

Medical Officer's annual report [to] Durban Corporation.

Contributors

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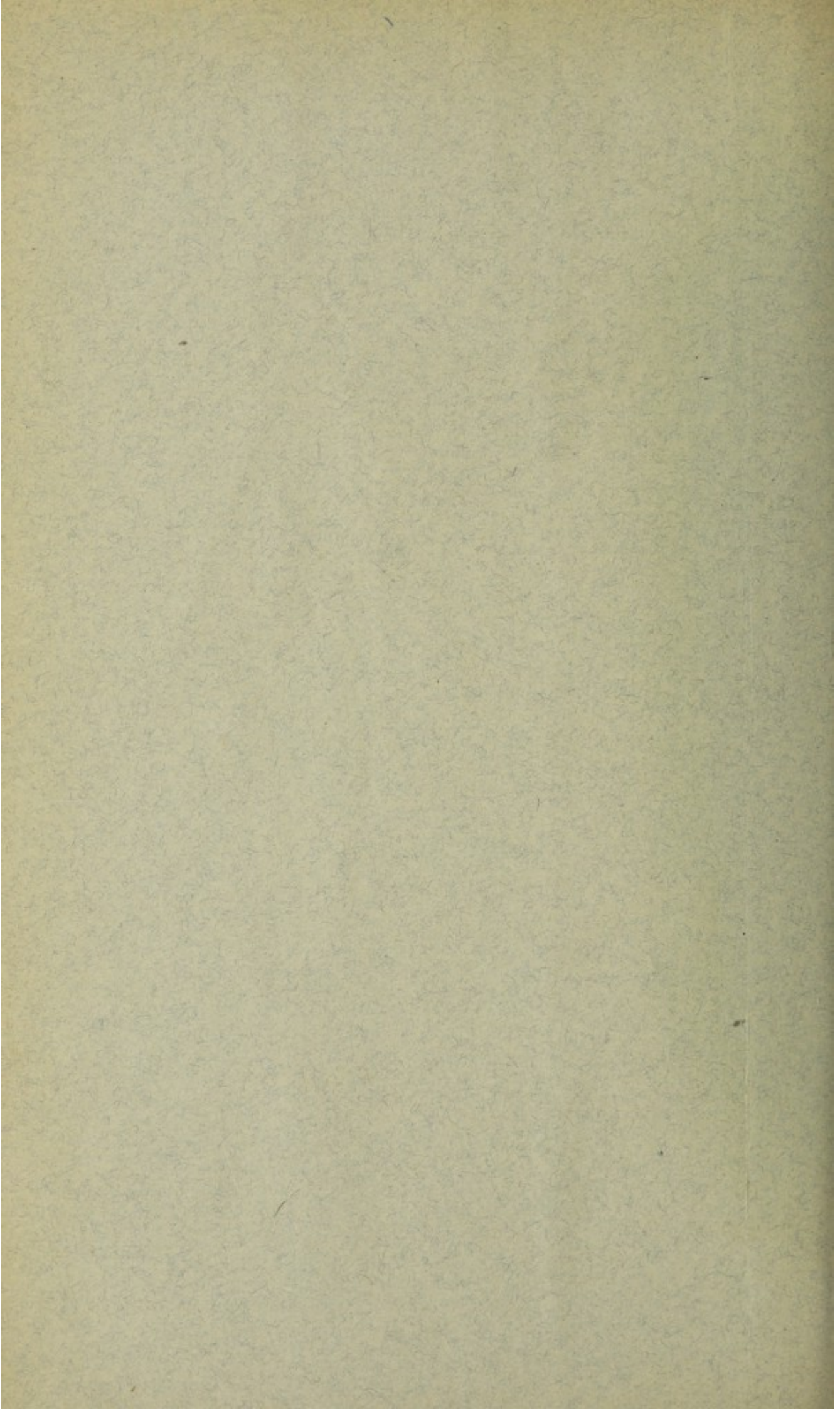
DURBAN CORPORATION

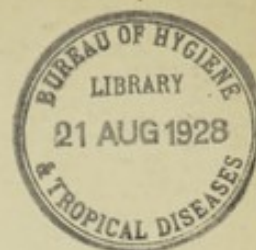


MEDICAL OFFICER'S REPORT

FOR THE
YEAR ENDED 30th JUNE, 1927.

DURBAN
HAYNE & GIBSON, PRINTERS, 31 FIELD STREET,
1927





REPORT

of the

MEDICAL OFFICER OF HEALTH.

PUBLIC HEALTH COMMITTEE, 1926-27.

COUNCILLOR MRS. E. A. BENSON.
COUNCILLOR MRS. A. M. SIEDLE.
COUNCILLOR MRS. E. L. KNIGHT.
COUNCILLOR H. H. KEMP.
COUNCILLOR F. H. ACUTT.
COUNCILLOR J. K. MURRAY.
COUNCILLOR DR. J. A. S. SAGE.
THE MAYOR—(EX OFFICIO)

PUBLIC HEALTH DEPARTMENT.

STAFF.

ADMINISTRATIVE AND OFFICE:

1 Medical Officer of Health ..	S. J. CLEGG, O.B.E., M.D., Ch.B., D.P.H.
1 Asst. Med. Officer of Health	G. H. GUNN, M.D., Ch.B., D.P.H.
1 Clerk	E. POSNER.
1 Typiste	(Temporary) F. DUFF.
1 Junior Clerk. .. .	A. W. BRANSBY.

MATERNITY AND CHILD WELFARE:

1 Medical Officer-in-charge ..	K. McNEILL, M.B., Ch.B., D.P.H.
4 Health Visitors	A. DAVIES, General Nursing Training Certificate, C.M.B.
	S. G. STANDING, R.S.I. Certificates (2) Nursing Certificate C.M.B., Cert. R.S.I. (S.A.)
	E. A. WOODWARD, Trained Nurses Certificates C.M.B., R.S.I.
	V. I. SHIRTLIFF, Trained Nurses Certificate, C.M.B.
1 Midwife	L. FRANCE, General Nursing Certificate, C.M.B.
1 Typiste	D. WINSHIP.
1 Attendant	F. HAWKINS.

INFECTIOUS DISEASES HOSPITAL, CONGELLA.

1 Matron	A. S. DAVIES, R.G.N., Scotland.
2 Ward Sisters	
3 Staff Nurses	
5 Probationers.	
1 Seamstress.	
11 Indians (1 Cook, 6 Ward Orderlies, 2 Domestic Boys, 2 Housemaids.)	

DISINFECTING STATION.

1 Superintendent	C. D. MORNING.
2 Assistant Disinfectors	P. W. ANDERSON, J. DRISCOLL.
12 Indians (2 Dhobies, 1 Sirdar, 9 Assistants)	

SANITARY DEPARTMENT:

1 Chief Sanitary Inspector	R. WALKER Cert. R.S.A., Scotland.
10 Asst. Sanitary Inspectors	T. HYSLOP, Cert. R.S.A., Scotland, Cert. Registered Plumber.
	J. D. WOOD, Cert. R.S.I. (Eng.), City and Guilds of London Inst., Cert. Dept. Science and Art, London.
	F. W. HOLMES, Cert. R. S. I. (S.A.).
	A. E. MOORMAN, Cert. R.S.I. (S.A.)
	A. A. MICHIE, Cert R.S.I. (S.A.)
	J. W. H. MCGREAVEY, Cert. R.S.I. (S.A.)
	E. H. SURGESON, Cert R.S.I. (Eng.)
	C. C. de LUCY, Cert Sant. Meat and Food. Inspection (Manchester,) Cert. Sanitary Science (Hons.), Cert. City and Guilds of London Inst. Cert. R.S.I. (Eng.)
	H. M. TEDDER, Cert. R.S.I. (S.A.).
	A. KELSO.
1 Chief Clerk	A. M. MC IVER.
1 Second Clerk	S. A. WOOD, Cert. R.S.I. (S.A.)
1 Third Clerk	R. E. BOUTLE.
1 Junior Clerk	H. S. HELLETT.

SANITARY SUB-DEPARTMENTS:

ANTI-MOSQUITO:

1 European Overseer	A. E. CLARKE.
12 Indians.	

ANTI-PLAGUE:

1 European Overseer	F. DRAKE, M.B.E., Cert R.S.I. (S.A.)
2 Rat-catchers.	

BARRACKS MANAGEMENT:

1 European Caretaker	J. T. ESPITALIER.
14 Indians	

CLEANSING SERVICE:

1 Chief Overseer	J. H. LOWE.
4 Assistant Overseers	
5 Sirdars and 106 Rubbish Collectors (Indian)	
5 Sirdars and 186 Street Cleaners (Indian).	

NIGHTSOIL REMOVAL:

1 Sirdar.	
13 Indian Labourers.	

PUBLIC CONVENIENCES:

11 European Attendants	
7 Indian Attendants.	

CORPORATION CEMETERIES:

2 European Overseers	Stellawood, J. BULLOUGH; General, L. LOWE.
22 Indian Labourers.	

Public Health Department,

Municipal Buildings,

Durban.

1st August, 1927.

TO HIS WORSHIP THE MAYOR AND

TOWN COUNCILLORS OF THE BOROUGH OF DURBAN.

MR. MAYOR, LADIES AND GENTLEMEN,

I have the honour to submit the twenty-sixth Annual Report dealing with the health and sanitary conditions of the Borough of Durban, for the year ending 30th June, 1927.

POPULATION.

The following table shews the estimated population for the year 1926/27, the previous Census of the Borough being shown in comparison:

		Government.		Government Estimate		Municipal Estimate	
		Census	Census			Census	
		1919	1921	1924	1924	1927	
European	.....	41,865	46,113	50,792	49,025	54,130	
Coloured	.....			4,471	1,838	2,644	
Asiatic	.....	19,872	18,391	16,150	16,417	16,977	
Natives	.....	17,925	29,011	35,000	27,861	38,000	
TOTAL		79,662	93,515	106,413	95,241	111,751	

BIRTHS.

Nine hundred and sixty-five European births were registered, giving a birth-rate per 1,000 population of 17.82 as against 19.63 the previous year. The corresponding figure for England and Wales was 17.8,

DEATHS.

A total of 1,175 deaths of Borough residents occurred during the year—507 Europeans, 62 Coloured, 287 Natives, 319 Asiatics. The European Death Rate corrected for non-residents was 9.37 as against 8.81 for 1925/26.

The following tables are set out for comparison and show the percentage number of Deaths in Europeans at various age periods, the number of deaths from certain main causes, and the proportion per thousand deaths from all causes.

PERCENTAGE OF DEATHS AT VARIOUS
AGE PERIODS—EUROPEANS.

Age Period	No. of Deaths	Percentage of total deaths at all ages	
		Durban	England Wales 1925.
Under 1 year	43	8.5	11.3
1—2 years	8	1.6	
2—5 „	6	1.2	
1—5 „	14	2.8	5.9
5—15 „	13	2.6	2.8
15—25 „	20	3.9	4.3
25—45 „	76	14.9	10.7
45—65 „	176	34.7	24.5
65 and over	165	32.5	40.51
TOTAL	507		

EUROPEANS.

Diseases.	No. of deaths.		Proportion per 1,000 deaths from all causes		
			Durban		England
	1925/26	1926/27	1925/26	1926/27	1925/26
Infective Intestinal Disease (Enteric Fever, Dysentery, Diarrhoea and Enteritis.)	42	30	91	59	19
Cancer	50	55	108	108	110
Heart & Circulatory System	85	88	184	174	177
Diseases of Nervous System	26	22	56	43	99
Diseases of Birth and Early Development	23	18	50	35	42
Pneumonia and Bronchitis	24	30	52	59	153
Pulmonary Tuberculosis	19	29	41	57	68
Other forms of Tuberculosis	7	8	15	16	17
Genito-urinary	35	27	76	53	40

Below, the figures for Coloured, Natives and Asiatics for 1925-26 & 1926-27, are similarly classified:—

Diseases.	No. of Deaths.						Proportion per 1,000 deaths from all causes					
	Coloured		Native		Asiatic		Coloured		Native		Asiatic	
	1925/26	1926/27	1925/26	1926/27	1925/26	1926/27	1925/26	1926/27	1925/26	1926/27	1925/26	1926/27
Infective Intestinal Disease (Enteric Fever, Dysentery, Diarrhoea and Enteritis.	8	6	48	23	46	45	135	97	174	80	151	141
Cancer	5	4	3	3	6	3	84	64	11	10	19	9
Heart & Circulatory System	5	6	14	28	19	18	84	97	51	98	62	56
Diseases of Nervous System	2	6	7	5	9	22	34	97	25	17	29	69
Diseases of Birth and early Development	3	4	18	14	41	37	50	64	65	49	135	116
Pneumonia and Bronchitis	10	5	40	43	58	57	169	81	145	150	191	179
Pulmonary Tuberculosis	6	11	31	28	32	19	101	177	112	98	105	59
Other forms of Tuberculosis	1	2	18	9	7	6	17	32	65	31	23	19

STATISTICAL.

EUROPEANS:

Although the general Death Rate for the year shows a slight increase over that for 1926, an analysis of the main causes of death is quite satisfactory, there having been a decrease of 35% in the Death Rate from Infective Intestinal Diseases, 30% in the Zymotic Death Rate and 30% in that for diseases of Birth and Development.

Dengue Fever was given as the responsible cause in 13 deaths, whilst increases are shown in the figures for Pneumonia and Bronchitis and for Pulmonary Tuberculosis.

NATIVES:

Although the deaths from diseases of the Heart and Circulatory System show a big increase, there is a satisfactory diminution in the deaths from Infective Intestinal Diseases and Non Pulmonary Tuberculosis.

The figures for ASIATICS also show a decrease with the exception of deaths due to Diseases of the Nervous System, of which it may be noted that 8 out of 22 were due to Infantile Convulsions.

Apart from the occurrence of the two epidemics referred to in more detail later, the general health of the town has been good as evidenced particularly by the comparatively low rates of mortality from Infective Intestinal Diseases and from Zymotic diseases.

EPIDEMIC AND INFECTIOUS DISEASE.

SMALL POX.

The Borough was visited by two outbreaks of Smallpox, one a European in July the other chiefly amongst the Asiatic community in October. The circumstances of both outbreaks were of interest and bear setting out in some detail.

The first case was a European whose duties as Tramway Inspector were largely carried out in the open. He first took ill on the 7th July and went straight home to bed where he stayed until removed to hospital on the 13th idem. The rash developed on the 10th and this Department was notified on the 11th. Although the case eventually proved fatal from the haemorrhagic type of the disease, it was at first very atypical, giving much more the appearance of Chicken Pox than of Small Pox.

There were nine direct contacts in four separate and scattered houses in each of which more than one family was living, whilst in one house three families resided. None of these contacts had been vaccinated before the fifth day after the onset of the case.

The following factors were taken into consideration:—

1. The consensus of opinion of medical authorities that smallpox is infectious, if not from the time of the actual onset at least in the early stages of the disease.

2. That vaccination on the first and second days after exposure to infection would probably protect; in contacts vaccinated from the third to the fifth days after exposure an attack might develop but of a modified nature; after the fifth day, vaccination would not protect, whilst it was borne in mind that Byam and Archibald quote a case of definite Smallpox in a contact vaccinated successfully sixteen hours after exposure to infection.

3. This was the the first local case of Small pox for several years.
4. As pointed out previously in my Annual Reports the Borough population was largely unprotected by vaccination.
5. That the case occurred in the height of the Durban Season.

From the above it was decided that the only safe step was to quarantine all these direct contacts at Salisbury Island for fourteen days from the time of their vaccination and this was done, whilst indirect contacts were kept under daily observation.

The usual disinfection of bedding and clothing of patients and contacts was carried out.

The circumstances were communicated to neighbouring authorities, Magistrates and Doctors and an appeal for wholesale vaccination was made in the press but this latter was not very successful.

No further cases occurred amongst any of the contacts.

The Second outbreak occurred at two points within the Borough viz: at Shires and Chettys Barracks on the Eastern Vlei and at No. 41, Stratford Road.

The outbreaks were inter-related. The original focus was Shire's Barracks where the first case was notified on the 14th October. Ten days later, an Indian girl who left Shire's Barracks on the 10th October, died of Smallpox at 41, Stratford Road.

Room-to-room inspection at Shire's and the adjacent Chetty's Barracks on the 14th October disclosed nine more cases. Strict quarantine under police guard was immediately enforced and all the inmates of both Barracks were vaccinated. Rationing was organised and arrangements were made for the removal of the patients to the Smallpox Hospital, Salisbury Island. The cases were evacuated next day—15th October.

The population of Shire's and Chetty's Barracks numbered 195 Indian adults and 196 Indian Children, 9 Native adults and 6 children. At Stratford Road there were 15 adults (Indian and Coloured) and 12 children.

SHIRES AND CHETTY'S BARRACKS. Room-to-room inspections were conducted daily, and further cases were discovered up to the 29th October, a total of five adults and twenty-five children from Shires Barracks, and one adult and three Children from Chettys Barracks being removed to Salisbury Island.

Outside contacts were investigated, vaccinated and examined daily. One contact under observation at the Umgeni Railway Barracks was smuggled away to Tongaat. The Local Authority concerned was notified, and, on tracing the case, found that Smallpox had already developed. The entire family was brought back to Chettys Barracks and placed under quarantine there. No secondary cases occurred at Tongaat.

STRATFORD ROAD. The premises concerned consisted of the two blocks at the back of 37 and 41 Stratford Road. The large block consisted of five rooms occupied by four families, one of which—next door to the infected household—had left earlier in the day. They were traced and next morning brought back. The smaller block consisted of two rooms both inhabited

Quarantine under police guard was imposed and the inmates vaccinated, as were also the occupants of the front street block to whom quarantine did not apply." "Non-takers" were revaccinated a week later.

Ten further cases occurred the last being on the 5th November.

Quarantine was removed from Shires and Chettys Barracks on the 2nd November, and from Stratford Road on the 6th November—the full incubation period having lapsed and all remaining inmates having been immunized. Thorough disinfection of premises, furnishings, clothing, etc. was carried out and all persons had a disinfectant bath and a clean change of clothing before being allowed to resume their occupation in town. Children were not allowed away from home to attend school for a week after quarantine was removed and daily inspections were continued for that period.

On the 10th November a further case was discovered at Prince Edward Street. This was an Indian woman who had obviously been ill for at least three weeks and of whom thirteen direct contacts were followed up. It was found that every one had been vaccinated some three weeks previously and no secondary cases occurred. In all 57 cases were dealt with of whom 46 were from within the Borough, the remainder being from Red Hill, Mayville and Sydenham, and there were 16 deaths, a case mortality of 28.0%.

All the cases with the exception of three Native Children, were in Asiatics, and although two cases in Europeans occurred in Johannesburg residents who had visited the Durban area, the source of their infection could not be traced.

ADMINISTRATIVE MEASURES.

From the onset it was realised that an outbreak with possibilities of widespread infection had to be dealt with, as the first case which was notified as suspicious had been ill some five or six days and cases were subsequently discovered in the Barracks of at least three weeks duration. The population of the Barracks consisted of some 400 persons badly housed in overcrowded and insanitary conditions and frequently changing. The occupations of some of the contacts included those of cooks, waiters and caddies and there was constant intercommunication between the Barracks, the Borough itself and the outside areas. Concealment of cases was invariable and except for the first case notified by a Doctor, none was reported. In spite of the fact that strict quarantine was imposed by means of a police cordon, that the whole Barracks had been ordered to parade for vaccination, that room to room inspections were made sometimes three times a day, and that the seriousness of the position was realised, two cases were discovered five days after these measures were put into operation, one of approximately twenty three days duration and the other her baby in the acute stage—both had been hidden in the dark and windowless kitchen during the daily inspections. It was eventually necessary to compile a nominal role of all the inhabitants, the names being ticked off daily as the inspection concluded and in this way several further cases came to light. Another typical instance occurred outside the Borough where a death had occurred and further living cases were discovered quite accidentally hidden in an adjoining wood.

Coincidentally with the isolation of cases at Salisbury Island, quarantine and vaccination and revaccination of contacts and search for concealed cases, a vigorous press campaign was instituted and maintained, emphasising as strongly as possible the urgent necessity of general vaccination, and public vaccination stations were opened. The District Surgeons, Railway Medical Officers and private practitioners all worked in co-operation with the Health Department and it is estimated that in the Borough alone approximately 75,000 vaccinations were carried out. Largely through the energy of the Rev. C. F. Andrews who was in Durban at the time, the Indian community formed committees who did extremely valuable work in disseminating vaccination propaganda amongst their own people.

The above measures naturally led to a good deal of publicity throughout the Union, which from many aspects was unwelcome to Durban as a commercial centre and health resort, and the local Press were severely criticised for their action in keeping before the public the progress of the outbreak and in impressing upon them the seriousness of the position.

This criticism, however, was entirely unjustified as it was at the direct request of this Department within an hour of the first case being discovered that the public should be warned in the strongest possible terms of the necessity for immediate general vaccination. In spite of the fact that the circumstances indicated that there was a distinct possibility of the outbreak assuming local epidemic proportions, the last acute case in the Borough occurred on November 5th, twenty two days after active measures were commenced, and there is no doubt that the ready co-operation of the local Press played a very great part in the success of the measures adopted.

Apart from the clinical interest of certain of the cases several points of administrative importance arose:

1. The outbreak was confined almost entirely to Asiatics and concealment of illness was invariable.

2. The majority of the cases occurring subsequent to the enforcement of quarantine measures, were only discovered upon the onset of the rash in spite of the fact that daily parades were held—temperatures, however, were not taken.

3. Twenty-eight persons developed Small Pox subsequent to successful vaccination, as follows:—

1 developed it	3 days after vaccination.
-	4 " " "
2 " " "	5 " " "
2 " " "	6 " " "
4 " " "	7 " " "
5 " " "	8 " " "
3 " " "	9 " " "
3 " " "	10 " " "
3 " " "	11 " " "
4 " " "	12 " " "
1 " " "	13 " " "

It should be noted that the periods given date to the appearance of the rash.

One of the three cases developing nine days after vaccination was a very severe confluent case. One of the three on the tenth day, a child of eighteen months, died of Small Pox—the other late cases were all mild.

CONTACTS:

A previously accepted procedure in dealing with Small Pox contacts has been to vaccinate immediately and then to keep under medical surveillance for fourteen days, meanwhile the normal life of the contacts is maintained. As far as Durban is concerned, however, the experience of this outbreak indicates that such a policy would be disastrous at least amongst the Non-European section of the community. No amount of ordinary supervision would have prevented the Asiatic from scattering widely all over the Province, whilst the existence of the disease for two or three days prior to detection in a person more or less at large would inevitably lead to spread of infection.

Another outbreak of Small Pox is not anticipated for some years at least, but it would appear that the only safe policy to pursue in the peculiar local circumstances would be to insist upon quarantine for all contacts not showing reasonable protection by means of recent vaccination, for a period of fourteen days from the day of vaccination, whether such vaccination be successful or not, and that this should apply to all races. The expense and inconvenience entailed by such a policy would of course be great and constitutes a further argument, if one be needed, of the necessity of enforcing routine vaccination and re-vaccination as the only means of prevention of further outbreaks.

The Union Health Department, Durban, maintained a close liaison with the Borough and with the outside Local Authorities but the outbreak showed the desirability of a more centralised administration to include representatives of all local Authorities and to be responsible for taking any necessary measures to meet emergencies which may not be localised.

DENGUE.

Towards the end of February, a widespread epidemic of Dengue Fever occurred. It was the culmination of an infection which, after a long absence, appeared in the coastal area last year. Sporadic cases kept the infection alive until the month of February when meteorological conditions favoured an outbreak on a large scale. It is estimated that some 30,000 cases occurred, the heaviest incidence affecting Europeans. The epidemic reached its height about the middle of March and lessened gradually on the approach of the cool season. The mortality was low.

The epidemic was part and parcel for a widespread outbreak affecting the whole coastal area from Umzinto to Verulam, first appearing in epidemic form in Seaview. The rapidly spreading nature of the epidemic ruled out as impracticable the ordinary measures of isolation and quarantine. The Union Health Department, appreciating the difficulties of the situation, acquiesced in a campaign of public instruction regarding home-isolation of cases and intensified anti-mosquito measures. The various steps taken to deal with the immediate situation were as follows:—

1. Through the press, the public were instructed as to precautions to be taken in regard to isolation of cases and the destruction of mosquitoes.
2. The inspecting staff of the Department were concentrated on anti-mosquito precautions and investigations. Nuisances discovered or complained of were dealt with according to the usual procedure. It was not considered advisable to increase the existing staff for this purpose.
3. The anti-Malaria gangs were concentrated on dealing with flooded, low-lying areas in proximity to dwelling houses. Despite the record rainfall, the work was undertaken without addition to the strength.

A thorough investigation of the mosquito problem with reference to Dengue and allied Fevers was made and a scheme formulated for its solution.

The general defences against MOSQUITO-BORNE DISEASE include:—

1. The maintenance of a European overseer and fifteen Indians as a permanent unit employed solely in anti mosquito work. Their activities are confined to the swampy grounds within the Borough, particularly the Eastern Vlei and the low-lying ground in the Congella area, and consist in channelling and draining of swampy ground and oiling potential breeding places. They are also used in other parts of the Borough as occasion demands.

2. The District Sanitary Inspectors, of whom there are seven, are occupied in daily inspection of their districts for conditions prejudicial to the public health, and in the remedying of such conditions. Their inspection includes not only ordinary sanitary surveillance, but also search for potential breeding grounds of mosquitoes, flies and rats, followed by the necessary remedial measures when discovered.
3. The activities of the individual householder in keeping his premises free from collections of water likely to breed mosquitoes, in killing off the adult mosquito by means of insecticide sprays, and of protecting such things as water tanks from the possibility of mosquito entry.

It was obvious during the Dengue epidemic that these defences had broken down, and the evidence pointed distinctly to the fact that the weakness was in item 2 and 3—the prevalence of *Stegomyia* was for example, much greater in the residential areas on the Berea than in the rest of the town. There was, in fact, a general lack of recognition of individual responsibility which could not be combated by the staff at the disposal of the Health Department. To throw the whole onus of responsibility for the suppression of mosquitoes upon the Health Department to the exclusion of the individual property owner, would not only be a retrograde step in Public Health policy, but would involve the entirely impracticable proposition of the employment of approximately 120 inspectors for the supervision of residential property alone. It was, however, necessary that more supervision should be exercised, and it was recommended that the establishment of District Sanitary Inspectors be increased by three, so that each Sanitary District could be narrowed down and the Inspectors enabled to pay more frequent visits to individual premises.

The new bye law now awaiting promulgation confers wide powers upon the Local Authority for the suppression of mosquito breeding, which will require to be exercised strictly, chiefly with the object of impressing the doctrine of co-operation in disease prophylaxis upon the public mind whilst such matters as bush clearing, guttering and the breeding of mosquitoes in water-holding shrubs and plants (such as *Bilbergier*, etc.) are receiving attention. The danger of flower vases and jars in cemeteries is a real one, which, however, can be dealt with by the permanent staff employed at each cemetery, but, whilst not recommending that these vases should be done away with altogether, the use of more than one upon each grave should be prohibited.

A scheme of Public Health instruction, including the principle of mosquito prevention, for the use in schools is under consideration, which it is hoped will be of definite educational and practical value.

A clause dealing with the provision of proper roof guttering is to be included in the revised Building Bye Laws and should assist greatly in eliminating a frequent source of trouble.

PLAGUE.

No cases of Plague occurred during the year, but routine precautionary measures were continued.

The means by which this infection may be introduced are limited to two, the Railway and the Port, there being at the moment no risk of direct spread by wild rodents as there is in other parts of the Union. The precautions taken in the up-country centres are gradually reducing the possibilities of rat transference by rail, the introduction of grain elevators and the bulk transport of grain being important factors in this connection, whilst the constant vigilance of the Port Authorities constitutes a safeguard to the town from that direction. In the Borough there is a permanent staff of one overseer and two ratcatchers, the duties of the former including inspection of particularly business premises for

evidence of rat infestation, and advising as to the best means of getting rid of them, whilst special attention is given continuously to the rat-proofing of premises and to the "building out" of the rat, this latter being the most essential factor in the prevention of rodent infestation. The ratcatchers, up to the present, have confined their activities almost entirely to Corporation land and premises, attending to privately owned buildings upon application and payments of a fee. Although the results have been satisfactory, and there is no evidence that rats are unduly prevalent in the Borough, it is considered advisable that this work should be speeded up and it is proposed to increase the establishment by four, and make their services available for all premises free of charge.

The administration of the Rodent Infestation Regulations dealing with the "building out" of the rat, frequently presents difficulties in as much as the requirements may involve extensive and costly structural alterations, but it will be necessary to give strict attention to this aspect of the question if the position is to be made secure.

TYPHUS FEVER.

During the year fourteen notifications were received of which five were sporadic cases in Europeans. Nine were in Natives of which the majority occurred at one of the Native Labour Organisations where no delousing measures were being carried out as a routine. The usual measures were taken and there was no spread.

Attention must be drawn to the unsatisfactory conditions in which the Borough is now placed with regard to Typhus Fever owing to recent action by the Industrial Commercial Union on behalf of the Natives in opposition to the delousing measures which were instituted following the outbreak in November, 1923.

Typhus Fever in Native races is endemic throughout the Union and there is a constant influx of Natives into the Borough from infected districts, with the accompanying possibility of the introduction of infection. To meet this possibility it was made obligatory upon a native seeking registration in the Borough to have a bath at the Cleansing Station, meanwhile his personal clothing and kit were disinfected in the steam disinfecter. Although some opposition was met with at first, the regulation was in a short time carried out without trouble and in the complete year 1925-26, 35,435 incoming Natives and 143,788 articles of kit were so dealt with. For the first six months of the current Municipal year commencing July, 1926, 9,311 natives passed through the Cleansing Station. The monthly figures vary from 2,625 in June, 1926 to 1,640 in October, 1926 dropping in November to 582 and in December to 202. It was in October 1926 that the legality of carrying out these delousing measures was first questioned, and the fall in the figures in the two subsequent months is significant, whilst from January to June, 1927 only 605 were treated.

Although experience at the Cleansing Station has shown that between 50 and 60% of all Natives presenting themselves were lousy, only a negligible number are now being cleansed before seeking employment locally. Representation to the Minister for Public Health resulted in the promulgation of an additional clause to the Typhus Fever Regulations, but although this will be of the greatest value during an outbreak of the disease, there are several administrative difficulties in applying it to the prevention of an outbreak by means of routine deverminisation.

INFECTIVE INTESTINAL DISEASES.

Although the number of deaths from Enteric Fever, Dysentery and Enteritis, was considerably lower than in the previous year, there is still much room for improvement. These diseases are due either to infected water or food, and whilst the treatment to which the former is subjected, checked by frequent chemical and bacteriological examinations, eliminates the water supply as a source of infection, the same cannot be said about the latter. Cleanly handling of food, not only during its sale and transport, but also, in the home, is of the utmost importance, particularly in a subtropical climate, and the adoption of the Food Protection Bye Laws and the Milk Bye Laws will constitute an important forward step. Storage of food during the summer months presents a great difficulty, especially in the small houses where the cost of ice makes the provision of an adequate supply impossible. The success of small electrically operated cooling plants appears to be proved and the possibility of the Municipality providing such coolers on say the hire-system might be considered.

Efforts have been made for some years to obtain a composite vaccine against these diseases which would give at least a measure of protection when taken by mouth, but it is not yet available. A similar vaccine has been used in different parts of the world with apparent success, and if a preparation suitable for Durban can be produced, there is no doubt that it will prove an extremely valuable addition to our public health armamentarium.

DIPHTHERIA.

Of the commoner infectious diseases occurring in the Borough, Diphtheria is one of the most troublesome. During the last few years a method of immunising susceptible persons (chiefly children) by means of injections, has been carried out in many countries, particularly America, with results justifying its continuance. Some three years ago a tentative effort was made to introduce this procedure amongst the school children of the Borough, but it was not considered advisable to continue as no firm preparing the toxin-antitoxin mixture used in the injection would guarantee its keeping properties under local climatic conditions. This difficulty has now been overcome and it is proposed to make another start through the Child Welfare Department and the schools.

TUBERCULOSIS.

The report of the Assistant Medical Officer of Health (Dr. G. H. Gunn) who is also Tuberculosis Medical Officer, indicates an increase in the work of the department, particularly on the lines of Sanatorium and Domiciliary treatment. The fears that the inauguration of a Tuberculosis Scheme in the Borough would lead to an influx of sufferers from other parts have not been justified, and steps have been taken to minimise the cost to the Borough of the treatment of the "casual" case, no expenditure being incurred upon any case without written authority from this Department.

The measures taken to combat the disease amongst the European, Coloured and Asiatic races who form the more settled portion of the population, follow established lines, progress along which should lead to a greater measure of control in the future, but amongst the natives the problem is a more difficult one and hardly one to be solved by the local action of the various Municipalities. The solution would appear to lie in large part in a greater measure of supervision over the conditions obtaining in the kraals, and although the subject is a vast one, it is understood that the Union Health Department are at the moment conducting enquiries on these lines.

At present it is a very usual practice for a Native employee when sick to take his discharge and go home to his kraal and in this way there is no doubt that many cases of less acute illness, such as Tuberculosis and Venereal Disease escape detection, with the added possibility of the infection being spread in the kraal.

In the draft regulations made under the Natives (Urban Areas) Act of 1923, powers are being sought to provide that no native shall be discharged on account of sickness unless a medical certificate has been furnished to the Registration Officer stating the cause of sickness, and this provision should constitute a very valuable means of discovering cases of possibly infectious disease which under the existing practice are undetected.

INFECTIOUS DISEASES HOSPITAL.

A total of 341 cases were admitted to the Infectious Diseases Hospital during the year, an increase of 37 on the previous year's figures. Fourteen different infections were dealt with, the modified cubicle-bed isolation system still being carried out. This system involves special technique and the strictest attention to detail, and the absence of cross-infection reflects great credit upon the ward management, especially in existing circumstances when accommodation for both patients and staff is very insufficient.

Applications for positions as probationers still come in from all over the Union and vacancies are usually filled twelve months and more ahead. The course of lectures and examinations are still being held and appear to be appreciated.

MATERNITY AND CHILD WELFARE DEPARTMENT.

The report of the Maternity and Child Welfare Medical Officer (Dr. Katherine McNeil), page 52 indicates a very satisfactory year's work. Of European infants under one year, 35 died, giving an Infant Mortality Rate (i.e. the number of deaths of infants under one year per 1,000 births) of 36.3 which is certainly a record for this Department and has probably never been bettered elsewhere, whilst the corresponding figure for the 827 infants attending the clinics was only half this.

The deaths of mothers from causes incidental to childbirth also shows a reduction, the rate being 5.1 as against 8.1 for the previous year, but still compares unfavourably with that for England and Wales where a rate of 3.7 is causing the health authorities considerable concern. During the year a special sub-committee of the Town Council was appointed to go into the question, and as a result, a strongly worded resolution was forwarded to the Minister of Public Health and to Parliamentary representatives urging that further powers be given to Local Authorities to exercise supervision over practicing midwives and Nursing and Maternity Homes and that the proposed legislation be expedited. Similar action was taken by the local branch of the S.A. Medical Association, and it is anticipated that such powers will be obtained shortly.

The Department is now fully organised and its work is increasing rapidly. The value of such work both to the town itself and to the Country as a whole cannot be overestimated and it is considered fully justifies an application to the Minister of Public Health for part refund upon the expenditure of the Department. Such a refund would greatly facilitate the much needed extension to the clinics where at the moment it is impossible to give as much time to the individual mother and child as one would wish.

It is satisfactory to note also the increasing popularity of the Ante-Natal Clinics, the work at which is probably the most important of the whole activities of the Department. A great deal of conservatism requires to be broken down before the importance of ante-natal supervision is realised, but the investigations made into the causes of deaths of mothers show definitely that many lives both of mother and child would have been saved had such supervision been exercised.

INSPECTIONS: FOOD AND DRUGS, ETC.

The Chief Sanitary Inspector, Mr. R. Walker, reports that 41,659 visits of inspection were paid by the District Sanitary Inspectors to premises within the Borough, 14,262 notices were issued and reports made; 9,759 nuisances of various kinds were abated and 334 instances of contravention of Borough Bye Laws in respect of bake houses and foodstuffs dealt with.

254 samples of food and drugs were taken during the year of which 222 were genuine. 208 samples of water from different parts of the town were submitted to the Government Laboratory for bacteriological examination and 52 samples to the Borough Analyst for chemical examination.

184 samples of milk were examined for the total bacterial content and for presence of *Bacillus Coli* and the following results were obtained;—

- 87 (47.3%) contained less than 50,000 organisms.
- 48 (26.0%) contained between 50,000 and 200,000 organisms.
- 29 (15.7%) contained between 200,000 and 500,000 organisms.
- 20 (10.7%) contained over 500,000 organisms.

The improvement in cleanliness of the supply as evidenced by the bacterial content is again marked and whereas last year 27.2% of samples were within "Grade A" standard as far as bacterial content was concerned, during the current year this figure has reached 47.3%, whilst 73.3% of samples are within the standard of "Grade B." It is contended by many of the local dairymen that a bacterial content of less than 50,000 organisms per cubic centimetre is impossible of attainment in fresh raw milk, but since instituting the routine bacteriological examination in 1923, there has been a steady improvement every year from 5% to the present 47.3% within the Grade A standard.

73 samples were also examined for the presence of tubercle bacillus which was found in 3 or 4.1% which is again about the average for previous years.

The New Milk Bye Laws are still in dispute and Bye Laws for the better protection of foodstuffs generally are under consideration.

The routine weekly examinations of the Water Supply have been continued and the usual high degree of purity has been maintained. The bacteriological standard aimed at is the absence of *bacillus coli* in 100 c.c. of water and an approximate average over the year is absence in 80 c.c. which indicates an exceptionally pure water.

The result of the chemical examinations have also been satisfactory and a fair average report is submitted below.

Colour	Good	Good	Good	Good
Sediment	Nil	Nil	Nil	Nil
Turbidity	Nil	Nil	Nil	Nil
Reaction	0.76	0.72	0.72	0.88

ANALYSIS.

(Results expressed in parts per 100,000)

Total Solids	15.08	13.04	12.76	13.32
Loss on Ignition	3.76	3.28	3.04	3.52
Chlorine	3.91	3.55	3.55	3.91
Nitrates & Nitrites	Nil	Nil	Nil	Nil
Saline Ammonia	0.002	0.002	0.002	0.002
Albuminoid Ammonia	0.008	0.008	0.008	0.008
Total Hardness	7.00	6.29	6.43	7.00
Permanent Hardness	5.43	4.86	4.86	5.14
Iron	Trace	Trace	Trace	Trace
Poisonous Metals	Nil	Nil	Nil	Nil

A general report upon the conditions of supply is included (page 87) through the courtesy of the Borough Water Engineer (Mr. Walter Campbell).

HOUSING.

During the year 604 private dwellings were erected, of which no less than 247 were flats. The types of dwelling are set out below:—

Containing	Self Contd.	Private Dwellings	Total No.	Total Value	Cost per dw.	No. Last year
2 rms. k.p.b.	31	5	36	£17,600	£487	56
3 rms. k.p.b.	160	48	208	£145,309	£698	190
4 rms. k.p.b.	85	111	196	£173,872	£887	154
5 rms. k.p.b.	—	—	118	£134,686	£1,141	152
6 rms. k.p.b.	2	29	31	£45,945	£1,482	36
over 6 rms. k.p.b.—	—	—	15	£30,000.	£2,000	13
TOTAL	274	193	604	£547,412		601

The "flat" is by no means an ideal type of dwelling particularly where there are children in the family, but the high cost of land within the Borough, the absence of adequate transport facilities to and from areas outside the Borough where land is cheaper, the convenience and often economy in running, and the "servant" problem, are all factors which influence its continuance and which it would appear will operate for some time to come.

A start has been made with the erection of 42 Corporation houses in the Stamford Hill, Teignmouth, and Mansfield Road areas, to let at an average purchasing rental of £7 10s. 0d. per month, and a further scheme for cheaper houses at a maximum rent of £4 per month is under consideration. There is no doubt that there exists a definite demand for a cheap class of house to meet the needs of the poorer paid section of the community who in certain instances are living under overcrowded conditions, and as pointed out in previous reports, such a scheme should receive a measure of Government assistance.

The deficiency in NATIVE housing has been partly made up by the provision of additional accommodation for 300 single males at the Depot Road Location, whilst 60 cottages for married Natives are in course of erection on the Eastern Vlei. Further accommodation for 1,600 single males will also be ready shortly at the locations at Depot Road, Dalton Road and Bell Street.

The Manager of the Native Affairs Department (Mr. F. Layman) states that in addition to the proposed Native Village at Wentworth to accommodate between 200 and 250 Native families, it is estimated that additional accommodation for approximately 2,000 single male Natives will be required to house those found to be living under undesirable conditions in town, or not strictly in accordance with the Bye Laws, and the remainder who are living on the Borough outskirts but employed within the town.

Plans have been prepared for additional accommodation for Corporation employed emergency boys, and land at Cato Manor is available for INDIAN HOUSING, but nothing has been done to improve the admittedly bad housing condition of the general Asiatic population.

A hopeful feature has been the formation of a Social Service Committee and a Child Welfare Committee amongst the Indian Community, largely through the instrumentality of the Rt. Hon V. Srinivasi Sastri, P.C., Agent General for the Government of India in South Africa, and through their personal touch with the poorer homes an improvement in the public health knowledge of the people may be anticipated.

INSANITARY PROPERTY:

Of 93 houses scheduled for condemnation, 27 were made fit for habitation, and 31 were demolished or vacated. Thirty-five still remain on the "black list" but the lack of suitable alternative accommodation for their occupants precludes their condemnation for the time being. Twelve houses which were in extensive disrepair but had not been scheduled for condemnation were repaired and renovated and 15 were demolished.

GENERAL:

The question of incorporation of the peri-Durban areas within the Borough has again been revived. This, as a first step towards cleaning up the admittedly insanitary conditions outside the Borough under which numbers of Durban workers live, should be considered as the most serious and important problem with which the Borough is faced. It is, in my opinion, both essential and inevitable that such action be taken if a large part of the public health work within the Borough is not to be nullified.

PUBLIC HEALTH COSTS:

In order to ascertain where Durban stood in the matter of the cost of its health services, an extensive questionnaire was addressed in April, 1926, to twenty-six of the representative towns of England, Wales and Scotland, and from the replies received, comparative figures were compiled for twenty, including such towns as Manchester, Blackpool, Bristol, Birmingham, Edinburgh, Glasgow, Bournemouth. The average cost of the health department as a whole in these towns was 7.4 shillings per head of population, varying from 12.1 shillings to 3.0 shillings. The estimated GROSS cost in Durban for 1927-1928 is 5.7 shillings per head, including the cost of Sanitary Inspection work, but excluding the cost of those services such as refuse removal, cleansing, etc. which although at present charged to the Health Department, are not part of its function. The costs for the Overseas towns were based on exactly similar services as are carried out in Durban, and represent gross expenditure only as it was not possible to obtain comparative figures of income. They are figures of public health expenditure amongst a purely European population,

under more or less stable conditions in a temperate climate, and a figure of 5.7 shillings per head for Durban, with its rapid expansion, its mixtures of races, and its geographical and climatic conditions, does not indicate a too ambitious health programme, whilst if the income figures are taken into consideration, the actual net cost per head of population is only 3.9 shillings.

It is necessary to refer again to the absence of progress towards the internal re-organisation of the Department. In May, 1924, recommendations were made that a Chief Clerk be appointed and that the refuse disposal services, scavenging, street cleaning, conservancy and management of cemeteries and barracks at present under the immediate direction of the Chief Sanitary Inspector, be transferred to more appropriate departments, in order to leave the Health Department free to carry out its more essential functions of sanitary supervision and education. Neither of these recommendations has been given effect to, and the general efficiency of the Department is undoubtedly suffering in consequence.

I would again like to express my appreciation of the loyal service of each member of the staff of the Department, and my thanks to you, Sir, to the members of Council, and of the Public Health Committee in particular, for the continued kindness and courtesy which have been extended to me.

I have the honour to be,

Ladies and Gentlemen,

Your Obedient Servant,

S. J. CLEGG, M.D., D.P.H.

MEDICAL OFFICER OF HEALTH

Year ending	1934	1935	1936	1937	1938
Deaths	1,000	1,000	1,000	1,000	1,000
Deaths	1,000	1,000	1,000	1,000	1,000
Deaths	1,000	1,000	1,000	1,000	1,000
Deaths	1,000	1,000	1,000	1,000	1,000
Deaths	1,000	1,000	1,000	1,000	1,000

SYMPTOMATIC DEATHS

Diphtheria
 Typhoid
 Typhus
 Cholera
 Smallpox
 Measles
 Whooping Cough
 Scarlet Fever
 Erysipelas

BIRTHS.

Table showing the Monthly Distribution of Births occurring among Borough Residents, giving Race and Sex, 1926-27.

	European		Coloured		Native		Asiatic		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1926.										
July	56	37	3	3	1	—	35	31	95	71
August	42	39	3	4	—	—	40	30	85	73
September	32	40	7	3	—	1	34	37	73	81
October	34	43	5	2	—	1	37	40	76	86
November	29	46	1	1	1	4	31	37	62	88
December	41	44	3	3	—	2	38	40	82	89
1927										
January	44	37	2	4	1	2	30	33	77	76
February	42	56	1	5	—	1	40	42	83	104
March	44	38	—	4	—	1	30	27	74	70
April	37	33	8	2	3	—	28	20	76	55
May	33	47	1	4	2	—	18	31	54	82
June	43	28	6	7	—	1	40	23	89	59
TOTAL	477	488	40	42	8	13	401	391	926	934

Table showing Monthly Distribution of Births occurring among Non-Residents, giving Race and Sex, 1926-27.

	European		Coloured		Native		Asiatic		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1926										
July	9	12	3	2	11	15	2	2	25	31
August	10	8	1	—	14	23	—	—	25	31
September	12	7	—	2	16	9	—	—	28	18
October	11	15	2	—	26	13	—	1	39	29
November	9	13	—	—	19	16	—	—	28	29
December	12	6	—	—	14	19	—	—	26	25
1927										
January	6	7	1	—	14	14	2	—	23	21
February	17	19	1	—	17	18	3	1	38	38
March	10	5	1	4	23	19	—	—	34	28
April	13	21	3	2	39	35	—	1	55	59
May	6	11	2	—	21	14	—	1	29	26
June	9	7	—	1	16	10	1	1	26	19
TOTAL	124	131	14	11	230	205	8	7	376	354

European Birth Rate (gross)	22.54
European Birth Rate (Residents only)	17.82
Coloured Birth Rate (Residents only)	31.01
Native Birth Rate (Residents only)	0.55
Asiatic Birth Rate (Residents only)	46.65
Birth Rate, England and Wales, 1926	17.8

TABLE SHOWING TOTAL REGISTERED EUROPEAN BIRTHS AND
BIRTHRATES FOR THE PAST SEVEN YEARS.

	1921	1922	1923	1924	1925	1926	1927 Gross	1927 Boro. only
Births	1,106	1,151	1,097	919	1,025		1,220	965
Rates	21.98	22.88	20.0	18.09	19.95	19.63	22.54	17.82

TABLE SHOWING ILLEGITIMATE BIRTHS OCCURRING AMONG
BOROUGH RESIDENTS, 1926-1927.

	European		Coloured		Native		Asiatic		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Births	9	2	16	16	4	5	—	—	29	23
Percentages	1.14		39.02		42.86		—		2.79	

INFANTILE MORTALITY—AGES AND CAUSES OF DEATHS.

	Weeks.			Months			Total Under 1 year
	0-1	1-2	2-4	1-3	3-6	6-12	
Whooping Cough	—	—	—	—	—	1	1
Malaria	—	—	—	1	—	—	1
Dysentery	—	—	—	1	—	1	2
Encephalitis	—	—	—	—	—	—	—
Lethargica	—	—	—	—	—	1	1
Convulsions	1	—	—	—	—	—	1
Broncho-pneumonia	—	—	—	—	—	1	1
Bronchitis	—	—	—	—	1	1	2
Other Epidemic	—	—	—	—	—	—	—
Diseases	—	—	—	—	—	1	1
Enteritis	—	—	2	—	2	3	7
Congenital	—	—	—	—	—	—	—
Malformation	—	—	—	1	—	1	2
Congenital Debility	—	—	—	1	—	—	1
Premature Birth	7	2	1	2	—	—	12
Other Diseases peculiar to early infancy	—	—	1	1	—	—	2
Epilepsy	—	—	—	—	—	1	1
Total	8	2	4	7	3	11	35

EUROPEAN INFANTILE MORTALITY.

	Male	Female	Total
Infantile Deaths during 1926-27	17	18	35
Registered Births	477	488	965

This equals 36.3 infantile deaths per 1,000 births and represents the "INFANTILE MORTALITY FIGURE" for Durban.

The following table shows the Infantile Mortality figure for England and Wales during 1926.

England and Wales	70
105 Great Towns, including London	73
158 Smaller Towns	67
London	64

INFANTILE DEATHS IN WARDS FOR THE PAST FIVE YEARS.

Wards	1	2	3	4	5	6	7	8	9	Total
1922-23	6	9	3	8	5	12	6	4	11	64
1923-24	14	6	7	5	5	16	5	3	7	68
1924-25	11	16	3	11	9	10	11	5	6	82
1925-26	5	8	6	6	1	8	2	6	5	47
1926-27	4	2	1	7	1	9	4	5	2	35

INFANTILE MORTALITY RATE FOR PAST SIX YEARS.

	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27
Infant Deaths	89	64	68	82	47	35
Mortality Figure	77.8	58.34	73.99	83.84	45.81	36.3

DEATHS

BOROUGH DEATHS, EUROPEAN AND COLOURED—AGE AND SEX DISTRIBUTION.

	European		Coloured		Total	
	M.	F.	M.	F.	M.	F.
Under 1 year	20	23	9	5	29	28
1—2 years	4	4	—	2	4	6
2—5 years	4	2	4	2	8	4
5—15 years	11	2	2	2	13	4
15—25 years	11	9	2	1	13	10
25—45 years	45	31	4	5	49	36
45—65 years	127	49	7	9	134	58
65—and over	85	80	2	6	87	86
Totals	307	200	30	32	337	232

IMPORTED DEATHS: EUROPEAN AND COLOURED: AGE AND SEX DISTRIBUTION.

	European		Coloured		Total	
	M.	F.	M.	F.	M.	F.
Under 1 year	8	8	2	1	10	9
1—2 years	2	—	2	—	4	—
2—5 years	2	2	—	1	2	3
5—15 years	1	4	2	—	3	4
15—25 years	5	1	2	5	7	6
25—45 years	29	17	5	4	34	21
45—65 years	35	18	—	1	35	19
65—and over	17	14	1	—	18	14
Totals	99	64	14	12	113	76

TABLE SHOWING CHIEF STATISTICS OF DEATHS OF ALL RACES
IN THE BOROUGH DURING THE PAST FIVE YEARS.

Races.	1922-23	1923-24	1924-25	1925-26	1926-27
European	450	473	537	460	507
Coloured	—	23	55	59	62
Native	133	234	242	275	287
Asiatic	288	300	341	303	319
Totals	871	1,030	1,175	1,097	1,175

DEATH RATE PER 1,000 OF POPULATION:—

Races.	1922-23	1923-24	1924-25	1925-26	1926-27
European	8.2	9.31	10.95	8.81	9.37
Coloured	—	5.14	29.92	31.36	23.45
Native	3.9	6.68	8.65	7.23	7.55
Asiatic	18.4	18.57	20.77	18.03	18.79

TABLE FOR COMPARISON SHOWING RECORDED DEATH RATE
IN ENGLAND AND WALES IN 1926.

England and Wales	11.6
105 Great Towns including London	11.6
157 Smaller Towns	10.6
London	11.6

TABLE OF ALL DEATHS IN INSTITUTIONS AND NURSING HOMES.

	European		Coloured		Natives		Asiatic		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Salisbury Island	1	—	—	—	1	—	2	2	4	2
Addington Hospital	162	61	28	20	254	57	46	22	490	160
Gaol Hospital	—	—	1	—	24	3	—	—	25	3
Sanatorium	37	27	—	—	—	—	—	—	37	27
Indian Depot Hospital	—	—	—	—	—	—	29	5	29	5
S.A.R. Hospital	—	—	—	—	19	1	5	3	24	4
Musgrave Nursing Home	29	13	—	—	—	—	—	—	29	13
Corporation Hospital	6	3	—	—	4	1	—	—	10	4
Private Hospitals	9	9	—	1	9	11	—	1	18	22
Totals	224	113	29	21	311	73	82	33	666	240

DEATHS.

1. Table showing monthly distribution of deaths of all races, among

BOROUGH RESIDENTS.

	European		Coloured		Native		Asiatic		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1926										
July	22	26	2	2	16	4	13	6	53	38
August	23	13	1	3	28	7	11	8	58	31
September	27	15	4	6	21	2	17	17	69	40
October	27	19	2	3	21	4	33	22	83	48
November	29	13	4	5	24	4	18	11	75	33
December	26	17	2	4	22	4	23	14	73	39
1927										
January	22	12	3	2	14	6	19	5	58	25
February	20	13	2	5	18	2	10	6	50	26
March	22	21	1	1	25	—	9	7	57	29
April	27	21	1	—	28	4	13	7	69	32
May	28	16	5	—	15	4	11	13	59	33
June	34	14	3	1	17	2	14	12	68	29
Totals	307	200	30	32	244	43	191	128	772	403

2. Table showing monthly distribution of deaths of all Races, among

NON-RESIDENTS.

	European		Coloured		Native		Asiatic		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1926										
July	10	5	—	—	13	3	4	4	27	12
August	9	6	—	—	11	2	5	2	25	10
September	11	5	2	—	17	3	3	2	33	10
October	5	1	5	—	19	5	3	2	32	8
November	7	6	1	2	14	7	7	1	29	16
December	6	3	2	1	19	4	6	—	33	8
1927										
January	7	5	2	1	23	4	3	1	35	11
February	4	5	—	1	12	2	4	—	20	8
March	14	9	—	4	9	2	1	—	24	15
April	5	7	1	1	22	3	3	1	31	12
May	8	6	—	1	10	1	7	—	25	8
June	13	6	1	1	10	3	2	2	26	12
Totals	99	64	14	12	179	39	48	15	340	130

Causes of All Deaths registered during 1926-27.

DISEASE.	BOROUGH				IMPORTED			
	E.	C.	N.	A.	E.	C.	N.	A.
EPIDEMIC AND INFECTIOUS DISEASES.								
1. Enteric Fever	3	—	4	5	1	—	6	4
2. Typhus Fever	—	—	1	—	—	—	1	—
5. Malaria	3	—	3	—	2	—	1	—
6. Smallpox	1	—	1	8	—	—	—	2
7. Measles	2	1	—	—	—	—	—	—
9. Whooping Cough	2	—	1	—	—	—	—	—
10. Diphtheria	4	—	—	—	4	—	—	—
11. Influenza	5	—	8	7	—	—	1	—
a. With pulmonary complications	2	—	2	1	—	—	—	—
16. Dysentery	7	2	4	4	2	—	1	1
a. Amoebic	4	1	3	—	3	2	11	2
b. Bacillary	3	—	6	—	3	4	18	1
17. Plague	—	—	1	1	—	—	—	—
20. Leprosy	—	—	—	—	—	—	1	—
21. Erysipelas	3	—	—	—	—	—	—	—
23. Encephalitis Lethargica	1	—	—	—	—	—	—	—
24. Meningococcal Meningitis	—	—	—	—	1	—	—	—
25. Other Epidemic Diseases	13	—	4	4	3	—	—	—
29. Tetanus	—	—	1	1	—	—	—	—
31. Tuberculosis of the Respiratory System	29	11	28	19	3	6	51	14
32. Tuberculosis of the Meninges, etc.	—	1	1	—	1	—	2	—
33. Tuberculosis of the Intestines, etc.	1	—	2	—	—	1	2	1
34. Tuberculosis of the Vertebral Column	1	—	—	—	—	—	—	—
35. Tuberculosis of the Joints	—	—	—	—	—	—	1	—
36. Tuberculosis of Other Organs	2	—	1	—	—	—	1	—
d. Tuberculosis of genito-urinary system	1	—	—	—	—	—	1	—
e. Tuberculosis of Other Organs	—	—	1	—	—	—	—	—
37. Disseminated Tuberculosis	3	1	4	6	—	—	9	4
38. Syphilis	2	—	1	—	1	—	4	—
c. Tertiary	—	—	1	—	1	—	—	—
d. Hereditary	—	2	4	5	1	—	1	—
41. Purulent Infection, Septicaemia	4	1	3	—	1	—	—	—
GENERAL DISEASES (Not included above)								
43. Malignant Tumours of the Buccal Cavity	5	—	—	—	1	—	—	—
44. Malignant Tumours of the Stomach and Liver	14	2	—	1	4	—	1	1
45. Malignant Tumours of the Intestines	8	1	1	—	4	—	1	1
46. Malignant Tumours of the Female Genital Organs	9	—	—	1	3	—	—	1
47. Malignant Tumours of the Breast	8	—	1	—	—	—	—	—
48. Malignant Tumours of the Skin	1	—	—	—	—	—	—	—
49. Malignant Tumours of Other Organs	10	1	1	1	9	—	1	1
50. Benign Tumours	2	—	—	—	—	—	—	—
51. Rheumatic Fever	1	1	3	—	—	—	1	—

	BOROUGH				IMPORTED			
	E.	C.	N.	A.	E.	C.	N.	A.
52. Chronic Rheumatism	3	—	—	—	—	—	—	—
53. Scurvy	—	—	2	—	—	—	—	—
55. Beriberi	—	—	—	—	—	—	—	1
57. Diabetes	9	—	—	3	2	—	—	—
58. Anaemia	2	—	—	—	—	—	1	—
a. Pernicious	3	—	—	1	2	—	—	—
60. Diseases of the Thyroid Gland	1	—	—	—	—	—	—	—
a. Exophthalmic Goitre	1	1	1	—	1	—	—	—
65. Leukaemia, Lymphadenoma	1	—	—	1	—	—	—	—
66. Alcoholism	4	—	—	—	—	—	—	—
DISEASES OF THE NERVOUS SYSTEM.								
70. Encephalitis	1	—	—	—	—	—	—	—
71. Meningitis	3	1	—	—	—	—	2	—
73. Other Diseases of the Spinal Cord	—	—	—	1	—	—	—	1
74. Cerebral Haemorrhage, Apoplexy	5	2	1	7	2	—	—	—
a. Cerebral Haemorrhage	—	—	—	1	—	—	—	—
b. Thrombosis	5	1	—	—	1	—	—	1
75. Paralysis	2	—	—	2	—	—	—	1
b. Other forms	—	—	—	1	—	—	—	—
78. Epilepsy	3	—	—	—	1	—	—	—
79. Convulsions (non puerperal)	—	1	—	2	—	—	—	—
80. Infantile Convulsions	1	—	3	8	—	—	—	—
84. Other diseases of the Nervous System	1	1	1	—	—	—	—	—
86. Diseases of the Ear and Mastoid Sinus	1	—	—	—	1	—	1	—
DISEASES OF THE CIRCULATORY SYSTEM								
87. Pericarditis	—	—	2	—	—	—	1	—
88. Acute myocarditis and endocarditis	49	4	19	12	8	2	10	—
89. Angina Pectoris	5	—	—	1	—	—	—	—
90. Other diseases of heart	12	2	6	3	2	—	3	2
91. Diseases of arteries	11	—	1	—	2	—	1	—
a. Aneurism	—	—	—	—	1	—	—	—
b. Arterial Sclerosis	6	—	—	1	2	1	—	—
c. Other diseases of Arteries	—	—	—	—	1	—	—	—
92. Embolism and Thrombosis	3	—	—	1	—	—	—	—
96. Other diseases of circulatory system	2	—	—	—	—	—	—	—
DISEASES OF RESPIRATORY SYSTEM.								
98. Diseases of larynx	—	1	—	1	—	—	—	—
99. Bronchitis	10	2	7	15	2	—	1	—
a. Acute Bronchitis	1	1	2	2	—	—	—	—
b. Chronic Bronchitis	3	—	—	1	1	—	—	—
100. Broncho-Pneumonia	6	1	11	24	3	1	6	2
101. Pneumonia	7	1	13	12	—	—	4	1
a. Lobar	3	—	10	3	2	—	3	11
b. Not otherwise defined	—	—	—	1	—	—	—	—
102. Pleurisy	2	—	—	—	—	—	1	—

	BOROUGH				IMPORTED			
	E.	C.	N.	A.	E.	C.	N.	A.
103. Congestion and haemorrhage, infarct of lung ..	1	—	1	—	—	—	—	—
105. Asthma	6	1	—	2	—	—	—	—
107. Other diseases of respiratory system	3	—	—	—	1	—	2	—
b. Diseases of the mediatimum	—	—	—	—	2	—	—	—
DISEASES OF THE DIGESTIVE SYSTEM.								
109. Diseases of the Pharynx and Tonsils	—	—	—	—	1	—	—	—
111. Ulcer of the Stomach	11	1	—	3	3	—	—	2
113. Diarrhoea and Enteritis (under two years)	11	2	10	27	6	1	11	—
114. Diarrhoea and Enteritis (over two years)	2	1	6	9	—	—	7	3
115. Ankylostomiasis	—	—	—	—	—	—	1	—
116. Diseases due to other intestinal parasites	—	—	—	—	—	—	1	—
117. Appendicitis and Typhlitis	8	—	1	1	—	—	1	—
118. Hernia and Intestinal Obstruction	5	—	—	—	—	—	—	—
b. Intestinal Obstruction	—	—	1	—	—	—	—	—
119B Other Diseases of the Intestines	—	—	—	—	1	—	—	—
120. Acute Yellow Atrophy of the Liver	—	—	—	1	1	—	—	—
121. Hydatid tumour of the Liver	1	—	—	—	1	—	—	—
122. Cirrhosis of the Liver ..	7	—	—	—	—	—	—	—
a. returned as Alcoholic ..	—	—	1	—	—	—	—	—
123. Biliary Calculi	5	—	—	1	2	—	—	—
124. Other Diseases of the Liver	2	1	—	1	3	—	3	—
125. Diseases of the pancreas ..	1	—	—	—	—	—	—	—
126. Peritonitis	1	—	—	2	1	—	—	1
127. Other diseases of the Digestive System	—	—	—	1	1	—	—	1
NON-VENEREAL DISEASES OF THE GENITO-URINARY SYSTEM .								
128. Acute Nephritis	2	1	4	1	—	—	2	1
129. Chronic Nephritis	18	5	4	8	12	1	2	1
131. Other diseases of the Kidneys	1	—	—	2	2	1	1	—
132. Calculi of the Urinary Passages	2	—	—	—	2	—	—	—
133. Diseases of the Bladder ..	—	—	—	1	2	—	—	—
134. Diseases of the Urethra and Urinary Abscess ..	1	—	1	—	—	—	1	—
135. Diseases of the Prostate ..	2	—	—	—	1	—	—	—
138. Salpingitis and Pelvic Abscess	1	—	—	1	1	1	—	—
139. Benign Tumours of the Uterus	—	—	1	—	—	—	—	—
140. Non-puerperal uterine haemorrhage	—	—	—	—	1	—	—	—

	BOROUGH				IMPORTED			
	E.	C.	N.	A.	E.	C.	N.	A.
THE PUERPERAL STATE.								
143B. Accidents of Pregnancy	—	—	—	—	1	—	1	—
144. Puerperal Haemorrhage	—	—	—	1	—	—	—	—
145. Other accidents of Child- birth	—	—	—	2	1	—	1	—
146. Puerperal Sepsis	2	—	1	1	1	—	—	1
148. Puerperal Albuminuria and Convulsions	4	—	—	1	—	1	—	—
149. Childbirth (without other explanations)	—	1	—	1	—	—	—	—
DISEASES OF THE SKIN AND CELLULAR TISSUE.								
151. Gangrene	1	—	—	1	—	—	1	—
152. Furuncle	1	—	—	—	—	—	—	—
153. Phlegmon, acute abscess	1	—	1	—	1	—	—	—
154C. Other diseases of the Skin	1	—	—	1	—	—	—	—
DISEASES OF THE BONES AND ORGANS OF LOCOMOTION.								
155. Diseases of the Bones	2	—	—	—	2	—	—	—
156. Diseases of the Joints	—	—	1	—	—	—	—	—
MALFORMATIONS.								
159. Congenital malforma- tions	3	—	—	1	1	—	—	—
DISEASES OF EARLY INFANCY.								
160B. Congenital Debility	2	1	4	26	3	—	2	—
161. Premature Birth	14	3	7	7	3	3	—	—
162. Other Diseases peculiar to early Infancy	2	—	3	4	1	—	1	—
OLD AGE.								
164. Senile Decay	26	1	—	19	2	—	1	3
EXTERNAL CAUSES								
165. Suicide by solid or liquid poisons	4	—	—	—	1	—	—	—
168. Suicide by hanging or strangulation	1	—	—	—	—	—	—	1
169. Suicide by drowning	1	—	—	—	—	—	—	—
170. Suicide by firearms	3	—	—	—	1	—	—	—
171. Suicide by cutting or piercing instruments	—	—	—	—	1	—	—	—
177. Acute accidental poison- ing	1	—	—	—	—	—	—	—
179. Burns	—	—	—	3	2	—	1	1
182. Accidental drowning	8	—	2	—	5	—	—	—
183. Accidental injury by firearms	2	—	—	—	—	—	—	—
184. Accidental injury by cutting instruments	—	—	—	—	—	—	1	—
185. Accidental injury by fall	7	—	1	—	3	—	—	—
188. Accidental injury by other forms of crushing	8	—	1	1	6	—	—	—
198. Homicide by cutting or piercing instruments	—	—	—	1	—	—	—	—
201C. Fracture	1	—	—	—	1	1	—	—
ILL DEFINED DISEASES.								
205A. Cause of death un- stated or ill-defined	1	—	66	20	1	—	27	6
	507	62	287	319	163	26	218	63

The following table shows the Comparative Rates (Europeans, not including Coloured,) from the principal towns of South Africa:—

Town	Population.	Birth Rate	Death Rate	Infantile Mortality	Tuberculosis Death Rate
Pretoria	41,500	21.37	6.99	48.48	—
Johannesburg	—	—	—	—	—
Cape Town	—	—	—	—	—
Kimberley	17,198	22.7	10.8	69.8	—
Maritzburg	19,309	19.05	7.61	43.47	—
East London	18,800	22.0	8.5	59.0	—
Port Elizabeth	30,000	25.3	16.03	81.21	—
Durban	54,130	17.82	9.37	36.3	0.53

TABLE OF CASES OF NOTIFIABLE INFECTIOUS DISEASES.
ARRANGED ACCORDING TO RACES, 1926-1927.

Diseases.	European Bor. Imp.		Coloured Bor. Imp.		Native Bor. Imp.		Asiatic Bor. Imp.		Total Bor. Imp.	
Diphtheria	83	28	4	—	1	—	1	2	89	30
Scarlet Fever	22	1	3	—	—	—	—	—	25	1
Enteric Fever	26	23	4	7	9	26	11	5	50	61
Pulmonary Tuberculosis	63	14	14	10	40	87	27	25	144	136
Non-Pulmonary										
Tuberculosis	7	3	2	2	17	31	10	15	36	51
Puerperal Fever	3	1	—	—	1	—	1	1	5	2
Cerebro Spinal										
Meningitis	—	2	—	—	3	1	—	—	3	3
Leprosy	—	—	—	—	—	3	—	—	—	3
Erysipelas	12	—	—	—	—	1	—	—	12	1
Typhus Fever	5	1	—	—	9	4	—	—	14	5
Acute Anterior										
Poliomyelitis	1	—	—	—	—	—	—	—	1	—
Trachoma	—	1	—	—	—	—	—	—	—	1
Pneumonia	10	—	1	—	37	17	4	—	52	17
Ophthalmia										
Neonatorum	3	—	2	—	—	—	—	—	5	—
Ophthalmia Gonorrheal	—	1	—	—	—	—	—	—	—	1
Encephalitis										
Lethargica	1	1	—	—	—	—	—	—	1	1
Anthrax	1	—	—	—	—	—	—	—	1	—
Small Pox	1	—	—	—	5	—	46	12	52	12
TOTAL	238	76	30	19	122	170	100	60	490	325
Cases treated in Hospital	163	65	20	18	118	163	80	59	381	305
Cases treated at home or privately	75	11	10	1	4	7	20	1	109	20

SCARLET FEVER.

The following table shows the Cases Notified and Deaths from Scarlet Fever during the past six years:—

Year	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	
						Boro.	Imptd.
Cases	20	32	30	19	44	25	1
Deaths	—	—	—	—	—	—	—

Borough Europeans only:

Case Incidence per 1,000 of population equals 0.406

CASES: WARD DISTRIBUTION.

Wards.	1	2	3	4	5	6	7	8	9	Impt.	Total
European	6	1	3	1	2	1	3	3	2	1	23
Coloured	—	2	—	—	—	—	1	—	—	—	3
Native	—	—	—	—	—	—	—	—	—	—	—
Asiatic	—	—	—	—	—	—	—	—	—	—	—
TOTAL	6	3	3	1	2	1	4	3	2	1	26

BOROUGH CASES: AGE AND SEX DISTRIBUTION.

Ages	European		Coloured		Native		Asiatic		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0—1 year	—	1	—	—	—	—	—	—	—	1
1—2 "	—	—	—	—	—	—	—	—	—	—
2—5 "	1	1	—	1	—	—	—	—	1	2
5—15 "	5	11	—	1	—	—	—	—	5	13
15—25 "	—	1	—	—	—	—	—	—	—	1
25—45 "	—	1	—	1	—	—	—	—	—	2
45—65 "	—	1	—	—	—	—	—	—	—	1
TOTAL	6	16	—	3	—	—	—	—	6	20

DEATHS ————— Nil

DIPHTHERIA.

The following table shows the cases notified and deaths from Diphtheria registered during the past six years.

Year	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	
						Boro.	Impt.
Cases	74	58	88	103	102	89	30
Deaths	7	2	6	4	8	4	4

Borough Europeans only.

Case Mortality 4.82 per cent.

Case Incidence per 1,000 of population, 1.53.

Death Rate per 1,000 of population, 0.074.

CASES: WARD DISTRIBUTION.

Wards.	1	2	3	4	5	6	7	8	9	Impt.	Total
European	15	11	6	2	11	17	9	3	9	28	111
Coloured	—	1	—	1	1	—	—	—	1	—	4
Native	1	—	—	—	—	—	—	—	—	—	1
Asiatic	—	1	—	—	—	—	—	—	—	2	3
TOTAL	16	13	6	3	12	17	9	3	10	30	119

BOROUGH CASES, AGE AND SEX DISTRIBUTION.

	European		Coloured		Native		Asiatic		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0— 1 year	1	1	—	—	—	—	—	—	1	1
1— 2 "	3	1	—	—	—	—	—	—	3	1
2— 5 "	8	11	1	2	—	—	—	—	9	13
5—15 "	26	23	1	—	—	—	—	—	27	23
15—25 "	—	4	—	—	1	—	—	1	1	5
25—45 "	2	2	—	—	—	—	—	—	2	2
45—65 "	—	1	—	—	—	—	—	—	—	1
65 and over	—	—	—	—	—	—	—	—	—	—
TOTAL	40	43	2	2	1	—	—	1	43	46

DEATHS: WARD DISTRIBUTION.

Wards	1	2	3	4	5	6	7	8	9	Impt.	Total
European	—	1	—	—	1	1	—	1	—	4	8
Coloured	—	—	—	—	—	—	—	—	—	—	—
Native	—	—	—	—	—	—	—	—	—	—	—
Asiatic	—	—	—	—	—	—	—	—	—	—	—
TOTAL	—	1	—	—	1	1	—	1	—	4	8

BOROUGH DEATHS: AGE AND SEX DISTRIBUTION

	European		Coloured		Native		Asiatic		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0— 1 year	—	—	—	—	—	—	—	—	—	—
1— 2 years	—	1	—	—	—	—	—	—	—	1
2— 5 "	1	—	—	—	—	—	—	—	1	—
5—15 "	1	—	—	—	—	—	—	—	1	—
15—25 "	—	—	—	—	—	—	—	—	—	—
25—45 "	1	—	—	—	—	—	—	—	1	—
45—65 "	—	—	—	—	—	—	—	—	—	—
65 and over	—	—	—	—	—	—	—	—	—	—
TOTAL	3	1	—	—	—	—	—	—	3	1

ENTERIC FEVER.

The following table shows the cases notified and deaths from Enteric Fever during the past six years.

Year	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	
						Boro.	Impt.
Cases	139	353	125	148	112	49	62
Deaths	26	52	37	36	47	12	11

Borough Europeans only.

Case Mortality	11.54 per cent.
Case Incidence per 1,000 population	0.48 „ „
Death Rate per 1,000 population	0.055 „ „

CASES: WARD DISTRIBUTION.

Wards	1	2	3	4	5	6	7	8	9	Impt.	Total
European	1	2	5	—	4	4	1	4	5	23	49
Coloured	—	—	1	1	1	—	—	—	1	7	11
Native	4	—	1	—	—	1	—	1	1	27	35
Asiatic	1	—	—	2	—	8	—	—	—	5	16
TOTAL	6	2	7	3	5	13	1	5	7	62	111

BOROUGH CASES: AGE AND SEX DISTRIBUTION.

Ages.	European		Coloured		Native		Asiatic		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0—1 year	—	—	—	—	—	—	—	—	—	—
1—2 years	—	—	—	—	—	—	—	—	—	—
2—5 "	—	—	1	—	—	—	—	2	1	2
5—15 "	3	4	1	—	1	—	2	2	7	6
15—25 "	4	3	1	1	3	—	2	—	10	4
25—45 "	5	4	—	—	4	—	1	1	10	5
45—65 "	2	—	—	—	—	—	1	—	3	—
65 and over	1	—	—	—	—	—	—	—	1	—
TOTAL	15	11	3	1	8	—	6	5	32	17

DEATHS: WARD DISTRIBUTION.

Wards	1	2	3	4	5	6	7	8	9	Impt.	Total
European	1	—	—	—	—	—	—	1	1	1	4
Coloured	—	—	—	—	—	—	—	—	—	—	—
Native	3	—	—	—	—	—	—	—	1	6	10
Asiatic	—	—	1	1	—	3	—	—	—	4	9
TOTAL	4	—	1	1	—	3	—	1	2	11	23

BOROUGH DEATHS: AGE AND SEX DISTRIBUTION.

Ages.	European		Coloured		Native		Asiatic		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0—1 year	—	—	—	—	—	—	—	—	—	—
1—2 years	—	—	—	—	—	—	—	—	—	—
2—5 "	—	—	—	—	—	—	—	—	—	—
5—15 "	—	—	—	—	1	—	2	—	3	—
15—25 "	1	—	—	—	1	—	—	—	2	—
25—45 "	1	1	—	—	2	—	3	—	6	1
45—65 "	—	—	—	—	—	—	—	—	—	—
TOTAL	2	1	—	—	4	—	5	—	11	1

INFECTIOUS DISEASES HOSPITAL.

During the past year 341 cases of Infectious Disease have been isolated at the Infectious Diseases Hospital, Congella, viz:—

	European Bor. Imp.		Coloured Bor. Imp.		Native Bor. Imp.		Asiatic Bor. Imp.		Total Bor. Imp.	
Diphtheria	61	25	3	—	1	—	1	2	66	27
Scarlet Fever	23	2	2	—	—	—	—	—	25	2
Measles	25	1	7	—	28	2	—	—	60	3
Chicken Pox	1	1	—	—	36	5	—	1	37	7
Mumps	5	2	—	—	5	1	—	—	10	3
Whooping Cough	11	3	2	—	1	—	—	—	14	3
Cerebro-Spinal Meningitis	1	—	—	—	1	1	—	—	2	1
Typhus Fever	4	—	—	—	9	5	—	—	13	5
Observation	13	1	1	—	7	1	1	—	22	2
Erysipelas	2	—	—	—	—	—	—	—	2	—
Vaginitis	10	—	—	—	—	—	—	—	10	—
Diphtheria Carriers	1	—	—	—	—	—	—	—	1	—
German Measles	4	—	—	—	—	—	—	—	4	—
Smallpox Contacts	20	—	—	—	2	—	—	—	22	—
TOTALS	181	35	15	—	90	15	2	3	288	53

DIPHTHERIA: AGE AND SEX DISTRIBUTION.

	0-1 year	1-2 years	2-5 years	5-15 years	15-25 years	25 and over	Total
Male	2	6	9	24	3	2	46
Female	2	1	16	22	4	2	47
TOTAL	4	7	25	46	7	4	93

The average length of stay in Hospital for the above 93 patients was 33 days.

DEATHS: 8.

SCARLET FEVER: AGE AND SEX DISTRIBUTION.

	0-1 year	1-2 years	2-5 years	5-15 years	15-25 years	25 and over	Total
Male	—	—	—	5	1	—	6
Female	1	—	2	13	1	4	21
TOTAL	1	—	2	18	2	4	27

The average length of stay in Hospital for the above 27 patients was 27 days.

DEATHS: Nil.

TOTAL DEATHS AT INFECTIOUS DISEASES HOSPITAL.

Disease	European Bor. Imp.		Coloured Bor. Imp.		Native Bor. Imp.		Asiatic Bor. Imp.		Total Bor. Imp.	
Mumps	—	—	—	—	1	—	—	—	1	—
Whooping Cough	—	—	—	—	1	—	—	—	1	—
Diphtheria	3	4	—	—	—	—	1	—	3	5
Typhus	—	—	—	—	1	1	—	—	1	1
Measles	—	1	—	—	—	—	—	—	—	1
Observation (Heart Diseases)	—	—	—	—	—	1	—	—	—	1
TOTAL	3	5	—	—	3	2	—	1	6	8

PULMONARY TUBERCULOSIS.

The following table shows the Cases Notified and Deaths from Pulmonary Tuberculosis registered during the past six years:—

Year	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	
						Boro.	Impt.
Cases	83	115	166	254	235	143	137
Deaths	61	107	84	174	151	87	74

Borough Europeans only:

Case Incidence per 1,000 of population 1.145
Death Rate per 1,000 of population 0.536

CASES: WARD DISTRIBUTION.

Wards	1	2	3	4	5	6	7	8	9	Im'pt.	Total
European	5	8	12	11	7	7	5	5	2	15	77
Coloured	1	1	1	2	2	2	—	—	5	10	24
Native	9	—	3	5	—	13	2	5	3	87	127
Asiatic	2	1	—	7	—	14	1	—	2	25	52
TOTAL	17	10	16	25	9	36	8	10	12	137	280

BOROUGH CASES: AGE AND SEX DISTRIBUTION.

Ages.	European		Coloured		Native		Asiatic		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0—1 year	—	—	—	—	—	—	—	—	—	—
1—2 years	—	1	—	—	—	—	—	—	—	1
2—5 "	1	—	—	1	—	—	—	—	1	1
5—15 "	3	1	—	1	1	—	2	4	6	6
15—25 "	1	7	1	2	10	—	5	4	17	13
25—45 "	15	10	2	5	28	1	3	2	48	18
45—65 "	16	3	2	—	—	—	5	2	23	5
65 and over	4	—	—	—	—	—	—	—	4	—
TOTAL	40	22	5	9	39	1	15	12	99	44

DEATHS: WARD DISTRIBUTION.

Wards	1	2	3	4	5	6	7	8	9	Im'pt.	Total
European	7	4	3	3	2	6	1	2	1	3	32
Coloured	—	1	2	2	1	4	—	—	1	6	17
Native	16	—	—	1	1	7	—	1	2	51	79
Asiatic	3	1	—	7	—	7	—	1	—	14	33
TOTAL	26	6	5	13	4	24	1	4	4	74	161

BOROUGH DEATHS: AGE AND SEX DISTRIBUTION.

Ages.	European		Coloured		Native		Asiatic		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0— 1 year	—	—	—	—	—	—	—	—	—	—
1— 2 years	—	—	—	—	—	—	—	—	—	—
2— 5	—	—	—	—	1	—	1	—	2	—
5—15	—	—	1	—	—	—	—	1	1	1
15—25	1	1	1	1	4	1	4	2	10	5
25—45	1	4	3	4	17	1	4	4	25	13
45—65	16	3	1	—	4	—	3	—	24	3
65 and over	3	—	—	—	—	—	—	—	3	—
Total	21	8	6	5	26	2	12	7	65	22

NON-PULMONARY TUBERCULOSIS.

The following table shows Cases Notified and Deaths from Non-Pulmonary Tuberculosis, registered during the past six years:—

Year	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	
						Boro.	Impt.
Cases	14	18	58	70	67	34	51
Deaths	11	23	52	29	65	25	23

Borough Europeans only:—

Case Incidence per 1,000 of population equals 0.129

Death Rate per 1,000 of population equals 0.148

BOROUGH CASES: AGE AND SEX DISTRIBUTION

	European		Coloured		Native		Asiatic		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0— 1 year	—	—	—	—	—	—	—	—	—	—
1— 2 years	—	—	—	—	—	—	—	—	—	—
2— 5	—	1	—	1	—	—	—	—	—	2
5—15	2	1	—	1	—	—	—	2	2	4
15—25	1	—	—	—	4	—	2	—	7	—
25—45	2	—	—	—	11	—	4	—	17	—
45—65	—	—	—	—	2	—	—	1	2	1
65 and over	—	—	—	—	—	—	1	—	1	—
TOTAL	5	2	—	2	17	—	7	3	29	7

CASES: WARD DISTRIBUTION.

Wards	1	2	3	4	5	6	7	8	9	Im'pt.	Total
European	2	—	—	—	—	2	2	—	1	3	10
Coloured	—	—	—	1	—	1	—	—	—	2	4
Native	9	—	—	1	—	2	—	4	1	31	48
Asiatic	3	—	—	2	—	4	—	—	1	15	25
TOTAL	14	—	—	4	—	9	2	4	3	51	87

BOROUGH DEATHS: AGE AND SEX DISTRIBUTION.

		European		Coloured		Native		Asiatic		Total	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0— 1 year	.....	—	—	—	—	—	—	—	—	—	—
1— 2 years	.....	—	—	—	—	—	—	—	—	—	—
2— 5 "	.....	—	—	—	1	—	—	—	—	—	1
5—15 "	.....	—	—	—	—	—	—	1	—	1	—
15—25 "	.....	—	1	—	1	1	—	2	—	3	2
25—45 "	.....	5	—	—	—	8	—	1	1	14	1
45—65 "	.....	2	—	—	—	—	—	—	1	2	1
65 and over	.....	—	—	—	—	—	—	—	—	—	—
TOTAL		7	1	—	2	9	—	5	2	20	5

DEATHS: WARD DISTRIBUTION.

Wards	1	2	3	4	5	6	7	8	9	Im'pt.	Total
European	2	—	1	—	—	3	1	—	1	1	9
Coloured	—	—	—	1	1	—	—	—	—	1	3
Native	6	—	—	—	—	3	—	—	—	16	25
Asiatic	—	—	—	2	—	4	—	—	—	5	11
TOTAL	8	—	1	3	1	10	1	—	1	23	48

VENEREAL DISEASES.

PATIENTS TREATED AT SPECIAL CLINIC, ADDINGTON HOSPITAL.

FROM 1st July, 1926 to 30th June, 1927.

Out Patients—New Cases.

European—		
Male	.....	199
Female	.....	70
Indian—		
Male and Female	.....	196
Native—		
Male and Female	.....
Coloured—		
Male and Female	.....
Non-Venereal	.....	22

Injection of N.A.B.

European—		
Male and Female	.....	851
Indian, Native and Coloured	.....	467

Irrigation.

European—		
Male	.....	2,411
Female	.....

Dilatations.

European	.....	73
Coloured and Indian	.....	Nil
Wassermann Tests	.....	214
Slides and Smears	.....	243
Vaccine Injection	.....	103
Intramine	.....	Nil

TOTAL ATTENDANCES AT CLINIC 5,651

IN-PATIENTS.

European—						
Male	.....	.....	.....	.....	.....	76
Female	.....	.....	.....	.....	.....	30
Native—						
Male	.....	.....	.....	.....	.....	310
Indian—						
Male	.....	.....	.....	.....	.....	37
Coloured—						
Male	.....	.....	.....	.....	.....	12
Female	{	Native	.....	.....	.....	135
		Indian	.....	.....	.....
		Coloured	.....	.....	.....
Babies born in Ward	.....	.....	.....	.....	.....	11

Injection of N.A.B.

European—						
Male and Female	.....	.....	.....	.....	.....	151
Native, Indian, Coloured: Male and Female	.....	.....	.....	.....	.....	1,901

Irrigation.

European—						
Male	.....	.....	.....	.....	.....	4,382
Female	.....	.....	.....	.....	.....
Native, Asiatic, Coloured: Male & Female	.....	.....	.....	.....	.....	10,223

RETURN OF WORK DONE AT DISINFECTING STATION

1st July, 1926 to 30th June, 1927.

1. Number of Houses and Rooms disinfected.
2. Number of Articles washed and disinfected: Private houses.
3. Number of Articles washed and disinfected: Infectious Diseases Hospital.
4. Number of Articles disinfected: Typhus precautions.

Months.	1 Rooms, etc.	2 Private Houses	3 Hospital	4 Typhus
1926				
July	55	2,363	3,320	10,328
August	50	2,140	2,762	8,760
September	49	1,563	2,427	8,456
October	121	5,400	3,420	6,560
November	192	5,780	3,140	2,328
December	49	2,120	2,872	2,004
1927				
January	33	927	2,756	1,648
February	26	820	2,141	1,520
March	32	915	3,424	1,260
April	33	1,675	4,340	848
May	26	1,110	2,678	627
June	33	1,365	3,181	685
TOTAL	699	26,178	36,461	45,024

AMBULANCE REMOVALS.

Hospital	European	Coloured	Native	Asiatic	Total
Infectious Diseases Hospital	224	17	101	1	343
Addington Hospital	29	5	31	13	78
Other Hospitals	44	1	10	80	135
TOTAL	297	23	142	94	556

CORPORATION DEPARTMENTS.

Departments.	Towels	Coats	Trousers	Blankets	Total
Sanitary	4,162	—	—	—	4,162
Abattoir	758	503	253	—	1,514
Electrical	613	—	—	—	613
Market	553	870	12	—	1,435
Fire	21	18	—	481	520
Foreman of Works	406	—	—	—	406
Water	410	—	—	—	410
Police	—	—	—	3,240	3,240
Tramways	482	—	—	—	482
Council	692	—	—	—	692
Total	8,097	1,391	265	3,721	13,474

CLEANSING STATION.

1st July, 1926 to 30th June, 1927	EUROPEANS Cleansed	8,076
1st July, 1926 to 30th June, 1927	NATIVES Cleansed	10,118
1st July, 1926 to 30th June, 1927	Scabies Treated	121
		<u>18,315</u>

OCEAN BEACH.

Month.	Costumes	Towels	Slips	Totals
1926				
July	3,963	4,948	419	9,330
August	2,401	3,178	311	5,890
September	1,906	2,417	257	4,580
October	2,748	3,322	624	6,694
November	3,249	3,786	848	7,883
December	5,786	6,741	1,496	14,023
1927				
January	6,853	8,411	1,819	17,083
February	4,449	5,724	1,211	11,384
March	2,275	3,263	611	6,590
April	3,865	4,370	803	9,038
May	1,995	2,554	319	4,868
June	1,626	2,180	204	4,010
Total	41,566	50,894	8,922	101,382

TOWN BATHS.

Month	Towels	Cost- umes	Turkish Towels	Sundry Articles	Blank- ets.	Totals
1926						
July	8,204	166	274	148	20	8,812
August	7,130	138	217	205	24	7,714
September	5,327	72	144	158	20	5,721
October	5,482	72	162	129	24	5,869
November	4,655	40	119	172	28	5,014
December	4,607	72	20	143	20	4,862
1927						
January	4,551	67	169	168	20	4,975
February	4,047	14	71	185	32	4,349
March	4,982	60	130	155	20	5,347
April	3,820	46	110	151	22	4,149
May	4,379	35	113	161	20	4,708
June	6,637	61	157	212	25	7,092
TOTAL	63,821	843	1,686	1,987	275	68,612

Public Health Department,

1st August, 1927.

The Medical Officer of Health,

Durban.

Dear Sir,

I submit herewith report on Tuberculosis for the year ending 30th June, 1927.

PULMONARY TUBERCULOSIS.

During the year, Pulmonary Tuberculosis was somewhat more prevalent among Europeans and Coloureds than in the previous year. Among Natives, there was a slight decrease, and among Asiatics a decidedly lessened incidence. The following table compares the mortality for all races over the last three years.

	1925	1926	1927
Europeans	29	19	29
Coloureds	3	6	11
Natives	37	31	28
Asiatics	37	32	19
Total	106	88	87

The proportion of the mortality caused by Pulmonary Tuberculosis to the total deaths from all causes, for each race, during the year, is shown in the following table:

	Europeans	Coloureds	Natives	Asiatics
1905	1 in 11	—	1 in 7	1 in 7
1910	1 in 11	—	—	—
1915	—	—	1 in 10	1 in 11
1920	1 in 25	—	—	—
1923	1 in 19	—	1 in 13	1 in 8
1924	1 in 36	1 in 8	1 in 16	1 in 27
1925	1 in 18	1 in 18	1 in 6	1 in 9
1926	1 in 24	1 in 9	1 in 9	1 in 10
1927	1 in 17	1 in 6	1 in 9	1 in 16

From the above it appears that as a cause of death, Pulmonary Tuberculosis decreased in importance for all Races up to the year 1924, since when it has shown a tendency to increase. This tendency is most marked in the case of Europeans, Coloureds and Asiatics. This fact is of importance in connection with the well-known inadequacy of housing for the poor European and Coloured sections and the Asiatics.

The notification of new cases is unsatisfactory with regard to the coloured races. The ratio of notifications to deaths was as follows: Coloureds 1 1/3: 1; Natives 1 1/3: 1; Asiatics 1 1/2: 1. As active cases exist in the ratio of three to every fatal case, it follows that a considerable amount of phthisis goes unrecognised. The European ration of 2: 1, shows that there is more control of the disease among Europeans, although there is still room for great improvement.

Full advantage has been taken of available Sanatorium facilities. The number of cases sent to Sanatoria as compared with the previous year is as follows.

	Nelspoort		Springkell	
	1926	1927	1926	1927
Europeans	6	13	6	6
Coloureds	1	—	—	—

Few of the cases applying for Sanatorium treatment have been of the "early" type which give the best curative results. The reason for this is that, generally speaking, a case does not come to light until the disease has so far advanced as to render the patient unfit for work.

Apart from its immediately beneficial effect on a patient's health, Sanatorium treatment has the added advantage of inculcating hygienic habits which enable a phthisical subject to regulate his home with advantage to himself and at no risk to others. On this principle, and following advanced Continental practice, the aim has been to give as many suitable local patients as possible the opportunity of a spell of Sanatorium treatment.

The impression prevails in some quarters that advantage is being taken of Durban's up-to-date Tuberculosis scheme by incomers from other districts. Two years experience of dealing with applicants for Sanatorium, Domiciliary and Hospital Benefit convinces one that this does not occur. The "tramp" class of tuberculosis subjects naturally gravitates to urban centres in search of casual employment. When such casuals are found to be infectious, they are isolated to protect the public from the dangers attending an uncontrolled source of infection at large in the community. The problem of the tuberculosis casual is not confined to Durban.

During the year, 222 cases of Pulmonary Tuberculosis were treated in Addington Hospital, of which 90 were Borough and 132 Ex-Borough cases. Practically all the cases admitted to the Hospital were in an advanced and infectious stage. Contrary to experience elsewhere, no difficulty has ever been met with in getting these patients to undergo hospital isolation without resort to compulsion. This is largely attributable to the very high standard of treatment and maintenance provided by the Addington Hospital. Despite the structural disadvantages of this Hospital as a centre of tuberculosis treatment, the excellent results achieved with some of those desperate cases, call for a tribute to the medical and nursing skill available.

During the year, a system of financial control of accounts chargeable to the Borough in respect of domiciled tuberculosis cases, has been elaborated in conjunction with the Hospital authorities. This promises to operate to the advantage of both Borough and Hospital authorities in dealing with Pulmonary Tuberculosis.

Noteworthy progress has been made in the development of Domiciliary Treatment. This work is carried on by the After-Care Committee of the Red Cross Society in co-operation with the Borough Health Department. In Great Britain, the expenditure of such approved voluntary societies earn up to 33 1/3 per cent refund from the local authority in respect of such work. In other cases, the local authority itself carries on the work and receives a refund of 50 per cent. from the Central Treasury. Domiciliary Treatment, properly organized, is therefore recognized as an activity proper to local authority. By next year, it is expected that records of the After-Care Committee work will be convincing enough to call for a larger measure of support from public funds.

NON-PULMONARY TUBERCULOSIS.

Thirty-six deaths occurred in 1927, as compared with 32 and 15 in the two previous years. The increased mortality refers to the Native and Asiatics in the adult age-groups (25—45 years.) For European and Coloureds, the mortality was similar to that of the previous year.

Notification of Non-Pulmonary Tuberculosis among Natives and Asiatics has greatly improved. In 1926, deaths exceeded notifications in the ratio 2: 1. During 1927, notifications exceeded deaths in the ratio of 1½: 1.

PREVENTION OF TUBERCULOSIS.

While the special measures such as facilities for early diagnosis, treatment and isolation are being satisfactorily developed, attention must be directed to the paramount importance of improving the general standard of living for the poorer sections of the community. Good housing is the greatest factor in the control of Tuberculosis. Good nutrition comes next, and in this connection the efforts at obtaining a pure milk supply are likely to lead to lessened incidence of non-pulmonary, and later, pulmonary tuberculosis. The disease is one of poverty and overcrowding, such as exists among the poor White, Coloured and the majority of the Asiatic sections of the community.

Yours faithfully,

G. H. GUNN, M.D., Ch.B., D.P.H.,

Assistant Medical Officer of Health.

Maternity and Child Welfare Department.

Medical Officer of Health,
Durban.

Dear Sir,

The following figures, indicating the work done by the Maternity and Child Welfare Department, show many interesting facts, and I would like to draw attention to the following points.

1.—CLINIC ATTENDANCES.

The total number of Clinic attendances during the year was 15,461. The decrease of 2,462 from the number attending in the previous year may be accounted for by the fact that during the summer months nearly all the families attending the clinic suffered from Dengue Fever and were unable to attend regularly. Although there is this decrease in the total number of attendances, the number of new cases attending the clinics was 1,667 compared with 1,620 last year, and the number of infants under 1 year attending was 827 compared with 745 last year. The number of expectant mothers attending was also slightly increased, being 266 compared with 250 last year. These numbers are more important than the total number of re-attendances as when once the children have attended for advice they can be kept under supervision by a Health Visitor when unable to attend the clinics.

The Clinics have been slightly altered. Last year there were four clinics for European children and one for expectant mothers. There was also one clinic for coloured children and one for expectant mothers. The numbers of European expectant mothers attending were found to be too many to be seen at one session, so the arrangement of the clinics was altered, and there are now four clinics for European children, two for European expectant mothers, one clinic for coloured children and expectant mothers.

The attendances at each session are considerably too large for proper attention to be given to each case. The average amount of time that can be given by me to each case is about three minutes whereas it ought to be possible to give the mother of a new baby whose feeding has been started along the wrong lines, at least half an hour's attention.

2.—INFANT MORTALITY RATE.

The European Infantile Mortality rate, 36.3, is the lowest on record.

The lowest rate that I have so far seen recorded was for New Zealand last year, when a figure of 39 was recorded. This was said to be a world's record. It is unlikely that there will be a lower figure than 36.3 anywhere for this year.

In the year ending June, 1925, the Infantile Mortality rate for Durban was 83.8, for the following year it was 45.85, and this year it is 36.3. Although other factors enter into the reduction of infantile mortality, I think it can be claimed that it is largely due to the activities of the Maternity and Child Welfare Department.

The year 1925 was the first year since my arrival in Durban that I was able—owing to unavoidable circumstances—to give my whole time to Child Welfare work. In that year I drew up a pamphlet on infant feeding along the lines which have been found most useful in England, making it in such a simple form that it could be understood by anyone who is able to read.

In January, 1925, the staff was increased by one Midwife, and towards the end of that Municipal year by two Health Visitors, making four Health Visitors in all.

In the year ending June, 1925, the Infantile Death rate was 83.8. Since that date, owing to the increase in staff, it has been possible to keep all registered babies under supervision. Feeding has been carried on entirely on the lines indicated in the pamphlet issued by the Department, except in a few cases of delicate infants which require special diets, and in the years when this has been the case there have been the remarkably low death rates of 45.8 and 36.3.

The Coloured Death rate, though very high, has also decreased this year; in 1926 it was 206, in 1927, 182.

Of the 35 European infants which died this year, twelve died as the result of premature birth, three from congenital malformation or debility; several of these lived only a few hours and nothing could have been done at that stage to save them. This shows that nearly half of the total deaths were due to prematurity and congenital debility. There were seven deaths due to enteritis—five less than last year, and of these three were breast fed infants.

Of the 827 infants under one year brought to the clinic, 15 died. If the proportion of deaths for the whole of the borough had been the same as for the infants brought to the clinic it would have been 18.1.

3.—ANTE-NATAL WORK.

The importance of ante-natal work is stressed by this Department as much as possible. On their rounds, the Health Visitors try to make the mothers realise the importance of being examined at regular intervals during pregnancy.

The high proportion of infant deaths due to prematurity and congenital debility shows the necessity for increasing ante-natal examination and ante-natal care.

Three ante-natal clinics a week are now held by the Department, and the Municipal Midwife assists at all these clinics.

5.—MATERNAL MORTALITY.

The Maternal Mortality rate for the year is 5.1.

This figure is considerably lower than it has been for the past two years, the figure for 1925 being 15.8 and for 1926, 8.1, but is still much too high.

In a recent leading article in the "Lancet" the remark is made that:

"As everyone knows, the mortality from childbirth is still deplorable, and has shared neither in the reduced mortality amongst women from all causes, nor in the reduced infant mortality which has been an increasingly marked feature of the vital statistics of the present century",

The maternal mortality rate referred to in this article is that of 3.7 per thousand births.

In England many measures are being taken at the present time to reduce this "deplorable" rate of 3.7.

The maternal mortality rate, like that of infant mortality, is not only an indication of the number of deaths in the year but serves as an indication of the morbidity of ill health arising at these two important times of life. It is estimated that at least one-third of the women receiving treatment at Gynaecological hospitals, do so for some condition which is the result of a difficult confinement.

There is still urgent need amongst other things—for some system of supervision of the work of the midwives practising in the borough.

The Municipal Midwife attended 78 confinements this year compared with 60 last year, and amongst these there were no serious complications.

Although the infant mortality rate for this year has been exceptionally low there is still cause for alarm in the health of the children in Durban.

The fathers of many of the children attending the Department at the present time are receiving the totally inadequate wage of 6/- a day, the result is that many babies are born in a weakly condition and the mothers whose diet during pregnancy had consisted chiefly of bread and tea are quite unable to breast-feed them for more than a few weeks. The majority of these babies are brought up on artificial feeds.

Both Fresh and dried milk are distributed by this Department for infants under 1 year where the parents are unable to pay for it, and by this means many of these babies have been tided over the first year of life without serious mishap, and, as the statistics show, with very little loss of life, but it is the older children, the toddlers, who show the result of these straightened circumstances. When the children get to school age they can have a free dinner at school, but between the ages of one year and seven there is no means of providing nourishment necessary for them, and many of these small children are suffering very badly at the present time from undernourishment. Tonics will do very little good to a mother or children who cannot get one good square meal a day, and the number of people in this position in Durban appears to be increasing rapidly.

The problem of unemployment is not entirely so serious. The families of men who are out of work can be tided over these bad times by temporary help from Charitable Societies until the father gets work again without a permanent damage to health having been done. It is the continued undernourishment of these children of parents receiving such small wages which is becoming an alarming factor in the Child Welfare problem.

Yours faithfully,

K. McNEILL, M.B., Ch.B., D.P.H.

Medical Officer in Charge,

Maternity & Child Welfare Department.

Total Medical Sessions	333
Total Ante-Natal Sessions	70
Total attendances at Clinic	15,461
New cases out of above number	1,667
No. of infants under 1 year who attended clinic	827
Total attendances of infants under 1 year	6,953
No. of expectant mothers who attended clinic	266
Health Talks	31
Attendances at Health Talks	252
No. of cases who received dry food at cost price	99
" " " " " " " free	102
" " " " " sterilised milk free	23
Amount of dry food bought	1,420 lbs.
" " " " " given free	2,099 lbs.

BIRTHS—

Notifications	1,116
Registrations—	
European	965
Coloured	82
Imported (European & Coloured)	280
Still Births—	
Notified	29
Registered	53

DEATHS—

European	35
Coloured	15
Rate European	36.3
" Coloured	182.0
No. of above deaths who attended clinic or were visited by Health Visitors—	
European	15
Coloured	4

ANTE-NATAL WORK:

No. of Expectant Mothers attending Clinic	266
Total No. of attendances	750
No. of above cases attended by Sister France	78
" " " " referred to Addington Hospital for confinement	42
" " " " Referred for treatment for V.D.	2

MATERNAL MORTALITY—

No. of deaths from causes due to childbirth:	
European	5
Coloured	—
Death Rate:	
European	5.1
Coloured	—

HEALTH VISITORS' WORK.

INFANTS: Under 1 Year	1st Visit	Re-visits.
Breast fed	838	1,416
Mixed	44	643
Artificial	90	1,048
OLDER CHILDREN.	261	4,492

Still Births	Deaths	Expectant Mothers	Maternal Deaths	Ophth. Neon.	Inspection of Lavatories	Puerperal Fever	Reports Sanitary Department.	Contacts
32	44	545	5	3	40	3	12	4

TOTAL VISITS 8,287

Total No. of infants under 1 year visited	1,510
Total No. of Expectant Mothers visited	240

MUNICIPAL MIDWIFE.

Emergency Cases	5
Premature Births	1

1 at 6½ months, lived 9 hours.
Attended at Ante-Natal Clinic.

Stillborn	3
1 at 5½ months. Attended at Ante-Natal Clinic.	
1 at 8 months. Attended Ante-Natal Clinic.	
1 at full term. Attended Ante-Natal Clinic.	

TOTAL NUMBER OF CASES FOR YEAR 78

No Maternal Deaths.

No serious Maternal complications.

INFANT DEATHS—ENTERITIS.

FEEDING:—

Breast	Cows Milk (fresh)	Dried Milk	Mixed	Breast and Solid Food	Nestle's Milk with Barley Water or Nutrine
3	2	—	—	1	1

MATERNAL DEATHS.

Attended by:

Midwife throughout	Doctor	Both	Institution	Nursing Homes.	TOTAL FOR YEAR 1926/27
—	—	2	1	2	5

Causes of Maternal Deaths.

Puerperal Sepsis	Eclampsia.	Toxaemia of Pregnancy
1	3	1

Office of the Chief Sanitary Inspector,
Old Court House Buildings.

Durban, 1st August, 1927

The Medical Officer of Health,

Durban.

Dear Sir,

I beg to submit the following summarised report on the work of the Sanitary Department for the year ended June 30th, 1927:—

Complaints investigated	1,082
Notices issued—Personal intimations	4,973
Notices issued—Written Notices	3,360
Reports made on applications for licenses	4,782
Inspection of Cyanide fumigations	382
Visits made in connection with Infectious Diseases	789
Reports made by letter to other departments	1,147

INSPECTIONAL WORK.

NATURE OF PREMISES.	NO. OF VISITS
Hotels and Boarding Houses	889
Restaurants, Tea Rooms, and Eating Houses	2,750
Bakeries	200
Butcheries	2,811
Dairies (within the Borough)	397
Dairies (Outside the Borough)	263
Laundries	1,791
Markets	910
Offensive Trades	126
Night inspections	301
General Inspections	31,221
Total Inspections	41,659

DISTRICT SANITARY INSPECTORS' REPORTS ON DEFECTIVE OR
INSANITARY CONDITIONS REMEDIED.

NUISANCES—

From defective or dirty 'stables, fowlruns, kraals, cow-sheds, abated	150
From Factories or Trade premises abated	91
From dirty yards, gullies, w.c.'s, etc. abated	1,577
From discharge of foul water to street discontinued	239
From unauthorised deposits of refuse discontinued	408
From accumulation of offensive matter abated	263
From smoke abated	29
From overgrown lands, etc., cleared.	468
Measures taken to prevent breeding and to destroy:	
1. Flies	167
2. Rats	447
3. Mosquitoes	731

STRUCTURAL REPAIRS:—

General repairs to premises	206
Chimneys—repaired or renewed	27
Roofs—repaired or renewed	237
Gutters and down-pipes—repaired or renewed	306
Floors—repaired or renewed	147
Lighting—improved or provided	67
Ventilation—improved or provided	74
Yards paved or repaired	56
Yards drained	25

SANITARY FITTINGS:—

W.C. pans, sinks, baths and gullies repaired or renewed	498
W.C. cisterns repaired or renewed	286
Waste and flush pipes—repaired or renewed	285
Waterclosets—repaired	140
Privies—provided or repaired	6
Sinks provided	2
Baths Provided	15
SEWERAGE—Installed	45
—Native type of convenience installed	8

DRAINS:—

Manholes, traps, vents, etc—repaired or renewed	140
Drains—connected with sewer—	22
Drains—(stormwater)—disconnected from sewer	21
Cast Iron pipes laid across the footpath	36
Stormwater drains provided or repaired	24

GENERAL.

Water supply—installed or improved	10
Water Supply—defective fittings repaired	168
Overcrowding—discontinued	45
Vermineous premises: Vermin eradicated	91
Other premises—lime-washed or colour-washed	316
Other premises—cleaned	160
Receptacles—manure and refuse provided or renewed	1,399
Shanties unfit for habitation—vacated or demolished	115

HOUSING:—Illegal of Natives discontinued	105
Sleeping in unapproved premises discontinued	106
Illegal structures demolished	1

BAKE HOUSES, FOOD FACTORIES, DAIRIES, ETC.

Change rooms provided	2
Lavatory basins provided	Nil
Overalls provided	40
Fly screening provided	8
Floors repaired or renewed	12
W.C's, drains, etc., removed from buildings	1
Walls etc, limewashed, painted, or otherwise cleaned	190
Sleeping in store or work-room discontinued	4
Unsuitable food receptacles replaced or improved	32
Unclean clothes taken up with proprietor	38
Unclean Vehicles taken up with owners	7

OFFENSIVE TRADES.

NUISANCES from smells abated— 8 From dust abated 7

REPORTS TO OTHER DEPARTMENTS.

WATER ENGINEER.

Choked drains	164
Defective Water fittings	107
Borough Engineer:—Defective or insanitary conditions	172
Other departments:—Sundry	112

DAIRIES AND MILK SUPPLIERS.

Three hundred and Ninety seven inspections, representing an average of 30.5 inspections of each dairy in the Borough were made, and 263 inspections representing an average of 3.3 inspections to those places outside the Borough licensed to sell milk within the Borough boundaries were made during the year under review.

Dairies in the Borough including milk Depots	17
Dairies outside the Borough licensed to sell milk within the Borough Boundaries	78

The following improvements were effected at the instance of this department, viz:—

COWSHEDS—Within the Borough, newly erected	Nil
Outside the Borough, newly erected	11
Erected to replace unsatisfactory building	4
Extensions to existing buildings	7
General repairs effected	33
New Dairies licensed (outside)	11
New applications refused (outside)	5
Repairs to walls, floors, etc.	38
Overcrowding of cow-sheds abated	8
Water supply improved	6
Dairies given up or closed down	12
Dairies changed ownership	4
Premises lime-washed after Notice given	47
Servants' quarters limewashed	11

MILK-ROOMS.

Erected	16
Fly screened	18
Fly screening renewed	4

BOILERS.

Provided	14
Repaired	7
Renewed	7
Not regularly used—warnings given	11

MILK SAMPLES.

Of the 225 samples of new milk submitted for analysis, 29 were certified to be under the required standard of 3.0% Milk Fat and 8.5% Solids not fat.

In 21 cases as the deficiency was slight, letters of warning only were sent to the dairymen concerned.

Legal proceedings were instituted in 8 cases.

In respect of 3 samples certified to be under the standard, the dairymen concerned applied for test samples to be taken at the time of milking. This was done and in each case the cows were found to be giving milk of inferior quality, and the dairymen were warned to take the required steps to improve the quality of their cows' milk.

In one case the dairymen concerned applied for a test sample to be taken and the sample showed that the milk was up to the standard.

For the whole of the new milk samples including those under standard, the average composition was:

Milk Fat	3.548%
Solids not fat	8.72%

UN SOUND FOOD HANDED OVER TO THE DEPARTMENT BY THE BOROUGH MARKET MASTER.

Fowls	75
Ducks	19
Ham	90 lbs.
Sausages	94 lbs.
Wildebeestes	2

UN SOUND FOOD HANDED OVER BY PRIVATE PERSONS.

Potted Meat	59 jars
Dried Fruit	13 cases

UN SOUND FOOD SEIZED AND DESTROYED.

Nougat	719 pkts.
Herrings	44 tins

FOOD AND DRUGS.

During the year the following samples were taken and submitted to the Borough Analyst for examination.

Article	No. of Samples	Genuine	Below Standard
Milk	225	196	29
Honey	3	2	1
Vinegar	3	2	1
Butter	2	2	—
Jam	6	6	—
Fruit Syrup	1	1	—
Raspberry Syrup	2	2	—
Lemon Syrup	2	2	—
Lemon Squash	2	2	—
Strawberry Syrup	1	1	—
Orange Syrup	1	1	—
Baking Powder	1	1	—
Pepper	4	3	1
Tea	1	1	—
Total	254	222	32

The sample of pepper was not officially purchased or divided.

In addition to the above, 208 samples of water and 208 samples of milk were submitted for bacteriological examination.

ANTI-PLAGUE:—

FLY PREVENTION, AND ANTI MALARIAL PRECAUTIONS.

The usual attention has been given to these activities and the following figures show the work carried out in connection with rodent destruction: viz:—

Total inspection made	6,546
Rats destroyed on Corporation premises	1,381
Rats reported to have been destroyed on private premises	1,506
Rats destroyed by the Dep'tmental rat catchers	2,799
Notices served on persons in terms of the Rodent Infestation Regulations	224
Structural repairs or alterations carried out to prevent rats gaining access to premises or obtaining harbourage on premises	354

FLIES—42,534 gallons of fly poison were used in spraying or laid down as poison bait at the various refuse Tips.

ANTI MALARIAL:—3,335 gallons of oil were used during the year for the spraying of swampy lands in the Borough as against 2,865 gallons used the previous year.

CYANIDE FUMIGATIONS:—The number of licensed fumigators in the Borough is 4 and 384 premises were fumigated under the supervision of this department for the destruction of Vermin.

NATIVE AND ASIATIC COMPOUNDS OR BARRACKS.

INDIAN BARRACKS (PRIVATE)—There are 6 private barracks in the Borough containing a total population of 485 souls. Of these, three are under European supervision, the remainder being managed by Asiatics.

All have the Municipal water supply but three are out of the sewered area.

They may be classed as follows.

Good	1
Fair	3
Poor	2
Bad	—

COMBINED NATIVE AND INDIAN BARRACKS:—There are two combined Native and Indian Barracks in the Borough containing a population of 87 Native and 43 Indians. They are both under European control, are connected to the sewer, and their structural condition is Good 1, Fair 1.

NATIVE BARRACKS (PRIVATE)—There are 124 private barracks or compounds in the Borough in which not less than 10 men are housed, and the total population is 8,894 souls.

The majority of the barracks are under direct European supervision and control, the remainder being managed by Indians or Natives. All have the Municipal water supply laid on, and 13 are out of the sewered area.

The structural condition of these barracks may be classed as follows,
viz:—

Good	73
Fair	35
Poor	11
Bad	5
	<hr/> 124 <hr/>

OFFENSIVE TRADES.

List of Offensive trades on our Register as at June 30th, 1927:—

Soapmakers	6
Dealers in Hides, skins, and Wool	34
Breweries	2
Wattle Bark grinders	4
Refuse Depositing Sites	7
Wool Washeries	1
Abattoirs	2
Manufacturers of fertilizer	1
Refuse Destructor	1

The refuse destructor, depositing sites, one abattoir, and one brewery are Municipal institutions.

PROSECUTIONS.

Public Health Bye-Laws relating to	Cases	Convictions.	Dismissals	Fines imposed
Nuisances	12	12	—	£20 5 0
House drainage	5	5	—	5 10 0
Laundries	11	11	—	25 0 0
Failure to provide refuse receptacles	1	1	—	10 0 0
Selling Milk without a license	1	1	—	1 0 0
Manufacture of food	1	1	—	C. & D.
Slaughter of animals	1	1	—	2 0 0
Contamination of Food	1	1	—	2 0 0
Section 146 P.H. Act	2	2	—	23 0 0
Section 7. Adul. of Food Act	8	6	2	16 5 0
Section 113 P.H. Act.	1	1	—	3 0 0
Totals	44	42	2	£98 10 0

SANITARY SERVICES.

The following table shows the average number of carts, and tank carts employed daily and the quantity of material, rubbish, street sweepings, and manure removed, viz:—

CARTS:—

Rubbish	56
Street Cleansing	16
Sand carts for covering Tips	3
Tank—Night Soil	2

MATERIALS REMOVED—

LOADS

Rubbish	59,909
Street sweepings	20,484
Manure	1,074
Sand for covering Tips	15,898

DISPOSAL OF REFUSE.

	Number of Loads	
	Rubbish	Street Sweepings
Western Vlei	20	7,115
Destructor	5,477	8
Eastern Vlei	29,576	3,210
Botanic Gardens Tip	15,438	2,437
Congella	4,566	479
Umbilo	1,202	349
Miscellaneous	3,630	6,886
Totals	59,909	20,484

LABOUR.

	Rubbish	Street Sweeping
Sirdars (Indian)	5	5
Collectors (Indian)	122	186
Total	127	191

Europeans: 1 Chief Overseer and 4 Overseers.

DISPOSAL OF MANURE.

Twenty four premises are receiving a tri-weekly manure removal service for which a charge is made at the rate of 4/- per animal per month.

Where animals are kept for private use, the manure is removed free of charge.

One hundred and seventy five truck loads of manure were consigned under contract to Sugar plantations and the revenue from this source amounted to £141 15s. 5d.

DEAD ANIMALS REMOVED.

Undermentioned is a list of dead animals removed/ and/or buried by the department, viz:

Horses	82
Donkeys	14
Mules	23
Sheep	14
Cows	76
Calves	2
Oxen	1
Total	212

The cost for the removal and disposal of refuse amounted to 5/2d. .11 per load, transport charges accounting for 2/10d. .79 of this amount.

The cost for Street cleansing per thousand of the population was £103, compared with £127 for the 76 chief towns in England.

NIGHT SOIL SERVICES.

The number of nightsoil pails in use in the unsewered area at the end of the year under review was 673 and a tri weekly service was being given to,

Private dwellings	172
Business premises	25
Government Institutions	10
Municipal Institutions	7
Private barracks	7

CEMETERY INTERMENTS.

During the year interments were made as follows, viz:

	General Cemetery Stellawood	
Europeans	249	616
Asiatics	86	313
Natives and Coloured	—	640
Total	335	1,569

BODIES RECEIVED AT THE BOROUGH MORTUARY

Europeans	72
Asiatics	75
Natives	30
Coloured	8
Total	185

Grave sites sold at Stellawood	501
Graves being maintained at Stellawood	167
Graves being maintained in General Cemetery	15

	General Cemetery	Stellawood
Curator	—	1
Caretaker	1	—
Sirdars	1	1
Indian labourers	3	17

STAFF AND LABOUR.

Inspection and Administration.

Chief Inspector	1
Assistant Inspectors	10
Clerks	3
Juniors	1
Interpreter (Indian)	1
Messenger (Indian)	1

Conservancy (Night Soil)

Sirdars	1
Collectors	13

Anti-Malarial.

European Overseer	1
Indians	14

Anti-Plague.

European Overseer	1
European Rat-catchers	2

Cleansing Services.

Chief Overseer	1
Overseers	4
Sirdars (Indian)	10
Indians	308

Public Conveniences.

European Attendants	12
Indians	6

Barracks Management.

European Caretaker	1
Indians	14

Corporation Cemeteries.

Europeans	2
Indians	22

Yours faithfully,

R. WALKER. R.S.A. (Scotland)

Chief Sanitary Inspector.

WATER SUPPLY.

(By Courtesy of the Borough Water Engineer.)

SOURCE: UMLAAS RIVER:

The catchment area draining to the existing storage reservoir at Camperdown is 172 square miles in extent. An additional catchment of 138 square miles drains to the new storage reservoir at Shongweni. A further area of 33 square miles drains to the Intake, making an aggregate of 345 square miles. The total acreage within the catchment area owned by the Corporation is 9,940 acres.

POSSIBILITIES OF POLLUTION ON CATCHMENT AREA.

The supply in the river and tributaries from such an extensive catchment area is of course subject to pollution, but almost all the human habitations are situated at such distances from streams as renders them innocuous. The Corporation is empowered by the Durban Waterworks Consolidation Act No. 24 of 1921 to take drastic measures if necessary to prevent serious contamination.

STORAGE.

The total reservoir capacity is made up as follows:—

STORAGE RESERVOIRS

	Original Capacity Million Gallons	Present Capacity Million Gallons
Shongweni	2,600	2,600
Camperdown	500	190
Intake	11	11
Clear Water, Umlaas	107	100
TOTAL	3,218	2,901

SERVICE RESERVOIRS.

Congella	7,300,000 galls.
Stella	2,000,000 "
Cato Road	10,000 "
Campbell's Tank	110,000 "
St. Thomas' Tank	300,000 "
Murchie's Tank	30,000 "
Botanic Gardens	110,000 "
Florida Road	650,000 "
Goble Road	20,000 "
South Ridge	3,000,000 "
North Ridge	2,000,000 "
TOTAL	15,520,000 "

SUMMARY OF AVAILABLE RESERVOIR CAPACITY.

	Million Galls.
Storage Reservoir	2,901
Service Reservoirs	12.5
TOTAL	2,913.5

PURIFICATION.

When necessary the raw water is treated with ALUMINO FERRIC for the purpose of sedimentation before entering the lines of supply. Two sets of filter beds are in operation, one to Umlaas and the other at Coedmore, both are of the slow sand type.

The Umlaas Filters, feeding the low level supply, deal with an average $2\frac{1}{2}$ million gallons per day. The Coedmore filters, feeding the high level supply deal with an average $4\frac{1}{2}$ million gallons per day. The effluent from each of the beds is sterilized by treatment with liquid chlorine on the most modern principles and with completely effectual results.

SYSTEM OF SUPPLY.

From the Intake the water is covered by means of open conduits, tunnels and syphons to the filters, and from there is conveyed to town by cast iron and steel pipes.

ADEQUACY:

The present supply is adequate in view of the rapidly increasing population and growing trade demands, although recent filter extensions have relieved the immediate position.

NEW SCHEME.

An entirely new scheme is virtually completed, consisting of a storage reservoir to hold 2,600 million gallons much further downstream than the existing Camperdown storage reservoir. From this storage reservoir the water will be conveyed to Durban through tunnels, conduits and pipe lines. Purification arrangements have been established at Northdene on the route of the pipe line and are already in part operation.

BACTERIOLOGICAL EXAMINATIONS.

Regular bacteriological examinations for the presence of bacillus coli have been made in the Bacteriological laboratory established at Coedmore Filters, and without exception have yielded results comparable with those of any other water supply in the world. The Durban standard of negative Bacillus Coli in 100 c.c. is the highest in the country. Weekly tests are made at the Government Laboratory, yielding consistently good results.

ANIMALS, CARCASSES AND MEAT FOUND TO BE AFFECTED WITH DISEASE OR OTHERWISE UNFIT FOR HUMAN CONSUMPTION.

	BOVINES.				SWINE				SHEEP & GOATS.		
	TOTAL NUMBER SLAUGHTERED.		36,848		15,546		153,609				
			Number Infected	Number Condemned	Number Infected	Number Condemned	Number Infected	Number Condemned	No. Infected	Whole Carcasses	Portions of Carcasses (App. weight in pounds)
DISEASES.											
Bladderm (Measles)	---	---	659	659	---	---	799	799	---	---	---
Dropsy & Emaciation	---	---	245	245	---	---	12	12	1,962	1,962	---
Dead in Pen	---	---	1	1	---	---	8	8	---	---	---
Septicaemia	---	---	4	4	---	---	---	---	---	---	---
Pyæmia	---	---	---	---	---	---	---	---	8	8	---
Tuberculosis	---	---	21	21	---	---	451	12	---	---	5,300
Sarcocysts	---	---	---	---	---	---	1	1	---	---	---
Moribund	---	---	1	1	---	---	---	---	15	15	---
Erysipelas	---	---	---	---	---	---	1	1	---	---	---
Actinomycosis	---	---	131	---	5,250	---	---	---	---	---	---
Purpura Haemorrhagica	---	---	---	---	---	---	1	1	---	---	---
Diamond Disease	---	---	---	---	---	---	1	1	---	---	---
Melanosis	---	---	1	1	---	---	---	---	---	---	---

DESCRIPTION

When the water is treated with ALUMINUM SULFATE for the purpose of softening before entering the lines of supply, the rate of flow is not materially affected, and the effect of such treatment on the water is not great.

The water is not treated with any other substance, and the only treatment it receives is the softening process. The water is not treated with any other substance, and the only treatment it receives is the softening process.

SYSTEM OF SUPPLY

From the intake the water is carried by a main pipe through the city and delivered to the houses, and there is no loss of water in the main pipe.

ADQUACIES

The ground water is abundant in the city, and the water is not treated with any other substance, and the only treatment it receives is the softening process.

WATER SUPPLY

An analysis of the water is not required, and the water is not treated with any other substance, and the only treatment it receives is the softening process.

THE WATER SUPPLY IN THE CITY

Regular tests of the water are made, and the water is not treated with any other substance, and the only treatment it receives is the softening process.

ANALYSIS OF WATER									
DATE	TEMPERATURE	PH	ALUMINUM	IRON	COPPER	LEAD	ZINC	CHLORINE	SODIUM
1890	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1891	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1892	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1893	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1894	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1895	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1896	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1897	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1898	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1899	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1900	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1901	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1902	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1903	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1904	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1905	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1906	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1907	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1908	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1909	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1910	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1911	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1912	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1913	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1914	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1915	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1916	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1917	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1918	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1919	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1920	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1921	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1922	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1923	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1924	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1925	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1926	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1927	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1928	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1929	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1930	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1931	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1932	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1933	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1934	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1935	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1936	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1937	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1938	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1939	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1940	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1941	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1942	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1943	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1944	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1945	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1946	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1947	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1948	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1949	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1950	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1951	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1952	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1953	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1954	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1955	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1956	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1957	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1958	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1959	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1960	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1961	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1962	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1963	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1964	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1965	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1966	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1967	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1968	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1969	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1970	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1971	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1972	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1973	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1974	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1975	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1976	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1977	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1978	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1979	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1980	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1981	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1982	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1983	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1984	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1985	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1986	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1987	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1988	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1989	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1990	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1991	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1992	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1993	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1994	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1995	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1996	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1997	50	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1998	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1
1999	52	7.6	0.1	0.05	0.01	0.01	0.01	0.1	0.1
2000	51	7.5	0.1	0.05	0.01	0.01	0.01	0.1	0.1

ANALYSIS OF WATER



