

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

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CITY COUNCIL OF PRETORIA

FORTY-EIGHTH

Annual Report

OF THE

Medical Officer of Health

FOR THE

YEAR 1951-1952


WALLACHS' PTA.—9064—27/4/53

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CITY COUNCIL OF PRETORIA

FORTY-EIGHTH

Annual Report

OF THE

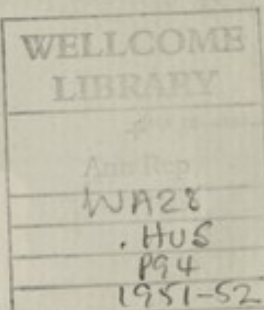
Medical Officer of Health

FOR THE

YEAR 1951-1952

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INTRODUCTORY LETTER.

YOUR WORSHIP THE MAYOR,

and MEMBERS OF THE CITY COUNCIL, PRETORIA.

I have the honour to present to you the Forty-eighth Annual Report of the City of Pretoria.

I am pleased to record that there have been no serious epidemics and that in general good health conditions have been maintained throughout the City.

The rapid growth of the City can be seen from the increase in population over the past 25 years.

In 1927 the European population was 41,500 and the figure for this year is 133,500. The total non-European population was 23,000 and today it is 101,100. The increase in the total population for the 25-year period has been 170,100. It has almost quadrupled itself.

Our European Infantile Mortality rates have remained low, and the non-European Infantile Mortality figure is the lowest ever recorded. This is very satisfactory, as the health of a population can only be judged by the health of all its sections.

The death rates have remained low. Heart diseases were again the main cause of death and Cancer the second.

The study of the Infectious Disease Returns, particularly the comparison between Pretoria and the newly incorporated portion of Hercules is interesting. We have also again given some important facts in regard to Typhoid Fever. Tuberculosis is on the increase among non-Europeans and I have to repeat what I said last year in regard to the need for active anti tuberculosis on a national scale.

A great deal of good work has been done at the Isolation Hospital but the accommodation is far too small and steps will have to be taken to provide extra beds.

We have dealt at length with Child Welfare activities and it is well worthwhile reading this section of the report.

Although it is about five years now since the Council submitted by-laws for the compulsory pasteurisation of milk to the Provincial Administration for approval, they have not yet finalised the matter. The Administrator of the Transvaal appointed a commission of enquiry early this year, but at the time of going to press there is no indication as to when this commission will sit.

We have not done much in regard to slum clearance, because we have not many slums in the European areas and also because of lack of housing accommodation. Housing amongst non-Europeans is very unsatisfactory and requires urgent attention. The Council is considering the establishment of new Native Locations and it is hoped that adequate housing will be provided in these locations before the Natives are permitted to settle there. So many squatters camps, constituting first class slums, have developed in and around cities and towns in South Africa and it is going to be difficult to eradicate these black spots. I hope this will not be permitted to occur in Pretoria.

I was away overseas during six months of the past year. At the request of the Israeli Government I conducted a survey of the health services of that country with the consent of the City Council. This took nearly a month and a half. The rest of the time was spent visiting various health departments, institutions, hospitals and housing schemes on the Continent and the British Isles. I was also able to attend the Second International Poliomyelitis Congress in Copenhagen. I was present at the first one in New York in 1948.

This overseas trip was made possible by leave accumulated by myself together with a few months extra leave kindly given to me by the Council.

I wish to thank you Mr. Mayor, the Chairman of the Health Committee and the Councillors for the assistance and support which they gave me throughout the year. It is indeed gratifying to record that the Councillors took a great interest in the health of the City.

I am also thankful for the help which I received from the Public and the Heads and Sub-heads of other Departments.

To the staff I am particularly grateful for their efficient, loyal and enthusiastic support. Once again too, I want to express special thanks to the Press for their ever ready help.

H. NELSON

Medical Officer of Health.

PUBLIC HEALTH COMMITTEE

Councillor Mrs. C. P. Visse (Chairman)
 Councillor B. M. van Tonder (Vice-Chairman)
 Councillor Mrs. M. M. Curson, M.P.C.
 Councillor W. J. Seymore
 Councillor P. A. Taljaard
 Councillor L. J. v.d. Berg
 Councillor D. B. J. van Rensburg

STAFF OF THE PUBLIC HEALTH DEPARTMENT AS AT 30TH JUNE, 1952

H. NELSON, M.A., M.D., Ch.B., B.A.O., D.P.H., D.T.M., F.R.S.I.	Medical Officer of Health.
T. LOTTER, M.B., Ch.B., L.R.C.P. & S., L.R.F.P.S., D.P.H.	Deputy Medical Officer of Health.
A. PIJPER, M.D., D.Sc.	Consulting Pathologist.
J. BARNETSON, M.D., Ch.B., D.T.M. & H.	Pathologist (Part time).
R. E. W. DICKS, M.B., Ch.B., D.P.H.	Superintendent Infectious Diseases Hospital and Medical Officer in charge Venereal Diseases.
A. T. B. H. BODENSTAB, M.B., Ch.B., D.P.H., D.T.M. & H.	Assistant Medical Officer of Health (non- Personal Health Services).
M. VERA BUHRMANN, M.B., Ch.B., D.P.H.	Assistant Medical Officer of Health (Child and Maternal Health).
R. BUCHAN, M.B., Ch.B., D.P.H.	Assistant Medical Officer of Health (non- European Health Services).
D. B. LEWIS, B.A., M.B., Ch.B.	Medical Officer, Influx Control.
A. STRATING, M.B., Ch.B.	Medical Officer, Influx Control.
A. A. E. DE KLERK, M.B., Ch.B.	Assistant Medical Officer (Child and Mater- nal Health).
I. P. MARAIS, B.Sc., Agric. B.V.Sc.	Dr. Med. Vet. (Manager Abattoir).
W. J. WHEELER, B.V.Sc.	Veterinary Officer.
W. G. FUNSTON, Cert. R.S.I., Cert. Meat and Other Foods, Trop. Hyg.	Chief Health Inspector.
A. VELTHUYSEN, Cert. R.S.I.	Assistant Chief Health Inspector.
J. S. R. MARAIS, Cert. R.S.I., Meat and Other Foods, Trop. Hyg.	Assistant Chief Health Inspector.
J. L. COETZEE, Cert. Meat and Other Foods.	Assistant Chief Health Inspector (Abattoir).
*H. M. DE VAAL, B.Sc. (Appl. and Industr. Chem.), M.S.A., Chem.I., M.Inst. S.P.	Chief Chemist and Analyst.
*N. P. LE M. NICOLLE, B.Sc., M.S.A., Chem. I., A.M., Inst., S.P.	Assistant Chief Chemist and Analyst.
W. A. LOMBARD, M.Sc., M.S.A., Chem. I.	Chemist, Grade II.
R. SNYDERS, B.Sc., A.M.S.A., Chem. I.	Chemist, Grade II.
R. E. SKINNER	Laboratory Assistant.

* These officials are employed part of their time by the Health Department and the remainder of the time they carry out duties for the City Engineer's Department.

SUPERVISING HEALTH INSPECTORS

K. C. J. LUCOUW, Cert. R.S.I.
 N. VORSTER, Cert. R.S.I., Meat and Other Foods, Trop. Hyg.
 W. SCOTT, Cert. R.S.I., Meat and Other Foods (Abattoir).
 D. W. BURGESS, Cert. R.S.I., Meat and Other Foods, Trop. Hyg.
 R. G. SIEBERT, Cert. R.S.I., Meat and Other Foods, Trop. Hyg.

SENIOR HEALTH INSPECTORS

J. L. PAKIN, Cert. R.S.I., Meat and Other Foods, Trop. Hyg.
 F. J. H. STOCKWELL, Cert. R.S.I., Meat and Other Foods, Trop. Hyg.
 O. A. BERGMAN, Cert. R.S.I., Meat and Other Foods, Trop. Hyg.
 P. R. Q. WILBRAHAM, Cert. R.S.I., Meat and Other Foods, San. Science, Trop. Hyg.
 M. J. C. RAUTENBACH, Cert. R.S.I., Meat and Other Foods, Trop. Hyg.

HEALTH INSPECTORS

R. M. DU TOIT, Cert. R.S.I., Meat and Other Foods.
 T. B. NOTHNAGEL, Cert. R.S.I., Meat and Other Foods, Adv. Knowledge, Trop. Hyg.
 S. M. SCOTT, Cert. R.S.I., Meat and Other Foods.
 M. D. NEL, Cert. R.S.I., Meat and Other Foods (Abattoir).
 J. C. THERON, Cert. R.S.I., Meat and Other Foods (Abattoir).
 P. T. FURSTENBURG, Cert. R.S.I., Meat and Other Foods, Adv. Knowledge, Trop. Hyg.
 A. DE LA H. SERFONTEIN, Cert. R.S.I., Meat and Other Foods.

T. J. VAN DER HEEVER, Cert. R.S.I., Trop. Hyg., Meat and Other Foods.
 J. T. GORDON, Cert. R.S.I., Meat and Other Foods, Trop. Hyg.
 G. M. DU TOIT, Cert. R.S.I., Meat and Other Trop. Hyg.
 D. S. VAN COLLER, Cert. R.S.I., Meat and Other Foods.
 D. S. KOCKS, Cert. R.S.I., Meat and Other Foods, Trop. Hyg.
 C. M. TALJAARD, B.Sc., Hygiene R.S.I., Meat and Other Foods.
 P. L. R. VAN HEERDEN, Cert. R.S.I., Meat and Other Foods.
 J. J. PIENAAR, Cert. R.S.I., Meat and Other Foods. B.A.
 A. J. COETZEE, Cert. R.S.I., Meat and Other Foods.
 J. H. LEACH, Cert. R.S.I., Meat and Other Foods, Trop. Hyg.
 J. KRUGER, Cert. R.S.I., Meat and Other Foods, Trop. Hyg.
 W. N. ODENDAAL, Cert. R.S.I., Meat and Other Foods.
 E. C. KUNITZ, Cert. R.S.I., Meat and Other Foods, Trop. Hyg.
 A. C. ENGELBRECHT, Cert. R.S.I., Trop. Hyg.
 D. J. R. HATTINGH, Cert. R.S.I., Trop. Hyg.
 F. K. VERDOORN, Cert. R.S.I.

CLERICAL STAFF

Administrative Officer:

R. BLOEMINK, Cert. R.S.I., Meat and Other Foods, Trop. Hyg., Adv. Knowledge.

Chief Clerk:

R. O. R. CARRUTHERS, Cert. R.S.I., Meat and Other Foods, Trop. Hyg.

Senior Clerk:

G. W. CLUBB, Cert. R.S.I., Meat and Other Foods.

Second Grade Clerk:

M. ROUSSOUW.

Junior Clerks:

G. VAN LOGGERENBERG, C. J. SMITH, S. J. GOUWS.

Record Clerks:

M. M. ADENDORFF (Miss), M. B. BURGER (Miss).

Typists:

D. R. WELTHAGEN, M. E. J. THOMSON, S. A. FLEMING, G. H. VLIELAND,
 P. J. ALEXANDER.

HOUSING AND SLUM ELIMINATION

Administrative officer:

E. J. JAMMINE, Cert. R.S.I., Meat and Other Foods, Adv. Knowledge, Trop. Hyg.

Woman Housing Manager: K. S. MARTIN, Diploma Social Administration; Florence
 Nightingale Foundation Council Diploma for Public Health, Cert. Gen. Nursing
 & Midwif., Certificate for Tropical Diseases, Certificate Mental Hygiene.

Assistant Manager: G. F. PIENAAR, Lower Secondary Teacher's Cert., Univ. of Cape
 Town. R.S.I., Certificate of Competency for Housing Managers, (Octavia Hill
 Training).

Assistant Manager: J. B. COLMAN, R.S.I., Certificate of Competency for Housing
 Managers, (Octavia Hill Training).

Assistant Manager: W. A. YATES, B.A. (S.S.) Certificate of Competency for Housing
 Managers, (Octavia Hill Training).

Assistant Manager: N. G. CROSS, B.A. (S.S.) Certificate of Competency for Housing
 Managers, (Octavia Hill Training).

Clerk: R. WEBB (Mrs.).

Housing Assistant: L. MALHERBE (Miss).

Typist: S. E. KRUGER (Miss).

Handyman: S. F. HOLDER.

LABORATORY ASSISTANT

P. A. BARNARD.

DISINFECTING OFFICER

V. J. BESTER.

RODENT AND MOSQUITO ERADICATORS

J. P. SCHOLTZ, A. J. VLOK, B. HATTINGH, J. B. VAN WEZEL, L. J. DE LANGE.

HEALTH VISITORS

- G. S. J. PRETORIUS, (Senior), Cert. S.A. Medical Council (Gen. & Midwif.), Cert. R.S.I. Health Visitor and School Nurse, Mothercraft.
- E. W. MURRAY, Cert. S.A. Medical Council (Gen. & Midwif.), Cert. R.S.I. Health Inspector, Cert. R.S.I., Health Visitor and School Nurse, Mothercraft.
- A. S. SCHULTZ, Cert. S.A. Medical Council (Gen. & Midwif.), Cert. R.S.I. Health Visitor and School Nurse.
- D. H. BRONKHORST, Cert. S.A. Medical Council (Gen. & Midwif.), Cert. R.S.I. Health Visitor and School Nurse, Mothercraft.
- A. C. M. VAN DER WESTHUIZEN, Cert. S.A. Medical Council (Gen. & Midwif.), Cert. R.S.I. Health Visitor and School Nurse, Mothercraft.
- I. L. KOCKOTT, Cert. S.A. Medical Council (Gen. & Midwif.), Cert. R.S.I. Health Visitor and School Nurse, Mothercraft.
- J. WINKEL, Health Visitors Certificate (Holland), Social Worker Diploma (Holland), Nursing Diploma (Holland).
- D. G. MORGAN, Cert. S.A. Medical Council (Gen. & Midwif.), Mothercraft, Cert. R.S.I. Health Visitor and School Nurse.
- S. M. PRUNS, Cert. S.A. Medical Council (Gen. & Midwif.), Cert. R.S.I. Health Visitor and School Nurse, Mothercraft.
- H. M. E. VAN DER MERWE, Midwifery Cert., Mothercraft Cert.
- H. C. FICK, Cert. S.A. Medical Council (Gen. & Midwif.), Florence Nightingale Foundation Council Diploma for Public Health Social Services and Hospital and Training School Administration, Mothercraft.
- W. J. VOLSCHENK, Cert. S.A. Medical Council (Gen.) Cert. R.S.I. Health Visitor and School Nurse.
- C. E. VAN NIEKERK, Cert. S.A. Medical Council (Gen. & Midwif.), Cert. R.S.I. Health Visitor and School Nurse, Mothercraft.
- J. B. VAN R. VAN OUDTSHOORN, Cert. S.A. Medical Council (Gen. & Midwif.), Cert. R.S.I. Health Visitor and School Nurse, Mothercraft.
- V. J. LOYNES, Cert. S.A. Medical Council (Gen. & Midwif.), Cert. R.S.I. Health Visitor and School Nurse, Mothercraft.
- S. J. DE VILLIERS, Cert. S.A. Medical Council (Gen. & Midwif.), Mothercraft.
- Z. VERMAAK, Cert. S.A. Medical Council (Gen. & Midwif.), Health Visitor and School Nurses Cert.
- M. E. ROSS, Cert. S.A. Medical Council (Gen. & Midwif.), Health Visitor and School Nurses Cert.
- A. OCHSE, Cert. S.A. Medical Council (Gen. & Midwif.), Health Visitor and School Nurses Cert.

NON-EUROPEAN NURSES

- SALMINA HUMA, Cert. S.A. Medical Council (Gen. & Midwif.).
- ANNA NTJA, Cert. Midwife.
- GRACE PHOOKA, Cert. Midwife.
- GLADYS BIKITSHA, Cert. S.A. Medical Council (Gen. & Midwif.).
- GLORIA MOGALE, Cert. Midwifery.
- DEBORAH RAMSKIN, Cert. Midwifery.
- EUPHEN NDUNA, Cert. S.A. Medical Council (Gen. & Midwif.).
- GRACE MSIMANG, Cert. Midwife.
- SUSAN MOFOLO, Cert. S.A. Medical Council (Gen. & Midwif.).
- HELEN MAMETSE, Cert. S.A. Medical Council (Gen. & Midwif.).
- KATHERINE MOUNT, Cert. S.A. Medical Council (Gen. & Midwif.).

CLINIC ASSISTANT

C. J. DREYER.

NON-EUROPEAN CLINIC ORDERLIES

JACOB MOHOLO.	WALTER MATABOGE.
JOSEPH MONTOEDI.	HENRY SETHEKGE.
DANIEL MARABA.	IZAK MONGOATO.

PUBLIC CONVENIENCE ATTENDANTS

TEN EUROPEANS.	FOUR NON-EUROPEANS.
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POUNDMASTERS

L. J. BOTHA.	C. W. SHORT.
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CARETAKER

J. HINDLEY.

CITY COUNCIL OF PRETORIA

FORTY-EIGHT—ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

CLIMATIC DATA

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

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

Mean Altitude: 4,480 feet.

Temperature: (Statistics kindly supplied by the Director, Weather Bureau, Pretoria).

Air Temperatures (°F.)											
				Highest Reading of Max. °F.	Lowest Reading of Min. °F.	Mean Relative Humidity at		Rainfall			
Mean Max. °F.				Mean Min. °F.		8 a.m. %	2 p.m. %	Inches	Days		
1951:											
July	..	..	..	64.5	34.0	73.5	41.5	73	31	0.24	3
August	..	..	..	69.1	40.1	75.8	31.9	68	30	1.12	4
September	..	..	..	75.6	48.5	84.6	37.8	55	27	0.16	1
October	..	..	..	79.0	57.1	93.1	50.0	67	42	5.46	9
November	..	..	..	82.4	57.3	90.3	51.9	60	33	0.64	6
December	..	..	..	84.5	60.1	93.5	53.8	65	39	4.42	12
1952:											
January	..	..	..	85.4	61.8	92.3	56.2	69	41	5.33	8
February	..	..	..	79.7	61.2	90.0	56.1	75	54	5.85	16
March	..	..	..	82.4	57.7	90.5	50.4	69	39	1.96	10
April	..	..	..	77.2	51.3	81.9	42.1	73	37	0.78	7
May	..	..	..	70.3	43.7	81.5	35.2	70	35	0.74	10
June	..	..	..	66.4	40.5	74.1	30.7	81	40	0.10	3

AREA OF MUNICIPALITY

The area of Pretoria and suburbs, inclusive of Town Lands, is 70.73 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 — 1951/1952

Pretoria Land	£22,051,852
Pretoria Buildings	45,869,091
Hercules Land	753,190
Hercules Buildings	2,852,960
Claremont Land	52,625
Claremont Buildings	184,645
Lady Selborne Land	322,555
Lady Selborne Buildings	884,935
	£72,971,853

The values of unrateable properties:—

Pretoria Land	£7,036,384
Pretoria Buildings	10,668,574
Hercules Land	146,915
Hercules Buildings	175,285
Claremont Land	5,260
Claremont Buildings	121,890
Lady Selborne Land	11,465
Lady Selborne Buildings	25,940
	£18,191,713

The total values therefore were:—

Pretoria Land	£29,088,236
Pretoria Buildings	56,537,665
Hercules Land	900,105
Hercules Buildings	3,028,245
Claremont Land	57,885
Claremont Buildings	306,535
Lady Selborne Land	334,020
Lady Selborne Buildings	910,875
	<u>£91,163,566</u>

For the year under review the rates imposed were 7d. per £ on land and 1½d. per £ on buildings in the Pretoria area and 8½d. per £ on the land only in the Hercules area, which value excludes Native area of Claremont and Lady Selborne.

Hercules, Claremont and Lady Selborne were incorporated into the municipal area of Pretoria on the 1st May, 1949.

POPULATION

European	133,500
Native	90,300
Asiatic	5,700
Eurafrican	5,100

The population figures are an estimate as at 30th June, 1952, and have kindly been supplied by the Department of Census and Statistics to whom we are grateful for statistical information so willingly given whenever it is sought.

The Principal Vital Statistics for the year under review corrected for outward transfers are:—

	European	Native	Asiatic	Eur- african	Total Non- European	All Races
Population	133,500	90,300	5,700	5,100	101,100	234,600
Birth Rates	25·00	30·34	40·00	34·51	31·10	27·63
Death Rates	6·46	13·21	11·58	12·55	13·09	9·31
Infantile Mortality per 1,000 live births	30·26	136·86	140·39	79·55	133·91	80·53
Percentage of Illegitimate to live births	1·80	36·02	0·88	33·52	33·33	17·09
Death Rate from Tuber- culosis (Pulmonary) per 1,000 population	0·10	1·22	0·35	1·76	1·20	0·57
Death Rate from Tuber- culosis, all forms, per 1,000 population	0·13	1·51	0·53	1·96	1·47	0·71

BIRTHS

The following births were registered in Pretoria during the year (figures for 1950–1951 in brackets):—

	European	Native	Asiatic	Eur- african	Total Non- European	All Races
Local Births	3,338 (3,485)	2,740 (2,475)	228 (230)	176 (187)	3,144 (2,892)	6,482 (6,377)
Births where mothers not residents of Pretoria	909 (932)				772 (786)	1,681 (1,718)
Illegitimate births (included in local births)	60 (51)	987 (824)	2 (11)	59 (51)	1,048 (886)	1,108 (937)
Stillbirths	44 (44)				125 (88)	169 (132)

BIRTH RATES

European	25·00 (26·97)
Native	30·34 (28·07)
Asiatic	40·00 (43·93)
Eurafrican	34·51 (39·69)
All Non-European	31·10 (29·47)
All Races	27·63 (28·05)

Rates of natural increase, being the excess of births over deaths in proportion to population, are as follows:—

European	18.55 (20.89)
Asiatic	28.42 (35.91)
Eurafrican	21.96 (27.17)

DEATHS

(Figures for 1950-1951 in brackets)

	European	Native	Asiatic	Eur- african	Total Non- European	All Races
Local deaths (all ages) ..	862 (785)	1,193 (1,029)	66 (42)	64 (59)	1,323 (1,130)	2,185 (1,915)
Deaths of persons not be- ing local residents ..	374 (368)				709 (719)	1,083 (1,087)

The "non-local" deaths occurred at:—

	Pretoria and Other Hospitals	Mental Hospital	Leper Institution	Prison	Visitors
European	305 (292)	45 (61)	4 (4)	3 (3)	17 (8)
Non-European	584 (555)	36 (43)	28 (55)	39 (44)	22 (22)

DEATH RATES

European	6.46 (6.08)
Native	13.21 (11.67)
Asiatic	11.58 (8.02)
Eurafrican	12.55 (12.52)
All Non-European	13.09 (11.51)
Total All Races	9.31 (8.42)

INFANTILE MORTALITY

(Figures for 1950-1951 in brackets)

	European	Native	Asiatic	Eur- african	Total Non- European	All Races
Local deaths	101 (101)	375 (375)	32 (10)	14 (11)	421 (396)	522 (497)
Deaths of infants whose mothers had come to the City for confinement, or infants who were brought in suffering from the ill- ness which caused death	47 (39)				150 (148)	197 (187)
	148 (140)				571 (544)	719 (684)

INFANTILE MORTALITY RATES

European	30.26 (28.98)
Native	136.86 (151.51)
Asiatic	140.39 (43.48)
Eurafrican	79.55 (58.82)
All non-European	133.91 (136.93)
All Races	80.53 (77.94)

The European infantile mortality rate again remains very low.

The Native rate has reached the lowest figure that has ever been recorded in the history of Pretoria. From the table immediately following, the downward trend from year to year can be observed and it is pleasing to record that this steady progress is being maintained.

The Asiatic and Eurafrian rates fluctuate from year to year because of the very small population. These rates should really not be given as "rate figures" because of the smallness of the populations concerned, they are merely recorded to complete the table.

The truth of this can be seen when we take the total figure for all non-Europeans which is the second lowest ever recorded in spite of the fact that the Asiatic rate has been increased more than three times.

We are satisfied that we are maintaining progress in regard to the prevention of infant deaths.

TABLE OF INFANTILE MORTALITY RATE FOR ALL RACES SINCE 1926-1927

Year	European	Native	Asiatic	Eur- african	All Non- European	Total for All Races
1926-27	48.48	385.51	101.26	246.37	315.31	137.49
1927-28	61.30	483.51	166.67	163.26	256.04	153.79
1928-29	57.85	451.12	140.19	168.83	328.88	143.86
1929-30	51.77	422.48	88.80	141.17	297.92	126.94
1930-31	68.33	573.68	142.86	222.23	362.07	148.42
1931-32	59.41	794.87	112.00	179.48	459.80	153.48
1932-33	68.44	742.42	158.54	123.08	429.27	157.99
1933-34	68.13	621.40	121.74	244.68	415.93	152.60
1934-35	51.26	347.00	62.50	122.64	222.00	95.91
1935-36	77.67	585.94	152.67	140.19	374.49	149.53
1936-37	52.66	450.24	107.38	112.36	269.49	99.42
1937-38	63.57	457.14	105.26	209.88	303.35	116.21
1938-39	50.95	348.53	86.85	118.18	230.24	93.94
1939-40	43.84	349.67	136.90	146.34	255.39	88.92
1940-41	62.60	376.34	93.48	121.95	245.32	96.84
1941-42	53.30	353.84	86.42	264.70	253.06	96.10
1942-43	47.34	329.48	81.97	101.12	223.30	80.07
1943-44	47.94	304.99	70.71	204.08	216.64	77.80
1944-45	33.98	289.69	86.49	105.26	206.45	63.50
1945-46	34.02	215.24	25.77	115.39	159.35	61.17
1946-47	25.90	235.16	54.73	161.29	178.27	53.78
1947-48	33.16	138.78	61.80	224.14	127.30	52.78
1948-49	33.65	203.06	82.47	200.00	170.77	60.97
1949-50	32.34	181.97	75.47	85.23	165.83	92.97
1950-51	28.98	151.51	43.48	58.82	136.93	77.94
1951-52	30.26	136.86	140.39	79.55	133.91	80.53

The causes of infantile deaths in Europeans were as follows:—

	1951-1952	1950-1951
Congenital causes	11 (Rate 3.29)	7 (Rate 2.01)
Diarrhoeal diseases	11 (Rate 3.29)	7 (Rate 2.01)
Bronchitis and pneumonia	9 (Rate 2.70)	10 (Rate 2.87)
Infectious diseases	1 (Rate 0.30)	3 (Rate 0.86)
Other causes	19 (Rate 5.69)	28 (Rate 8.03)
Prematurity	42 (Rate 12.58)	30 (Rate 8.61)
Injury at birth	8 (Rate 2.40)	16 (Rate 4.59)
Total infant deaths	<u>101</u>	<u>101</u>

The causes of infantile deaths in non-Europeans were as follows:—

	1951-1952	1950-1951
Congenital causes	36	24
Diarrhoeal diseases	126	92
Bronchitis and pneumonia	129	124
Infectious diseases	9	15
Other causes	18	24
Prematurity	84	87
Injury at birth	12	15
Malnutrition	7	15
Total non-European infant deaths	<u>421</u>	<u>396</u>

The table given hereunder indicates the number of non-European births and infant deaths during the year under review in the various non-European residential areas:—

Native:		Bantule		Atteridgeville		Hercules		Town	
Marabas		Location		Location		Area		Deaths	
Births	Deaths	Births	Deaths	Births	Deaths	Births	Deaths	Births	Deaths
38	6	163	31	328	34	1,905	253	306	51
Asiatic:		Asiatic Location		Hercules		Town			
		Births	Deaths	Births	Deaths	Births	Deaths		
		130	23	45	5	53	4		
Eurafrican:		Cape Location		Hercules		Town			
		Births	Deaths	Births	Deaths	Births	Deaths		
		68	5	98	8	10	—		

CAUSES OF DEATH AT AGE 1 AND UNDER 5 YEARS FOR VARIOUS RACES

Europeans:

Twenty-one deaths were recorded under this age group:—

Typhoid Fever	1
Diphtheria	2
Tuberculosis (Central Nervous System)	2
Bacillary Dysentery	1
Measles	2
Poliomyelitis	1
Cancer	2
Diseases of the blood	1
Diseases of the circulatory system	1
Broncho Pneumonia	4
Haemorrhagic Infarction of the Lungs	1
Diarrhoea and Enteritis	1
Peritonitis	1
Accidental electrocution	1
	21

Natives:

Two-hundred-and-thirty-eight deaths were recorded under this age group:—

Whooping Cough	4
Diphtheria	9
Tetanus	1
Tuberculosis (Pulmonary)	9
Tuberculosis (other organs)	2
Tuberculosis (Acute Miliary)	5
Congenital Syphilis	3
Measles	1
Malnutrition	23
Scurvy	1
Pellagra	4
Encephalitis (non-epidemic)	2
Diseases of the ear and mastoid process	1
Gangrene	1
Broncho Pneumonia	78
Lobar Pneumonia	6
Diarrhoea and Enteritis	78
Nephritis	1
Diseases of the skin	1
Accident by animal drawn vehicle	1
Accidental burns	4
Accidental mechanical suffocation	1
Unknown or unspecified cause	2
	238

Asiatics:

Four deaths were recorded in this age group:—

Accidental burns	1
Diseases of the blood	1
Cerebro Spinal Meningitis	1
Diseases of the Liver	1
	4

Eurafricans:

Eight deaths were recorded in this age group:—

Nephritis	1
Broncho Pneumonia	1
Diarrhoea and Enteritis	3
Diphtheria	2
Unknown or unspecified causes	1
	8

PRINCIPAL CAUSES OF DEATH IN PERSONS FIVE YEARS AND OVER

The principal causes of death were:—

	Europeans		Non-Europeans	
	1951-52	Yearly Average for 5 Years	1951-52	Yearly Average for 5 Years
Cancer	126	102.4	34	19.4
Heart Disease	205	153.8	55	39.6
Bronchitis and Pneumonia (all forms)	61	46.4	123	86.0
Influenza	3	1.0	2	1.6
Typhoid Fever	—	0.2	3	3.2
Appendicitis	—	1.2	2	1.2
Tuberculosis (Pulmonary)	13	13.8	111	80.6
Diabetes	9	7.6	4	2.2
Apoplexy	64	56.0	19	13.0
Disease of Kidneys	23	30.0	19	19.4
Disease of Arteries	15	20.6	8	10.4
Disease of Liver and Gallbladder	16	13.2	7	4.8
Puerperal Disease	1	0.2	6	2.8
Old age	5	15.8	12	10.0
Suicide	10	12.4	9	4.6
Accidents	34	32.2	54	43.4
Other infectious diseases	10	10.2	44	24.6
Other causes	145	107.6	140	90.4

DETAILS OF CAUSES OF DEATH—FIVE YEARS AND OVER

(In all the following tables the figures for 1950-51 are shown in brackets)

1. CANCER:

Europeans: 126. Death rate 0.94 per 1,000 population.

Site of disease:—

Buccal cavity and pharynx	4	(2)
Digestive organs and Peritoneum	49	(55)
Respiratory tract	13	(7)
Uterus	11	(9)
Other female genital organs	—	(5)
Breast	10	(9)
Male genital organs	11	(4)
Male and female urinary organs	7	(6)
Brain and other parts of the nervous system	5	(—)
Skin	1	(1)
Bones	3	(2)
Other and unspecified organs	12	(7)

TOTAL 126 (107)

Death Age:

Under:—

40 Years	40-50	50-60	60-70	70-80	Over 80	Total
10 (8)	15 (12)	20 (22)	32 (27)	34 (30)	15 (8)	12 (107)

Non-Europeans:

Site of disease:—

Natives:

Digestive organs and Peritoneum	14	(8)
Respiratory tract	2	(—)
Uterus	6	(5)
Breast	2	(—)
Other female genital organs	—	(1)
Male and female urinary organs	2	(3)
Brain and other parts of the nervous system	1	(—)
Skin	—	(1)
Bones	—	(1)
Other and unspecified organs	—	(1)

Asiatics:

Buccal cavity and pharynx	1	(—)
Digestive organs and Peritoneum	3	(2)

Eurafricans:

Digestive organs and Peritoneum	1	(1)
Uterus	—	(1)
Breast	—	(1)
Male genital organs	1	(—)
Other and unspecified organs	1	(—)
TOTAL	34	(25)

2. **DISEASES OF THE HEART:** Death rate per 1,000 European population: 1.54 (1.15).
Europeans 205 (148).
Non-Europeans 55 (42). Natives 42. Asiatics 10. Eurafricans 3.
3. **BRONCHITIS AND PNEUMONIA:**
Europeans 61 (53).
Non-Europeans 123 (97). Natives 116. Asiatic 1. Eurafricans 6.
4. **INFLUENZA:**
Europeans 3 (1).
Non-Europeans 2 (3). Natives 2.
5. **TYPHOID FEVER:**
Europeans — (—).
Non-Europeans 3 (4). Natives 3.
6. **APPENDICITIS:**
Europeans — (1).
Non-Europeans 2 (1). Natives 2.
7. **TUBERCULOSIS (PULMONARY):**
Europeans 13 (13).
Non-Europeans 111 (104). Natives 100. Asiatics 2. Eurafricans 9.
8. **DIABETES:**
Europeans 9 (10).
Non-Europeans 4 (4). Native 1. Asiatic 1. Eurafrican 2.
9. **APOPLEXY:**
Europeans 64 (62).
Non-Europeans 19 (12). Natives 14. Asiatics 3. Eurafricans 2.
10. **DISEASES OF THE KIDNEYS:**
Europeans 23 (26).
Non-Europeans 19 (25). Natives 18. Asiatic 1.
11. **DISEASES OF ARTERIES:**
Europeans 15 (22).
Non-Europeans 8 (8). Natives 5. Asiatics 2. Eurafrican 1.
12. **DISEASES OF THE LIVER AND GALL BLADDER:**
Europeans 16 (15).
Non-Europeans 7 (6). Natives 6. Asiatic 1.
13. **PUERPERAL DISEASES:**
Europeans 1 (—).
Non-Europeans 6 (6). Natives 4. Asiatics 2.
14. **OLD AGE:**
Europeans 5 (20).
Non-Europeans 12 (16). Natives 12.
15. **SUICIDE:**
Europeans 10 (9).
Non-Europeans 9 (7). Natives 8. Eurafrican 1.

16. HOMICIDE:

	Europeans	Natives	Asiatics	Eurafricans
By firearms	2	—	—	—
By cutting or piercing instruments	—	10	—	—
By other unspecified means ..	2	4	—	1

17. ACCIDENT:

Europeans 34 (29).

Non-Europeans 51 (40).

	Euro- peans	Natives	Asiatics	Eur- africans
	1951-52 1950-51	1951-52 1950-51	1951-52 1950-51	1951-52 1950-51
On Railways	1 (1)	3 (—)	— (—)	— (—)
By Motor, road vehicles (excluding motor cycles)	14 (9)	24 (13)	— (—)	1 (2)
By motor cycles	1 (—)	— (—)	— (—)	— (—)
„ Road Transport (not motor)	— (—)	6 (—)	— (—)	— (—)
„ machinery (not transport or agriculture: ..	— (—)	— (—)	— (—)	— (—)
„ farm machinery	— (1)	— (—)	— (—)	— (—)
„ burns (not conflagration)	1 (—)	4 (9)	— (—)	— (—)
„ electric current	2 (5)	1 (—)	— (—)	1 (—)
„ mechanical suffocation	1 (—)	— (—)	— (—)	— (—)
„ drowning	1 (1)	1 (3)	— (—)	— (—)
„ firearms	— (1)	— (1)	— (—)	— (—)
„ injury by cutting or piercing instruments ..	— (—)	— (—)	— (—)	— (—)
„ fall	4 (6)	2 (2)	— (—)	— (—)
„ crushing	3 (1)	1 (3)	— (—)	— (—)
„ anaesthetic	1 (1)	1 (1)	— (—)	— (—)
„ poisonous gases	2 (—)	5 (1)	— (—)	— (—)
„ poisoning (not by gas)	2 (1)	1 (3)	— (—)	— (—)
„ other and unspecified accidents	1 (2)	2 (4)	— (—)	1 (1)
	34 (29)	51 (40)	— (—)	3 (3)

RETIRAL OF PROFESSOR A. PIJPER

Professor Pijper retired from the University of Pretoria on the 30th June, 1951, when he also relinquished his post as part-time Pathologist to the Municipality.

He has held this post since 1920 and during all that time he has rendered invaluable service to the City Council. Prof. Pijper is one of the world's outstanding Bacteriologists and it has been a great advantage and privilege for Pretoria to have had his services.

He has been a great standby and ever-ready help to successive Medical Officers of Health from the time of the late Dr. Boyd, and he has in no small measure assisted in building up the health services of this city.

Apart from his work as Pathologist, I have personally always been able to consult him on very many public problems. His able advice and guidance have at all times been readily given with enthusiasm and sincerity and with such profoundness as he alone possesses.

In the tracing of disease and in its prevention, particularly in regard to typhoid fever, he has been instrumental in developing many new scientific methods which have greatly facilitated the handling of these important problems. Certain serological examinations for the carrier state and methods of detection of certain types of bacteria by a process known as "phage typing" have been developed to a very high degree in Pretoria by his original research work. These developments which have been brought into practice by our Health Department in close co-operation with Prof. Pijper, have now become accepted in many other parts of the world. In this way alone Pretoria has figured in highly placed scientific publications through its association with Prof. Pijper.

It has been a great honour and privilege for myself personally and for the Health Department to have been associated with a person of such international renown and scientific ability and integrity, and it is with great regret that we now have to accept his resignation.

His work, however, is indelibly written in the history of this Health Department, and Pretoria and its citizens will never know just how much they have gained in the promotion of health and prevention of ill-health through the many services which have been rendered by him.

I would like to record this Department's appreciation of the work done by Prof. Pijper and to express our deep regret at his resignation and wish him good health and happiness on his retiral.

I am, however, pleased to say that the Council has appointed Prof. Pijper to the post of Consulting Pathologist to the Municipality. The routine pathology and bacteriology will in future be done by the Institute of Pathology of the Pretoria University.

DETAILS OF INFECTIOUS DISEASES NOTIFIED DURING THE YEAR

In writing up this section of the report the figures for Pretoria and the recently incorporated area of Hercules are given separately. This is done deliberately because Hercules includes Lady Selborne Native Location and other districts where sanitary and other health conditions are on the average much lower than those of the rest of Pretoria.

Note.—All figures for 1950–51 are shown in brackets. For tables showing district distribution, age incidence and seasonal distribution, see pages at end of report.

This report should be read in conjunction with the section dealing with the Isolation Hospital.

PRETORIA — EXCLUDING HERCULES

Typhoid Fever:

	Europeans	Non-Europeans	Total
Local cases	16 (22)	10 (28)	26 (50)
Imported cases	20 (38)	159 (119)	179 (157)
Deaths in local cases	0 (0)	2 (3)	2 (3)

Local Cases:

There was a very noticeable decrease in the incidence, almost 50%—26 cases as against 50 during the previous year. All the non-European cases occurred in Bantus, two of whom died. Twenty-three of the cases were treated in hospital and three at home. There were no milk-borne outbreaks. In the case of three European children the source of infection appears to have been polluted water, in two cases, from shallow wells liable to pollution, and in another, water drunk from the Apies river.

In tracing the sources of infection, 22 suspects were tested for the possible carrier state. The reports on blood specimens of two were positive for the VI agglutination test. On further stool and urine examinations, one proved to be a carrier. The history of this carrier was as follows:—

On the 3rd June, 1952, a case of typhoid fever in a European female, aged 15 years, was notified to this Department. This patient had sickened on 25th May. No culture for phage-typing could be obtained from this case.

On investigating the possible source of infection it was found that the parents of this patient had left for Europe during March and that the grandparents had moved into the house from their farm for this period.

The other occupants of the house at the time were two younger brothers and a younger sister, as well as an adult European female nurse-maid who had been in employ for the past 19 years. There were also two male native servants.

On arrival at the house it was found that the nurse-maid had been ill since 1st June and was complaining of "indigestion and headache". Her temperature was slightly elevated, and a blood-test revealed that she was also suffering from typhoid fever. Organisms cultured from her stool showed them to be of Phage Type A.

It was further found that the blood of the grandmother as well as that of one of the native servants was Vi-positive. Typhoid organisms of Phage Type A were consistently isolated from repeated specimens of stool and urine from the grandmother.

The above-mentioned Vi-positive native had been rejected for employment in the dairy trade during 1946, when it was also found that his blood was Vi-positive. Three specimens of stool and urine were then examined for the presence of *B. Typhosus*, but none was found. On this occasion five further specimens of both stool and urine were again negative for the presence of typhoid organisms.

On the 11th June a third case in the household, the elder brother, also sickened with typhoid fever. In this case organisms from a blood culture showed them also to be of Phage Type A.

No history of having had typhoid fever could be obtained from the grandmother, but she had been operated on 25 years ago for renal calculi. Tactful questioning did not indicate that she was aware of having infected anybody else previously. Although no culture was obtained from the first case in this small outbreak, it would appear that the grandmother, who was placed in charge of the household during the parents' absence, was the source of the infection.

In the annual report for the year 1950–51 the following history of a typhoid fever carrier was reported:—

"On the 3rd July, 1950, an infant eight months old was admitted to hospital with typhoid fever. Investigation of the possible source of infection revealed that the grandmother of this infant had typhoid fever in the Cape Province in 1915. In 1916 her son and in

1918 her daughter contracted typhoid fever. This daughter was the mother of the patient admitted to hospital in July. All occupants of the house were Vi-tested and both the grandmother and mother of the case gave weakly Vi-positive results. Three specimens of stool and urine from the mother, on examination, revealed no typhoid organisms, whereas they were present in every specimen of stool of the grandmother. The organisms were of the Phage Type E.1.

As the mother of the patient was employed in town and the infant was not breastfed, the grandmother had prepared practically all its feeds. Unfortunately the patient had already received Chloromycetin before the diagnosis of typhoid fever was confirmed. It was therefore impossible to obtain a typhoid culture for comparison of the phage type. It does, however, appear more than probable that the grandmother infected her grandchild about 35 years after having had typhoid fever herself. It is also possible that she infected both her son and her daughter in 1916 and 1918 respectively. Whether she infected other cases in the meantime is not known, as she was not pressed for details on this point, but this Department is not aware of any link between her and any other cases.

On the 6th September, 1950, this carrier was admitted to the Isolation Wards in an effort to cure her of the carrier state. On the 7th September her blood was still weakly Vi-positive and her stool still showed typhoid organisms. She then received four 250 mgm. capsules of chloromycetin six hourly for 20 days, i.e. a total of 320 capsules. Her stools still contained live typhoid bacilli on the 12th September, but from a specimen on the 25th September, organisms could not be isolated. On the 12th October, 1950, however, organisms were again cultured from the stool and the treatment was considered to have been unsuccessful. The carrier was informed accordingly and again given verbal as well as written instructions as to how to prevent spreading infection to others."

This case has again been reported in detail as there is a sequel to it. On the 14th September, 1951, another grandchild of this carrier, a boy aged 12 years, was notified as a case of typhoid fever, and Phage Type E.1. organisms were isolated from the blood-culture.

We did not at the time immunize this remaining member of the family, because the carrier was an educated woman well aware of her condition and she was repeatedly given verbal as well as written instructions on the prevention of the spread of the disease. The lesson learnt is obvious.

Results of Phage Typing during the Year:

Type A	8
Type E.1.	1
Untyped strains	4
No culture obtained	12
Typing not done	1

Tests Carried Out for the Typhoid Fever Carrier State:

	No. of Persons Vi-tested	Blood found Vi-positive	Stool and Urine found Positive
Typhoid fever investigations	22	2	1 Europ. S & U positive
Prospective employees at dairies	679	38	nil
Prospective employees at Rietvlei Municipal Waterworks	1	0	nil
Prospective employees at Pretoria Hospital	Unknown	13	nil
Others	20	1	nil

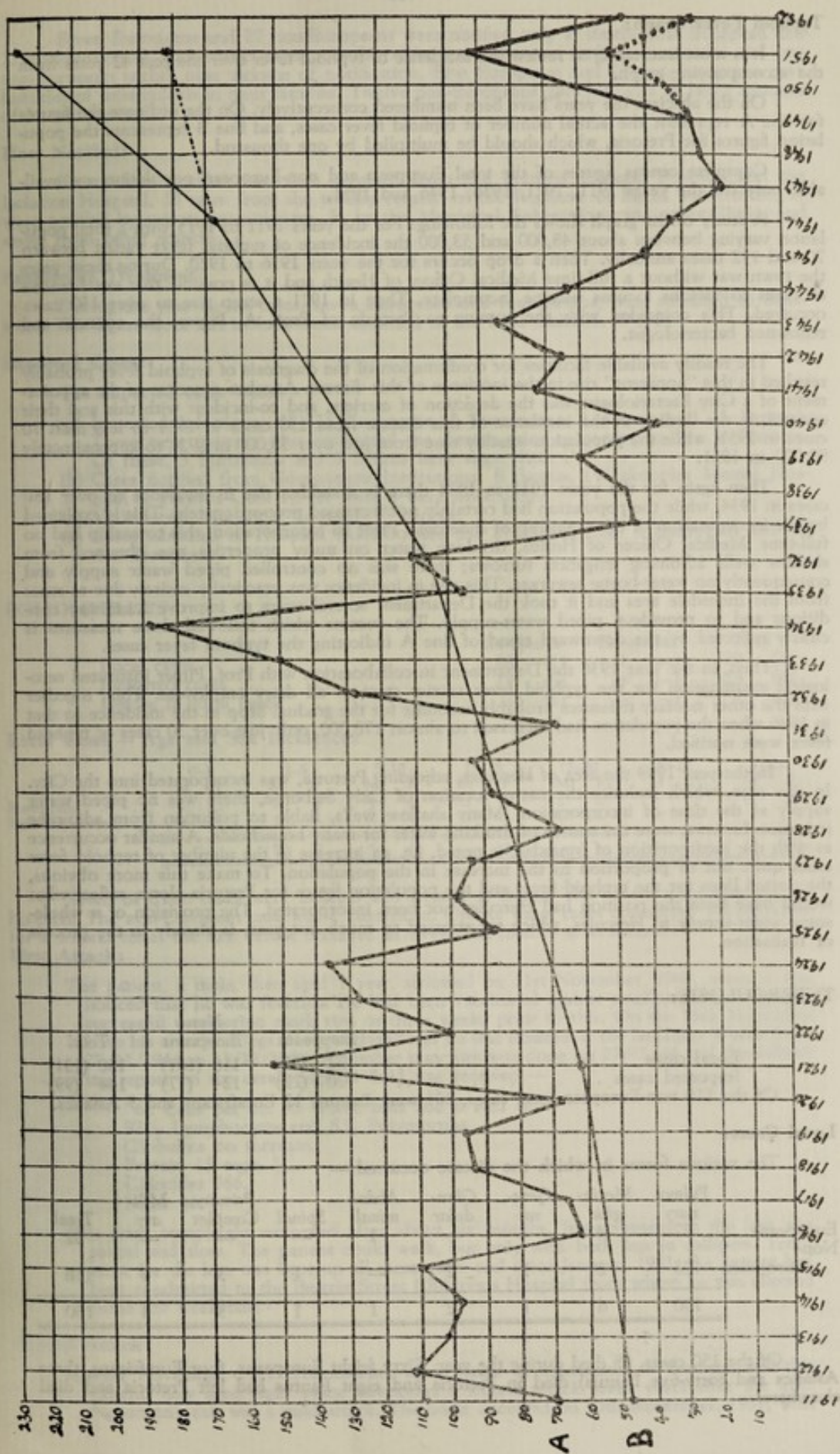
For Dairy Typhoid Testing, see under section dealing with Control of Dairies and Milk Supplies.

Typhoid Carrier Camp:

Number of inmates on 1/7/1951	8
Number admitted during year	19
	—
Number discharged during year	27
	24
	—
Still in camp on 30/6/1952	3

Imported Cases:

Of the imported cases four Bantus were Pretoria residents who contracted the disease outside the Municipal area. Two Bantus were reported from a Government Institution. The balance, i.e. 20 Europeans and 153 Bantus were cases admitted to Hospital from outside the Municipal area.



Typhoid Fever Graph:

It is most interesting to review the incidence of typhoid fever over the past 42 years from the accompanying graph.

On the abscissa the years have been numbered consecutively. On the ordinate the figures for line A represent the actual number of typhoid fever cases, and line B represents the population figures for Pretoria, which should be multiplied by one thousand.

Complete census figures of the total European and non-European population are available only for the years 1911, 1921, 1936, 1946 and 1951.

A study of the graph shows the following: For the years 1911 to 1915 with a total population varying between about 48,000 and 53,000 the incidence of typhoid fever varied between 70 and 112 cases annually. Then a drop occurs for the years 1916 to 1920. During these years the town was without a full-time Medical Officer of Health and it is possible that notifications of cases to various locums became incomplete. Then in 1921 a steep rise to over 150 cases occurred. This coincided with the coming to Pretoria of Prof. A. Pijper, the eminent and renowned bacteriologist.

The readily available facilities for confirmation of the diagnosis of typhoid fever probably resulted in this "apparent" rise in the incidence of this disease. Another outcome of the appointment of a City Bacteriologist was the detection of carriers, and co-incident with this and their control, is the decline in the incidence of this disease from 150 cases in 1921 to less than 70 cases in 1931, while the population steadily rose from just over 58,000 in 1921 to approximately 90,000 in 1931.

Then again for the years 1931 to 1934 there is a sudden rise in incidence to over 180 cases in 1934, while the population had certainly not increased proportionately. This is explained by the incorporation of the township of Innesdale. Prior to incorporation, this township had no full-time Medical Officer of Health, drinking water on many properties was obtained from shallow wells adjoining irrigation furrows; there was no controlled piped water supply and consequently no water-borne sewerage. This rise in incidence was practically entirely due to cases from the Innesdale area and it took the Department several years to improve insanitary conditions and to provide a piped water-supply. The success which followed these measures is clearly reflected by the downward trend of line A indicating the typhoid fever cases.

Then, in the year 1936 the Department in collaboration with Prof. Pijper instituted serological examination for the typhoid fever carrier state of all dairy employees. This, together with the other sanitary measures probably accounts for the gradual drop in the incidence so that in 1946 when the population had increased to almost 170,000, only just over 30 cases of typhoid fever were notified.

In the year 1949 the area of Hercules, adjoining Pretoria, was incorporated into the City. In this area, which includes the native location of Lady Selborne, there was no piped water supply at the time of incorporation. Many shallow wells, liable to pollution from adjoining irrigation furrows, were the source of drinking water for many households. A similar occurrence as with the incorporation of Innesdale is noted, i.e. an increase in the number of typhoid fever cases quite out of proportion to the increase in the population. To make this more obvious, the dotted lines for the typhoid fever and the population figure for Pretoria alone, reflect what would have been the position had Hercules not been incorporated. The provision of a wholesome water-supply to Hercules, which we stressed so much last year, is already in the process of realisation.

TUBERCULOSIS:

	Europeans	Non-Europeans	Total
Local cases	32 (30)	118 (101)	150 (131)
Imported cases	20 (22)	124 (77)	144 (99)

Of the 118 non-European local cases, 101 were Bantus, 12 Eurafricans and 5 Asiatics.

Local Cases:

The various forms in which the disease occurred:—

	Pulmonary	Meningitic	General	Glandular	Abdominal	Spinal	Primary Complex	Miliary	Total
Europeans ..	27	4	—	—	1	—	—	—	32
Non-Europeans	103	2	1	2	—	1	5	4	118
	130	6	1	2	1	1	5	4	150

Of the 150 cases, 68 died during the year. Sixty (eight Europeans, four Eurafricans, three Asiatics and forty-five Bantus) died in Pretoria and eight Bantus had left Pretoria and died elsewhere.

Seven Europeans and 27 non-Europeans were notified only at death. One European and 22 non-Europeans died within three months, eight non-Europeans within six months and one non-European within nine months of notification. Five Europeans and 29 non-Europeans gave histories of tuberculosis in their families. Twelve non-Europeans gave histories of being contacts of known cases.

How Notified:

Thirty-three notifications were received from the Pretoria General Hospital and the Isolation Hospital, 25 were from the weekly returns of the Registrar of Births and Deaths, 17 were notified by private practitioners, 36 by the Municipal Tuberculosis and other Clinics and seven from other sources.

Sanatorium Treatment:

During the year eleven cases, seven Europeans and four Bantus, were admitted to Sanatoria. This figure does not include cases admitted to the local Isolation Wards.

Imported Cases:

The imported cases were:—

- Imported infections: 28 (14 Europeans, 2 Eurafricans, 1 Asiatic and 11 Bantus). These were patients who contracted the disease prior to coming to live in Pretoria. Of these, 3 Europeans and 6 Bantus have since died.
- Cases notified from Government Institutions: 8 Bantus, (Weskoppies Mental Hospital 6, Pretoria Gaol 2). Of these 5 have since died.
- Vlakfontein Municipal Location: 3 Bantus.
- Cases admitted to Hospital from outside the Municipal area: 6 Europeans and 99 non-Europeans.

POLIOMYELITIS:

	Europeans	Non-Europeans	Total
Local cases	28 (1)	1 (—)	29 (1)
Imported cases	19 (5)	4 (—)	23 (5)
Deaths in local cases	2 (1)	— (—)	2 (1)

Local Cases — Age and Sex Incidence:

	0-1		1-5		5-10		10-15		15-20		20-25		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Europeans	—	1	6	5	5	6	—	2	—	—	1	2	12	16
Non-Europeans	—	—	1	—	—	—	—	—	—	—	—	—	1	—
	—	1	7	5	5	6	—	2	—	—	1	2	13	16

Seven of these cases were isolated and treated at home. The others were admitted to hospital. The non-European case was a Eurafrican. One of these cases contracted Poliomyelitis for a second time; the first attack occurred in 1944. The history is as follows:—

First Attack:

The patient, a male, then aged 1 year, sickened on 21st November, 1944, when it was noticed that he was feverish. He had been vaccinated against smallpox with only one successful vaccination mark two or three weeks prior to this. On the 26th November both his arms and legs were paralysed and he was isolated at the Isolation Wards from 27/11/1944 to 13/12/1944. A lumbar puncture was done on 27/11/44 and the following report on the cerebro-spinal fluid was received:—

“62 Cells per cc. 56 White cells and 6 Red cells.
92% Lymphocytes and 8% Polymorphs.
Globulins no increase.
Protein 15 mgm %.
Chlorides 766.
Sugar 46.”

The arms completely recovered after about six months. Improvement in the legs was partial and slow. The patient could walk, but only with both legs in callipers. Treatment for the legs was kept up all these years and since January, 1951, the patient had been re-admitted to the Beatrix Street Children's Hospital from where he was allowed home for weekends.

Second Attack:

During November, 1951, Poliomyelitis again made its appearance in Pretoria, and this patient, now aged eight years, developed a second attack seven years after the first. Fortunately this was a mild attack. The onset occurred on 13th November, 1951, with

headache, pains in the neck and back. The following day there was paresis of the left arm. Fortunately there was no setback in the condition of the legs. The weakness of the arm has now almost completely disappeared.

Examination of the cerebro-spinal fluid on 14/11/51 showed: Two Polymorphs and 13 Lymphocytes per cc. There was no clot. Globulins were negative and Proteins 26 mgm %.

There are two possibilities as to the source of the second infection—the most likely is that he may have been infected by another patient in the children's hospital. It is known that a child only subsequently diagnosed as suffering from poliomyelitis was admitted to the same ward on 6th November, 1951, for a few days.

The other and less likely possibility is that the patient may have contracted his infection while spending a weekend at home from hospital. His parents reside in an as yet unsewered suburb.

In this outbreak of 29 cases, 17 made a complete recovery, five were left with minor and four with major degrees of residual paralysis. One case has left Pretoria and the eventual degree of recovery is not known. Of the two children who died, one had glosso-pharyngeal paralysis with central respiratory failure, and the other a paralysis of the soft palate with central respiratory failure 15 days after tonsillectomy.

This outbreak was spread over the five months November 1951 to March 1952. In November 12 cases occurred and the following months, eight, four, two and three respectively.

The previous and more serious outbreak with 69 European and four non-European cases occurred from December, 1947, to June, 1948. Prior to that again, there was an outbreak from October, 1944, to March, 1945, with 38 European and three non-European cases. This distribution in all three major outbreaks over the summer months is not surprising and quite in keeping with the intestinal theory of spread.

SCARLET FEVER:

	Europeans	Non-Europeans	Total
Local cases	153 (260)	0 (0)	153 (260)
Imported cases	6 (14)	0 (0)	6 (14)

Local Cases:

Three of the cases were adults, 97 were scholars and 53 were children of pre-school age. Twenty-seven of the cases were removed to the isolation wards, four to the Military Hospital at Voortrekkerhoogte and 122 were treated at home. There were 12 secondary cases.

DIPHTHERIA:

	Europeans	Non-Europeans	Total
Local cases	32 (33)	14 (30)	46 (63)
Imported cases	45 (38)	60 (47)	105 (85)

Local Cases:

The non-European cases were three Euraficans and 11 Bantus.

Five of the cases died, two Europeans and three Bantus. They had never been immunised. Five of the cases were adults, 16 were scholars and 25 were children of pre-school age. Thirty-nine of the cases were removed to the isolation wards, one to the Military Hospital and six were treated and isolated at home.

There were two secondary cases. Forty-one of the cases had never been immunised. Five of the cases had been immunised previously but developed mild attacks.

MENINGOCOCCAL MENINGITIS:

	Europeans	Non-Europeans	Total
Local cases	8 (6)	2 (7)	10 (13)
Imported cases	4 (3)	3 (5)	7 (8)

There were two deaths; one European and one Bantu. The following is a list of the other infectious diseases notified during the year:—

	LOCAL		IMPORTED	
	Europeans	Non-Europeans	Europeans	Non-Europeans
Anthrax	—	—	1	1
Encephalitis	5	—	—	—
Erysipelas	4	—	3	—
Leprosy	—	—	2	—
Malaria	—	—	1	—
Puerperal fever	—	—	—	2

FOOD POISONING OUTBREAK — PRETORIA HOSPITAL:

On Thursday morning, 3rd April, 1952, the Superintendent of the Pretoria General Hospital reported an outbreak of food poisoning amongst the non-European staff and patients at the Hospital. Eighteen non-European patients at the Municipal Isolation Hospital were also involved. Both the European and non-European patients in the Isolation are supplied with food from the respective kitchens of the General Hospital.

This Department was invited to assist the Union Health Department in its investigations.

Number of Cases Affected:

Non-European Hostel	160 Nurses
Ward 10 (Children's Ward)	23 Patients
Ward 14	10 Patients
Ward 16	3 Patients
Municipal Isolation Ward C	18 Patients
Native Male Compound	6 Orderlies
Total	<u>220 Cases</u>

Two children died and post-mortem examinations seemed to indicate that the cause of death was Salmonella poisoning.

Time of Onset:

The first case sickened with persistent vomiting and diarrhoea at about 9 p.m. on 2nd April, 1952. This, together with abdominal cramps, a raised temperature and in some cases collapse, was about all in the nature of signs and symptoms. Most of the cases sickened from about 10.30 p.m. until the early hours of the following morning. Cases were reported up till the afternoon of Thursday, 3rd April, 1952.

Menu on 2nd April, 1952:

Breakfast	Oats and boiled eggs.
Midday Meal	Stew and boiled potatoes and some of the cases had pudding.
Dinner 7 p.m.	Mashed potatoes, pumpkin, samp (crushed mealies), boerwors (meat sausage) and pudding.

Suspicion immediately fell on the pudding as preliminary enquiries, which were later confirmed, revealed that all the patients had eaten of the pudding.

Samples of the pudding and of the boerwors, as well as of faeces and vomitus of several patients were sent to two different laboratories. Both reported the presence of Salmonella typhi murium in the pudding and in the faeces of several patients.

The staff at the non-European kitchen was questioned but nobody admitted any recent illness of bowel upset on the 2nd April. A specimen of stool from every member of the kitchen staff was sent to the laboratory. All these yielded negative results.

The pudding had been prepared on Wednesday morning, 2nd April. The cases at the Nurses Hostel had eaten pudding at dinner time, 6 p.m.-7 p.m. (two sittings). The patients had their pudding at the midday meal (12 noon). It is interesting to record that the nurses, who had only partaken of the pudding six to seven hours later than the patients, were amongst the first to sicken. This would be accounted for by the multiplication of the organisms in the prepared pudding with a large amount of pre-formed toxin. The pudding was prepared by the non-European cook. The ingredients were: custard powder, milk, eggs, sugar and gelatin. After the ingredients had been added to boiling milk, the whole mass was kept at boiling point for from 5 to 10 minutes. When this mixture had cooled down, the whipped white of the eggs was added and it is suspected that at this stage the damage was done. The most likely possibilities are that either the eggs were infected (it could not be established whether any duck eggs were used) or that the white of the eggs accidentally became infected during the process of whipping or spreading.

In dealing with this outbreak of 220 cases of food poisoning, one point was forcibly brought to our notice, namely that the term "Food-poisoning" is a very bad one. To the layman and very many nurses, non-Europeans especially, this term gave the impression that they had been accidentally or even deliberately poisoned by some type of poison being added to the food. Questions by some of the public and their reactions to the outbreak repeatedly bore out this misconception. Although the designation "Food-infection" would perhaps not scientifically be absolutely correct, it would certainly not lead to such misunderstanding.

HERCULES AREA

TYPHOID FEVER:

	Europeans	Non-Europeans	Total
Local cases	2 (5)	21 (36)	23 (41)
Imported cases	0 (0)	3 (2)	3 (2)
Deaths in local cases	1 (0)	1 (1)	2 (1)

Local Cases:

As in the rest of Pretoria, the figures for Hercules also show a marked decrease—23 cases against 41 during the previous year. Two of the cases, one European and one Bantu died. Twenty-one of the cases were removed to Hospital and two were treated at home.

Distribution of Cases:

	Europeans	Bantus
Location area of Lady Selborne and Claremont..	—	19
Industrial Native Compounds.. .. .	—	1
Daspoort	1	—
Booyens	1	1

The number of cases in the location area was lower than for the previous year when 24 cases occurred. There were two secondary cases. In four of the cases a polluted water supply appeared to be the source of the infection.

Phage-typing:

The following types were found in the Hercules area:—

Type A	3
Untyped strains	2
No culture obtained	14
Typing not done	4
	<u>23</u>

Imported Infections:

Three Bantus in the location area contracted their infection outside the Municipal area.

TUBERCULOSIS:

	Europeans	Non-Europeans	Total
Local cases	2 (5)	113 (126)	115 (131)
Imported infections	0 (1)	31 (26)	31 (27)

Of the 113 non-Europeans, six were Eurafricans, one an Asiatic and 106 Bantus.

Local Cases:

The various forms in which the disease occurred:—

	Pulmonary	Miliary	Menigitic	General	Glandular	Abdominal	Bone & Joint	Primary Complex	Total
Europeans ..	2	—	—	—	—	—	—	—	2
Non-Europeans ..	93	5	6	2	3	1	2	1	113
	<u>95</u>	<u>5</u>	<u>6</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>115</u>

All the non-European cases except one were from the location area. Of the 115 local cases, 68 (one European, four Eurafricans and 63 Bantus) died during the year, 62 in Pretoria and six elsewhere. Thirty-five were only notified on death. Twenty-eight died within three months, three within six months and two within nine months of notification. One European and 12 non-Europeans gave a history of tuberculosis in the family. Five non-Europeans gave histories of being contacts of known cases. One non-European had been in employ on mines in Rhodesia years ago.

How Notified:

By Lady Selborne Government Health Centre	36
By Tuberculosis and other Clinics	29
By Registrar of Births and Deaths Returns	24
By Private Practitioners	9
By Pretoria Hospital and Isolation Hospital	17
	<u>115</u>

Imported Infections:

Thirty-one non-Europeans who took up residence in the Hercules area had contracted the disease prior to coming to live here. Nineteen have since died.

POLIOMYELITIS:

	Europeans	Non-Europeans	Total
Local cases	4 (0)	4 (1)	8 (1)
Imported infections	0 (0)	0 (0)	0 (0)
Deaths in local cases	0 (0)	0 (0)	0 (0)

Age and Sex Incidence:

	0-1		1-5		5-10		10-15		15-20		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
Europeans ..	—	—	—	2	1	—	—	—	1	—	2	2
Non-Europeans ..	—	—	2	2	—	—	—	—	—	—	2	2
	—	—	2	4	1	—	—	—	1	—	4	4

One of the non-Europeans was a Eurafrican, the other three were Bantus. There were no deaths. All eight cases occurred on unsewered premises. Two cases were treated and isolated at home, the others were removed to hospital.

SCARLET FEVER:

	Europeans	Non-Europeans	Total
Local cases	20 (23)	0 (1)	20 (24)
Imported infections	0 (2)	0 (0)	0 (2)

Ten of the cases were scholars and ten were children of pre-school age. Five of the cases were removed to the isolation wards and 15 were treated at home. There were three secondary cases.

DIPHTHERIA:

	Europeans	Non-Europeans	Total
Local cases	26 (30)	49 (48)	75 (78)
Imported infections	0 (0)	0 (1)	0 (1)

The non-Europeans were four Eurafricans and 45 Bantus. Ten of the cases died—two Eurafricans and eight Bantus. They had never been immunised. Seven of the cases were adults, 14 were scholars and 54 were children of pre-school age. Forty-five of the cases were removed to the isolation wards and 30 were treated at home. There were five secondary cases. Seventy-two of the cases had never been immunised. Three had been immunised previously but developed mild attacks.

	LOCAL		IMPORTED	
	Europeans	Non-Europeans	Europeans	Non-Europeans
Encephalitis	—	1	—	—

STATISTICAL ANALYSIS OF INFECTIOUS DISEASES FOR PRETORIA, INCLUDING HERCULES

TYPHOID FEVER:

	Europeans		Non-Europeans		Total	
Local cases	18	(27)	31	(64)	49	(91)
Imported cases	20	(38)	162	(121)	182	(159)
Deaths in local cases	1	(0)	3	(4)	4	(4)
Attack rate: Local cases ..	0.13	(.21)	0.31	(.65)	0.21	(.41)
Death rate: Local cases ..	5.56%	(0%)	9.68%	(6.25%)	8.16%	(4.40%)

Results of Phage-typing:

Type A	11
Type E.I.	1
Untyped strains	6
No culture obtained	26
Typing not done	5
	49

TUBERCULOSIS:

	Europeans	Non-Europeans	Total
Local cases	34 (35)	231 (227)	265 (262)
Imported cases	20 (23)	155 (103)	175 (126)
Attack rate: Local cases	0.25 (.27)	2.28 (2.31)	1.13 (1.15)

The various forms in which the disease occurred:—

	Pulmonary	Miliary	Meningitic	General	Glandular	Abdominal	Bone & Joint	Primary Complex	Total
Europeans ..	29	—	4	—	—	1	—	—	34
Non-Europeans	196	9	8	3	4	1	3	6	230
	225	9	12	3	4	2	3	6	264

POLIOMYELITIS:

	Europeans	Non-Europeans	Total
Local cases	32 (1)	5 (1)	37 (2)
Imported cases	19 (5)	4 (—)	23 (5)
Deaths in local cases	2 (1)	— (—)	2 (1)

SCARLET FEVER:

	Europeans	Non-Europeans	Total
Local cases	173 (283)	0 (1)	173 (284)
Imported cases	6 (16)	0 (—)	6 (16)

DIPHTHERIA:

	Europeans	Non-Europeans	Total
Local cases	58 (63)	63 (78)	121 (141)
Imported cases	45 (38)	60 (48)	105 (86)

MENINGOCOCCAL MENINGITIS:

	Europeans	Non-Europeans	Total
Local cases	8 (9)	2 (12)	10 (21)
Imported cases	4 (3)	3 (5)	7 (8)

The following is a list of the other infectious diseases notified during the year:—

	LOCAL		IMPORTED	
	European	Non-European	European	Non-European
Anthrax ..	—	—	1	1
Encephalitis ..	5	1	—	—
Erysipelas ..	4	—	3	—
Leprosy ..	—	—	2	—
Malaria ..	—	—	1	—
Puerperal fever	—	—	—	2

INFECTIOUS DISEASES HOSPITAL

This hospital has accommodation in separate sections for 50 European and 20 non-European patients.

At present half of the total number of beds is being used for the treatment of cases of Pulmonary Tuberculosis whose condition demands isolation and for whom accommodation elsewhere is unobtainable.

It has been found possible to admit cases of other major infectious disease without serious difficulty except in respect of typhoid fever patients who in many instances have had to be nursed in a general hospital.

A large number of extremely severe cases of diphtheria were dealt with during the year; details of which are given later in this report. Mortality rates, particularly of natives, were appallingly high, emphasizing the need for immunisation against this almost wholly preventable disease.

Apart from 29 cases of Acute Anterior Poliomyelitis occurring in Pretoria residents admissions for other infectious diseases were normal and complications seldom encountered.

Total Admissions:

Five hundred and sixty-five, of whom 384 were Europeans and 181 non-Europeans.
The area distribution was:—

Pretoria Municipal Area		Other Areas	
Europeans	Non-Europeans	Europeans	Non-Europeans
234	91	150	90

PULMONARY TUBERCULOSIS:

Sixty-seven patients were admitted. Of these 53 were Pretoria residents and 14 were living outside the Municipal area.

Pretoria		Other Areas	
Europeans	Non-Europeans	Europeans	Non-Europeans
27	26	8	6

Four of the Europeans and eight of the non-Europeans died.

PNEUMOTHORAX REFILLS:

These are given on two mornings a week at the Infectious Diseases Hospital or by appointment.

During the year 148 pneumothorax refills and 94 pneumoperitoneum refills were given. Two patients have left Pretoria and five others have stopped refills being chemically cured.

DIPHTHERIA:

One hundred and eighty-five patients, almost a third of the total number of patients admitted to hospital, were treated during the year.

Pretoria		Other Areas	
Europeans	Non-Europeans	Europeans	Non-Europeans
51	35	42	57

The main incidence of the disease was in the under ten years of age group which accounted for 95% of all cases. Of this group more than 60% were under five years of age.

Case fatality rates as seen below showed wide differences between Europeans and non-Europeans and to a lesser extent between Pretoria residents and patients admitted from outlying areas.

Case Fatality Rates:

Pretoria Europeans: 51 cases: 1 Death: Fatality rate	1.9%
Europeans from other areas: 42 cases: 5 Deaths: Fatality rate	11.9%
Pretoria Natives: 35 cases: 11 Deaths: Fatality rate	31.4%
Natives from other areas: 57 cases: 24 Deaths: Fatality rate	42.1%
Total European case fatality rate	6.4%
Total non-European case fatality rate	38.04%

No persons over the age of 15 years died. Several factors contributed towards the exceedingly high fatality rate, one of which was undoubtedly the virulent form of the disease encountered. No less than 26 of the children who died suffered from bullnecks, death occurring in most cases within the first 24 hours of admission.

Differences between fatality rates in this disease of cases from urban and rural areas can to a large extent be explained by the fact that in rural areas it is often difficult to obtain prompt medical advice and even then the long journey to hospital severely prejudices the patients chances of recovery.

While the foregoing applies just as forcibly to the marked variation between European and non-European rates, it must also be remembered in addition that while malnutrition has no marked effect on specific immunity it will lower the general resistance and thus increase the liability to complications and cause a rise in the case fatality rate. Finally it has to be admitted that the standard of nursing performed by native nurses is not yet on a par with that obtaining amongst European nurses.

TRACHEOTOMIES:

Twelve tracheotomies were performed and 11 of these patients recovered.

SCARLET FEVER:

The total number of cases treated was 36, all Europeans and mainly in the five to ten age group.

Distribution:

Pretoria and Hercules 32, other areas 4.
There were no deaths and no complications.

TYPHOID FEVER:

The total number of cases treated was 35 compared with 125 treated the previous year. There were 23 Europeans with one death and 12 non-Europeans, one of whom also died. Both deaths followed severe bowel haemorrhage before admission.

Distribution:

Pretoria 16, other areas 19.

Case Fatality Rates:

European	4.3%
Non-European	8.3%
Combined	5.7%

Acute Anterior Poliomyelitis:

Forty-four Europeans and seven non-Europeans were admitted.

Distribution:

Pretoria and Hercules 29, outside areas 22.
Two European and two Native children died, all of central respiratory failure.
Of the 47 patients surviving 19 required further treatment in an Orthopaedic hospital.

Case Fatality Rates:

Europeans	4.5%
Non-Europeans	28.5%

MEASLES:

Forty cases were admitted, 32 of whom were Europeans and eight non-Europeans.

Distribution:

Pretoria 28, other areas 12.

Complications (prior to admission) were 24 cases of broncho-pneumonia, three cases of measles encephalitis, one cases of acute otitis media and one case of acute appendicitis. The last mentioned was operated on successfully on the day of admission. Two cases of broncho-pneumonia and one of the measles encephalitis died, all of them Europeans.

Case Fatality Rates:

Europeans	9.3%
Non-Europeans	0%

GERMAN MEASLES:

Nine Europeans were admitted.
There were no complications or deaths.

WHOOPING COUGH:

Eight Europeans and two non-Europeans were treated. Nine admissions were because of complicating broncho-pneumonia and one because of a concomitant acute nephritis. One of the infants from outside died of pneumonia.

Case Fatality Rates:

Europeans	12.5%
Non-Europeans	0%

MUMPS:

Eighteen Europeans and four non-Europeans were admitted.
Complications: Epididymo-orchitis 2; Encephalitis 1.
There were no deaths.

MENINGOCOCCAL MENINGITIS:

Six Europeans were admitted, two of whom died on the day of admission from acute meningococcal Septicaemia (Waterhouse Friedrichson Syndrome).

CHICKEN POX:

Nine Europeans and four non-Europeans required admission for purely isolation purposes. There were no complications and no deaths.

ERYSIPELAS:

One European from Pretoria with erysipelas of the face and three Europeans from other areas, two of whom had erysipelas of the leg, were admitted. All recovered.

VENEREAL DISEASES:

Ten cases necessitated admissions, three of whom were natives. The types of venereal disease were as follows:—

Primary Syphilis	1 European.
Secondary Syphilis	1 Native.
Congenital Syphilis	2 Europeans, 2 Natives.
Tertiary Syphilis	1 European.
Vulvo Vaginitis	3 Europeans.

PUERPERAL SEPSIS:

Two cases of puerperal sepsis in natives were admitted from outside areas. Both recovered.

LESS COMMON DISEASES:

These included six cases of leprosy, two of anthrax, pneumococcal meningitis T., Roseala Infantum 1, Benign lymphocytic meningitis 1, Koch-weeks conjunctivitis 1—a total of 12 cases.

The case of pneumococcal meningitis and one patient whose leprotic condition was complicated by Hodgkins disease, died.

OBSERVATION CASES:

Sixty-three cases sent in as suffering from acute infectious disease were found to be wrongly diagnosed, and discharged or transferred to a general hospital.

There were no deaths in this group.

The following tables "A" and "B" show the total number of cases treated, the distribution and the deaths from the various diseases.

TABLE "A"

Disease	Europeans		Non-Europeans	
	Local	Imported	Local	Imported
Pulmonary Tuberculosis	27	8	26	6
Diphtheria	51	42	35	57
Scarlet Fever	32	4	0	0
Typhoid Fever	10	13	6	6
Acute Anterior Poliomyelitis	25	19	4	3
Measles	21	11	7	1
German Measles	8	1	0	0
Whooping Cough	2	6	1	1
Mumps	14	4	4	0
Meningococcal Meningitis	3	3	0	0
Chicken Pox	6	3	3	1
Erysipelas	1	3	0	0
Venereal Diseases	3	4	1	2
Puerperal Sepsis	0	0	0	2
Less Common Diseases	3	4	0	5
Observation Cases	28	25	4	6
TOTALS	234	150	91	90

TABLE "B"

Disease	Pretoria	Other Areas	Total	Deaths
Pulmonary Tuberculosis	53	14	67	12
Diphtheria	86	99	185	41
Scarlet Fever	32	4	36	0
Typhoid Fever	16	19	35	2
Acute Anterior Poliomyelitis	29	22	51	4
Measles	28	12	40	3
German Measles	8	1	9	0
Whooping Cough	3	7	10	1
Mumps	18	4	22	0
Meningococcal Meningitis	3	3	6	2
Chicken Pox	9	4	13	0
Erysipelas	1	3	4	0
Venereal Diseases	4	6	10	0
Puerperal Sepsis	0	2	2	0
Less Common Diseases	3	9	12	2
Observation Cases	32	31	63	0
TOTALS	325	240	565	67

SPECIAL DISEASES CLINICS: TUBERCULOSIS SECTION

A. EUROPEANS:

Tuberculosis clinics for Europeans are held at the Municipal clinic situated in the Pretoria Hospital grounds.

All Tuberculosis clinics deal with the after care of Tuberculosis patients discharged from our Isolation Hospital or from one of the Sanatoria, the medical examination of Tuberculosis contacts, and patients sent by Medical Practitioners from in and around Pretoria and the investigation of patients who come themselves for examination. All these patients may either be definite or suspected Tuberculosis cases.

The patients are examined clinically and X-rays, sputum tests and blood sedimentation tests are done wherever and whenever necessary.

All new Tuberculosis patients are, wherever possible, accommodated at our Isolation Hospital or at a Sanatorium, as soon as possible. Urgent cases are nearly always admitted immediately to our own Isolation Hospital, even if we have to resort to overcrowding.

The clinic has grown considerably mainly because of the education of the public. The South African National Tuberculosis Association (S.A.N.T.A.) helps with this. It will soon be necessary to increase the clinic sessions and to make provision for consultation by appointment.

Home visiting is regularly undertaken by the Anti-tuberculosis Health Visitors and where necessary financial and other assistance are given in many ways.

B. NON-EUROPEANS:

Clinic Sessions:

- (i) Atteridgeville, at the Polyclinic building on Wednesdays from 2-4.30 p.m.
- (ii) General Hospital, at the Special Diseases Clinic on Tuesdays from 1.30-5.30 p.m.
- (iii) Bantule Location, in a section of the Administrative Building on Thursdays from 2-4 p.m.

Conducting a Tuberculosis Clinic for non-Europeans is depressing work, because of the lack of bed accommodation for those who are found to be infected. During the year there were about 100 patients who were found to be in need of hospital or sanatorium treatment and who through lack of beds could not be isolated. They could, therefore, not be prevented from spreading the disease to others. Most of them had open Tuberculosis with positive sputum. Many of them died before accommodation could be found.

This state of affairs is very unsatisfactory. The provision of beds is the most urgent need for combating Tuberculosis amongst non-Europeans. The lack of beds is not the fault of the City Council of Pretoria.

The financial strain placed on any home where a member of the family has Tuberculosis is very great. If the patient happens to be the breadwinner, whether he is black or white, if he is not really well-off, the burden becomes almost impossible, particularly with the present rise of cost of almost every commodity. Very few non-Europeans can cope with such a position unless aided.

The Government non-European Affairs Department grants a small pension for those who are disabled through Tuberculosis, but this is quite inadequate for the needs of the urbanized Native. S.A.N.T.A. helps by also giving maintenance grants and rations. Our Department augments these rations with one pint of milk per day and meat and mealie-meal. Although all this helps it is still not sufficient.

The more educated Natives usually seek hospital accommodation and understand the nature of the illness, but the majority are quite unaware of the infectious nature of the disease and they do not comprehend why they should be isolated at home or in a hospital.

Apart from this, home isolation for Natives is almost impossible, because of overcrowding. As a result of all this, infection spreads rapidly.

We are still making use of the portable isolation huts which were described in previous reports. This helps but is not a solution.

We are looking forward with greater hopes to the newer drugs such as Rimiform (Isonicotinyl hydrazine) and P.A.S. (Para-amino Salicylic acid), for the treatment of Tuberculosis and we try to treat as many of our home treated patients with these new remedies. We are keeping records of the results, and we hope to have more information about these new drugs and their value within the next year or so.

The Native Location, Lady Selborne, has the highest Tuberculosis rate in Pretoria and the appointment of an additional Tuberculosis Sister for the non-Europeans in this area is helping a great deal. A new filing system has been inaugurated and a new clinic for tuberculosics and their contacts will be established here in the near future at the Municipal Administration Offices.

The attendances at the clinics have increased by 1,000 visits during the year and the establishment of two new clinics is well justified.

The problem of Tuberculosis amongst non-Europeans in South Africa generally is a very serious one, and unless it is tackled on a national basis it may well become a menace to the health of all sections of the community.

We have schemes planned for the coming year, which includes the provision of Tuberculosis beds, and if we get the necessary support we hope to bring them to fruition.

VENEREAL DISEASES

These clinics are now conducted by two of the Council's Medical Officers.

ACCOMMODATION:

(a) **Central Clinics:** These are held in the Special Diseases Clinic building situated in the General Hospital grounds.

(b) **Atteridgeville:** The venereal diseases section of the Poly Clinic at Atteridgeville.

(c) **Bantule Clinic:** This is held in a section of the Administration Buildings in Bantule.

CLINIC HOURS:

Mondays: 10.30 a.m. to 12.30 p.m. and 2 p.m. to 4 p.m. — Non-European males and females.

Tuesdays: 8.30 a.m. to 10 a.m. — European males.

11 a.m. to 12.30 p.m. — Non-European males and females (Bantule).

2 p.m. to 4.30 p.m. — European females and children.

Wednesdays: 9 a.m. to 10 a.m. — European females and children.

4 p.m. to 6 p.m. — Non-European males.

Thursdays: 10.30 a.m. to 12.30 p.m. — Non-European males and females (Atteridgeville).

2 p.m. to 4 p.m. — Non-European males and females.

Fridays: 9 a.m. to 10 a.m. — European females.

5 p.m. to 6 p.m. — European males.

Urgent cases are seen by appointment outside these hours.

Non-European Services:

There has been a slight drop in the number of new cases but on the other hand a very definite increase in the total number of attendances showing that the natives are becoming aware of the advantages gained by completing their full courses of treatment, and satisfactory numbers have been discharged as cured.

The clinics at Atteridgeville and Bantule are well supported, many more new patients coming forward for routine blood tests and examination.

As reported last year free railway warrants to natives living within a 20 mile radius of Pretoria helps considerably as otherwise practically all would find it impossible to attend regularly. This service is due to the assistance of the Union Department of Health.

EUROPEAN SERVICES:

Total attendances and number of new cases reporting show a decrease compared with last years figures. Although the number of cases of syphilis in all its stages coming under treatment this year has markedly increased. This discrepancy is explained by the fact that far fewer cases of Gonorrhoea are coming to the Clinic, the reason being that treatment is now relatively inexpensive and of short duration, and the patient often prefers to approach his own medical practitioner when infected.

The routine examination of children committed to places of safety and orphanages as well as of the inmates of the Armstrong Berning Te huis has been continued.

Because of transport difficulties inmates of the Irene Homes are now seen at the Homes by the District Surgeon.

An analysis of the cases examined follows.

GROUP 1: Includes children from Orphanages and Places of Safety (Europeans only) and entailed 99 boys and 48 girls. The results were as follows:—

	Positive for Syphilis	Positive for Gonorrhoea	Negative	Total Cases Seen
Males	4 (4.04%)	2 (2.02%)	93 (93.94%)	99
Females	4 (8.3%)	8 (16.7%)	36 (75%)	48
	8 (5.4%)	10 (6.7%)	129 (87.9%)	147

GROUP II: Includes delinquent older girls and unmarried mothers (Europeans only) and entailed 38 females. The results were as follows:—

	Positive for Syphilis	Positive for Gonorrhoea	Negative	Total Cases Seen
Females	3 (7.9%)	0 (0%)	35 (92.1%)	38

INSPECTION OF NURSING HOMES, CONVALESCENT HOMES AND HOSPITALS

All Nursing Homes, Convalescent Homes and Hospitals other than the two Provincial Administration Hospitals (over which we exercise no control) namely, the Pretoria General Hospital and the Andrew McColm Hospital, were inspected by us on behalf of the Union Health Department, to whom a detailed report regarding these Institutions was submitted in July, 1952.

There are at present four Nursing Homes, one Convalescent Home and two Hospitals in the City. No further Institutions have been established during the year. All these establishments were found to be generally satisfactory.

For European maternity cases there are two nursing homes and one hospital with 35, 9 and 85 beds respectively.

For non-European maternity cases the position remains the same. There are 46 beds in the Holy Cross Nursing Home and 12 beds in the maternity section of the Pretoria General Hospital. The City Council of Pretoria pays the Holy Cross Nursing Home a fixed annual grant.

All the hospitals and homes have been most co-operative and have brought about such changes and improvements as were considered necessary.

CHILD WELFARE ACTIVITIES

The work at the clinics has continued satisfactorily. One additional Health Visitor was appointed and many new activities were undertaken.

In conjunction with the Technical College the training course for Health Visitors was completed and six more nurses did their practical work with us.

Two nurses taking their Diploma in nursing attended at the European Ante-Natal clinics.

Institutional Work:

A Creche and four Nursery Schools are regularly visited by a Medical Officer and Health Visitors and three Nursery Schools are visited by Health Visitors alone.

The services rendered to childrens' homes have been expanded considerably. Weekly clinics are now being held at three such places, and in addition children from these homes are seen at the clinic whenever necessary.

In co-operation with the Union Department of Social Welfare, places which fall under the term "Institutions Housing Children" have been inspected and reported on. Most subsidised childrens' homes have been excluded, but all centres run by private individuals for gain were visited. Certificates of registration were only issued by the Union Social Welfare Department after they satisfied themselves from our reports, and if necessary their own inspections that conditions were reasonably good and that children could be kept there with safety. This is a very big advance in the supervision of institutes for day time care of children away from their parents. Important improvements were effected in a number of cases and the uncontrolled development of new centres were prevented. There is a very pleasant spirit of co-operation between this Department and the Union Department of Social Welfare.

The work done in conjunction with the Juvenile Court and the various Agencies doing child welfare and family care work has expanded considerably.

Recreational Work:

The plans for a Community Centre at Danville Sub-economic housing Village had to be shelved as the necessary funds were not available. The need for recreation is, however, so necessary that a Youth Club was started there on the clinic premises. A play session is arranged for the children once per week. The attendances are very large, and if it was not for the voluntary assistance given to this Department by Social Welfare students from the University and girls from one of the high schools it would have been impossible to manage.

Play grounds where organised games can be conducted is an urgent need. The juvenile delinquency figure for that area is high and methods to combat this evil must be applied energetically.

Investigation and Reports:

A. Investigation was held into the causes of death of children under five years of age. The following is an extract from the full report:—

"This investigation was conducted because it was felt that very little can be done to reduce the mortality rate unless the causes were properly understood.

The infantile mortality rate of an area or a racial group is usually taken as an index of the standard of public health services. It is generally accepted however that when the rate is reduced to approximately 30, further reduction is due solely to obstetrics and pediatrics.

The European figure for Pretoria has been round about 30 since 1944.

In the reduction of high rates down to approximately 100 obstetrics and pediatrics play but a small part as environmental health and general standards of education play a much bigger role. By the proper combination of all services the rate can be reduced to 20 and in theory perhaps to 10. The non-European infantile mortality rate has remained very high and has shown a marked fluctuation from year to year. It was felt that very little was known which could account for this high rate and marked fluctuation and that further investigation was imperative.

The Health visiting staff of the Department was given detailed instruction about the collection of data. That together with the information obtained from the office of the Registrar of Births and Deaths with all other additional information of a medical, social and economic nature, which was extracted from cards kept in connection with each child born and resident in Pretoria, was pooled. Each case was then separately analysed on the following points:—

- (1) Were the parents normally resident in Pretoria or not?
- (2) Was the cause of death as certified correct or not?
- (3) Was every effort made to prevent this death by the fullest application of modern medical knowledge, with the co-operation of the parents under average environmental circumstances?

If the answer to question (3) above was:—

- (a) "Yes", it was classified as non-preventable;
- (b) "Doubtful", it was classified as Query non-Preventable.
- (c) Indicative of negligence of some nature, or of a condition which recent research has proved to be largely preventable, it was classed as Query Preventable.
- (d) Indicative of gross neglect or mismanagement or ignorance or unco-operativeness it was classed as Preventable.

Table II (a) reflects the classification of all cases which this investigation showed to be Pretoria residents. The figures in brackets are those which were received from the office of the Registrar of Births and Deaths.

Table II (b) is the classification of Pretoria residents, cases which were included in the information received from the Registrar of Births and Deaths."

Municipal Cases Table II (a)

	Total	Non-Preventable	Query Non-Preventable	Query Preventable	Preventable
Natives:					
Total	105 (154)	3	15	37	50
Percentage		2.9	14	35	47.6
Indian:					
Total	11 (15)	1	2	5	3
Percentage					
Coloured:					
Total	13 (14)	2	1	3	4
Percentage					
European:					
Total	109 (116)	23	33	33	20
Percentage		21	30	30	18

Non-Municipal Incompletely Classified Cases Table II (b)

	Total	Outside Cases Livebirths	Unclassified Cases Livebirths
Natives	49	24	25
Indian	4	2	2
Coloured	1	1	0
European	7	3	4

- (1) Were the parents normally resident in Pretoria or not?

The non-European figures appear to be very inaccurate. Of the 154 deaths our check-up showed that only 105 were Pretoria residents. The remaining 49 consisted of patients who were

brought into the area for medical attention only. Of these 24 gave a definite temporary local address and in 25 cases it was not possible to decide definitely the place of residence because of the migratory habits of the persons concerned. They did however definitely not belong to Pretoria. It is clear therefore that approximately one third of the deaths could not be classified as Pretoria cases.

(2) Was the cause of death as certified correct or not?

In the non-European group a fair proportion of deaths were wrongly certified. Malnutrition is a term which is much abused and a variety of chronic infections such as Tuberculosis, Lues, Bilharziasis, chronic cystitis and worm infestations are often missed and covered by this term.

(3) Was every effort made to prevent this death?

The preventability or otherwise, or the presence of preventable factors was very carefully investigated. In theory all infectious and contagious diseases are preventable, but in the critical analysis of each case due attention was paid to many practical questions.

Take for instance the investigation of a case of Infantile enteritis and diarrhoea. The age and method of feeding were the first items to be checked. The importance of breast feeding in the prevention of the incidence and mortality from enteritis and diarrhoea can hardly be over estimated as is shown by the work by Wright, Powel and Taylor. From their total of 118 cases of enteritis and diarrhoea only one was breast fed. Feldman reports the infantile mortality rate to be 22.9 per 1,000 livebirths in breast fed infants as against 108.3 per 1,000 livebirths in artificially fed infants.

If such a child was therefore taken off the breast without good cause, and enteritis and the death occurred during the normal period of breast feeding, a preventable factor was considered to have been present. The second item checked was whether medical aid was sought early enough, and if so whether the advice given was carried out. The next question was whether the medical advice and treatment was the best under the circumstances taking all factors into consideration, with particular attention to "maternal efficiency", which is the ordinary problems to cope effectively with the ordinary problems of family rearing and management, general hygiene and environmental and economic factors which may have interfered with the success of the treatment.

Taking all the above factors into consideration some cases of enteritis were classified as Preventable and others as non-Preventable.

(a) Non-Preventable Group:

It was considered that of the European deaths 23 or 21% were non-preventable.

(b) Query Non-Preventable Group:

This group consisted largely of cases where the presumably preventable factor is still a matter of medical controversy or where the appraiser felt that one could not be dogmatic. They consisted almost exclusively of deaths from complications of pregnancy, birth injuries and congenital abnormalities. Most of the birth injuries were certified as intracranial haemorrhage and this is a condition which is considered to be at least partially preventable by good ante-natal care, was shown at the Sagene Health Station in Oslo where not a single case of brain damage occurred amongst 1,531 live born infants (the average incidence is .5%). Good obstetrics can further materially reduce the incidence of neo-natal mortality and can be seen from the figures of the Royal Maternity Hospital, Belfast, where the deaths from placenta praevia was reduced from 51.3% to 18.8%.

There is much scepticism about the preventability of congenital defects but the following statement appeared in the Medical Officer. "Until recently our attitude towards these defects was completely pessimistic, but research has led us to hope that some at least are preventable." Formerly most congenital defects were held to be genetic, but many are due to cessation or retardation of development at certain critical periods and may be caused by intra-uterine factors which may be reversible.

The work of Gregg in Australia and other showed how a mild infectious disease such as German Measles in the pregnant mother may affect the development of the foetus during certain critical periods of its development. Our series included one such case.

The work of Warkany, who induced a large variety of developmental abnormality in the young of rats by vitamin privation of the adult before and during pregnancy, can also not be ignored, although its application to the human field is at this stage of our knowledge still obscure.

It will be noticed that from our figures it appears as though death due to complications of pregnancy, birth injury and congenital defect is considerably higher in the European than the non-European.

(c) Query Preventable Group:

This group differs from the previous one in so far that there was more positive proof of negligence or preventability. Of the 33 European cases 27 were due to prematurity, which as a cause of death in Pretoria, far out-strips any other single cause. There is ample evidence that the incidence of premature births can be very much reduced by good ante-natal care. Nutrition during the pre-natal period is of particular importance as can be seen from the following:—

- (a) Antonov reports that during the siege of Leningrad when hunger was marked the incidence of prematurity rose to more than 40%.
- (b) The experience in Oslo was that by adequate nutrition they could reduce the premature births from 4.6% to 2.2%.
- (c) Similar results were obtained by Burke and Stuart who demonstrated a relationship between maternal diet, length, weight and general vigour of the infant.

In three cases irresponsibility was an outstanding feature and had contributed directly to the death of the infant.

The non-European cases were of a mixed nature. If the statement on the death certificate was accepted without applying any other standard, 13 of the 37 native cases in this group were premature. This figure is, however, not reliable as few native infants are weighed at birth, and even if they are weighed there is still no general agreement on what weight should be accepted as a standard for prematurity in non-Europeans.

The bulk of the rest of the cases were infectious conditions where medical help was not sought early enough and the facilities available at the Municipal clinics were never made use of. The objections to calling in medical aid was mostly on religious grounds.

(d) Preventable Group:

Here the difference in incidence between European and non-Europeans is very marked. Of the 20 European cases ten were considered to be directly due to parental negligence. In five cases the inadequacy of the ante-natal care and the manner and circumstances under which the confinements were conducted contributed directly to the death.

The remaining five were due to preventable infectious diseases such as Diphtheria.

Of the 50 native deaths 34 were primarily due to neglect and malnutrition with pneumonia or enteritis as a complication. Four deaths could have been prevented by proper ante-natal care.

It is well known that stillbirths and neo-natal deaths are the most important factors in a high mortality rate. Most of the neo-natal deaths are due to prematurity. Work in most of the civilised countries have shown that by proper ante-natal care scrupulous attention to dietetic factors and good obstetrics stillbirths, neo-natal deaths, prematurity and birth injuries can be reduced dramatically.

If the causes of deaths are roughly classified into pre-natal, ante-natal and post-natal factors it appears that the pre-natal factors played a considerable part in the prevention of this high rate. The majority of the 27 cases of prematurity which were classified under the preventable group were considered to have had insufficient ante-natal care. In the post-natal group the most important single factor appears to be maternal efficiency. Amongst the European cases 21, that is nearly 20%, were considered to have been due to maternal inefficiency. This maternal inefficiency also plays a considerable part in the ante-natal and natal factors. Maternal inefficiency is often combined with poor economic conditions but not necessarily so. This survey brought ample proof that this "maternal irresponsibility" is often the cause of poverty and bad environmental conditions and not the result of it.

The main conclusions to be drawn from this survey are:—

- (1) Much of the loss of life through the high infantile mortality rate is preventable for Europeans as well as non-European.
- (2) The official non-European figures are very inaccurate and the infantile mortality rate is much lower.
- (3) The prevention of deaths is not nearly or even mainly a matter of improving economic circumstances.
- (4) To affect a further reduction intensive education of the medical and nursing profession but also of the public will be necessary.
- (5) Standards and statistics for all races in this country are inaccurate and it is an important matter requiring the urgent attention of the authorities concerned.

B. During the course of the year evidence was given at the Commission of Enquiry into the workings of the Peri-Urban Areas Health Board. The evidence which was collected showed that a large number of patients from the Peri-Urban Areas attended the Pretoria Municipal clinics. A fair number of European patients living in the Peri-Urban Areas attended our clinics but as the total figures was not more than about 200, a detailed analysis was not made of attendances.

The increase in figures for non-Europeans from the Peri-Urban Areas attending our clinics was very surprising.

The following are the main clinics at which non-European patients from the Peri-Urban Area attend: (Note—The City Council of Pretoria is not responsible for looking after the Peri-Urban population, but as no other authority has assumed the responsibility we have continued providing the service).

A. COMPOUND CLINIC:

Visits by Peri-Urban Residents:

	1947	1948	1949	1950	1951 9 Months
Child Welfare Clinics	304	901	2,040	2,656	2,807
Ante-Natal Clinics	279	913	2,191	2,417	2,407
Out-Patients Clinics	184	220	355	430	495
Total	767	2,034	4,586	5,503	5,709

As can be seen from the figures in 1947 a total of 304 visits were paid by children from the Peri-Urban Areas and in the first nine months of 1951 the number was 2,807.

Visits from Ante-Natal patients increased from 279 in 1947 to 2,407 in the first nine months of 1951.

The attendance at the Out-Patients clinics increased from 184 in 1947 to 495 in the first nine months of 1951.

Two of these clinics, the Child Welfare and Ante-Natal Clinics, now almost exclusively cater for patients from the Peri-Urban Areas.

The total number of children seen during 1950 at this particular clinic was 3,133, of whom 2,656 were from the Peri-Urban Areas. At the Ante-Natal Clinics there was a total attendance of 2,775, of whom 2,417 were from the Peri-Urban Areas. Approximately 35% of the cases attending at the Ante-Natal Clinics required treatment for Positive W.R.

B. ATTERIDGEVILLE:

Visits by Peri-Urban Residents:

	1947	1948	1949	1950	1951
Child Welfare Clinics	276	316	287	285	494
Ante-Natal Clinics	40	70	49	180	190
Out-Patients Clinics	606	396	316	543	801
Total	922	782	652	1,008	1,485

Child Welfare:

The increase here is from 276 in 1947 to 494 in 1951.

The Ante-Natal attendances increased from 40 to 190. Compared with the rest of the figures, Peri-Urban Areas work here is a much smaller percentage of the total than in the case of the Compound. The reason is, because transport facilities to the Compound are good.

It is satisfactory to note that during 1951 the attendance at the Child Welfare Clinics increased from 4 during January to 70 during September.

C. BON ACCORD:

At the Bon-Accord Quarry, which is some ten miles from the City, the Council runs a weekly clinic for its own employees. Gradually other patients living and working in the vicinity started attending this clinic as well. In July, 1950, the total number of "outside" patients seen by the Medical Officer in charge was nine, during June, 1951, the total was 76. This shows the need for clinic services in this area, again not the responsibility of the Pretoria City Council.

All these figures show the need for medical services amongst the Peri-Urban population. It also shows the burden which is being carried voluntarily by the ratepayers of Pretoria. The vast majority of patients attending at the Child Welfare and Ante-Natal Clinics are malnourished and suffer from malnutrition and deficiency conditions.

Several unfavourable conditions exist in the Peri-Urban Areas which contribute directly to this unsatisfactory state of affairs:—

- (1) High rents. From £1 to £2 is being paid for single rooms in certain areas.
- (2) Good water supplies do not exist and water is sometimes being sold to the residents for so much as 2/6d. per 44 gallon drum.
- (3) Because of the inadequacy of markets or stores, important foods like fresh vegetables, milk and fruit are hardly being consumed. The diet consists almost entirely of mealie meal and white bread with meat a few times a week for adults.

HOME VISITS

(Figures for 1950-1951 in brackets)

	Compound									
	Natives		Asiatics		Eur- africans		Atteridge ville		Bantule	
First visits to newly born infants (1951- 1952)	112	(86)	213	(223)	100	(99)	426	(461)	271	(274)
Subsequent visits (1951-1952)	968	(957)	2,038	(1,755)	1,987	(1,953)	7,454	(7,118)	337	(2,593)
Visits to sick child- ren (1951-1952) ..	36	(36)	89	(8)	76	(106)	224	(143)	309	(804)
No. of sick children visited (1951-1952)	28	(30)	66	(19)	78	(82)	165	(88)	303	(789)

NON-EUROPEAN ANTE-NATAL CLINICS

(Figures for 1950-1951 in brackets)

	Compound				Atteridge- ville		Bantule		Total	
	Natives		Eurafricans and Asiatics							
No. of cases report- ing at clinic (1951- 1952)	948	(1,028)	147	(163)	448	(440)	290	(208)	1,833	(1,889)
No. of attendances (1951-1952)	3,928	(4,234)	739	(808)	2,560	(2,624)	1,575	(1,076)	8,802	(6,264)

NON-EUROPEAN IMMUNIZATION

(Figures for 1950-1951 in brackets)

Clinic Returns:

No. of cases immunized against Diphtheria	1,291 (330)
No. of cases immunized against Whooping Cough	275 (380)

Feeding Schemes:

There has been no alteration in the conduct of the existing feeding schemes.

Dental Services:

The dental services have expanded considerably. During the year under review 171 expectant mothers were referred for dental attention.

The proportion actually going for treatment has increased steadily whereas previously only a small percentage acted on our advice.

Some of the patients have as many as ten dental sittings.

ATTENDANCES AT CLINICS

(Figures for 1950-1951 in brackets)

	First Attendance	Re-Attendances	Total Attendances	Seen by Doctor
1951-1952 ..	1,714 (1,673)	21,791 (23,051)	23,433 (24,724)	3,237 (3,328)

DETAILED ATTENDANCES

(Figures for 1950-1951 in brackets)

	First Attendance	Re-Attendances	Total Attendances	Seen by Doctor
	1951-1952	1951-1952	1951-1952	1951-1952
Central (Tuesday) ..	69 (76)	781 (998)	8,501 (1,074)	585 (601)
Central (Wednesday) ..	65 (76)	735 (892)	800 (968)	— (—)
Central (Friday) ..	73 (97)	655 (959)	728 (1,056)	— (—)
Bloed Street ..	67 (45)	692 (695)	759 (740)	— (—)
West End ..	76 (101)	1,401 (1,465)	1,477 (1,566)	316 (264)
Proclamation Hill ..	37 (40)	820 (720)	857 (760)	125 (86)
Iscor ..	37 (55)	746 (810)	783 (865)	— (—)
Gezina ..	74 (74)	778 (897)	852 (971)	— (43)
Villieria 24th Avenue	110 (104)	962 (1,095)	1,072 (1,199)	217 (228)
Villieria 30th Avenue	79 (46)	535 (477)	614 (523)	— (—)
Wonderboom South ..	97 (69)	942 (868)	1,039 (937)	227 (99)
Mayville ..	80 (109)	677 (902)	757 (1,011)	— (—)
Capital Park ..	90 (61)	980 (651)	1,070 (712)	— (—)
Hatfield ..	54 (76)	532 (876)	586 (952)	— (—)
New Muckleneuk ..	59 (59)	555 (786)	614 (845)	— (—)
Sunnyside ..	91 (119)	686 (1,281)	777 (1,400)	— (—)
Riviera ..	50 (44)	528 (563)	578 (607)	87 (92)
Salvokop ..	10 (23)	373 (465)	383 (488)	— (—)
Danville ..	62 (51)	851 (1,119)	913 (1,170)	384 (326)
Defence Reserve ..	7 (9)	171 (31)	178 (40)	— (—)
Armstrong Berning ..	41 (60)	366 (506)	407 (566)	68 (148)
Corrylyn Creche ..	— (—)	— (—)	— (—)	— (—)
Arcadia ..	63 (51)	761 (587)	824 (638)	— (—)
Beatrix Street ..	4 (1)	22 (8)	26 (9)	— (—)
Showgrounds ..	10 (17)	344 (370)	354 (387)	— (—)
Hercules ..	185 (174)	3,846 (3,141)	4,031 (3,315)	1,228 (1,439)
Booysens ..	61 (72)	1,452 (1,236)	1,513 (1,308)	— (—)
Mountain View ..	63 (64)	528 (653)	591 (717)	— (—)
Total ..	1,714 (1,673)	21,719 (23,051)	23,433 (24,724)	3,237 (3,328)

HOME VISITS BY HEALTH VISITORS

(Figures for 1950-1951 in brackets)

	First Visits	Subsequent Visits	Number of Sick Children Visited	Total Visits
1951-1952 ..	3,195 (3,261)	8,989 (8,983)	1,888 (1,440)	13,624 (14,296)

EUROPEAN ANTE-NATAL CLINICS

(Figures for 1950-1951 in brackets)

	Central	Danville	Hercules	Total
	1951-1952	1951-1952	1951-1952	1951-1952
No. of new cases	344 (374)	49 (53)	127 (123)	520 (55)
Total attendances	1,713 (1,586)	328 (293)	629 (820)	2,670 (2,699)

EUROPEAN DIPHTHERIA AND WHOOPING COUGH IMMUNIZATION CLINICS

CLINIC RETURNS

(Figures for 1950-1951 in brackets)

No. of cases immunized against Diphtheria ..	604 (2,471)
No. of cases immunized against Whooping Cough ..	343 (115)

MIDWIFERY SUPERVISION

(Figures for 1950-1951 in brackets)

No. of midwifery bags inspected ..	84 (116)
Special visits to midwives ..	27 (21)
Visits to midwifery cases ..	3 (2)
Visits to maternity homes ..	28 (18)

NON-EUROPEAN CHILD WELFARE

(Figures for 1950-1951 in brackets)

		Compound									
		Natives		Eur-africans		Asiatics		Atteridgeville		Bantule	
First attendances											
1951-1952		724	(787)	182	(125)	122	(91)	380	(399)	200	(214)
Re-attendances											
1951-1952		2,566	(2,449)	2,932	(2,693)	1,664	(1,696)	9,812	(8,454)	4,676	(4,536)
Seen by doctor											
1951-1952		594	(617)	954	(832)	382	(268)	2,890	(2,417)	622	(702)

The patients are very appreciative of this service and we are indebted to the dental clinic for their co-operation.

Many more facilities for dental treatment for non-Europeans have also been arranged. The following clinics are now held weekly, at Atteridgeville and the Compound, where fillings, extractions and preventive work is being done.

Atteridgeville:

Tuesday 9 a.m. to 1 p.m.

Friday 1.30 p.m. to 4 p.m.

Compound:

Monday 2 p.m. to 4 p.m.

Tuesday 9 a.m. to 12 noon.

Thursday 9 a.m. to 12 noon and 2 p.m. to 4 p.m.

HEALTH EDUCATION

Talks:

1. New Trends in Child Health.
2. Plaaslike Owerhede en Maatskaplike Sorg.
3. Belangrike Sosiale en Sielkundige Faktore in verband met Tering Werk.
4. Adoption Policy.
5. Aansteeklike Siektes.

PRETORIA DENTAL CLINIC

Period April, 1951 — March, 1952

The Pretoria Dental Clinic provides dental services for indigent school children, pre-school children, ante- and post-natal cases and for non-Europeans at Sub-Clinics at Marasbastad, Atteridgeville and Lady Selborne.

The Clinic is governed by a Board, the members of which represent the Transvaal Provincial Administration, the City Council of Pretoria, the Northern Transvaal Branch of the Dental Association of South Africa and the Union Department of Health.

The purpose for which the Clinic is established is for the provision of dental health services, including the promotion of preventive dentistry and public dental health and includes all manner of treatment, whether surgical, orthodontic, or exodontic.

Staff:

The establishment at present is five dental surgeons and one part-time dental surgeon for the Orthodontic Department. The basis of division of services in practice is:—

Three full-time dentists for school children as well as half the time of a fourth, the other half being utilised for ante- and post-natal cases and for pre-school children.

The fifth dentist is fully employed on non-European services.

A panel of local dentists did five half-day sessions per week between them.

The nursing staff consists of a matron and seven dental nurses, one of whom acts as a clerk.

The clerical staff consists of a Secretary and a clerical assistant.

TREATMENT OF SCHOOL CHILDREN: COMPARATIVE TABLE

Period	No. of Children Examined	No. of New Patients Treated	No. of Re-Visits	No. Discharged Treatment Completed	No. of Casuals Discharged Treatment Completed	No. of Fillings	No. of Extractions	Total Operations
Nov. 1945 Oct. 1946 ..	11,911	3,055	2,769	292	—	2,044	3,343	7,335
Nov. 1946 Oct. 1947 ..	18,278	4,671	8,055	788	976	7,903	3,313	20,169
Nov. 1947 Oct. 1948 ..	18,253	5,275	5,371	1,174	497	6,382	6,360	17,814
Nov. 1948 Oct. 1949 ..	2,969	7,158	5,003	1,310	484	8,778	6,788	19,929
Nov. 1949 March 1950 ..	1,355	3,825	1,730	500	186	3,192	4,097	9,153
April 1950 March 1951 ..	23,637	6,087	5,834	1,453	437	8,663	7,155	20,785
April 1951 March 1952 ..	24,363	6,847	7,137	1,300	540	9,976	8,385	22,888

The result of the School Inspections shows:—

No. of schools at which inspections were conducted	50
No. of children examined	24,363
No. of children examined requiring treatment	17,815
No. of indigent children examined	14,777
No. of indigent children examined requiring treatment	11,749
No. of indigent children examined requiring no treatment	2,684

Statistics for the Boys High and Girls High Schools are not included as these were not available. Hatfield School and the Seuns Hoër and Meisies Hoër Schools were not inspected as suitable arrangements could not be made. These schools, however, do not have many indigent children.

There are 11,749 indigent children requiring treatment as seen at the inspections. During the last year the number of fillings done for school children by the three full-time and one half-time dental surgeons was 9,976. It will be seen that the service is hopelessly inadequate. With the number of children steadily increasing, should the number of dental surgeons be decreased this service may evolve into a "casualty service" or else a service for a chosen few and the children from the less enlightened or less fortunate families will be disregarded.

MORNING CLINIC (at Clinic):

No. of clinics held	26
No. of children treated	1,050
No. of teeth extracted	1,340

The morning clinics have served a useful purpose in the clearing up of gross oral sepsis. Children are brought to the clinic for extractions from schools on the municipal bus routes by special buses.

THE MOBILE DENTAL UNIT:

The Unit was used on 115 occasions to visit distant schools to provide conservative and extraction services. The full co-operation of the Principals of the schools concerned was readily forthcoming. It was pleasing to note their solicitude for the welfare of their pupils.

No. of children treated	1,385
No. of teeth extracted	905
No. of fillings done	845
No. of other treatments	282
No. of total operations	2,032

The Meerhof Chronic Sick Home was visited on three occasions, these patients are most difficult to treat and much credit is due to the operators concerned for their patience with these children.

No. of children treated	52
No. of fillings done	33
No. of teeth extracted	25
No. of total operations	80

ORTHODONTIC SERVICES:

Clinics for Orthodontic services are held every Saturday morning. The aim of this Department is:—

- To rectify occlusal abnormalities so as to improve the masticatory function and thereby safeguard the child's digestive system.
- To treat malocclusions which result in speech defects and may retard the child's education and subsequently handicap him in his vocation later in life.
- To correct dento facial defects thereby assisting in improving the patient's psychological approach to society.

We are indebted to the University Dental Hospital for the making of orthodontic appliances at a reduced rate.

A number of suitable cases, selected for their instructional value, are referred to the University Dental Hospital for treatment.

There is a large number of children awaiting treatment. The recent re-organisation of the Department together with the fact that a number of children are sent to the University will improve the position to a large extent.

No. of patients undergoing treatment	70
No. of visits	664
No. of patients treatment completed	3
No. of appliances supplied	44
No. of patients awaiting treatment	102

Services for Mothers Ante- and Post-Natal:

Clinics are held every morning. All indigent cases are referred here from the Municipal Health Clinics. Patients, at first shy or disinterested, are coming forward in increasing numbers and are now keeping their appointment for re-visits.

Routine prophylaxis for all cases, the removal of septic teeth and conservative treatment together with information as provided in the Ministry of Health pamphlet "Care of the Teeth" all help to make this Department a vital factor in the health of those who attend. The mothers are spurred on to look after themselves and their children and are educated to appreciate the beneficial results of a healthy mouth.

PRE-SCHOOL CHILDREN:

This Department is run in conjunction with the Ante- and Post-Natal Department. Since the five-year-old children are now at school the field here is more limited and more difficult, nevertheless progress has been maintained and the spread of dental health information undertaken.

NON EUROPEANS:

Non-European dental services are given at the clinics as specified below.

Programme of Clinics:

	Morning Sessions	Afternoon Sessions
Mondays	Atteridgeville	Marabastad
Tuesdays	Marabastad	
Wednesdays	Lady Selborne	Lady Selborne
Thursdays	Marabastad	Marabastad
Fridays	Lady Selborne	Atteridgeville.

Apart from the alleviation of suffering and the improvement of health, many working hours are saved for the patients by providing a wider range of clinics they can attend. There is a big increase in the number of patients seen and operations performed as are shown in the table of treatments.

EUROPEANS.

	PATIENTS						TREATMENTS					
	ADMITTED			DISCHARGED			EXAMINATIONS					
	New	Re-Visits	Total	Treatment Completed	Casuals	Total	Fillings	Root Therapy	Prophyllaxis	Extractions	Other Treatments	Total Operations
Pre School Children	303	230	533	8	5	13	146	212		537	202	1,098
School Children	6,847	7,137	13,984	1,300	540	1,840	3,662	9,976	73	113	679	22,888
Private Schools	112	288	400	9		9	84	413	3	92	45	639
Ante- and Post-Natal	151	218	369	29		29	82	368		198	32	729
TOTAL	7,413	7,873	15,286	1,346	545	1,891	3,974	10,969	76	164	959	25,354

1ST APRIL, 1951,
TO
31ST MARCH, 1952

NON-EUROPEANS.

	New	Re-Visits	Total	Treatment Completed	Casuals	Total	Fillings	Root Therapy	Prophyllaxis	Extractions	Other Treatments	Total Operations
Pre-School Children	373	133	506				157	7		407	53	688
School Children	1,344	151	1,495	1		1	142	152	1	1,493	41	1,832
Adults	5,094	730	5,824				245	76	3	7,902	61	8,293
TOTAL	6,811	1,014	7,825	1		1	544	299	4	9,802	155	10,813

PRETORIA NURSERY SCHOOLS

Nursery schools of an accepted standard are approved by the Nursery School Association of South Africa, which is the representative body recognised by the Government and local authorities that subsidise nursery schools. The aim of nursery schools is to promote the healthy growth and development of pre-school children.

The following nursery schools are recognised and subsidised by the Transvaal Education Department:—

Name of Nursery School	Address	No. of Children	Staff		School Hours	Midday Meal	Rest	Municipal Subsidy
			Certified	Non-Certified				
Eastern Suburbs ..	154 Duxbury Road	95	5	1	8 a.m.-2 p.m.	Yes	Yes	Yes
Good Hope	47 Struben Street ..	35	2	1	8 a.m.-2 p.m.	Yes	Yes	Yes
Clare Pentz	Zeller Street	45	2	1	8 a.m.-2 p.m.	Yes	Yes	Yes
Eudora Hauptfleisch*	224 Struben Street ..	60	2	2	7.30 a.m.-5 p.m.	No	Yes	Yes
Sunnyside	151 Kotze Street ..	45	1	2	8 a.m.-1 p.m.	No	Yes	Yes
Rachel Spiro ..	Beatrice Street	40	1	2	8 a.m.-1 p.m.	No	Yes	No
Riviera-Rietondale	Lys Street	35	1	1	8 a.m.-12 noon	No	Yes	Yes
Saamstaan	171 Rose Street ..	40	1	1	7.30 a.m.-1 p.m.	No	Yes	Yes
A. H. Potgieter† ..	51 Malherbe Street	45	2	—	8 a.m.-1 p.m.	No	Yes	No
Aga Kahn	282 5th Street Indian Bazaar	38	1	2	8.30 a.m.-2.30 p.m.	Yes	Yes	Yes
St. Michaels	Tumelong Mission, Lady Selborne ..	200	1	8	7.30 a.m.-5.30 p.m.	3 Mls.	Yes	Yes

* Seven (7) of these children are inmates of the Armstrong Berning Orphanage. Although no midday meal is served milk and protein such as egg, cheese is provided and the children bring their own lunch.

† Forty (40) of these children are inmates of the A. H. Potgieter Orphanage. In addition to these schools, the School for Cerebral Palsied Children has a Nursery School section with about 12 children, and the Coloured Child Care Centre has a Nursery School section with about 65 children.

In most cases these schools have sprung up from the needs of the Community, together with the support of interested persons, or some charity organisation. A governing body, either of parents of interested persons or, the controlling Charity Organisation manages the school affairs.

PROPAGANDA

As in previous years we have carried on with an active health education programme.

Numerous talks were given to the public, filmlets were regularly shown at all the cinemas, health posters were continually being renewed on the poster boards throughout the city, and a large number of articles were published in the local press.

Special posters dealing with tuberculosis were again placed on all Municipal buses.

Apart from all this, all members of the staff were continually giving health information to members of the public.

MEDICAL EXAMINATIONS CONDUCTED BY MEDICAL OFFICERS IN THE HEALTH DEPARTMENT

A total of 635 such medical examinations were conducted. This figure includes medical examinations of persons entering the Municipal Service, special medical examinations under the Workmen's Compensation Act or for Pension Fund purposes or for any other reason.

ABATTOIR AND MEAT SUPPLIES

Slaughtering Statistics

Animals Slaughtered:

	1951-1952	1950-1951
Oxen	39,811	35,457
Cows	10,815	12,195
Bulls	209	539
Calves	2,747	3,303
Sheep	73,040	50,922
Goats	4,586	1,439
Pigs	28,765	35,021
	<u>159,973</u>	<u>138,876</u>

Carcases, Organs, Condemned for all Causes:

	Cattle	Calves	Sheep and Goats	Pigs
Carcases	1,149	71	256	955
Quarters	43	—	82	—
Livers	7,968	—	24,337	28
Lungs	3,287	—	531	—
Plucks	515	—	1,700	1,421
Head	2,977	—	—	238
Tongues	80	—	—	238
Hearts	36	—	—	—
Kidneys	361	—	—	—
Tripes	2,929	—	—	—
Intestines	2,930	—	—	—
Tails	35	—	—	—
Udders	77	—	—	—
Viscerae	1,177	—	256	—
Spleens	2,924	—	—	—

Imported Meat Examined:

	Examined	Condemned	Detained for Cold Storage Treatment
Beef Carcases	3,321	1	152
Beef Quarters	69	—	2
Sheep Carcases	1,580	—	—
Pork Carcases	13	—	—

Total Condemnations:

1951-1952			1950-1951		
	Percentage	Weight		Percentage	Weight
Cattle	2.260	322.980 Tons		3.342	412.165 Tons
Calves	2.584	1.584 Tons		2.603	1.728 Tons
Sheeps & Goats	0.329	4.382 Tons		0.049	1.146 Tons
Pigs	3.320	45.185 Tons		5.036	76.196 Tons
		<u>374.131 Tons</u>			<u>491.237 Tons</u>

Diseases Encountered:

Cysticercosis:

1951-1952				
	Total No.	Incidence %	% Condemned	% Detained
Cattle	3,602	7.085%	1.430%	5.655%
Calves	1	0.036%	0.036%	—
Pigs	904	3.142%	2.290%	0.851%
1950-1951				
Cattle	3,985	8.269%	1.859%	6.410%
Calves	1	0.030%	—	0.030%
Pigs	1,816	5.185%	3.977%	1.208%

Organs of cysticercosis affected cattle detained for cold storage treatment:—
 Tongues 2,863. Tails 2,863. Livers 2,336. Hearts 2,658.

Tuberculosis:

1951-1952			
	Total Incidence	% Generalised No. of C/S Cond.	% Localised
Cattle	41 or 0.080%	0.047%	0.033%
Pigs	338 or 1.175%	0.351%	0.824%
Calves	1 or 0.036%	0.036%	—
1950-1951			
Cattle	91 or 0.188%	0.141%	0.047%
Pigs	458 or 1.307%	0.265%	1.042%

Condemnations other than for Measles and Tuberculosis:

Diseases	Cattle	Quar- ters	lbs. Beef	Calves	Sheep	Qrts.	Goats	Pigs	lbs. Pork	lbs. Mutton
Actinomycosis	—	56 Affec.	—	—	—	—	—	2	—	—
Carcinoma ..	2	—	—	—	—	—	—	—	—	—
Botriomycosis ..	—	—	—	—	—	—	—	4	—	—
Caseous Lym- phadenitis ..	—	—	—	—	3,020 Affec. 100	78	10	—	—	—
Defective										
Bleeding ..	4	—	—	—	5	—	—	1	—	—
Decomposition	1	—	—	—	—	—	—	—	—	—
Dermatitis ..	—	—	—	—	—	—	—	5	—	—
Emaciation ..	40	—	—	19	26	—	36	31	—	—
Emphysema ..	11	2	—	—	3	1	—	—	—	—
Enteritis ..	1	—	—	—	—	—	—	6	—	—
Ext. Bruising ..	80	14	105,125	—	11	3	—	30	1,790	22
Fever ..	1	—	—	—	7	—	—	—	—	—
Follicular Mange	—	—	—	—	—	—	—	22	—	—
Gangrene ..	22	—	—	2	—	—	—	—	—	—
Gen.										
Echinococcus	—	—	—	—	—	—	—	1	—	—
Hepatitis ..	1	—	—	—	—	—	—	—	—	—
Hydraemia ..	1	—	—	—	—	—	—	—	—	—
Immaturity ..	—	—	—	15	—	—	—	—	—	—
Jaundice ..	8	—	—	1	15	—	—	6	—	—
Malignant										
Tumours ..	2	—	—	1	4	—	—	1	—	—
Melanosis ..	—	—	—	—	—	—	—	5	—	—
Moribund ..	12	—	—	—	14	—	—	—	—	—
Multiple										
Abscesses ..	30	27	—	—	2	—	—	12	—	—
Multiple										
Haemorrhages	—	—	—	—	—	—	—	3	—	—
Multiple Para- sitical Nodules	1	—	—	—	—	—	—	—	—	—
Tumours ..	—	—	—	—	—	—	—	1	—	—
Navil Ill. ..	—	—	—	28	—	—	—	—	—	—
Osteomyelitis ..	—	—	—	1	—	—	—	—	—	—
New. Growths	—	—	—	1	—	—	—	—	—	—
Peritonitis ..	17	—	—	—	5	—	—	5	—	—
Pleuritis ..	7	—	—	—	3	—	1	8	—	—
Pleurisy & Peritonitis ..	86	—	—	—	—	—	—	2	—	—
Pyæmia ..	1	—	—	—	—	—	—	1	—	—
Redwater ..	2	—	—	—	—	—	—	—	—	—
Sarcosporidiosis	2	—	—	—	—	—	—	3	—	—
Septic Mastitis	18	—	—	—	—	—	—	—	—	—
Septic Metritis	14	—	—	—	1	—	—	4	—	—
Septic Nephritis	11	—	—	—	7	—	—	3	—	—
Septic Orchitis	—	—	—	—	—	—	—	14	—	—
Septic Pleuritis	1	—	—	—	—	—	—	—	—	—
Septic										
Pericarditis ..	4	—	—	—	—	—	—	—	—	—
Septic										
Pneumonia ..	17	—	—	2	5	—	—	8	—	—
Uraemia ..	1	—	—	—	—	—	1	—	—	—
Urticaria ..	—	—	—	—	—	—	—	2	—	—

All cold storages, wholesale and retail butchershops were inspected by the Asst. Chief Health Inspector as a follow up inspection and check on imported meat being submitted for inspection and stamping at the city abattoir.

SLAUGHTERING STATISTICS FOR HORSES

No. Slaughtered:
Horses 1,249.

Condemnations:

Diseases	Carcases
Emaciation ..	11
Emphysema ..	1

SLAUGHTERING STATISTICS FOR POULTRY

Fowls	Chickens	Turkeys	Ducks	Musc. Ducks	Geese	G. Fowls	Rabbits
42,093	319	1,781	2,062	533	54	14	101
Diseases Encountered				Fowls	Turkeys	Ducks	
Abscesses				1	—	—	
Dead Poultry				126	2	2	
Defective Bleeding				1	—	—	
Egg-bound				43	—	—	
Emaciation				11	—	—	
Emphysema				2	—	—	
Gangrene				26	—	—	
Internal Abscesses				4	—	—	
Internal Haemorrhages				1	—	—	
Internal Cysts				1	—	—	
Multiple Abscesses				3	—	—	
New Growths				57	—	—	
Nodular Tapeworm				11	—	—	
Enteritis and Peritonitis				3	—	—	
Gen. Tuberculosis				2	—	1	
Peritonitis				96	—	2	
Sick Poultry				5	—	—	
Tumours				3	—	—	

MEAT SUPPLIES:

For the first time since the inauguration of the Meat Scheme it is possible to report that there has been practically no meat shortage during the year. There was a relative shortage of beef during October and November but full supplies of mutton.

Decontrol of mutton during the last quarter of 1951 had the immediate effect of increased supplies, and although prices have risen fairly steeply the city has enjoyed full supplies. Since January of this year the inflow of cattle has had to be checked by permit control and it was often necessary to restrict killing by midday as the controlling body could not dispose of the beef.

Substantial increases in prices for all grades of beef also resulted in improved supplies, but consumption declined somewhat. From December to June there were always more cattle offered than could be sold. This was due in part only to consumer resistance against higher prices for beef, but more particularly to the fact that butchers preferred to sell mutton at uncontrolled prices and tended to keep customers short of beef.

The following table of monthly supplies shows the effect of the partial decontrol of mutton and the increased prices for beef on the rate of supply.

Decontrol of mutton was announced in October and auction on the hook commenced in January. The increased prices for beef were announced in November. The figures for the previous year are given in parenthesis.

	Cattle		Sheep	
July, 1951	4,862	(5,874)	4,602	(2,453)
August, 1951	3,701	(5,066)	3,851	(2,679)
September, 1951	2,552	(1,910)	3,595	(2,268)
October, 1951	1,344	(3,067)	6,269	(2,949)
November, 1951	1,821	(2,690)	8,438	(4,839)
December, 1951	5,726	(1,292)	3,850	(9,621)
January, 1952	5,666	(2,627)	6,984	(4,430)
February, 1952	5,551	(5,510)	6,269	(2,506)
March, 1952	5,180	(5,637)	7,411	(4,630)
April, 1952	4,591	(5,537)	9,232	(4,995)
May, 1952	5,231	(4,671)	8,687	(6,212)
June, 1952	4,610	(4,311)	8,438	(4,879)
	50,835	(48,192)	77,626	(52,461)

CONDEMNATION:

There has been a progressive decrease in the percentage of cattle and pigs affected with Cysticercosis.

Year	Percentage Affected	
	Cattle	Pigs
1949-1950	9.327%	5.154%
1950-1951	8.269%	5.185%
1951-1952	7.085%	3.142%

The significant decrease in the percentage of Cysticercosis in pigs is due to the lower proportion of "trade" pigs from speculators being killed. With the restricted market for pork a higher proportion of permits is being granted to bona fide farmers.

In the case of cattle increased supplies were received from the Bechuanaland area where the incidence is lower than in the Transvaal Bushveld, which supplies the bulk of the cattle to the Pretoria Market.

The total amount of meat condemned has in consequence decreased despite the improved supplies.

The figures for the last three years are as follows:—

	Total Weight of Meat Condemned	Percentage of Cattle
1949-1950	720·058 Tons	3·408%
1950-1951	491·237 Tons	3·342%
1951-1952	374·131 Tons	2·260%

In spite of a considerable increase in turnover, of both cattle and sheep, the revenue from the manufacture of by-products remained more or less constant; £20,007 as compared with £19,732 last year, due to the lower rate of condemnation. It is obvious, therefore, that, to meet the higher costs of maintenance it has become necessary to find additional revenue from other sources. It is no longer possible to run the abattoir on profits from by-products.

UNITED MUNICIPAL EXECUTIVE AND MEAT BOARD:

The Meat Board has agreed in principle to pay the Local Authorities for the facilities at the abattoirs and to consider renting the cold storage space required at an economic rental. The basis for payment is at present being investigated.

Application has also been made to the Province for increased admission charges to stockowners.

OWNERSHIP OF ABATTOIR BY-PRODUCTS:

The Government Law Advisors have given a legal opinion on this subject to the effect that all by-products, including what is termed waste and condemned material, remain the property of the owner of the stock. The abattoir owners, i.e., the Local Authorities, are entitled to render innocuous any unsaleable material or material found unfit for consumption, but if these are manufactured into saleable products the value should revert to the stockowner.

This presents a serious problem to Local Authorities as the sale of manufactured products contributes considerably to abattoir revenue in most cases. In our own case more than half the revenue is derived from this source.

The Liaison Committee of the United Municipal Executive is investigating the matter in conjunction with the Technical Sub-Committee of the Meat Board to try to solve this question either by means of legislation or by administrative action through the statutory powers of the Board.

PHARMACEUTICAL PRODUCTS:

The collection, storage and sale of material for the production of pharmaceutical products is being exploited to the utmost, not only because it is a good source of revenue, but also since these products are valuable aids to medical science.

NEW ABATTOIR:

The shortage of money is still delaying the construction of a new abattoir. Even though it is realised that the delay is unavoidable at present it must be stressed that the present abattoir is unsatisfactory under present day conditions of operation. The Council would therefore be wise to give high priority to this undertaking when funds become available.

CONTROL OF DAIRIES AND MILK SUPPLIES

INTRODUCTION:

It is with regret that the death of Dr. W. G. van Aswegen, our Veterinary Officer, on 27th February, 1952, is reported.

Dr. van Aswegen was with this Department from the 2nd January, 1941, until his death. He was a most energetic and enthusiastic official. He devoted all his energies to his duties and in particular to the improvement of the milk supplies of this City. It was often felt that he overtaxed his health by the many continuous hours he put into his work. His enthusiasm often drove him to ignore the usual hours of duty.

His honesty of purpose and integrity were exemplary. His ability and scientific knowledge were of the highest standard. He was an authority on the bacteriology of milk and milk products and on the production, handling and pasteurisation of milk. One of his ambitions was to ensure a safe and good supply of milk for this City. He was a tower of strength in trying to obtain compulsory pasteurisation of all milk supplies. He believed, like all scientific people do, that this was the only real protection of milk supplies.

The name of Dr. van Aswegen is indelibly written in the history of this Department. He was a colleague with whom it was always a pleasure to work; a man of knowledge and understanding. We miss him very much.

Dr. W. J. Wheeler who was Assistant to Dr. van Aswegen was appointed as his successor.

Dr. Wheeler has now been with the Department since June, 1949, and we had no hesitation in recommending him for the position, as he has already made his presence felt through his keenness, energy, interest and knowledge. He has to follow in the footsteps of a very worthy predecessor, but I am sure he will acquit himself of the task creditably.

DAIRY LICENCES:

Three hundred and twenty-six applications for dairy licences from producers, producer-distributors, milk shops and tearooms selling milk in sealed containers were dealt with.

Some details of licences under the following headings.

	New	Surrendered	Renewals Refused	New Applicants Refused	Transferred	New Applicants pending	Increase or Decrease
Producers	41	27	—	—	8	3	+14
Producer-Distributors ..	—	3	—	—	1	—	— 3
Distributors	6	6	3	—	10	1	+ 3
Tearooms	8	—	—	—	—	2	+ 8
TOTAL ..	55	36	3	—	19	6	+19

SITUATION OF PREMISES:

The 323 licensed dairy premises were situated as follows:—

	In Mun. Area	Within 10 miles	11-25 miles	26-50 miles	51-75 miles	76-100 miles	101-150 miles	151-200 miles	Over 200 miles	Total
Producers	3	19	76	15	11	10	55	22	—	211
Producer-Distributors ..	9	3	3	—	—	—	—	—	—	15
Distributors	83	—	—	—	—	—	—	—	—	83
Tearooms	14	—	—	—	—	—	—	—	—	14
TOTAL ..	109	22	79	15	11	10	55	22	—	323

There was a slight increase in the total number of producers caused mainly by the development of the area supplying the collecting depot at Carolina.

Speculating dairymen in the vicinity of the City have largely been forced to sell out leaving the production of milk more and more to the farmer who fits dairying into the general farming pattern.

MILK SUPPLIES:

No. of premises where milk is produced	226
Approx. number of cows kept (in milk)	8,829
Approx. number of cows kept (dry)	4,445
Approx. number of gallons produced daily	17,194

ESTIMATED TOTAL DAILY GALLONAGE CONSUMED AS AT 30TH JUNE, 1952:

	Gallons per day
From Producers	16,423
From Producer-distributors	771
Imported from Johannesburg and other centres during milk shortages	200
Imported for Schools	500
	17,894

Of the 17,194 gallons produced from our licensed premises, 13,128 gallons (76%) were pasteurised at our five pasteurising plants. This figure shows an increase of about 3%.

Through the milk shortage and competition from the larger plants, the smaller dairymen selling raw milk were hard pressed and quite a few relinquished their businesses.

All the milk introduced on temporary permits from Johannesburg as well as industrial milk from various cheese factories was pasteurised.

Milk for consumption at schools was still supplied from Johannesburg under the same contract, but it is hoped that in the near future a Pretoria firm may gain the contract so that supervision by us can be maintained throughout.

Despite the increase in prices of milk to the consumer, the consumption of milk remained about the same as during the previous year. It is felt, however, that if more milk shops could be erected in the Native areas, and distributors assured of a regular supply, the consumption by this section of the population would be increased considerably.

Our pasteurisation by-laws are still lying with the Provincial Administration awaiting the findings of a commission of enquiry which was appointed early this year, but has so far given no indication as to when it will commence to hear evidence. The outcome will probably set the policy as regards pasteurisation throughout the Transvaal.

Our area of supply passed through one of the most serious droughts in years, the effects of which will still be felt for some time. With the scarcity of feeds, the prices rose rapidly and only farmers producing a large proportion of their own feed were able to make ends meet.

To supplement our shortage during the drought, industrial milk was allowed in under temporary permit. This measure was reluctantly resorted to lest the public be deprived of an essential food.

PERSONNEL EMPLOYED IN MILK TRADE:

Employed by	Europeans	Natives	Total
Producers	237	1,024	1,261
Producer-distributors.. .. .	19	57	76
Distributors	193	484	677
	449	1,565	2,014

TYPHOID TESTING OF DAIRY EMPLOYEES:

The voluntary free testing for the carrier state of typhoid was continued and was well supported as in the past by employers in and around the City.

Of the 643 milk handlers presented for testing, 26 Natives and three Europeans were Vi-positive, again proving the necessity for maintaining this service.

The data in connection with Vi testing appearing below are for persons handling milk only and for details of the whole scheme the section on infectious diseases should be referred to.

	Producers	Producer-distributors	Distributors	Total
No. of dairies submitted employees ..	27	11	42	80
No. of dairy employees tested	169	63	411	643
No. of European employees tested ..	10	1	61	72
No. of non-European employees tested..	159	62	350	571
No. of Europeans Vi-positive.. .. .	—	—	3	3
No. of non-Europeans Vi-positive.. ..	8	1	17	26
Percentage Europeans Vi-positive	—	—	4.1%	—
Percentage non-Europeans Vi-positive ..	—	—	4.5%	—

DAIRY INSPECTIONS:

As in previous years, regular inspections of the premises of milk producers and producer-distributors were undertaken by three dairy inspectors and two Veterinary Officers, while dairies and milk shops in the urban area were also visited by District Health Inspectors.

Production and handling of milk and sweet cream were controlled under direct veterinary supervision by the dairy staff. The situation of most dairies being far from the City, regular inspection entailed a lot of travelling.

Veterinary inspection of herds was maintained, although the sad and untimely death of Dr. W. G. van Aswegen on 28th February, 1952, caused disruption in this work. Advice concerning disease, breeding, feeding etc. of animals was given wherever necessary and it is hoped that this service will be further extended.

The following particulars of inspections during the year pertain:—

INSPECTION OF DAIRIES (PRODUCERS AND PRODUCER-DISTRIBUTORS):

(a) During day milking	148
(b) During early morning milking	61
(c) At other periods	1,418
(d) Contraventions dealt with	687

INSPECTION OF HERDS (VETERINARY OFFICERS):

No. of animals inspected	8,280
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INSPECTION OF MILK DEPOTS:

(a) During day	1,334
(b) During early morning	103
(c) Night inspections	1
(d) Contraventions dealt with	480

DISTRIBUTION, STREET ETC. INSPECTIONS:

(a) During day	613
(b) During early morning	425
(c) Contraventions dealt with	197
(d) Other inspections or enquiries	160
(e) Complaints dealt with	72
(f) Written notices served	186

MILK SAMPLING FOR TESTS AND ANALYSIS:

A full-time Health Inspector was employed for taking and recording of milk samples. Laboratory tests are undertaken by Dr. Pijper's laboratory as well as by our own.

1. BACTERIOLOGICAL EXAMINATION:

(a) **Plate Counts** (samples taken under Dairy By-laws, standard not more than 200,000 micro-organisms per m.l. and no B. coli in 0.01 m.l. fresh milk).

No. of samples taken	436
No. conforming to legal standard	240
No. containing excess micro-organisms (warnings issued)	62
No. containing excess micro-organisms (prosecuted)	1
No. containing excess B. coli (warnings issued)	74
No. containing excess B. coli (prosecuted)	—
No. containing excess B. coli and micro-organisms (warning)	50
No. containing excess B. coli and micro-organisms (prosecuted)	9
Total number of warnings issued	186
Total number of prosecutions	10

(b) **Breed Smear Counts:**

No. of milk samples examined	25,677
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The above were classified as follows:—

Very Good	6,303
Good	5,969
Fair	6,846
Unsatisfactory	6,559
	25,677

The daily samples from individual producers taken at our pasteurisation depots and examined in our laboratory gave a good overall picture of the bacterial content of the milk of about 60% of our producers. Bulk samples from about 30 farmers in the Carolina area were examined daily for bacterial content.

Besides giving us an indication of the standard of hygiene on the farms, these bacteriological analyses enabled us to warn producers of the presence of mastitis organisms in their milk supplies. Examination of pasteurised milk enabled us to discover the development of heat resistant organisms in the plants.

(c) **Presumptive Coliform Tests:** In our laboratory 2,557 samples of pasteurised milk were examined from various parts of plants as an indication of cleanliness. Of these 1,286 were positive and 1,271 negative.

(d) **Microscopic Mastitis Tests:** One herd of 59 cows was examined to ascertain the number of animals infected. This was found to be 19.

It appears wellnigh impossible to eliminate mastitis from a herd by the use of antibiotics under usual conditions. These drugs however still prove of great value to suppress the disease where it is shown to exist by the strip cup test.

2. CHEMICAL ANALYSES:

(Samples taken under the Food, Drugs and Disinfectants Act No. 13 of 1929.)

Analyses undertaken by our Municipal Chemists. The data for the year are:—

No. of samples taken	587
No. of samples satisfactory	391
No. of samples unsatisfactory (warnings issued):	
Deficient in Milk Fat	26
Deficient in Solids-not-Fat	138
Deficient in Fat and Solids-not-Fat	1
No. of bad samples (owners prosecuted):	
Deficient in Milk Fat and Solids-not-Fat	—
Deficient in Milk Fat	14
Deficient in Milk-Solids-not-Fat	—
Adulterated (added water)	17

3. DISC SEDIMENT TEST FOR VISIBLE DIRT:

No. of specimens tested	1,467
No. satisfactory	754
No. not quite satisfactory and warnings issued	575
Very unsatisfactory samples and severe warnings issued	70
Final warnings issued	62
Prosecutions	6

4. PHOSPHATASE TEST FOR PASTEURISED MILK:

No. of samples tested	2,237
No. satisfactorily pasteurised	1,898
No. slightly under pasteurised	271
No. grossly under pasteurised	68
	2,237

As before, the under pasteurised specimens came mainly from dairies whose "holding" facilities were inadequate and insufficient "holding" time allowed.

Daily samples were taken from the five pasteurisation plants.

5. BIOLOGICAL TESTS OF MILK:

Facilities for guinea pig inoculation and other laboratory work are still inadequate. However, it is hoped to extend this work in the future.

Of the 12 samples of raw milk inoculated into guinea pigs, none revealed Tuberculosis and two were positive for contagious abortion.

6. MISCELLANEOUS TESTS:

Twenty-seven milk samples were "ring tested" for contagious abortion for milk—six proved to be positive.

Some comparative work was done on the two antigens mentioned last year but unfortunately it was found that the cheaper one yielded unreliable results and had to be abandoned. With better standardisation of the antigen in use, this test should be of great value in tracing actively infected herds.

GENERAL REMARKS:

Artificial insemination of cows in the vicinity of the City gained in popularity not only because it enabled farmers to breed calves from some of the best bulls in the country, but also because it combated infertility and disease in cows. Farmers are now rearing these calves, and it is hoped that in future they will take such pride in their herds that it will be easier to persuade them to eliminate such diseases as Tuberculosis and contagious abortion.

Fortunately the threatened outbreak of Rift Valley Fever did not occur and Contagious Infertility seems to have assumed a sub-clinical form.

Although clinical cases of Tuberculosis are largely eliminated from herds by regular inspection, the incidence of the disease in some herds remains alarmingly high. This is shown up mainly through the tuberculin testing of animals bought for introduction to herds under test. More and more farmers wish to avail themselves of the Department of Agriculture's Interim Tuberculosis Scheme, but they have not the necessary staff at present to cope with all applications. Fortunately private Veterinarians are able to assist to some extent.

ANIMAL POUNDS AND DIPPING TANKS:

Control of impounding and dipping of animals was maintained by this Department.

Only the pounds at Hercules and West End were in use while the dipping tank at Hercules Pound alone served the City.

The details are as follows:—

	No. of Animals Impounded	Pound Fees and Sales	Dipping Fees	No. of Animals Dipped
Hercules	913	£351 3 5	£1 11 1	107
West End	697	£265 13 9	—	—

RECORD OF THE WORK OF THE HEALTH INSPECTORS

It is again recorded that during the year under review the inspectorial staff remained well under normal establishment. At the end of the period, the shortfall was two in respect of the Abattoir and six in respect of that portion of the staff engaged on district work. The latter position was further aggravated by the fact that relief staff had to be seconded to the Abattoir continuously for the latter half of the period.

A matter for grave concern is the fact that owing to various factors, it is becoming increasingly difficult to obtain the services of suitably qualified health inspectors, and there appears to be no prospect of any improvement in this regard in the immediate future.

It is, nevertheless, pleasing to record that the usual high standard of hygiene has been maintained throughout the city. This satisfactory state of affairs is largely due to the policy of ensuring that complaints and other matters are dealt with expeditiously.

The following list indicates the types and number of licensed premises for the year under review; these premises were all inspected at regular intervals:—

	European	Non-European
Bakers and Confectioners	32	4
Butchers	103	33
Hotels	19	—
Tea Rooms and Restaurants	281	75
Native Eating Houses	7	13
Food Purveyors	303	233
Fishmongers	13	—
Fruiterers	390	170
Bioscope Tea Rooms	1	—
Hawkers and Pedlars	72	147
Mineral Water Factories	5	2
Grain Millers	4	—
Boarding and Lodging Houses	409	—
Launderers	9	10
Cobblers	83	28
Theatres	14	3
Public Halls	13	1
Market Stalls	61	—
Cycle Dealers	82	29
Billiard Rooms	2	3
Poulterers	31	—
Secondhand Dealers	51	6
Workshops	246	2
Milk Shops	25	—
Tannery	1	—
Fumigators	3	—
Woodsawyers	4	—
Brick Burners	2	—
Ice Cream Factories	2	—
Pawnbroker	1	—
Milk Producers	247	—
Dairies	95	9
Hairdressers	110	15
Offal Dealers	1	—

The following are the details of the work carried out by Inspectors during the year under review:—

Total Inspections made	58,054
Nuisances dealt with	19,558
Nuisances abated (this includes unabated nuisances carried over from previous year)	16,942
Complaints dealt with	3,283
Licences approved	3,787
Licences refused	64
Samples of water taken	219
Samples of foodstuffs taken	538
Visits of enquiry re infectious diseases	3,607

Nuisances detected and referred to other Departments:—

Chief Licence Officer	30
Chief Traffic Officer	4
City Electrical Engineer	10
City Engineer	157
Director of Parks	16
Housing Manageress	1
Non-European Affairs Department	43
Town Clerk	2

During the year there were 117 prosecutions instituted by the Department for contravention of various statutes and Municipal By-Laws, resulting in fines to the total of £454 3s. being imposed.

The following table is an analysis of the aforementioned prosecutions and the results thereof:—

MUNICIPAL MARKETS	
Daily inspections of all produce in the early morning Municipal Market were carried out and the following quantities of fruit and vegetables were examined:—	
Bags	1,124
Tons	544
Boxes	2,051
Cases	186
In addition there were 67 dozen eggs, 483 watermelons and 121 pumpkins sold and marketed at public markets, and the following quantities of fruit and vegetables were examined:—	
Bags	1,124
Tons	544
Boxes	2,051
Cases	186
Demand Produce:	
Number examined	1,124
Number condemned	110
Percentage condemned	9.78
Supply Produce:	
Number examined	1,124
Number condemned	110
Percentage condemned	9.78
The following table is an analysis of the aforementioned prosecutions and the results thereof:—	
Chemical:	
Number examined	1,124
Number condemned	110
Percentage condemned	9.78
General:	
Number examined	1,124
Number condemned	110
Percentage condemned	9.78

Nature of Offence	No. of Cases	No. Guilty	No. Cautioned and Discharged	No. Withdrawn	Paid Admission of Guilt	No. not Guilty	Fines		
							£	s.	d.
1. Hawking milk	2	1	—	—	—	1	5	0	0
2. Transferring milk from one container to another in the street	4	3	—	—	—	1	3	10	0
3. Not wearing overall while delivering milk	4	4	—	1	3	—	9	10	0
4. Milk bottles and baskets not covered	4	4	—	—	1	—	1	10	0
5. Added water to milk	7	7	—	—	2	—	101	0	0
6. Introduced milk without licence	3	3	1	—	—	—	4	10	0
7. Failure to comply with notice	4	4	2	10	6	—	32	0	0
8. Deficiency in milk fat	7	6	—	1	4	1	56	0	0
9. Visible dirt in milk	12	12	1	3	2	—	41	0	0
10. Failure to provide temporary builders latrines	7	7	1	4	1	—	10	10	0
11. Used stoppers on bottles	5	5	—	—	—	—	3	10	0
12. Not wearing clean overall whilst delivering milk	6	5	—	—	—	1	8	8	6
13. No nameplate on milk delivery cycle	6	5	—	—	—	1	5	8	6
14. Failure to provide night soil and rubbish removal services	—	—	—	1	—	—	—	—	—
15. Defective delivery baskets	3	3	—	—	—	—	1	0	0
16. Dirty conditions in restaurant, tearoom, boarding-house and hotel	—	—	—	1	2	—	12	10	0
17. No covered containers used in bread delivery	5	4	—	—	1	—	2	0	0
18. Keeping cows without permit	1	1	1	—	—	—	25	10	0
19. Exposing unsound food for sale	1	1	—	—	2	—	8	0	0
20. Fly breeding	5	5	1	2	1	—	28	0	0
21. Excess micro-organisms and B. coli in milk	1	1	—	—	—	—	3	0	0
22. Receiving milk from unlicensed dealer	—	—	—	—	1	—	3	0	0
23. Dirty condition of barbershop	1	1	—	—	—	—	5	0	0
24. Unlawfully practicing as a midwife	—	—	—	—	2	—	8	0	0
25. Exposing food to contamination	—	—	—	—	1	—	2	0	0
26. Bucket area not fly-proof	—	—	—	—	1	—	2	0	0
TOTAL	88	82	8	26	29	6	£454	3	0

SUPERVISION OF FOODSTUFFS

Regular inspections were carried out of all food factories, stores and premises where foodstuffs are prepared, stored or kept for sale.

A well attended film and lecture dealing with food handling was given to a gathering of employers and employees engaged in food establishments. Subsequent inspections of the premises where these persons were employed showed the value of such lectures. In almost every case considerable improvement was noticed in regard to the handling, preparation and methods of storage of foodstuffs.

A total of 246 consignments of unsound foodstuffs were seized or surrendered and the following quantities were condemned as unfit for human consumption.

Jam	3,314 lbs.	Meat Extract	375 jars.
Confectionery	238 lbs.	Meat	1,419 tins.
Fresh Fish	5,214½ lbs.	Fish	3,448 tins
Cream	12 galls.	Fruit	2,044 tins
Dried Fruits	104½ lbs.	Vegetables	1,518 tins
Cereals	180 lbs.	Milk	305 tins
Fresh and Prepared Meats ..	385 lbs.	Powdered Milk	140 lbs.
Biltong	37½ lbs.	Soup	194 tins
Peanut Butter	5½ lbs.	Spaghetti	167 tins
Spices	6 jars	Unlabelled	216 tins
Pickles	426 jars	Butter	9½ lbs.
Sauces	9 tins	Fat	9 lbs.
Mayonnaise	244 jars	Nuts	60 lbs.
Fish Paste	24 tins	Miscellaneous	25 lbs.

MUNICIPAL MARKET:

Daily inspections of all produce on the early morning Municipal Market were carried out and the following quantities of fruit and vegetables were condemned:—

Bags	1,394	Crates	316
Trays	598	Pockets	9,337
Boxes	3,055	Lots	51
Carriers	856	Punnets	227

In addition there were 66 dozen eggs, 483 watermelons and 182 pumpkins seized and condemned as unfit for hyman consumption.

Dressed Poultry:

Number examined	4,219
Number condemned	316
Percentage condemned	7.5%

Game (Buck):

Number examined	350
Number condemned	5
Percentage condemned	1.4%

Guinea Fowl, Pheasant, Etc.:

Number examined	82
Number condemned	—

Wild Boar:

Number examined	1
Number condemned	—

The following food samples were taken for chemical and bacteriological analysis:—

Chemical:

Article	No. of Samples	Satisfactory	Unsatisfactory
Boerwors	31	29	2
Minced Meat	14	13	1
Beef Sausage	59	55	4
Pork Sausage	2	2	—
Mutton Sausage	1	1	—
Dripping	2	2	—
Bread	7	7	—
Honey	3	3	—
Coffee	5	4	1
Chicory	1	1	—
Cheese	5	5	—
Skim-milk Cheese	1	1	—
Cream Cheese	1	—	1
Icing Sugar	8	8	—
Dried Fruit	31	31	—
Polony	1	1	—
Soda Water	2	2	—
Spices	35	34	1

Article	No. of Samples	Satisfactory	Unsatisfactory
Mealie Meal	10	10	—
Lentils	1	1	—
Sago	6	6	—
Sugar	11	11	—
Flour	3	3	—
Cocoanut	9	9	—
Milk	6	5	1
Cream	1	1	—
Ice Cream	179	169	10
Imitation Ground Almonds	1	1	—
Coca-Cola Syrup	2	2	—
Mineral Water	9	8	1
Butter	3	3	—
Dried Skim Milk Powder	1	1	—
Water	88	88	—
	538	517	21

Bacteriological:

Ice Cream	174	120	54
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Water samples taken include those from the City's water supplies at various points, also at the Municipal Swimming Baths.

No. of Samples	Satisfactory	Unsatisfactory	Not Satisfactory for Use unless Chlorinated
219	104	87	28

In the enforcement of the Foods, Drugs and Disinfectants Act and other legislation pertaining to food for human consumption, 11 prosecutions were instigated and 71 written warnings were issued.

REPORT ON THE PEST CONTROL SECTION FOR THE YEAR ENDED 30TH JUNE, 1952

Anti-Mosquito Control Measures:

At the commencement of the period under review negotiations between the Health Department and the owners of properties crossed by Modderspruit in the Hercules area had been finalised and it was therefore possible for the Pest Control Section to commence with anti-mosquito control work in this spruit at the beginning of the 1951/52 season.

The spruit runs from Lady Selborne through the Daspoort Estates and Mountain View where it flows into the Aapies River.

It was an ideal breeding place for mosquitoes and during the summer months numerous complaints were received from residents in those areas.

Stagnant pools in the spruit were drained and vegetation was cleared from the water edge. In addition to the above, weekly spraying with a larvicide was undertaken which brought mosquito-breeding under control, and the area which was normally mosquito infested became comparatively free from mosquitoes.

Throughout the rest of the City the normal anti-mosquito measures of clearing vegetation from spruits and furrows, straightening furrows, the draining of swampy areas and spraying were maintained.

The draining of a swampy area on the western townlands which was partly done the previous season was completed this year and the area is now completely dry.

In all 164 holes and depressions which were liable to hold water and create breeding places for mosquitoes were filled in.

The Department received full co-operation from the Market Gardeners and it was therefore possible to maintain effective control measures on the agricultural holdings within the Municipal area.

M.25 Emulsion was used as a larvicide during the latter half of the spraying season and the results obtained have been entirely satisfactory.

Rodent Eradication:

Regular rodent control measures on Municipal premises were maintained during the year. The usual methods of trapping, poisoning and gassing were adopted.

Experiments were carried out with Warfarin rodenticide and the results were very promising.

This rodent poison is now exclusively used in Municipal buildings and it is also recommended for use by the public and the results obtained have been excellent.

Eight hundred and sixty-nine complaints were dealt with by the staff of the Pest Control Section and District Inspectors. Advice in the methods of rodent eradication was given and in many instances assistance in the eradication of rodents was given.

Forty-four rodent-free certificates were issued to the owners of buildings prior to demolition. Of these buildings two were found to be rodent infested and they had to be gassed before the necessary certificates could be issued.

Control of Fly-Breeding:

Regular spraying of the Municipal compost pits with D.D.T. and Benzine Hexachloride Solution was carried out by the Parks Department and fly-breeding was reduced to a minimum.

Complaints about fly nuisances were not numerous and those received were investigated and dealt with.

Cockroach Control:

Intensive campaigning in cockroach extermination was not undertaken, but all complaints were investigated and advice and assistance given where necessary.

Some of the electrical sub-stations were found to be cockroach infested and they were sprayed with D and B solution with good results.

It was also necessary to spray some of the stormwater gulleys and sewer manholes for the destruction of cockroaches.

General:

Complaints about ticks, ants and bugs were investigated and advice and assistance were given where necessary.

Experimental work with poisons, insecticides and larvicides were carried out during the year.

SLUM CLEARANCE, HOUSING AND REHABILITATION REPORT FOR THE YEAR 1951-1952

The continued shortage of housing accommodation in Pretoria has made effective slum clearance work difficult.

For this reason the Department has for several years now endeavoured to undertake slum clearance work in close collaboration with the Housing Section, whereby many of the families living under slum conditions are rehoused within the Council's various housing schemes.

Under this policy priority in rehousing is given firstly to families living under bad slum conditions, secondly to families living in overcrowded dwellings and thirdly because of social and welfare problems attached to such families.

It was only possible to rehouse 122 families in sub-economic and other Municipal houses during the year.

The greatest sufferers as a result of the housing shortage are families in the lower income groups, who are unable to afford the high rents demanded under present economic conditions because of the high level of building and other costs. Such families are therefore compelled to seek accommodation in inferior types of houses, outbuildings, overcrowded dwellings, garages, Native rooms, stables, etc., in direct contravention of our By-Laws. In many cases, the rental paid even for such unsatisfactory accommodation is very high.

Very few houses are being erected in Pretoria by public enterprise for this lower income group. The Council in its turn has since 1947 not proceeded with any large house construction scheme, so that the only accommodation available to-day for these people is in existing sub-economic houses as and when they fall vacant. This fact has made it extremely difficult to provide accommodation for these slum dwellers, and has also prevented us from embarking upon any full-scale programme of slum elimination. We are, however, continuing with slum elimination work on a small scale.

The re-occupation and overcrowding of unsatisfactory premises was prohibited in 181 cases. This prohibition came into force only upon the premises concerned being vacated by those persons who were in occupation at the time. This policy at least enabled them to continue to have shelter until they were rehoused under satisfactory conditions.

Despite the difficulties in connection with slum clearance, the statistics appended to this report indicate the type and extent of work undertaken during the year. Eighty-four families comprising 356 persons were taken out of slums and accommodated in healthy Council homes.

During the year we did not declare any premises "slums" in terms of the Slums Act No. 53 of 1934, as amended, mainly because owners under present economic conditions are very often of their own accord eager to demolish old buildings, particularly in the centre of the City, in order to erect new and larger buildings on these sites, or are easily encouraged to demolish unsatisfactory buildings. As a result, 72 dwellings comprising 366 rooms were demolished. Of these 35 dwellings were demolished as a result of action taken by this Department in terms of the Council's Slums Regulations.

The Department also directs its attention to the welfare of the people occupying slums, and has been instrumental in helping to rehabilitate many such families.

The losses incurred by the Council on its various sub-economic housing schemes was for many years very high, and for this reason we had to consider the question of charging economic rents in the cases of families who had progressed into the economic group when their incomes exceeded the maximum limits prescribed for sub-economic housing. The representations made to Council, which were also in conformity with instructions received from the National Housing and Planning Commission, gave rise to lengthy discussions on this matter both in Council and in subsequent deputations to the Minister of Health and the National Housing and Planning Commission.

The outcome of these discussions was a general raising of rents for Danville and a resolution by the Council to convert 200 of the 500 sub-economic houses at Danville into an economic scheme for selling purposes, in which priority would be given to those economic tenants who desired to purchase the homes they occupied.

This matter is still receiving the attention of the National Housing and Planning Commission, which is busy finalising all financial details with the Council. As there is still a demand for accommodation in sub-economic houses, it is unfortunate that Council did not, during the past five years, embark upon any large scale building of economic houses into which sub-economic tenants who had progressed into the economic group could be transferred and so release their houses for the accommodation of sub-economic tenants only.

The decision of the Council will now mean that sub-economic and economic tenants will live together in the same types of houses in the same area, and within the same environment. It would be a pity if, because of the sale of these sub-economic houses, families who are presently accommodated under slum conditions will be denied the benefits of being transferred to Council's sub-economic houses.

The socio-economic position of families cannot be separated from the housing conditions under which they are living and adequate houses should be available for families at rents which they can afford. It is for this reason that the Council's sub-economic houses are the only suitable houses in Pretoria for sub-economic families at a rental in keeping with their incomes.

It is therefore strongly stressed that the Council should not continue to sell sub-economic houses. It should at least retain its remaining sub-economic houses for letting purposes to sub-economic tenants only.

The housing shortage in Pretoria has made the Council conscious of the necessity for embarking upon a long-term programme of house-building, and for this purpose a special House-Building Committee was established. It is hoped that as a result of this section, the housing problem in Pretoria will improve in the near future.

One of the first housing schemes will be the erection of 150 economic houses for selling purposes. These houses will be of varied designs and will be built on individual stands or in small groups of stands dispersed throughout the City. These houses will be for the middle-income group.

The House-Building Committee is also considering the erection of at least 200 "low-cost" economic houses to cater for the lower-income group.

The problem of non-European housing has been grave for many years and has provided the European population with a serious danger spot, from a health as well as a socio-economic point of view. Non-European housing represents the most urgent housing problem in Pretoria at present.

Apart from extension to the Atteridgeville location, which has provided additional accommodation for Natives only, the Council has done nothing in order to relieve the unsatisfactory condition of the Cape Coloured and Asiatic communities, who are at present overcrowded in an area congested with dilapidated and unhealthy dwellings.

Because of the shortage of houses the Department has for many years completely refrained from embarking upon any form of slum elimination work in the areas occupied by non-Europeans.

On the instigation of the House-Building Committee a move has been made with a view to solving the Native housing problem, and in order to accelerate this policy, the Medical Officer of Health was charged with the task of convening special meetings of Heads of Departments to consider, report and make recommendations to the Council at this end.

The necessity for houses to be built by Native labour is of paramount importance in solving this problem and in order to test the success of such a venture Council agreed to the erection of 12 Native houses as an experiment at Vlakfontein, which it is hoped, will be commenced shortly.

PREMISES DEALT WITH IN TERMS OF THE PRETORIA MUNICIPAL SLUMS REGULATIONS

LETTERS SENT		Referred to Other Departments
Prohibiting Re-occupation	Prohibiting Overcrowding	
81	100	7

Demolition and Conversion Permits:

Considered by National Housing and Planning Commission		Approved	Refused	Still Under Consideration
(a) Demolition Permits	50	7	—	—
(b) Conversion Permits	21	—	—	—
Considered by City Council in Terms of Section 16 of the Housing Act No. 35 of 1920				
(a) Demolition Permits	6	—	—	1
(b) Conversion Permits	—	—	—	—

Dwellings actually demolished: 72 comprising 366 rooms.

REHOUSING STATISTICS IN CONJUNCTION WITH SLUM ELIMINATION PROGRAMME — YEAR ENDED 30TH JUNE, 1952
NUMBER OF APPLICANTS BROUGHT BEFORE HOUSING SUB-COMMITTEE FOR REHOUSING

TOTAL		Old Age Pensioners						Ordinary Families		Total Number of Cases Brought Before Committee				Number of Cases Rehousing for Public Health Reasons	
		Approved			Refused					Approved		Refused			
		Families	Persons		Families	Persons				Families	Persons	Families	Persons		
Families	Persons	946	5	15	1	4	178	16	183	872	17	74	84	358	

WATER SUPPLIES

As previously stated the demand for water has increased tremendously year by year as the table set out hereunder shows:—

1929-1930	.. .. .	4.2	million gallons per day
1934-1935	.. .. .	7.4	" " "
1939-1940	.. .. .	8.78	" " "
1945-1946	.. .. .	13.8	" " "
1946-1947	.. .. .	14.2	" " "
1947-1948	.. .. .	14.52	" " "
1948-1949	.. .. .	15.254	" " "
1949-1950	.. .. .	15.963	" " "
1950-1951	.. .. .	16.973	" " "
1951-1952	.. .. .	17.766	" " "

The water is drawn from five sources; three direct from dolimitic springs; and the balance from Rietvlei and the Rand Water Board. During the period under review the following quantities of water were drawn from these sources:—

Rand Water Board	.. .. .	2,923.340
Springs (Fountains)	.. .. .	1,603.358
Sterkfontein Springs	.. .. .	520.750
Rietvlei Springs	.. .. .	545.480
Rietvlei Filters	.. .. .	914.958

24.6 Million gallons were consumed on a peak day during October.
The following quantities of refuse, etc., have been removed:—

SANITARY AND RUBBISH REMOVAL SERVICES

Bin Services	.. .. .	195,615 cubic yards
Special and Coupon Service	.. .. .	15,344 cubic yards
Sanitary Pail Service	.. .. .	5,224,100 gallons
Vacuum Tanks	.. .. .	11,603,500 gallons.

REPORT ON SEWAGE PURIFICATION WORKS AND
CHEMICAL LABORATORIES: 1951-1952

Table I gives the following particulars:—

- Daily average sewage flow.
- Screenings removed from 1 inch mechanically raked bar screens and not cut up by disintegrator pump—disposed of by burial.
- Grit removed from grit channels, mechanical detritor, screen chambers, sumps and meter channels—disposed of by dumping.
- Rainfall as measured at the Sewage Works.

The rainfall for the year is well below the average, which probably accounts for the decrease in the daily average sewage flow figure.

Unfortunately the Hydrography Section of the Irrigation Department has removed its stream flow recorder from the Daspoort Weir. No figures are therefore available for the combined stream flow at this point, and dilution ratios of purified sewage effluent to stream water could not be calculated.

Sewage Purification:

(1) *Fixed two-stage versus single filtration in 12 ft. deep filters.* The comparative results for these two processes for 1951 are given in Table II. The loading applied to the filters in the case of the two-stage process, was 50 per cent. greater than that for the single filters. The standard of purity of the effluent from the two-stage process was slightly higher than that from the single process. When treating ordinary domestic sewage, two-stage filtration in 12 ft. deep filters may therefore be considered to be approximately 50 per cent. more efficient per cubic yard of media than ordinary single filtration in filters of the same depth. However, as the two-stage process normally involves pumping to the secondary filter, as well as higher capital expenditure, single filtration in 12 ft. deep filters is more economical than two-stage operation.

(2) *Jenks bio-filtration.* Table III gives the comparative results for single filtration in 6 ft. deep filters and 3:1 recirculation in a 5 ft. deep Jenks bio-filter for the year 1951. The effluents from the two processes are more or less of equal purity. From the dosage rates and loading figures, it can therefore be deduced that the 5 ft. deep Jenks bio-filter is capable of double the purification per cubic yard, compared with an ordinary 6 ft. deep filter, when both are treating a weak domestic sewage to 100 per cent. stability. In this case then, single filtration in 6 ft. deep filters is more economical than Jenks bio-filtration, on account of the pumping costs incurred with recirculation.

This matter of the relative operating costs of filtration was fully dealt with in a paper: "Economic Aspects of Various Biological Filtration Processes for Settled Sewage", by L. F. and H. M. de Vaal, which was presented to the Thirtieth Annual Conference of the Institution of Municipal Engineers (S.A. District), and to the S.A. Branch of the Institute of Sewage Purification, in 1951.

New Works:

As a result of the difficulty experienced in raising capital, no progress can be reported with regard to the Council's proposed new sewage purification works at Rooiwal.

Re-use of Effluent as Cooling Water:

The construction of the necessary tanks, sand filters, sumps and pump house for supplying the power station with $2\frac{1}{2}$ m.g.d. of purified effluent as cooling water, is being carried out by contract. The total capital expenditure involved in this project is approximately £157,000. It is hoped that purified effluent will be supplied to the power station within the next few months.

Sludge Digestion:

Efficient sludge digestion was maintained in both sets of tanks. During the year 4,630 cubic yards of digested sludge were removed from the drying beds.

Laboratory Services:

A total of 2,693 samples, covering a wide range of materials, were analysed during the year. This represents a considerable increase in the laboratory services rendered to the various municipal departments.

Water Supply:

There was no recurrence of the "red water" troubles which were experienced with the Rand Water Board water in the Northern suburbs during the previous year. Chemical treatment of the Rand Water Board water was carried out by the Water Engineer at one reservoir, and the problem of corrosion of the water pipes is being investigated further.

TABLE I

Month	Sewage Flow	Screenings	Grit	Rainfall at Sewage Works Inches
	Daily Average Gallons	Cubic Feet per Million Gallons	Cubic Feet per Million Gallons	
1951—				
July	5,980,000	25	2.8	0.04
August	6,104,000	23	3.0	1.03
September	6,134,000	21	2.9	0.23
October	7,013,000	17	3.6	6.08
November	6,502,000	20	2.9	0.67
December	6,190,000	17	2.7	3.35
1952—				
January	6,334,000	16	3.3	2.91
February	7,052,000	15	3.8	5.06
March	6,912,000	15	2.8	1.75
April	6,290,000	16	2.7	0.66
May	6,423,000	16	2.5	0.64
June	6,365,000	15	3.3	0.18
Year 1951-1952 ..	6,442,000	18	3.0	22.60

COMPARATIVE RESULTS FOR JENKS BIO-FILTRATION ON 5 FT. FILTER
AND SINGLE STAGE FILTRATION ON 6 FT. FILTERS AT PRETORIA, 1951

RESULTS IN PARTS PER MILLION	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	AVERAGES			Year
												Jan.- April	May- Aug.	Sept.- Nov.	
DOSAGE: GALLS./CU.YD./DAY	120	126	119	130	119	121	119	109	110	126	119	124	117	118	120
SINGLE JENKS ..	257	255	248	256	258	222	205	224	249	282	269	254	227	267	248
LOADING ("O.A." X DOSAGE)	3,420	4,158	3,808	4,069	3,451	4,150	3,927	3,815	4,125	3,906	3,987	3,864	3,836	4,006	3,892
LOADING (STRENGTH X DOSAGE) 100s	548	653	580	647	553	662	655	616	641	633	601	607	622	625	617
MEAN AIR TEMP. DURING SAMPLING ° F.	70	72	71	64	55	48	49	53	62	69	70	69	51	67	63
RAW SEWAGE ..	57.2	65.6	65.6	55.2	55.3	60.7	61.0	59.8	66.8	57.6	48.4	60.9	59.2	57.9	59.4
SETTLED SEWAGE ..	28.5	33.0	32.0	31.3	29.0	34.3	33.0	35.0	37.5	31.0	33.5	31.2	32.8	34.0	32.5
F.B.E. SINGLE JENKS ..	12.5	13.5	16.7	14.5	15.2	16.3	16.8	17.4	18.3	16.4	14.1	14.3	16.4	16.3	15.6
H.T.E. SINGLE JENKS ..	12.7	18.4	14.5	15.2	13.4	14.1	12.6	15.4	15.8	16.0	16.3	15.2	13.9	16.0	14.9
E.F. SINGLE JENKS ..	10.3	10.8	10.0	11.5	11.0	13.1	13.5	13.0	13.3	12.5	10.9	10.7	12.7	12.2	11.8
ABSORBED	12.2	15.0	12.9	11.9	11.7	12.4	10.7	13.2	12.9	13.4	13.4	13.0	12.0	13.2	12.7
5 Day	5.6	5.2	6.2	6.4	5.8	7.1	7.5	7.8	8.5	7.0	5.6	5.9	7.1	7.0	6.6
B.O.D.	9.5	10.6	9.6	9.4	9.0	10.2	9.6	10.5	11.0	10.0	10.5	9.8	9.8	10.5	9.9
RAW SEWAGE ..	774	875	869	789	770	846	878	869	915	789	705	827	841	803	825
SETTLED SEWAGE ..	457	518	487	498	465	547	550	565	583	502	505	490	532	530	516
F.B.E. SINGLE JENKS ..	158	183	221	218	216	238	258	258	257	214	181	195	245	217	218
H.T.E. SINGLE JENKS ..	167	225	185	198	183	217	208	249	267	234	226	194	214	242	214
E.F. SINGLE JENKS ..	134	152	146	166	167	197	215	209	201	173	144	150	197	173	173
(McGOWAN)	156	185	163	156	158	162	182	223	228	206	194	165	181	209	183
5 Day	57	86	84	110	134	147	147	146	144	113	86	84	144	114	114
B.O.D.	125	137	126	133	131	167	168	192	202	166	161	130	165	176	155
RAW SEWAGE ..	269	392	336	336	325	299	291	291	218	223	280	333	302	240	296
SETTLED SEWAGE ..	150	168	178	165	170	178	188	134	138	114	162	165	168	138	158
F.B.E. SINGLE JENKS ..	14.1	25.6	17.0	17.2	21.0	30.4	34.9	32.3	29.8	22.7	26.3	18.5	29.7	26.3	24.7
H.T.E. SINGLE JENKS ..	17.0	22.7	21.4	22.1	23.7	27.2	27.5	27.2	22.2	26.2	25.6	20.8	26.4	24.7	23.9
E.F. SINGLE JENKS ..	10.4	13.9	11.5	11.1	14.4	22.4	26.8	24.9	21.7	18.0	18.6	11.7	22.1	19.4	17.6
5 Day	13.0	18.8	18.5	18.0	19.8	21.1	24.3	20.0	13.6	19.2	15.3	17.1	21.3	16.0	18.3
B.O.D.	3.3	4.9	4.4	6.1	8.1	8.7	9.4	7.4	6.9	4.8	4.8	4.7	8.4	5.5	6.3
5 Day	7.6	6.7	6.8	7.9	10.6	10.8	11.3	10.8	9.9	14.0	6.6	7.3	10.9	10.2	9.4

NOTE—SINGLE = Single stage filtration in 6 ft. filters.
SETTLED SEWAGE = Primary Dortmund Tank Effluent, applied to single stage filters.
F.B.E. = Filter Bed Effluent.
E.F. = Effluent, filtered in Laboratory through Whatmans No. 12.

JENKS = Rectriculation (3:1) on 5 ft. filter.
H.T.E. = Humus Tank Effluent.

Table II—(Continued)

RESULTS IN PARTS PER MILLION	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	AVERAGES			Year
												Jan.- April	May- Aug.	Sept.- Nov.	
RAW SEWAGE ..	31.3	35.0	34.2	40.0	35.0	40.0	43.8	45.0	40.0	35.0	35.0	35.1	41.0	36.7	37.6
SETTLED SEWAGE ..	31.3	35.0	30.0	33.8	31.3	28.8	37.5	40.0	37.5	35.0	30.0	32.5	34.4	34.2	33.7
F.B.E. SINGLE ..	4.3	7.5	8.4	11.9	10.7	18.2	15.1	14.4	11.3	7.5	5.7	8.0	14.6	8.2	10.3
JENKS ..	5.0	5.0	5.2	6.8	7.0	12.7	14.5	17.0	20.0	12.5	10.0	5.5	12.8	14.2	10.5
H.T.E. SINGLE ..	4.3	7.0	7.3	8.2	9.4	11.3	13.8	13.8	10.7	7.5	5.7	6.7	12.1	8.0	9.0
JENKS ..	4.8	4.5	4.5	5.8	7.0	12.0	13.5	17.0	18.8	12.5	10.0	4.9	12.4	13.8	10.0
E.F. SINGLE ..	4.3	7.0	7.3	8.2	9.4	11.3	13.8	13.2	10.7	7.5	5.7	6.7	11.9	8.0	8.9
JENKS ..	4.5	4.5	4.5	5.5	7.0	12.0	13.5	17.0	18.0	12.5	10.0	4.8	12.4	13.5	9.9
RAW SEWAGE ..	9.0	8.0	8.0	8.0	8.0	8.0	11.0	10.0	9.0	7.0	10.0	8.0	9.0	9.0	9.0
SETTLED SEWAGE ..	4.5	4.0	4.3	4.8	5.0	4.8	5.5	4.8	5.3	5.0	4.8	4.4	5.0	5.0	4.8
F.B.E. SINGLE ..	1.8	1.8	2.3	3.0	2.5	3.1	3.4	2.9	3.7	2.3	2.0	2.2	3.0	2.7	2.6
JENKS ..	2.3	2.3	2.4	2.0	2.9	2.9	2.5	2.5	2.6	2.5	2.4	2.3	2.7	2.5	2.5
H.T.E. SINGLE ..	1.6	1.4	1.7	1.9	2.0	2.2	2.7	2.4	2.7	2.0	1.7	1.7	2.3	2.1	2.0
JENKS ..	1.9	2.0	2.0	1.5	2.0	1.9	2.2	2.2	2.2	2.3	2.2	1.9	2.1	2.2	2.0
E.F. SINGLE ..	0.8	0.6	0.8	0.9	0.9	0.9	1.2	1.2	1.2	1.4	0.7	0.8	1.1	1.1	1.0
JENKS ..	1.5	1.4	1.2	1.3	1.4	1.5	1.5	1.8	2.0	1.2	1.6	1.4	1.6	1.6	1.5
H.T.E. SINGLE ..	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.6	0.5	0.5	0.6	0.4	0.5	0.5	0.5
JENKS ..	1.1	0.8	0.9	0.7	0.8	1.0	1.0	0.8	0.9	1.0	1.0	0.9	0.9	1.0	0.9
H.T.E. SINGLE ..	7.9	5.9	5.9	6.5	6.8	21.5	15.7	7.9	8.0	9.5	8.8	6.6	13.0	8.8	9.5
JENKS ..	7.7	5.5	9.5	10.0	10.5	26.7	17.8	5.5	5.7	7.8	10.9	8.2	15.1	8.1	10.7
RELATIVE STABILITY	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
(Methylene Blue)	100	97	100	100	100	100	100	100	98	100	100	99	100	99	99
E.F. SINGLE ..	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
JENKS ..	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
SUSPENDED ..	60	47	61	79	85	73	83	81	99	73	66	62	81	79	73
JENKS ..	51	41	31	50	58	42	22	40	46	52	44	43	41	47	43
SOLIDS ..	41	37	35	44	48	47	35	43	51	49	34	39	43	45	42
JENKS ..	22	34	24	26	22	22	18	24	26	31	28	27	22	28	25

NOTE—SINGLE = Single stage filtration in 6 ft. filters.
 SETTLED SEWAGE = Primary Dortmund Tank Effluent, applied
 to single stage filters.
 F.B.E. = Filter Bed Effluent.
 E.F. = Effluent, filtered in Laboratory through Whatmans No. 12.

JENKS = Recirculation G.D. on 5 ft. filter.
 H.T.E. = Humus Tank Effluent.

Table III
COMPARATIVE RESULTS FOR FIXED TWO-STAGE AND
SINGLE STAGE OPERATION ON 12 FT. FILTERS AT PRETORIA, 1951
24 HOUR SAMPLING

RESULTS IN PARTS PER MILLION	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	AVERAGES		Year
													Jan-April	May-Aug.	Sept-Dec.
DOSAGE: GALLS./CU. YD./DAY	276 184	259 173	251 167	258 172	276 184	248 165	250 167	247 165	260 173	257 171	265 176	273 182	261 174	255 170	264 176
LOADING (O.A. X DOSAGE) 100's	91 61	106 71	108 72	103 69	105 70	121 81	114 76	115 77	114 76	107 71	106 71	123 82	102 68	115 76	112 75
LOADING (STRENGTH X DOSAGE) 100's	1,600 1,070	1,580 1,060	1,720 1,140	1,730 1,150	1,770 1,180	1,860 1,240	1,840 1,230	1,830 1,220	1,790 1,190	1,800 1,200	1,680 1,120	1,860 1,240	1,670 1,110	1,830 1,220	1,790 1,200
MEAN AIR TEMP. DURING SAMPLING °F.	67	61	69	64	56	46	50	54	61	69	70	75	65	52	69
SETTLED SEWAGE	33.0	41.0	43.0	40.0	38.0	49.0	45.5	46.5	44.0	41.5	40.0	45.0	39.0	45.0	42.5
OXYGEN	H.T.E. F.P. F.S. SIN.	13.0 9.5 10.5	17.0 12.0 12.5	15.0 11.0 12.0	15.0 10.5 11.5	18.0 13.0 15.0	17.5 13.5 15.5	18.5 14.5 16.0	17.0 13.0 14.5	17.0 13.0 14.5	16.5 13.0 13.0	19.0 13.0 14.5	15.5 11.0 12.0	17.5 13.0 14.5	17.5 12.5 13.5
ABSORBED	E.F. F.P. F.S. SIN.	8.5 7.0 8.0	10.5 8.5 9.5	11.5 9.5 9.5	10.5 8.5 9.5	12.0 8.5 8.5	11.5 8.5 9.5	12.5 10.5 11.5	12.0 9.5 10.5	12.5 10.5 11.0	11.0 9.0 9.5	12.5 7.5 10.5	10.5 8.5 9.0	11.5 9.0 9.5	12.0 9.0 10.5
"STRENGTH"	SETTLED SEWAGE	580	610	670	640	750	735	740	690	700	635	680	640	715	680
	F.P.	280	305	370	330	380	390	350	375	330	350	370	320	365	355
	F.S.	155	180	200	205	225	240	225	200	215	165	195	185	220	195
	SIN.	150	200	210	210	250	265	250	215	220	175	205	195	245	205
(McGOWAN)	F.P.	230	240	310	255	315	320	285	315	320	280	295	260	295	305
	F.S.	120	140	175	180	175	195	185	160	180	140	140	155	180	155
	SIN.	105	155	175	180	185	200	200	170	175	140	155	155	190	160
5 DAY	SETTLED SEWAGE	225	240	260	240	180	190	210	240	135	165	180	240	195	180
	F.P.	21.5	23.0	30.0	31.5	27.5	30.0	305	24.5	19.5	24.0	23.0	26.5	29.5	23.0
	F.S.	18.0	16.5	21.0	21.5	21.0	22.0	23.0	19.0	16.5	21.0	21.0	19.0	22.0	19.5
	SIN.	15.5	19.0	18.5	21.0	23.0	24.5	25.0	20.0	16.0	20.5	20.5	18.5	24.0	19.5
B.O.D.	F.P.	7.0	6.5	6.5	10.5	11.5	10.0	9.5	13.5	9.0	7.5	7.5	7.5	10.5	9.5
	F.S.	6.0	5.0	5.0	7.0	6.5	7.0	6.5	6.5	5.5	5.0	5.0	6.0	6.5	5.5
	SIN.	7.5	9.0	7.5	9.0	11.5	13.5	11.5	9.5	8.5	6.5	6.5	8.5	12.0	8.0

NOTE—H.T.E. = Humus Tank Effluent.
E.F. = Effluent Filtered in Laboratory, through Whatmans No. 12 Folded Paper.
F.P. = Fixed Primary.
F.S. = Single Stage.
SIN. = Fixed Secondary.

Table III—(Continued)

RESULTS IN PARTS PER MILLION	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	AVERAGES			Year
													Jan.- April	May- Aug.	Sept.- Dec.	
SETTLED SEWAGE ..	45.0	35.0	47.5	47.5	48.0	45.0	50.0	47.5	45.0	52.5	42.5	40.0	44.0	47.5	45.0	45.5
AMMONIACAL																
H.T.E. ..	30.0	27.5	40.0	36.5	35.0	40.0	42.5	32.5	40.0	42.5	37.5	35.0	33.5	37.5	39.0	36.5
F.P. ..	10.0	12.5	16.5	19.0	17.0	17.5	20.0	15.0	12.5	15.0	9.5	12.5	14.5	17.5	12.5	15.0
SIN. ..	6.5	13.0	15.5	16.0	17.0	17.5	20.5	16.5	12.5	12.0	7.5	10.0	13.0	18.0	10.5	14.0
NITROGEN																
E.F. ..	30.0	27.5	40.0	36.5	35.0	40.0	42.5	32.5	40.0	40.0	35.0	35.0	33.5	37.5	37.5	36.0
F.S. ..	9.0	10.0	16.5	19.0	17.0	17.5	20.0	15.0	12.5	15.0	9.5	12.5	13.5	17.5	12.5	14.5
SIN. ..	6.0	12.0	15.5	16.0	17.0	17.5	20.5	16.5	12.0	12.0	7.5	9.0	12.0	18.0	10.0	13.5
SETTLED SEWAGE ..	7.5	6.0	8.0	8.0	7.5	9.0	8.0	8.0	6.5	7.0	6.0	7.0	7.5	8.0	6.5	7.5
ALBUMENOID																
H.T.E. ..	2.0	1.8	3.1	3.0	2.8	2.8	3.4	3.2	3.8	3.0	2.6	3.2	2.5	3.1	3.1	2.9
F.P. ..	1.8	1.4	1.3	1.5	1.8	2.6	2.2	2.0	2.1	2.0	1.6	1.6	1.5	2.2	1.8	1.8
SIN. ..	1.8	2.3	2.3	2.1	2.0	3.0	2.9	2.3	2.2	2.3	1.7	2.0	2.1	2.6	2.1	2.3
NITROGEN																
E.F. ..	1.2	1.1	1.8	1.6	1.6	1.8	2.3	1.8	2.2	2.1	1.6	1.6	1.4	1.9	1.9	1.7
F.S. ..	1.0	0.8	1.0	1.0	1.2	1.1	1.4	1.2	1.2	1.2	1.2	1.0	1.0	1.2	1.2	1.1
SIN. ..	0.9	1.1	1.3	1.3	1.3	1.4	1.8	1.4	1.6	1.5	1.3	1.6	1.2	1.5	1.5	1.4
NITRITE																
F.P. ..	0.7	0.7	0.7	0.7	0.8	0.9	0.7	0.8	1.1	1.0	1.0	0.8	0.7	0.8	1.0	0.8
F.S. ..	0.6	0.7	0.8	0.8	0.8	1.0	1.0	0.8	0.7	0.9	0.7	0.7	0.7	0.9	0.8	0.8
SIN. ..	0.5	0.7	0.6	0.6	0.5	0.7	0.9	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6
NITRATE																
E.F. ..	7.0	7.0	2.5	2.5	2.5	2.5	3.0	3.0	3.0	4.0	6.5	4.0	4.0	3.0	4.5	4.0
F.S. ..	12.0	18.0	10.0	10.5	11.5	11.5	12.0	14.0	20.0	29.0	23.0	17.0	12.5	12.0	22.0	15.5
SIN. ..	18.5	8.0	10.0	9.0	8.5	10.5	11.5	14.5	19.0	24.5	22.0	14.5	11.5	11.5	20.0	14.5
RELATIVE STABILITY (METHYLENE BLUE)																
F.P. ..	100	100	68	72	76	90	84	78	82	88	88	87	85	82	86	84
H.T.E. ..	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
F.S. ..	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
SIN. ..	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
PER CENT																
E.F. ..	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
F.S. ..	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
SIN. ..	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
SUSPENDED																
F.P. ..	35	49	30	39	40	49	48	60	47	43	38	41	38	49	40	42
H.T.E. ..	13	30	17	19	27	30	23	40	33	27	24	23	20	30	27	26
F.S. ..	25	39	18	15	24	40	44	40	36	32	29	26	24	37	31	31

NOTE—H.T.E. = Humus Tank Effluent.

E.F. = Effluent Filtered in Laboratory, through Whatmans No. 12 Folded Paper.

F.P. = Fixed Primary.

SIN. = Single Stage.

F.S. = Fixed Secondary.

NON-EUROPEAN MEDICAL SERVICES

A. Report on Clinic Services for non-Europeans.

B. Report on Native Influx Control.

(i) Urban Services.

(ii) Peri-Urban Services.

A. CLINIC SERVICES:

The following clinics are conducted exclusively for urban and peri-urban non-Europeans at various centres in the City.

	Compound Clinic	Bantule Clinic	Atteridgeville Clinic	Special Diseases Clinics Pretoria Hospital
No. of Child Welfare Clinics per week	3	2	4	—
No. of Venereal Diseases Clinics per week	—	1	1	4
No. of Ante- and Post-natal Clinics per week	2	1	1	—
No. of Tuberculosis Clinics per week	—	1	2	1
No. of General Out-patients Clinics per week (including Atteridgeville School Clinic)	3	2	8	—

As in previous reports details regarding Child Welfare, Venereal Diseases, Tuberculosis and Ante-Natal and Post-Natal Clinics appear elsewhere under their respective headings.

OUT-PATIENT CLINIC RETURNS FOR THE YEAR:

(The totals for last year are shown in brackets)

	Compound	Atteridgeville	Bantule	Total	1950-1951
1. No. of new cases seen	1,397	2,993	848	5,238	(5,240)
2. No. of repeat attendances	309	1,258	413	1,980	(2,039)
3. No. of Wasserman tests done	45	309	85	439	(393)
4. No. of Wasserman reactions positive	13	87	27	127	(135)
5. No. of eye smears taken	0	6	2	8	(7)
6. No. of eye smears revealing gonococci	0	0	1	1	(1)
7. No. of unrethral and cervical smears taken	2	7	0	9	(4)
8. No. of unrethral and cervical smears revealing gonococci	0	0	0	0	(1)
9. No. of cases dressed	138	3,411	5,314	8,863	(4,951)
10. No. of dressings done	580	7,558	11,524	19,662	(17,124)
11. No. of cases referred to Ante-Natal Clinics	16	17	10	43	(46)
12. No. of cases referred to Dental Clinics	42	50	19	111	(67)
13. No. of cases referred to Venereal Diseases Clinics	19	87	27	133	(135)
14. No. of cases (diseases and injuries) referred for X-ray examination	38	49	15	102	(68)
15. No. of cases referred to Tuberculosis Clinics	4	4	5	13	(29)
16. No. of cases referred to Hospital out-patients Departments	26	88	30	144	(100)
17. No. of cases referred to Casualty Department	15	40	12	67	(51)
18. No. of cases admitted to Hospital	17	23	3	43	(40)

The abovementioned figures for Atteridgeville include schoolchildren referred to the Clinic by the School Health Visitor.

As pointed out in previous annual reports, the School Health Services at Atteridgeville are proving to be of great value. These services are specially valuable for school children whose parents are away at work all day as these children, if ailing, are brought to the Clinic by the

School Health Visitor for the necessary medical attention. Children absent from school for health reasons are seen at their homes by the School Health Visitor, and where necessary are brought to the Clinic. Extension of these services to other Municipal locations again warrants recommendation.

As in former years, a "Sick Parade" for all non-European Municipal employees has been held in the mornings (except Sundays and Public Holidays) at the Municipal Compound Clinic in Proes Street. Records kept at these Clinics show the following:—

	1951-52	1950-51	1949-50
1. No. injured on duty and treated at the Compound Clinic	744	768	696
2. No. injured on duty and referred to the General Hospital or private practitioners	80	84	73
3. No. injured off duty and treated at the Compound Clinic	816	876	861
4. No. injured off duty referred to the General Hospital	78	84	157
5. No. of sick treated at the Compound Clinic ..	2,267	2,844	2,782
6. No. of sick referred to the General Hospital ..	205	216	120
7. Total No. medically examined at the Compound Clinic	4,498	4,562	4,339
8. Total No. of attendances at Compound Clinic	14,915	15,000	14,095

B. NATIVE INFLUX CONTROL:

(i) Urban Services:

	1951-52	1950-51
Number of Natives examined:		
(a) New Cases	12,141	14,427
(b) Return Cases	36,747	33,493
	<u>48,888</u>	<u>47,920</u>
Number of Natives Vaccinated	1,175	2,714
Number of Natives infested with Lice	2,542	3,147
(a) Head and Body Lice	11	38
(b) Crab Lice	2,531	3,109
Number of Natives temporarily unfit for employment because of:		
(a) Suspected Venereal Diseases:		
(i) Gonorrhoea	56	80
(ii) Primary Syphilis	28	21
(iii) Secondary Syphilis	39	35
(iv) Tertiary Syphilis	27	49
(b) Dental decay	171	224
(c) Tapeworm (diagnosed by segments lying in Natal Cleft)	10	21
(d) Minor ailments	2	—
(e) Scabies	1	8
	<u>334</u>	<u>464</u>
Number of Natives found permanently unfit for hard work and fit only for light or domestic duties because of:		
(i) Senility	184	213
(ii) Obesity	42	46
(iii) Valvular disease of the Heart	2	4
(iv) Skeletal deformities and Arthritis	38	51
(v) Unclassified ailments	4	8
	<u>270</u>	<u>322</u>

Numerous other minor transient and permanent conditions and defects were also found on medical examination.

Where these could benefit from treatment, the Natives were referred to various out-patient Departments of the General Hospital for the necessary treatment.

(ii) Peri-Urban Services:

	1951-52	1950-51
Number of Natives examined:		
(a) New cases	3,425	3,846
(b) Return cases	5,437	5,282
	<u>8,860</u>	<u>9,128</u>
Number of Natives vaccinated	3,423	—
Number of Natives infested with Lice:		
(a) Head and Body Lice	42	51
(b) Crab Lice	65	90
Number of Natives referred to Dental Clinic	378	676
Number of Natives found unfit for immediate employment because of:		
1. Suspected Venereal Disease:		
(a) Primary Syphilis	40	52
(b) Secondary Syphilis	61	38
(c) Tertiary Syphilis	13	9
(d) Urethral Discharge	65	60
2. Tuberculosis: Pulmonary	16	16
Other forms	5	—
3. Scabies	6	3
4. Leprosy	3	4
5. Tapeworm (diagnosed by segments lying in Natal Cleft)	7	3
6. Typhoid Fever	2	—
7. Chickenpox	2	—

Many Natives found to be suffering from curable diseases were advised as to where and how to get the necessary treatment.

DEATHS OF EUROPEAN CHILDREN UNDER 5 YEARS OF AGE FOR THE YEAR ENDED 30TH JUNE, 1952

Table No. 2

	24 Hours and Under		Over 24 Hours to 1 Week		Over 1 Week to 1 Month		Over 1 Month to 3 Months		Over 3 Months to 6 Months		Over 6 Months, under 12 Months		Total Infantile Mortality		1 Year to 2 Years		Over 2 Years to 3 Years		Over 3 Years to 4 Years		Over 4 Years to 5 Years		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
Typhoid Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Diphtheria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—
Tuberculosis — Central Nervous System ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Dysentery — Bacillary	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Measles	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	—	—	—	1	2
Polio-myelitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Cancer of Kidney ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cancer — Other and unspecified forms ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Malnutrition	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Disease of Thymus ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alukaemia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Myocarditis — Acute ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pneumonia — Broncho	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pulmonary Embolism	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diarrhoea and Enteritis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Intestinal Obstruction	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Peritonitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congenital .. Hydrocephalus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congenital Malformation of the Heart ..	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cleft Palate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Stated Congenital Malformations ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Injury at Birth	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Premature Birth	12	14	5	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Atelectasis	5	3	8	3	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Diseases — First Year of Life	—	—	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Accidents due to Electric Currents	—	—	1	2	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	19	19	19	9	7	1	4	6	5	4	5	3	59	42	3	7	4	1	2	—	2	2	70	52

	24 Hours and Under		Over 24 Hours to 1 Week		Over 1 Week to 1 Month		Over 1 Month to 3 Months		Over 3 Months to 6 Months		Over 6 Months, under 12 Months		Total Infantile Mortality		1 Year to 2 Years		Over 2 Years to 3 Years		Over 3 Years to 4 Years		Over 4 Years to 5 Years		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
Nephritis (not stated)																								
Acute or Chronic ..															1								1	
Other Diseases of Skin															1								1	
Congenital Hydrocephalus ..											1												1	
Spina Bifida and Meningocele ..																								1
Congenital Pyloric Stenosis ..	1																						1	
Cleft Palate ..							1																1	
Other Stated Congenital Malformations ..		1																						1
Unspecified Congenital Malformations ..																								
Congenital Debility ..			1										1										1	
Premature Birth ..	11	7	12	17	7	12	2	3					32	39									32	39
Injury at Birth ..	1	1	2	2	1	1							4	2									4	2
Other Birth Injuries ..	1	1	1	2									2	3									2	3
Atelectasis ..		1	1	1									1	1									1	1
Other Diseases — First Year of Life ..			1										1	1									1	1
Infanticide ..		1																						
Accidents — Animal																								
Drawn Vehicles ..																								1
Accidental Burns ..																							1	3
Accidental Mechanical Suffocation ..																								1
Lack of Care of the New Born ..					1								2										2	
Other Deaths — Unknown Causes ..			1						2				3										5	
Lobar Pneumonia ..										1		3		4									5	5
TOTAL ..	16	14	26	31	18	25	31	19	41	34	63	57	195	180	84	72	22	23	13	9	8	7	322	291

DEATHS OF NON-EUROPEAN CHILDREN UNDER 5 YEARS OF AGE FOR THE YEAR ENDED 30TH JUNE, 1952

Table No. 3

	24 Hours and Under		Over 24 Hours to 1 Week		Over 1 Week to 1 Month		Over 1 Month to 3 Months		Over 3 Months to 6 Months		Over 6 Months, under 12 Months		Total Infantile Mortality		1 Year to 2 Years		Over 2 Years to 3 Years		Over 3 Years to 4 Years		Over 4 Years to 5 Years		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
ASIATICS																								
Cerebro-Spinal Meningitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—
Other and Unspecified Anaemias	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Broncho Pneumonia . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Diseases of Liver	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diarrhoea and Enteritis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congenital Malformation of Heart	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Premature Birth	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Birth Injuries . .	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Atelectasis	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Accidental Burns . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	3	1	4	1	2	—	2	3	3	3	5	5	19	13	—	—	2	1	—	1	—	—	21	15
EURAFRICANS																								
Diphtheria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tuberculosis — Central Nervous System . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congenital Syphilis . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Broncho Pneumonia . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diarrhoea and Enteritis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Acute Nephritis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Prematurity	—	1	2	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unknown or Unspecified Causes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	—	1	2	—	—	1	1	2	2	—	2	1	2	6	8	2	3	1	1	1	—	—	10	12

Table No. 4
DEATHS OF EUROPEANS, 5 YEARS OF AGE AND OVER, WITHIN THE MUNICIPAL AREA FOR THE YEAR ENDED 30TH JUNE, 1952

	5-10 Years		10-15 Years		15-20 Years		20-25 Years		25-30 Years		30-40 Years		40-50 Years		50-60 Years		60-70 Years		70-80 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	M	F
Infectious and Parasitic Diseases	2	1	—	—	1	—	1	2	1	2	4	1	2	—	1	—	3	—	1	3	—	2	16	11
Malignant and Other Tumours	1	—	—	—	1	—	—	—	—	—	4	4	9	6	10	11	19	14	23	11	8	7	75	53
Diseases of Nutrition and Endocrine Glands	—	—	—	—	—	—	—	—	—	—	1	—	3	—	2	2	2	—	2	2	—	—	5	7
Diseases of Blood and Blood Forming Organs	—	—	—	—	—	—	—	—	—	—	2	—	—	—	1	1	1	—	—	1	—	1	4	3
Diseases of Nervous System and Sense Organs	—	—	—	—	—	—	—	—	—	—	—	1	3	3	4	8	14	14	9	21	9	12	39	60
Diseases of the Circulatory System	1	—	—	1	1	1	2	1	—	—	7	2	12	10	24	11	40	13	38	37	16	22	141	98
Diseases of the Respiratory System	—	2	—	—	—	—	—	—	2	2	4	2	6	3	10	7	18	4	13	12	7	5	60	38
Diseases of the Digestive System	—	—	—	1	—	—	—	—	—	—	3	1	1	3	3	3	6	2	3	2	4	1	21	13
Non-Veneral Diseases of Urinary and Genital System	—	—	—	—	—	—	—	—	2	—	1	—	—	1	3	5	1	1	5	1	6	2	18	10
Diseases of Pregnancy and Childbirth	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Diseases of the Bones	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Congenital Malformations	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Senility	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Suicide	—	—	—	—	—	—	—	—	2	1	4	—	5	2	—	1	—	—	1	—	1	3	2	3
Homicide	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12	4
Accidents	1	2	2	—	2	—	1	—	1	—	2	3	5	2	2	1	2	1	2	1	3	1	22	12
Open Verdict	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—
Unknown or Unspecified Causes	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	—	1	1	—	2	2
TOTAL	5	7	2	3	2	6	2	3	5	8	7	33	15	43	34	59	107	49	99	92	55	56	420	320

Table No. 5

DEATHS OF NATIVES, 5 YEARS OF AGE AND OVER, WITHIN THE MUNICIPAL AREA FOR THE YEAR ENDED 30TH JUNE, 1952

	5-10 Years		11-15 Years		15-20 Years		20-25 Years		25-30 Years		30-40 Years		40-50 Years		50-60 Years		60-70 Years		70-80 Years		Over 80 Years		Total 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
Infectious and Parasitic Diseases	4	6	4	2	12	2	9	12	4	7	23	9	24	3	8	7	6	2	3	1	1	—	98	51
Cancer	—	—	—	—	—	—	1	—	—	—	5	1	3	—	1	5	7	2	1	1	—	—	18	9
Other Tumours	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	1	—	—	—	—	8	4
Diseases of Nutrition and Endocrine Glands	—	—	—	—	—	—	—	—	1	—	1	—	4	2	2	—	—	—	—	—	—	—	—	1
Chronic Poisoning and Intoxication	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Diseases of the Nervous System and Sense Organs	—	—	—	—	1	1	1	—	—	2	4	2	5	3	3	2	2	2	1	1	—	1	17	14
Diseases of the Circulatory System	—	—	—	1	1	—	1	—	1	3	4	2	3	8	8	5	4	7	3	2	4	2	29	30
Diseases of the Respiratory System	7	5	1	4	1	1	4	2	6	2	7	10	14	4	13	2	12	7	11	10	3	5	79	52
Diseases of the Digestive System	—	5	1	1	—	—	—	—	1	—	3	1	4	2	5	1	1	3	2	3	—	2	17	18
Non-Venereal Diseases of the Urinary and Genital Systems	1	—	—	—	1	—	—	—	—	—	—	2	4	2	4	1	4	—	1	—	—	1	15	6
Diseases of Pregnancy and Childbirth	—	—	—	—	—	—	—	2	—	5	—	3	—	—	—	—	—	—	—	—	—	—	—	10
Diseases of Skin and Cellular Tissues	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	1	—	3	—
Senility	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	2	1	2	6	4	8
Suicide	—	—	—	—	2	—	—	—	—	—	—	—	3	—	1	—	—	—	—	—	—	—	8	—
Homicide	—	—	—	—	3	—	—	—	—	—	2	1	1	—	—	—	—	—	—	—	—	—	13	1
Accidents	2	2	—	—	6	1	5	1	8	1	11	—	8	—	4	—	1	1	—	—	—	—	45	6
Open Verdict	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—
Unknown or Unspecified Causes	—	—	—	—	—	—	1	1	1	—	1	—	4	—	1	1	1	1	1	2	—	—	10	5
TOTAL	14	18	7	8	27	5	23	18	29	20	63	32	77	24	50	24	38	27	26	22	11	17	365	215

Table No. 7
 INFANTILE MORTALITY: ALL NON-EUROPEAN RACES: DISTRICT INCIDENCE FOR THE YEAR ENDED 30TH JUNE, 1952

	Infectious Diseases		Diarrhoeal Diseases		Bronchitis Pneumonia		Congenital Causes		Other Causes		Pre-maturity		Injury at Birth		Malnutrition		Total Deaths		Total Births		Mortality Rate per 1,000 Live Births		Total Rates
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
NATIVE																							
Marabas ..	—	—	—	1	1	—	—	—	—	—	4	—	—	—	—	—	5	1	24	14	208.33	71.43	157.89
Bantule ..	—	1	8	2	5	5	2	1	2	—	3	1	—	—	—	1	20	11	69	94	289.86	117.02	190.18
Arteridgeville ..	—	1	6	2	7	6	—	—	3	—	2	4	1	1	1	—	20	14	171	157	116.96	89.17	103.66
Hercules ..	3	2	49	37	40	47	12	15	3	3	13	18	3	3	2	126	127	926	979	136.07	129.72	132.81	
Town ..	1	—	5	2	3	4	1	1	2	3	10	16	2	1	—	24	27	160	146	150.00	184.93	166.67	
TOTAL	4	—	68	—	56	—	15	—	10	—	32	—	6	—	4	—	195	—	1,350	—	144.44	—	136.86
MALE ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FEMALE ..	—	4	—	44	—	62	—	17	—	6	—	39	—	5	—	3	—	180	—	1,390	—	129.50	136.86
ASIATIC																							
Location ..	—	—	2	4	6	3	1	—	1	1	3	1	1	—	—	—	14	9	63	67	222.22	134.33	176.92
Hercules ..	—	—	—	1	1	1	—	—	—	—	2	—	—	—	—	—	3	2	25	20	120.00	100.00	111.11
Town ..	—	—	1	1	—	—	1	—	—	—	—	1	—	—	—	—	2	2	20	33	100.00	60.61	75.47
TOTAL	—	—	3	—	7	—	2	—	1	—	5	—	1	—	—	—	19	—	108	—	175.92	—	140.35
MALE ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FEMALE ..	—	—	—	6	—	4	—	—	—	1	—	2	—	—	—	—	13	—	120	—	108.33	—	140.35
EUROPEAN																							
Location ..	—	—	1	—	—	—	—	—	—	—	3	1	—	—	—	—	4	1	34	34	117.65	29.41	73.53
Hercules ..	1	—	—	4	—	—	—	2	—	—	1	1	—	—	—	—	2	7	48	50	41.67	140.00	91.84
Town ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	7	—	—	—
TOTAL	1	—	1	—	—	—	—	—	—	—	4	—	—	—	—	—	6	—	85	—	70.59	—	79.55
MALE ..	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FEMALE ..	—	—	—	4	—	—	—	2	—	—	—	2	—	—	—	—	8	—	91	—	87.91	—	79.55
ALL NON-EUROPEANS																							
Location ..	—	—	2	17	9	19	14	3	1	6	1	15	7	2	1	1	63	36	361	366	174.52	98.36	136.18
Hercules ..	4	2	49	42	41	48	12	17	3	3	16	19	3	3	3	2	131	136	999	1,049	131.13	129.65	130.37
Town ..	1	—	6	3	3	4	2	1	2	3	10	17	2	1	—	—	26	29	183	186	142.07	155.91	149.05
TOTAL	5	—	72	—	63	—	17	—	11	—	41	—	—	7	—	4	220	—	1,543	—	142.58	—	133.91
MALE ..	5	—	72	—	63	—	17	—	11	—	41	—	—	7	—	4	—	201	—	1,601	—	125.55	133.91
FEMALE ..	—	4	—	54	—	66	—	19	—	7	—	43	—	5	—	3	—	201	—	1,601	—	125.55	133.91

Table No. 8
DEATHS IN INSTITUTIONS OF PERSONS NOT RESIDENT IN PRETORIA FOR THE YEAR ENDED 30TH JUNE, 1952

	0-1 Years		1-5 Years		5-10 Years		10-20 Years		20-40 Years		Over 40 Years		Total Europeans		Total Non-Europeans	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
PRETORIA AND OTHER HOSPITALS																
European	24	22	8	5	5	4	7	5	21	5	135	64	200	105	—	—
Non-European	87	52	57	58	14	9	22	14	79	53	97	42	—	—	356	228
MENTAL HOSPITAL																
European	—	—	—	—	—	—	—	—	1	5	15	24	16	29	—	—
Non-European	—	—	—	—	—	—	—	—	11	3	14	8	—	—	25	11
LEPER ASYLUM																
European	—	—	—	—	—	—	—	—	1	—	2	1	3	1	—	—
Non-European	2	—	—	—	—	—	—	1	4	3	10	8	—	—	16	12
PRISONS																
European	—	—	—	—	—	—	—	—	3	—	—	—	3	—	—	—
Non-European	—	—	—	—	—	—	—	—	32	—	7	—	—	—	39	—
VISITORS																
European	—	1	1	—	—	—	—	—	2	—	8	5	11	6	—	—
Non-European	2	7	2	1	—	—	—	1	5	1	3	—	—	—	12	10
TOTAL EUROPEAN	24	23	9	5	5	4	7	5	28	10	160	94	233	141	—	—
NON-EUROPEAN	91	59	59	59	14	9	22	16	131	60	131	58	—	—	448	261

Table No. 9

NOTIFICATION OF INFECTIOUS DISEASES: LOCAL CASES: ALL RACES: FOR THE YEAR ENDED 30TH JUNE, 1952

EUROPEANS

Disease	No.	%	Age	Sex	Season	Year
Typhoid Fever	11	3	7	..	..	..
Scarlet Fever	78	1	1	..	..	..
Diphtheria	29	1	1	..	..	..
Erysipelas	3	3	1	..	..	..
Poliomyelitis	14	2	2	..	..	..
Infective Encephalitis	18	1	1	..	..	..
Cerebro-Spinal Meningitis	2	1	1	..	..	..
Tuberculosis	17	5	17	..	..	..

NON-EUROPEANS

Typhoid Fever						—	3	4	2	5	8	7	2	13	18
Diphtheria	..	..	..	..	..	1	—	7	1	4	1	5	—	37	26
Poliomyelitis	..	..	..	..	..	—	—	—	—	—	—	1	—	2	3
Infective Encephalitis	..	..	..	..	..	—	—	—	—	—	—	—	—	1	—
Cerebro-Spinal Meningitis	..	..	..	..	..	—	—	—	1	1	—	—	—	1	1
Tuberculosis	..	..	..	..	..	5	2	9	16	12	49	42	10	137	94

Table No. 10
 NOTIFICATION OF INFECTIOUS DISEASES: IMPORTED CASES: ALL RACES: FOR THE YEAR ENDED 30TH JUNE, 1952

EUROPEANS

Typhoid Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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Table No. 12

INCIDENCE OF INFECTIOUS DISEASES FOR THE YEAR ENDED 30TH JUNE, 1952

				Typhoid Fever	Malaria	Scarlet Fever	Diphtheria	Leprosy	Erysipelas	Polio-myelitis	Infective Encephalitis	Cerebro-Spinal Meningitis	Anthrax	Tuberculosis	Puerperal Fever
1951															
July—															
European	..	..	Resident	—	—	22	6	—	1	—	1	2	—	3	—
			Imported	—	—	—	6	—	—	—	—	3	—	2	—
Non-European	..	..	Resident	1	—	—	5	—	—	—	1	1	—	14	—
			Imported	10	—	—	2	—	—	—	—	—	—	6	1
August—															
European	..	..	Resident	1	—	23	4	—	—	—	—	1	—	2	—
			Imported	4	—	—	1	—	—	—	—	—	—	4	—
Non-European	..	..	Resident	3	—	—	3	—	—	—	—	—	—	19	—
			Imported	3	—	—	5	—	—	—	—	—	—	9	—
September—															
European	..	..	Resident	2	—	20	1	—	—	—	—	1	—	4	—
			Imported	2	—	—	4	—	—	—	—	—	—	1	—
Non-European	..	..	Resident	1	—	—	4	—	—	—	—	—	—	21	—
			Imported	15	—	—	4	—	—	—	—	1	1	14	—
October—															
European	..	..	Resident	—	—	12	1	—	—	—	1	2	—	1	—
			Imported	2	—	1	1	1	—	3	—	—	1	3	—
Non-European	..	..	Resident	—	—	—	8	—	—	—	—	—	—	20	—
			Imported	8	—	—	3	—	—	1	—	1	—	16	—
November—															
European	..	..	Resident	4	—	16	6	—	—	14	—	2	—	6	—
			Imported	3	—	—	—	—	—	5	—	—	—	—	—
Non-European	..	..	Resident	3	—	—	5	—	—	1	—	—	—	22	—
			Imported	11	—	—	4	—	—	2	—	1	—	12	—
December—															
European	..	..	Resident	—	—	11	5	—	—	10	—	—	—	3	—
			Imported	—	—	—	8	—	—	4	—	—	—	—	—
Non-European	..	..	Resident	3	—	—	3	—	—	—	—	—	—	23	—
			Imported	19	—	—	9	—	—	—	—	—	—	8	—
1952															
January—															
European	..	..	Resident	—	—	9	5	—	1	3	—	—	—	4	—
			Imported	2	1	1	3	—	—	3	—	—	—	1	—
Non-European	..	..	Resident	5	—	—	12	—	—	2	—	—	—	28	—
			Imported	39	—	—	8	—	—	—	—	—	—	18	—
February—															
European	..	..	Resident	2	—	15	4	—	1	2	1	—	—	—	—
			Imported	2	—	—	2	—	1	1	—	—	—	3	—
Non-European	..	..	Resident	5	—	—	8	—	—	—	—	—	—	21	—
			Imported	18	—	—	10	—	—	1	—	—	—	17	—
March—															
European	..	..	Resident	1	—	16	7	—	—	3	2	—	—	2	—
			Imported	—	—	1	7	—	—	1	—	—	—	1	—
Non-European	..	..	Resident	—	—	—	5	—	—	2	—	1	—	18	—
			Imported	12	—	—	2	—	—	—	—	—	—	10	—
April—															
European	..	..	Resident	3	—	6	8	—	—	—	—	—	—	3	—
			Imported	2	—	1	10	—	—	1	—	—	—	1	—
Non-European	..	..	Resident	3	—	—	5	—	—	—	—	—	—	14	—
			Imported	8	—	—	3	—	—	—	—	—	—	16	1
May—															
European	..	..	Resident	1	—	13	3	—	1	—	—	—	—	2	—
			Imported	3	—	1	3	—	1	—	—	1	—	2	—
Non-European	..	..	Resident	5	—	—	2	—	—	—	—	—	—	16	—
			Imported	11	—	—	5	—	—	—	—	—	—	19	—
June—															
European	..	..	Resident	4	—	10	8	—	—	—	—	—	—	4	—
			Imported	—	—	1	—	1	1	1	—	—	—	2	—
Non-European	..	..	Resident	2	—	—	3	—	—	—	—	—	—	15	—
			Imported	8	—	—	5	—	—	—	—	—	—	10	—



