669	668	667	666	665	664	663	662	661	660	659	658	657	656	655	654	653	652	651	650	649	648	647	646	645	644	643	642	641	640	639	638	637	636	635	634	633	632	631	630	629	628	627	626	625	624	623	622	621	620	619	618	617	616	615	614	613	612	611	610	609	608	607	606	605	604	603	602	601	600	599	598	597	596	595	594	593	592	591	590	589	588	587	586	585	584	583	582	581	580	579	578	577	576	575	574	573	572	571	570	569	568	567	566	565	564	563	562	561	560	559	558	557	556	555	554	553	552	551	550	549	548	547	546	545	544	543	542	541	540	539	538	537	536	535	534	533	532	531	530	529	528	527	526	525	524	523	522	521	520	519	518	517	516	515	514	513	512	511	510	509	508	507	506	505	504	503	502	501	500	499	498	497	496	49
------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----



