

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

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CITY COUNCIL
OF NAIROBI
K E N Y A



The Thirtieth Annual Report
of
The Medical Officer of Health
1959

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of

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CITY HALL
NAIROBI
15th July, 1960.

The Worshipful the Mayor,
Aldermen and Councillors,
City Council of Nairobi.

Your Worship, Aldermen and Councillors,

I have the honour to present to you my Annual Report on the sanitary circumstances, sanitary administration, vital statistics and the state of the public health of the City of Nairobi for the year 1959, as required by the Municipalities Ordinance, 1948, and the Medical Officers of Health Rules, Section 2 (12d).

A. T. G. THOMAS
M.D., B.S., D.P.H.
Medical Officer of Health.

CITY HALL
NAIROBI
12th May 1960

The Hon. Mr. J. M. Njoroge
Minister of Health
P.O. Box 10000

Dear Sir,

I have the honor to refer to your letter of the 10th May 1960 regarding the proposed establishment of a new hospital in the area of the proposed new town. I am pleased to hear that you are interested in the proposed establishment of a new hospital in the area of the proposed new town. I am pleased to hear that you are interested in the proposed establishment of a new hospital in the area of the proposed new town.

A. J. O. THOMAS
Medical Officer of Health

PUBLIC HEALTH COMMITTEE

DECEMBER 1959

Councillor Mrs. D. E. Clarke *Chairman.*

Alderman J. S. Karmali *Deputy Chairman.*

Her Worship the Mayor, Alderman Mrs. M. Needham-Clark.

The Deputy Mayor, Councillor E. S. Wilson, F.R.I.C.S.

Alderman C. Udall, C.B.E.

Alderman Sir Richard Woodley.

Councillor K. V. Adalja, M.B.E., M.L.C.

„ Bakhshish Singh Sian.

„ J. M. Kasyoka.

„ Mrs. A. G. Kerr.

„ I. Maina.

„ G. B. E. Norburn, F.R.I.B.A.

„ T. M. Palmer.

„ C. E. D. Stiebel.

The Officer i/c Nairobi Extra Provincial District, Mr. R. A. Wilkinson.

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INTRODUCTION

It has always been the policy of the Public Health Department to avoid political entanglements and impacts as far as possible, feeling that it is the duty of a professional body to deal with its own sphere only.

The recent trend of events in Kenya, however, makes this attitude difficult if not impossible to maintain, since the probable impacts of the threatened upheaval in this country will be enormous. It is difficult, and possibly unwise, to try too closely to predict the future, but certain trends seem to be bound to develop, and they should as far as possible be recognised and met as effectively as circumstances may allow.

In the first place, the recruitment of European highly skilled and qualified staff is likely to become increasingly difficult, and no immigrant races can now look forward to making a career in this country.

Secondly, there will be pressure for the filling of vacancies from the local indigenous population, and it can be anticipated that these will for many years be available only with relatively low qualifications and experience.

Thirdly, it seems likely that the inculcation of ideas of health, sanitation and hygienic responsibility into the inhabitants of the city will become increasingly difficult, partly because of the lack of staff to do so, and secondly because of possible increased difficulty in by-law enforcement and discipline.

All this adds up to one thing, and that is the deterioration of the standards that the existing staff have spent many laborious years in building up. It has been a commonplace with us that sanitary administration in this city was very different from a comparable city in the United Kingdom. In the latter, generations of painstaking indoctrination into health matters and the presence of responsible and civilised elements in the population in local authorities gradually increasing in number means that the population could be regarded as 95% co-operative and sanitarily conscious. Here, almost the precise reverse could be said to exist, except that over the past fourteen years, in effect since World War II, there has been a gradual improvement. This improvement has been achieved by steady propaganda, by firm adherence to standards and by prosecution and court work. It seems very unlikely that a continuing campaign of this kind will remain unaffected by political change.

This is admittedly a somewhat unhappy outlook, and one could suggest certain measures which might mitigate a deterioration. These would be as follows:

1. The attracting into the organisation of well qualified and energetic contract staff from outside the country during the interim period.
2. The speeding up to a marked degree of the education of African sanitary workers and insisting that a proper standard is maintained for qualification.

3. If and when an African majority arises in a local authority, that authority allows the Public Health Department to endeavour to maintain a reasonable standard of service by supporting it in by-law enforcement, recruitment of staff and the like, and refrains from using pressure upon it to relax from its standards and tolerate inefficiency or mal-administration.

Even if the safeguards just mentioned are applied with good will and a sense of purpose, the impression remains that, if nothing worse, the steady development and improvement of the public health services of this city, which could be a reasonable source of pride both to the Council and the officers of this Department, will not continue as in the past, and in a community such as this, faced as it is with health problems which have long since disappeared in older and more sophisticated towns, cessation of progress is in itself retrogression.

It is thoughts such as these, coupled with the fact that the Golden Jubilee of the city is at hand, that has prompted me to introduce into this particular report a survey of the progress and achievements of this Department since it was started. It is a story throughout which cannot but reflect credit upon the City Council and can well be a source of pride to the many devoted men and women who through the years have given loyal service in developing it.

Turning now to the events of 1959 which, of course, were planned initially at the consideration of the estimates for that year. The fundamental influence was the continued "pinning" of the Public Health grant by Government to a level equivalent to the expenditure in 1958. Obviously this factor had an overriding influence in every stratum of the Department. Normally, in planning the estimates for previous years, regard is necessarily had for the continued growth of the city, and in the past proportionate improvements in all our services have been allowed by Council.

In the present circumstances, however, there has now been a standstill for nearly two years. To some extent this has been met by the extended efforts of the staff, better planning, better organisation of effort and just hard work, and it is creditable to note that in many instances the figures represent even an improvement on the 1958 standards.

It is evident, however, that in our particular circumstances there is a limit, and we are not far away from it. If some formula cannot be found whereby our staff and facilities can keep pace with growing pressures, the only alternative will be to thin our services to the public, and this is repugnant. This applies not only to staff but to premises. In some instances our clinics are grossly overcrowded, and their operation in these conditions is conducive neither to contentment and efficiency amongst the staff or satisfaction to the public.

During the year, the Health Centres continued to occupy the same prominent position as they had from their inception, and the numbers of persons dealt with each month reached spectacular proportions averaging something of the order of 22,000 a month.

Nevertheless, many teething troubles had been overcome and the flow of patients through the Centres had become more streamlined. It had been expected that perhaps when the novelty of the new service wore off, demands for it would diminish somewhat, but this so far does not seem to be the case.

What does emerge from the picture is that the setting up of this scheme has filled a need far greater than our early assessment had revealed.

One aspect only of this organisation has not yet developed as we wished it to, and that is the preventive side. As I have previously stressed, these Centres have a dual purpose, partly in the treatment of ambulant sick and partly their indoctrination into the principles of prevention. Special limitations of the buildings and preoccupation of the staff with a great volume of sickness have so far provided considerable difficulties in teaching, but it is hoped that if all goes well some development can take place in 1960.

The invaluable work of the Chest Clinic has continued, showing increasingly gratifying results in the successful treatment of tuberculosis in the city. Perhaps the most encouraging feature was that an interim report of its activities showed that careful investigation had demonstrated that only one tenth of the number of cases of open tuberculosis had, in fact, been discovered as compared with the figure originally estimated. It seems fair to say that this city can compare very favourably in its tuberculosis problem with any other in Africa, and possibly even in Europe.

Progress in establishing a crematorium was slow, and many irritating minor impediments arose. Questions of land, neighbourly objections, regulations for operation, religious prejudice and finance, all conspired together to clog advance. However, towards the close of the year many of the difficulties had been met, and it seemed quite definite that the project would be completed certainly before mid-1960.

This will give the city yet another amenity in line with progressive communities elsewhere in Africa. It is interesting to note that this project, now nearing fruition, has been talked about at intervals since 1937.

Much credit must go to the quiet but hard working committee, working outside the City Council, but with support from this Department, who are gradually spreading the doctrine of planned parenthood. This is uphill work and attracts little publicity or enthusiasm, but the measure of success of those enthusiastic and persevering people who have been working for it is evidenced by the steadily increasing interest being shown particularly by the African and Asian communities. Quite apart from political upheavals, over-population is one of the biggest menaces of East Africa, and it is the duty of those who wish well for the inhabitants of the future to give them the knowledge and means for competing with it.

Thirty Years of Public Health in Kenya

The Local Government Municipalities Ordinance came into force in 1929, and on the 1st January of that year Nairobi became a Public Health Authority. In those days, Nairobi was in much the same stage of development as many

of the towns of the United Kingdom in the latter part of the 19th century, at the time when the main qualification of a Medical Officer of Health was to have a good sense of smell! Not all the duties which are now regarded as those of a Public Health Authority were taken over at first from the Government Medical Department. The Maternity and Child Welfare Service, for example, which was then run for Africans only, continued to be administered and run by the Government.

The staff of the Public Health Department of the Municipality consisted mainly of Health Inspectors and there was, in fact, a total of 11 people in the Department, including the Medical Officer of Health, and 7 of these 11 were Health Inspectors. The expansion over the last thirty years can be measured to some extent by comparing the staff figures. The total staff of all races is now 550.

Early progress was hindered by the world depression, and between 1929 and 1933 the expenditure fell from £9,000 to £6,000, largely because of this. It is more interesting, however, to compare the expenditure in 1929 with that in 1959. In round figures, £8,000 was spent in 1929 and £250,000 in 1959, with an income in that year of £70,000. This is an increase of 50 times the expenditure in a period of thirty years—a not inconsiderable expansion, even allowing for changes in the value of money. It is perhaps a comforting reflection for the ratepayers that in the early years 80% of the expenditure was on staff salaries, while nowadays 50% is spent on this item.

The population has increased from 50,000 to 222,000.

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From the public health point of view it is more important to try to find out what good has come of the increase in expenditure and staff. The reports of the Medical Officers of Health throughout the years are depressing in the similarity of their reading, but Medical Officers of Health generally pick out the worst about which to write and despite their lugubrious prognostications there has undoubtedly been considerable achievement in the public health field.

Plague and malaria, for example, have virtually disappeared. There were epidemics of plague in the city until just before the Second World War, and while anti-plague measures are still taken, there is little risk nowadays of this disease taking epidemic form. The figures for malaria are perhaps even more dramatic, and show that in 1929 there were almost 3,500 locally acquired infections, while in 1959 there were only 123, and it was doubtful if many of these were acquired locally. The expansion of the city makes the control of malaria much easier in that as development takes place, swampy areas where malarial mosquitoes can breed are automatically drained and eliminated.

It is not easy to get a true picture by studying the statistics available in Nairobi as these are not entirely reliable. It is extremely difficult in a country such as this to get people to appreciate the need for statistics and the need for giving reliable and accurate information regarding infectious diseases and causes of death, for example.

Such information as has been obtained over the years is of use for purposes of comparison. They show that the death rate has been reduced from 13 to 9 per 1,000, that maternal deaths have gone down from 14 to 1.41 per 1,000 live births (although this is still a long way behind more civilised and highly

developed countries). The infant mortality figures are revealing, and show that in 1934 there were 563 births and 217 deaths of children under 1 year, while in 1959 there were 508 deaths out of a total of 8,500 births. Very significant in more ways than one are the 5 road deaths in 1929 compared with the 66 in 1959.

One can go on making statistical comparisons *ad infinitum*, and from the public health point of view a detailed study of such figures in the only way by which one can calculate how progress has been made and the direction in which one wishes to make progress in the future. It would be easy to say that any improvement in figures was entirely due to public health measures, but this would be dishonest, for a vast improvement has been caused by the discovery of antibiotics and other life saving drugs.

However, there is no doubt but that public health measures have taken a large part in raising the standards of health and living in general in the city. Maternity and Child Welfare services are now available for all races and are well attended. The Chest Clinic is playing a big part in the detection and elimination of tuberculosis amongst all races; in addition to treating the sick, an endeavour is being made in the Health Centres (principally used by Africans) to give education in health matters.

There is still a long way to go. Perhaps the most outstanding defect in medical services in the city is the complete lack of preventive medical inspections in the schools. The deaf and dumb, the blind and partially blind, and the mentally defective get very little attention, although beginnings in a very small way have been made. It is the possibility of continued progress which makes public health work interesting in a Colony such as this, and in a country of such recent development one has the advantage of being able to gain from the experience of other places—the opportunity of accepting and trying to adopt the best and of rejecting the worst. There is here no legacy of an industrial revolution which faced the sanitarians in England. Nairobi and other towns have their slums and black spots, but on the whole they are not vast nor are they structurally as permanent as, for example, the back-to-back houses and tenements of British cities. The essential problems are the same—poverty, ignorance and disease—a vicious circle. At least we do not have to face the same obstacle of an obstinate and suspicious Government as did the early pioneers in public health in the British Isles. The public health idea is not one, however, which is readily acceptable to or understood by the lay public. Education, therefore, is the greatest problem, and education in health matters one of the most important, before rapid strides can be made amongst the various peoples in Nairobi and for that matter in any other part of this Colony.

In concluding this introduction to the annual report, as in previous years, I would like to pay tribute to the co-operation which has been given to the department by members of the Public Health Committee and Council, the Permanent Secretary for Health and his staff, and in particular to the loyal and conscientious work carried out by the staff of this department.

METEOROLOGY

Some Figures of Nairobi Rainfall 1897-1959

Readings taken at M.O.W.

Average yearly rainfall 1897—1900	..	..	..	..	35.10 inches.
Average yearly rainfall 1901—1925	..	..	..	..	37.81 inches.
Average yearly rainfall 1926—1950	..	..	..	..	32.33 inches.

Total rainfall for 1951	..	60.08 inches.
Total rainfall for 1952	..	26.09 inches.
Total rainfall for 1953	..	21.36 inches.
Total rainfall for 1954	..	24.18 inches.
Total rainfall for 1955	..	32.25 inches.
Total rainfall for 1956	..	27.60 inches.
Total rainfall for 1957	..	49.27 inches.
Total rainfall for 1958	..	45.85 inches.
Total rainfall for 1959	..	31.92 inches.

Average yearly rainfall 10-year periods:

1901 to 1910	..	..	37.16 inches.
1911 to 1920	..	..	40.71 inches.
1921 to 1930	..	..	34.90 inches.
1931 to 1940	..	..	31.98 inches.
1941 to 1950	..	..	30.60 inches.
1951 to 1959	..	..	35.79 inches.

A NOTE OF THE
CLIMATE OF NAIROBI CITY

The City of Nairobi is about 5,500 feet high, rather more than 300 miles from the coast, and about 100 miles south of the equator. It is flanked by high ground on the north and west, and by extensive plains to the south and east. The modifying effect of the topography on an otherwise tropical climate is considerable.

The climate displays only relatively minor seasonal variations, but Nairobi's position so far inland results in a large diurnal variation, particularly in temperature and humidity, while its height causes it to be some 13°F. cooler than the coast. The result is a climate which does not have the enervating effect generally associated with the tropics.

The hottest months are February and March, and during this period afternoon temperatures rise to 85°F. or more, and very occasionally to nearly 90°F., a figure which has never yet been exceeded. The period June to August is invariably one of comparative low day and night temperatures. The average maximum temperature for June is about 72°F.; night-time temperatures are generally about 54°F., giving a mean range of 18°F. The lowest minimum recorded is 44°F. during an August night in 1933, but temperatures much nearer freezing point have been experienced in neighbouring valley situations from time to time.

Relative humidity has a very marked daily range. In the early morning it frequently reaches saturation and may fall to 10% in the middle of the day on clear sunny days in February or March.

Cloud is least during the period December-March when skies are about half covered in the mornings and less than half covered in the afternoons. From April onwards cloud amount increases until in August at the height of the S. E. monsoons the sky may be quite overcast all morning, the cloud only breaking in the afternoon. As cloud usually decreases after midday, there is about 30% more sunshine in the afternoon than in the morning, and it follows that westerly slopes receive more sunshine than easterly. The following figures for mean hours of sunshine per day illustrate this point very clearly:

<i>Hrs.</i>		<i>Hrs.</i>		<i>Hrs.</i>	
January	9.8	May	6.2	September	5.7
February	9.8	June	4.7	October	7.4
March	8.5	July	4.0	November	8.4
April	7.2	August	4.1	December	7.1

The significance of these figures is better appreciated when it is remembered that the sun is above the horizon for about twelve hours per day throughout the year.

The figures for average rainfall given in the table opposite show a distribution with two peaks, one in March—June (the "long rains"), and the other in October—December (the "short rains"). Late December and mid-March is popularly supposed to be the dry season, but there is an appreciable expectancy of rain in this period, a rather greater expectancy in fact than in the cool, dry but cloudy mid-year period. Rainfall is mainly, although not entirely, in the form of afternoon and evening showers, associated at times with thunderstorms. During the months June to September the S. E. monsoon may bring a dense cap from which light rain sometimes falls for several hours, mainly during the early morning. Very heavy rain of the tropical deluge type occurs infrequently; when it does it is invariably associated with the more violent type of thunderstorm. In 1951, a very wet year, falls of as much as 5" in 3 hours were experienced in the Nairobi area during the "long rains". This is, however, exceptional, falls exceeding 2" in 24 hours being infrequent.

As is general in East Africa, rainfall means can be very misleading. Since several years of short rainfall may follow one another, means have to be interpreted with some circumspection. Some indication of the range of variation is given by the following extreme falls:

Highest fall recorded in Nairobi 61.80" in 1930.

Lowest fall recorded in Nairobi 19.13" in 1943.

It is apposite to note at this juncture that the mean annual evaporation from a free water surface in Nairobi is some 36", i.e. a figure comparable with the mean rainfall.

High winds are not common in Nairobi, but during February and March moderately strong east or north-easterly winds prevail, which, combined with very low humidities and high temperatures, make the few weeks before the rains the most trying of the year.

SOME METEOROLOGICAL DETAILS NAIROBI AIRPORT 1959

(From the E.A. Meteorological Department)

	1959	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Mean													
Maximum		80.8	84.2	83.4	79.5	77.9	76.3	73.0	74.7	79.3	81.9	78.6	77.5
Mean													
Minimum		56.0	55.2	56.2	58.2	57.6	52.7	51.8	52.2	52.6	54.5	56.7	56.1
Mean		68.4	69.7	69.8	68.9	67.7	64.5	62.4	63.5	65.9	68.2	67.7	66.8
RAINFALL (inches)	.. ..	0.86	0.67	7.02	2.69	5.29	0.00	0.53	1.14	0.03	1.17	6.17	2.32
DAYS OF RAIN		3	4	15	10	14	0	1	4	2	6	16	7
AVERAGE RAINFALL OVER 15 YEARS (Eastleigh)		1.70	1.13	3.07	7.15	4.24	1.54	0.56	0.81	1.25	1.98	4.61	2.76
RELATIVE HUMIDITY % (E.A.S.T.)	(0900)	82	75	79	86	88	86	85	84	81	74	85	82
	(1500)	43	35	40	54	57	51	54	53	47	41	55	55
MEAN ATMOSPHERE PRESSURE (mbs)	(0900)	840.6	840.3	840.7	840.6	840.5	842.6	842.6	842.0	841.6	841.5	840.4	840.6
(E.A.S.T.)	(1500)	837.4	836.8	836.9	837.5	837.4	839.7	840.0	838.8	837.8	837.5	836.8	837.2

VITAL STATISTICS**GENERAL**

Area of City	..	..	..	..	20,480 acres or 32 sq. miles
Population (estimate)	..	..	..	..	238,500
Population density per acre	..	..	..	..	11.64

SUMMARY OF VITAL STATISTICS

	Estimated population	Deaths	Death rate per 1,000	Live births	Birth rate per 1,000	Infant deaths	Infant mortality rate	Live and still births	Maternal deaths	Death rate per 1000 births
Europeans	23,500	106	4.5	505	21.4	13	25.7	509	—	—
Asians	92,000	470	5.1	3,903	42.4	174	44.5	3,988	10	2.5
Africans	123,000	1,116	9.07	3,995	32.4	415	103.8	4,125	10	2.4
TOTALS	238,500	1,692	7.09	8,403	35.2	602	71.6	8,622	20	2.3

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Summary of Principal Causes of Death

(Figures in brackets = total deaths)

Europeans (106)		Asians (470)		Africans (1,116)	
Circulatory	27=25.4%	Under 1 year	79=16.8%	Infections	214=19.2%
Nervous	20=18.8%	Respiratory	72=15.3%	Respiratory	181=16.2%
Cancer	17=16.0%	Circulatory	71=15.1%	Digestive	169=15.1%
Under 1 year	11=10.3%	Digestive	55=11.7%	Under 1 year	133=11.9%

Table I

Population Figures 1955 to 1959

(Estimates by East African Statistical Department)

	1955	1956	1957	1958	1959
Europeans	18,500	20,000	22,200	22,200	23,500
Asians	67,000	70,000	84,500	84,500	92,000
Africans	110,000	120,000	115,000	115,000	123,000
	195,500	210,000	221,700	221,700	238,500

Table 2

Births Notified in 1959*(Residents)*

								Live Births	Still Births
Europeans	..	..	..	..	..	..	..	505	4
Asians	..	..	..	..	..	..	..	3,903	85
Africans	..	..	..	..	..	..	..	3,995	130
								8,403	219

Table 3

Birth Rates for past Five Years

			1955	1956	1957	1958	1959
Europeans	..	..	21.4	23	21.76	24.1	21.4
Asians	..	..	50.8	55.4	46.80	47.7	42.4
Africans	..	..	23.6	25.6	28.57	32.3	32.4

Table 4

Infant Mortality Rates for Past Five Years

			1955	1956	1957	1958	1959
Europeans	..	..	18	19.9	28.57	31.7	25.7
Asians	..	..	48	46.7	46.02	38.9	44.5
Africans	..	..	111	130.5	98.29	89.8	103.8

Table 5

Death Rates over Past Five Years

			1955	1956	1957	1958	1959
Europeans	..	..	6.0	5.9	5.27	5.0	4.5
Asians	..	..	5.52	5.93	5.67	4.68	5.1
Africans	..	..	11.03	9.3	8.7	8.38	9.07
TOTALS	..	..	8.63	7.86	7.2	6.63	7.09

Table 6

Maternal Deaths and Maternal Mortality Rates 1959

			Live and Still Births	Maternal Deaths	Rate/1,000 Births
Europeans	..	..	509	—	—
Asians	..	..	3,988	10	2.5
Africans	..	..	4,125	10	2.4
TOTALS	..	..	8,622	20	2.3

TABLE 7
COMPARATIVE VITAL STATISTICS 1948-1959

	Live Resident Births			Infant Mortality Rates			Resident Deaths			Death Rate			Maternal Mortality		Rates
	European	Asian	African	European	Asian	African	European	Asian	African	European	Asian	African	European	Asian	
															All Races
1948	226	2,250	1,554	75	67	187	108	340	807	10.0	8.2	12.2	3.6	1.3	10.59
1949	326	2,656	1,703	25	57	168	118	332	922	9.8	6.6	13.8	3.0	—	10.7
1950	286	2,891	1,794	38.5	57.7	169.5	124	360	982	8.6	7.0	14.0	6.9	1.0	10.7
1951	304	3,117	1,979	52	52	180	148	437	1,350	9.9	8.0	16.8	—	2.19	12.9
1952	326	3,416	1,711	24	56	299	114	442	1,453	7.3	7.9	15.3	3.3	2.5	12.0
1953	295	3,278	1,614	20	49	281	111	376	1,760	6.9	6.2	17.6	—	0.6	12.8
1954	366	3,274	1,650	32.8	50.4	187.8	113	417	1,363	6.4	6.6	13.6	2.7	2.1	10.5
1955	387	3,462	2,517	18	48	111	111	381	1,214	6.0	5.52	11.0	2.5	2.3	8.6
1956	452	3,806	2,935	19.9	46.7	130.5	118	415	1,117	5.9	5.93	9.3	4.4	0.53	7.85
1957	483	3,995	3,286	28.57	46.02	98.29	117	480	1,004	5.27	5.67	8.7	—	1.23	7.2
1958	536	4,034	3,717	31.7	38.9	89.8	111	396	963	5.0	4.68	8.38	1.84	1.45	6.63
1959	505	3,903	3,995	25.7	44.5	103.8	106	470	1,116	4.5	5.1	9.07	—	2.5	7.09

Summary of the Causes of Deaths

	Europeans	Asians	Africans	Totals	Percentage of all deaths in 1959.	Percentage of all deaths in 1958.	Death Rate 1959.	Death Rate 1958.
1. Infectious and Parasitic Diseases	3	17	214	234	13.8%	9.5%	0.98	0.62
2. Cancer and other Tumours ..	17	24	31	72	4.25%	5.37%	0.3	0.35
3. Rheumatism, Diseases of Nutrition, etc.	—	17	24	41	2.48%	1.98%	0.17	0.13
4. Diseases of the Blood etc. ..	3	12	48	63	3.72%	2.38%	0.26	0.15
5. Chronic Poisoning and Intoxications.	—	1	1	2	0.118%	0.4%	0.008	0.02
6. Diseases of the Nervous System	20	28	58	106	6.26%	5.4%	0.44	0.35
7. Diseases of the Circulatory System.	27	71	45	143	8.45%	8.4%	0.6	0.55
8. Diseases of the Respiratory System.	3	72	181	256	15.13%	19.04%	1.07	1.25
9. Diseases of the Digestive System.	3	55	169	227	13.41%	13.1%	0.96	0.82
10. Diseases of the Genito-Urinary System. (non-venereal). ..	3	13	14	30	1.77%	2.1%	0.12	0.13
11. Diseases of Pregnancy, Child-birth, etc.	—	6	10	16	0.94%	0.8%	0.06	0.05
12. Diseases of the Skin.	1	—	3	4	0.236%	0.06%	0.16	0.00
13. Diseases of Bones and Joints. ..	—	—	1	1	0.059%	0.2%	0.004	0.01
14. Congenital Malformations. ..	2	19	43	64	3.77%	1.9%	0.26	0.13
15. Diseases peculiar to the First Year of Life.	11	79	133	223	13.17%	15.5%	0.95	1.02
16. Senility, old age.	6	17	3	26	1.53%	1.56%	0.1	0.1
17. Death from Violence.	7	31	96	134	7.91%	10.28%	0.5	0.68
18. III-defined Causes.	—	8	42	50	2.95%	2.8%	0.2	0.18
TOTAL OF ALL DEATHS.	106	470	1116	1692	99.953%		7.09	6.61

Causes of Infant Deaths

Under one month

International

List No.	Cause	Europeans	Asians	Africans	Total
12.	Tetanus neonatorum	—	—	2	2
33.	Influenzal pneumonia	—	1	—	1
81.	Streptococcal meningitis	—	—	1	1
81.	Pneumococcal meningitis	—	—	1	1
103.	Epistaxis	—	1	—	1
105.	Laryngeal oedema	—	—	1	1
107.	Broncho-pneumonia	—	4	5	9
108.	Bilateral pneumonia	—	—	4	4
108.	Lobar pneumonia	—	1	6	7
119.	Gastro-enteritis	—	4	10	14
129.	Peritonitis	—	—	1	1
133.	Pyo-nephritis	—	—	1	1
157.	Exomphalos	—	—	2	2
157.	Spina bifida	—	1	—	1
157.	Meningomyelocele	—	1	—	1
157.	Encephalocele	—	—	1	1
157.	Hydrocephalus	—	1	1	2
157.	Congenital heart disease	1	—	6	7
157.	Congenital malformation	—	10	8	18
157.	Congenital fistula	—	1	—	1
158.	Malnutrition	—	—	3	3
158.	Debility	—	1	—	1
159.	Prematurity	8	50	54	112
160.	Prolonged labour	—	—	1	1
160.	Forceps delivery	—	—	1	1
160.	Intra-cranial haemorrhage	—	—	9	9
160.	Birth injury	—	2	17	19
160.	Precipitate birth	1	—	1	2
160.	Difficult birth	—	3	2	5
161.	Icterus gravis	—	1	—	1
161.	Sclerema of newborn	—	1	—	1
161.	Anaemia of newborn	—	—	4	4
161.	Jaundice	—	2	—	2
161.	Atelectasis	1	1	10	12
161.	Haemorrhagic disease of newborn	—	3	—	3
161.	Pemphigus	—	—	1	1
161.	Asphyxia	—	3	1	4
161.	Cerebral haemorrhage of newborn	—	8	4	12
200.	Unknown	—	1	—	1
		11	101	158	270

Causes of Infant Deaths

From one month to one year

International List No.	Cause	Europeans	Asians	Africans	Total
1.	Typhoid	—	—	2	2
9.	Whooping cough	—	—	4	4
13.	Pulmonary tuberculosis	—	—	7	7
13.	Tuberculous broncho pneumonia	—	—	1	1
14.	Tuberculous meningitis	—	—	1	1
15.	Miliary tuberculosis of bowel	—	—	1	1
22.	Miliary tuberculosis	—	—	1	1
24.	Septicaemia	—	—	3	3
27.	Bacillary dysentery	—	—	2	2
27.	Salmonellosis	—	—	1	1
27.	Amoebiasis	—	—	1	1
28.	Malaria	—	—	9	9
33.	Influenzal meningitis	—	—	1	1
35.	Measles	1	—	4	5
36.	Poliomyelitis	—	—	2	2
37.	Virus encephalitis	—	—	1	1
69.	Kwashiorkor	—	—	1	1
69.	Pellagra	—	—	2	2
73.	Anaemia	—	—	18	18
80.	Encephalitis	—	—	6	6
81.	Pyogenic meningitis	—	—	2	2
81.	Pneumococcal meningitis	—	—	3	3
81.	Purulent meningitis	—	—	2	2
83.	Intra-cranial haemorrhage	—	—	1	1
84.	Mongolism	—	—	1	1
90.	Pericarditis	—	—	1	1
106.	Bronchitis	—	1	4	5
107.	Broncho pneumonia	—	16	38	54
107.	Inhalation pneumonia	—	—	1	1
108.	Lobar pneumonia	—	4	18	22
108.	Bilateral pneumonia	—	2	16	18
110.	Pleurisy	—	—	2	2
114.	Abscess of lung	—	—	1	1
119.	Gastro-enteritis	—	24	47	71
123.	Jejunostomy	—	1	—	1
125.	Infective hepatitis	—	—	3	3
129.	Peritonitis	—	1	—	1
153.	Surgical emphysema	—	—	1	1
153.	Urticaria	—	—	1	1
157.	Exomphalos	—	—	1	1
157.	Congenital heart disease	—	—	2	2
157.	Congenital heart malformation	—	—	5	5
157.	Congenital malformation	—	2	2	4
157.	Hydrocephalus	—	—	4	4
157.	Hepatic failure	—	—	2	2
157.	Cerebral meningocele	—	—	1	1
158.	Atrophy	—	—	1	1
158.	Malnutrition	—	1	13	14

Causes of Infant Deaths (Continued)

International

List No.	Cause	Europeans	Asians	Africans	Total
158.	Marasmus	—	—	3	3
158.	Debility	—	—	2	2
158.	Nutritional deficiency	—	—	1	1
159.	Prematurity	1	2	3	6
160.	Birth injuries	—	1	1	2
161.	Melaena neonatorum	—	—	1	1
170.	Traffic accident	—	—	1	1
181.	Burns	—	1	—	1
182.	Accidental suffocation	—	—	1	1
195.	Neglect	—	—	1	1
195.	Exposure	—	—	1	1
200.	Failure of circulation	—	1	—	1
200.	Heart failure	—	—	1	1
		2	57	257	316

Causes of Deaths

(Corrected for Outward Transfer)

International Classification

Group I.

Infectious and Parasitic Diseases

International List No.	Cause	Europeans	Asians	Africans	Total
1.	Typhoid	—	—	6	6
6.	Cerebro-spinal meningitis ..	—	—	3	3
9.	Whooping cough	—	—	19	19
10.	Diphtheria	—	1	—	1
12.	Tetanus	—	1	6	7
12.	Tetanus neonatorum	—	—	2	2
13.	Pulmonary tuberculosis ..	—	5	55	60
13.	Tuberculous abscess of right lung	—	—	1	1
14.	Tuberculous brain abscess ..	—	—	1	1
14.	Tuberculous meningitis	—	3	9	12
15.	Miliary tuberculosis of bowel ..	—	—	1	1
16.	Tuberculous spine	—	—	2	2
21.	Tuberculous pericarditis	—	—	1	1
22.	Miliary tuberculosis	—	—	9	9
24.	Septicaemia	—	2	5	7
27.	Bacillary dysentery	—	—	11	11
27.	Amoebiasis	—	—	4	4
27.	Salmonellosis	—	—	1	1
28.	Cerebral malaria	—	—	3	3
28.	Malaria	—	—	25	25
29.	Kala-azar	—	—	1	1
30.	General paralysis of the insane ..	—	—	1	1
30.	Syphilitic aortitis	—	—	1	1
30.	Syphilis	—	—	4	4
30.	Abdominal aneurysm	1	—	—	1
30.	Rupture of aorta	—	—	1	1
30.	Aortic aneurysm	1	—	—	1
33.	Influenzal meningitis	—	—	3	3
33.	Influenza	—	2	3	5
33.	Influenzal pneumonia	—	1	—	1
35.	Measles	1	2	18	21
36.	Poliomyelitis	—	—	13	13
37.	Virus encephalitis	—	—	1	1
42.	Schistosomiasis	—	—	1	1
44.	Hodgkins disease	—	—	3	3
		3	17	214	234

Group II.

Cancer and other Tumours

International List No.	Cause	Europeans	Asians	Africans	Total
45.	Sarcoma of mandible	—	—	1	1
45.	Carcinoma of tongue	—	1	—	1
46.	Carcinoma of liver	—	—	3	3
46.	Carcinoma of stomach	1	4	6	11
46.	Carcinoma of colon	—	2	—	2
46.	Carcinoma of rectum	1	1	—	2
46.	Cancer of oesophagus	—	2	2	4
46.	Retro-peritoneal sarcoma	—	—	1	1
46.	Carcinoma of common bile duct	—	1	—	1
46.	Cancer of gallbladder	—	1	—	1
47.	Carcinoma of bronchus	2	2	—	4
47.	Carcinoma of lung	—	3	1	4
47.	Carcinoma of larynx	1	—	—	1
48.	Carcinoma of cervix	2	1	4	7
48.	Carcinoma of uterus	2	—	1	3
49.	Carcinoma of ovary	2	—	—	2
49.	Cancer of genital organs	—	—	1	1
49.	Cancer of vulva	—	—	1	1
50.	Carcinoma of breast	3	—	1	4
51.	Cancer of prostate	—	—	1	1
52.	Renal cancer	—	—	1	1
52.	Carcinoma of bladder	—	2	—	2
53.	Cancer of skin	—	1	—	1
54.	Cerebral tumor	—	1	—	1
55.	Cancer of abdomen	—	1	—	1
55.	Malignant growth	—	—	1	1
55.	Cancer of left eye	—	—	1	1
55.	Lymphatic blastoma	—	—	1	1
55.	Sarcoma of pelvis	1	—	—	1
55.	Carcinomatosis	2	1	2	5
56.	Reticulosis	—	—	1	1
56.	Neuro blastoma	—	—	1	1
		17	24	31	72

Group III.

Rheumatism, Diseases of Nutrition and of the Endocrine Glands and Vitamin Deficiency Diseases, General Diseases

International List No.	Cause			Europeans	Asians	Africans	Total
58.	Rheumatic fever .. ..	..	..	—	2	—	2
58.	Rheumatic carditis .. ..	..	..	—	4	—	4
59.	Chronic arthritis .. ..	..	..	—	1	—	1
59.	Still's disease .. ..	..	..	—	—	1	1
61.	Hyperglycaemia .. ..	..	..	—	1	—	1
61.	Diabetes mellitus .. ..	..	..	—	3	—	3
61.	Diabetes .. ..	..	..	—	6	—	6
66.	Toxaemia .. ..	..	..	—	—	1	1
69.	Kwashiokor .. ..	..	..	—	—	19	19
69.	Pellagra .. ..	..	..	—	—	3	3
				—	17	24	41

Group IV.

Diseases of the Blood and Blood-forming Organs

25

International List No.	Cause			Europeans	Asians	Africans	Total
73.	Sickle-cell anaemia .. ..	..	..	—	—	2	2
73.	Anaemia .. ..	..	..	1	10	39	50
73.	Aplastic anaemia .. ..	..	..	1	—	—	1
73.	Microcytic anaemia .. ..	..	..	—	1	—	1
73.	Megalocytic anaemia .. ..	..	..	—	—	2	2
74.	Leukaemia .. ..	..	..	1	1	2	4
75.	Splenomegaly .. ..	..	..	—	—	1	1
76.	Agranulocytosis .. ..	..	..	—	—	2	2
				3	12	48	63

Group V.

Chronic Poisoning and Intoxication

International List No.	Cause			Europeans	Asians	Africans	Total
77.	Alcoholic toxaemia .. ..	..	..	—	—	1	1
78.	Encephalopathy .. ..	..	..	—	1	—	1
				—	1	1	2

Group VI.

Diseases of the Nervous System

International List No.	Cause	Europeans	Asians	Africans	Total
80.	Cerebellar abscess	—	—	1	1
80.	Encephalitis	—	2	17	19
80.	Brain abscess	1	—	—	1
80.	Intra-cranial abscess	—	—	1	1
81.	Pyogenic meningitis	—	—	2	2
81.	Purulent meningitis	—	—	3	3
81.	Meningitis (streptococcal)	—	—	1	1
81.	Meningitis (pneumococcal)	—	—	8	8
81.	Meningitis	—	1	2	3
82.	Progressive spinal muscular atrophy	—	—	1	1
83.	Thrombosis of lateral sinus	—	1	—	1
83.	High blood pressure	—	1	—	1
83.	Subarachnoid haemorrhage	1	1	—	2
83.	Congestive seizure	1	2	2	5
83.	Subdural haemorrhage	—	—	1	1
83.	Pontine haemorrhage	—	—	3	3
83.	Cerebral haemorrhage	10	8	10	28
83.	Cerebral thrombosis	3	3	—	6
83.	Intra-cranial haemorrhage	—	1	4	5
83.	Arteriosclerosis	2	3	1	6
84.	Mongolism	—	—	1	1
85.	Status epilepticus	1	2	—	3
86.	Convulsions	—	1	—	1
87.	General sclerosis	1	1	—	2
87.	Polyneuritis	—	1	—	1
		20	28	58	106

Group VII.

Diseases of the Circulatory System

International List No.	Cause	Europeans	Asians	Africans	Total
90.	Pericarditis	—	—	5	5
91.	Subacute endocarditis	—	1	—	1
91.	Endocarditis	—	—	1	1
91.	Bacterial endocarditis	—	—	3	3
92.	Mitral regurgitation	—	—	1	1
92.	Rupture of valve of heart	—	1	—	1
92.	Mitral disease	—	1	—	1
92.	Aortic endocarditis	—	1	—	1
92.	Rheumatic endocarditis	1	—	—	1
92.	Rheumatic valvular disease of heart	1	—	—	1
92.	Aortic incompetence	—	—	6	6
92.	Mitral stenosis	—	1	5	6
93.	Cardio vascular degeneration	2	—	1	3
93.	Myocarditis	1	2	3	6
93.	Myocardial infarction	—	8	—	8
93.	Toxic myocarditis	—	1	—	1
93.	Chronic myocarditis	—	1	—	1
93.	Myocardial insufficiency	—	1	—	1
94.	Coronary arteriosclerosis	—	5	—	5
94.	Coronary thrombosis	10	25	3	38
94.	Coronary atheroma	—	1	—	1
94.	Coronary occlusion	2	2	4	8
95.	Ventricular fibrillation	—	1	—	1
95.	Rheumatic heart	—	4	1	5
95.	Auricular fibrillation	1	—	1	2
97.	Atheroma	1	1	—	2
97.	Arteriosclerosis	5	5	2	12
99.	Ruptured artery	—	—	1	1
99.	Arteritis	—	1	—	1
100.	Thrombosis (venous)	1	—	—	1
100.	Air embolism	—	—	1	1
102.	Hypertension	2	7	5	14
103.	Internal haemorrhage	—	—	1	1
103.	Epistaxis	—	1	—	1
103.	Peritoneal haemorrhage	—	—	1	1
		27	71	45	143

Group VIII.

Diseases of the Respiratory System

International						
List No.	Cause		Europeans	Asians	Africans	Total
105.	Laryngeal oedema	.. ..	—	—	1	1
106.	Bronchitis	.. ..	—	3	7	10
106.	Bronchiectasis	.. ..	—	1	1	2
107.	Broncho pneumonia	.. ..	—	33	81	114
107.	Bronchiolitis	.. ..	—	1	—	1
107.	Inhalation pneumonia	.. ..	—	—	1	1
108.	Lobar pneumonia	.. ..	2	14	50	66
108.	Bilateral pneumonia	.. ..	—	4	29	33
110.	Pleural effusion	.. ..	1	—	—	1
110.	Pleurisy	.. ..	—	1	2	3
110.	Empyema	.. ..	—	—	2	2
111.	Pulmonary embolism	.. ..	—	4	—	4
111.	Pulmonary oedema	.. ..	—	1	3	4
111.	Pulmonary infarct	.. ..	—	1	—	1
112.	Bronchial asthma	.. ..	—	2	1	3
112.	Asthma	.. ..	—	4	—	4
114.	Lung abscess	.. ..	—	1	3	4
114.	Cirrhosis of lung	.. ..	—	2	—	2
			3	72	181	256

Group IX.

Diseases of the Digestive System

International List No.	Cause		Europeans	Asians	Africans	Total
117.	Peptic ulcer .. ..	..	—	1	2	3
117.	Perforated gastric ulcer ..	..	—	—	2	2
118.	Haematemesis .. ..	..	—	1	3	4
118.	Pyloric stenosis .. ..	..	1	—	—	1
119.	Gastric-enteritis (under 2)	..	—	34	83	117
120.	Colitis .. ..	..	—	—	1	1
120.	Gastro-enteritis (over 2)	..	—	4	24	28
122.	Intestinal obstruction ..	..	—	—	3	3
122.	Paralytic ileus .. ..	..	—	—	1	1
122.	Strangulated hernia ..	..	—	—	1	1
122.	Intussusception .. ..	..	—	1	—	1
123.	Jejunostomy .. ..	..	—	1	—	1
124.	Chronic hepatitis .. ..	..	—	1	—	1
124.	Portal cirrhosis .. ..	..	—	—	2	2
124.	Cirrhosis of liver .. ..	..	—	4	13	17
125.	Amoebic abscess of liver ..	..	—	—	3	3
125.	Hepatoma .. ..	..	—	—	5	5
125.	Infective hepatitis .. ..	..	—	2	4	6
125.	Acute atrophy of liver ..	..	—	1	—	1
125.	Yellow atrophy of liver ..	..	—	—	3	3
125.	Hepatitis .. ..	..	—	—	5	5
125.	Hepatic failure .. ..	..	—	—	5	5
125.	Toxic cirrhosis .. ..	..	—	—	1	1
127.	Cholecystitis .. ..	..	1	—	—	1
128.	Acute haemorrhagic pancreatitis .. ..	..	1	—	—	1
129.	Peritonitis .. ..	..	—	5	8	13
			3	55	169	227

Group X.

Diseases of the Urinary and Genital System (Non Venereal).

International List No.	Cause			Europeans	Asians	Africans	Total
130.	Uraemia .. ..	..	..	2	2	2	6
131.	Chronic nephritis .. ..	..	..	—	1	4	5
132.	Nephritis .. ..	..	..	—	5	2	7
133.	Pyo nephrosis .. ..	..	..	—	1	1	2
133.	Nephritic abscess .. ..	..	..	—	—	1	1
133.	Hydro-nephrosis .. ..	..	..	—	—	1	1
134.	Stone in kidney .. ..	..	..	—	1	—	1
136.	Stricture of the urethra .. ..	..	..	—	1	—	1
137.	Prostatitis .. ..	..	..	—	1	—	1
137.	Abscess of prostate .. ..	..	..	—	1	—	1
137.	Enlarged prostate .. ..	..	..	1	—	3	4
				3	13	14	30

Group XI.

Diseases of Pregnancy, Child Birth and the Puerperal State

30

International List No.	Cause			Europeans	Asians	Africans	Total
141.	Abortion .. ..	..	..	—	1	2	3
143.	Haemorrhage of pregnancy .. ..	..	..	—	—	1	1
144.	Eclampsia .. ..	..	..	—	2	1	3
144.	Toxaemia of pregnancy .. ..	..	..	—	1	3	4
145.	Pregnancy .. ..	..	..	—	—	1	1
146.	Retained placenta .. ..	..	..	—	1	—	1
147.	Air embolism .. ..	..	..	—	1	—	1
147.	Death after delivery .. ..	..	..	—	—	1	1
149.	Obstructed labour .. ..	..	..	—	—	1	1
				—	6	10	16

Group XII.

Diseases of the Skin and Cellular Tissue

International List No.	Cause			Europeans	Asians	Africans	Total
153.	Septic ulcer .. ..	..	..	1	—	—	1
153.	Dermatitis .. ..	..	..	—	—	1	1
153.	Surgical emphysema .. ..	..	..	—	—	1	1
153.	Urticaria .. ..	..	..	—	—	1	1
				1	—	3	4

Group XIII.

Diseases of the Bones and Organs of Movement

International List No.	Cause	Europeans	Asians	Africans	Total
156.	Myositis	—	—	1	1
		—	—	1	1

Group XIV.

Congenital Malformations

International List No.	Cause	Europeans	Asians	Africans	Total
157.	Hepatic failure	—	—	2	2
157.	Infantile cirrhosis	—	1	1	2
157.	Congenital malformation of heart	—	—	8	8
157.	Exomphalos	—	—	3	3
157.	Spina bifida	—	1	—	1
157.	Meningomyelocele	—	1	—	1
157.	Encephalocele	—	—	1	1
157.	Congenital fistula	1	1	—	1
157.	Cerebral meningocele	—	—	1	1
157.	Congenital malformation	—	12	12	24
157.	Hydrocephalus	1	1	5	7
157.	Congenital heart disease	1	2	10	13
		2	19	43	64

Group XV.

Diseases Peculiar to the First Year of Life

International List No.	Cause	Europeans	Asians	Africans	Total
158.	Atrophy	—	—	1	1
158.	Malnutrition	—	1	16	17
158.	Marasmus	—	—	3	3
158.	Debility general	—	1	2	3
158.	Nutritional deficiency	—	—	1	1
159.	Prematurity	9	52	57	118
160.	Intracranial haemorrhage	—	—	9	9
160.	Difficult birth	—	3	2	5
160.	Birth injuries	—	3	18	21
160.	Prolonged labour	—	—	1	1
160.	Forceps delivery	—	—	1	1
160.	Precipitate birth	1	—	1	2
161.	Icterus gravis	—	1	—	1
161.	Sclerema of newborn	—	1	—	1
161.	Anaemia of newborn	—	—	4	4
161.	Pemphigus	—	—	1	1
161.	Atelectasis	1	1	10	12
161.	Asphyxia	—	3	1	4
161.	Jaundice	—	2	—	2
161.	Haemorrhagic disease of newborn	—	3	—	3
161.	Cerebral haemorrhage of newborn	—	8	4	12
161.	Meloena neonatorum	—	—	1	1
		11	79	133	223

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Group XVI.

Senility, Old Age

International List No.	Cause	Europeans	Asians	Africans	Total
162.	Senility	5	17	3	25
162.	Dementia of old age	1	—	—	1
		6	17	3	26

Group XVII.

Deaths from Violence

International List No.	Cause	Europeans	Asians	Africans	Total
164.	Suicide (hanging)	—	—	10	10
166.	Homicide by firearms	—	—	2	2
167.	Homicide by stab wounds	—	3	3	6
168.	Murder	1	—	4	5
169.	Railway accident	—	1	9	10
170.	Traffic accident	3	12	39	54
178.	Poisoning	1	—	—	1
179.	Acute alcoholic poisoning	—	2	12	14
179.	Accidental poisoning	—	1	—	1
181.	Burns	1	8	4	13
182.	Asphyxia (accidental)	—	—	3	3
182.	Asphyxia by foreign body	—	1	1	2
183.	Accidental drowning	—	1	1	2
186.	Accidental injury	—	1	—	1
186.	Accidental fall	—	—	2	2
193.	Electrocution	—	1	1	2
195.	Neglect	—	—	1	1
195.	Fractured femur	1	—	—	1
195.	Exposure	—	—	3	3
195.	Accident (unspecified)	—	—	1	1
		7	31	96	134

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Group XVIII.

III defined Causes of Death

International List No.	Cause	Europeans	Asians	Africans	Total
200.	Natural cause	—	—	1	1
200.	Malnutrition	—	—	23	23
200.	Unknown, ill defined	—	4	3	7
200.	Cardiac failure	—	2	1	3
200.	Respiratory failure	—	—	1	1
200.	Heart failure	—	—	5	5
200.	Debility	—	—	2	2
200.	Failure of circulation	—	1	—	1
200.	Collapse	—	1	—	1
200.	Extreme yellow atrophy	—	—	1	1
200.	Cachexia	—	—	4	4
200.	Malassimilation	—	—	1	1
		—	8	42	50

Certification of Deaths

Every year, readers of this report are cautioned about the possible inaccuracies of the statistics offered. The reasons for giving such a warning are in many cases obvious—an unstable and largely illiterate city population which does not appreciate the value of such information and which is ignorant of legal and bylaw requirements of registration and notification. These are understandable and, in a country like this, unavoidable.

It is unfortunate, however, to have to record that there are many statistical and diagnostic inadequacies and irregularities in death certificates submitted by members of the medical profession. To certify deaths as due to "pregnancy", "kidney trouble", "bleeding", "heart failure", to select only a few, is highly unsatisfactory.

One would not write in such a vein were the numbers of these uninformative and unethical inexactitudes decreasing as the years go by, but this is not so and one is compelled, if reluctantly, to draw the attention of the medical profession to these unsatisfactory certifications.

Burial permits at the moment are granted by the Police, and death certificates are submitted to the Police before they reach the Medical Officer of Health. It would be better if this procedure were reversed and if the Medical Officer of Health became the local Registrar of Births and Deaths. In this way, such unsatisfactory certification could at least be queried, and Nairobi would be one stage nearer being able to produce accurate statistics about the population.

No criticism of the Police is intended in making this suggestion. Their duties lie in being satisfied that there is no question of foul play, and this they do. It is considered, however, that the different aims of the Police and the Medical Officer of Health could be satisfied by this alteration of procedure.

NOTIFIABLE DISEASES

Notifiable Diseases, by Races

Diseases				Total		Totals for previous yrs.				
	Europeans	Asians	Africans	1959	1958	1957	1956	1955		
Anthrax	—	—	6	6	1	6	9	11		
Beri-beri	—	—	—	—	—	1	—	—		
Blackwater Fever	—	—	—	—	2	—	—	2		
Cerebro-spinal Fever	—	1	3	4	13	22	106	153		
Chickenpox	43	27	5	75	48	39	164	106		
Diphtheria	—	2	2	4	6	5	—	5		
Dysentery, amoebic	2	—	4	6	8	18	27	18		
Dysentery, bacillary	51	6	176	233	205	342	391	466		
Encephalitis	1	2	16	19	3	3	2	4		
Erysipelas	1	—	—	1	—	—	—	1		
Infective hepatitis	20	—	5	25	18	32	33	21		
Kala-azar	—	—	3	3	—	—	—	—		
Leprosy	—	1	5	6	3	2	6	2		
Malta Fever	2	—	—	2	2	3	5	6		
Ophthalmia neonatorum	—	—	12	12	18	30	66	77		
Poliomyelitis	5	27	47	79	44	115	7	19		
Puerperal Fever	—	8	1	9	17	11	19	4		
Salmonellosis	1	—	11	12	12	8	9	5		
Scarlet Fever	73	—	—	73	—	1	11	1		
Smallpox	—	1	27	28	33	59	28	—		
Tick typhus	5	—	—	5	2	5	15	18		
Trypanosomiasis	—	—	—	—	1	—	—	—		
Tuberculosis	1	5	469	475	354	344	348	283		
Typhoid	—	3	71	74	70	43	149	173		
	205	83	863	1151	860	1089	1395	1383		

MALARIA CONTROL

No collections of vector anopheline larvae were found during 1959. The year was a comparatively dry one, bringing no serious problems of control. In fact, for the greater part of the year larvicidal oiling was carried out on a fortnightly cycle, which proved to be adequate.

Although there is no residual spraying of dwellings as a purely anti-malarial measure, the disinfection directed against bed bugs in the African Estates is carried out with this object also in view. These estates are a huge reservoir of malaria as can be seen from the number of persons reporting sick of this disease whilst visiting relatives and friends, or looking for work in the City. 803 such cases were notified during the year and it is of course highly likely that very many more were treated and not notified.

Adult Catches

Catching in the 52 stations was discontinued in June, as only 4 adult vector anopheles had been caught during the year, all in stations outside the boundaries, and only 7 in 1958. These adult catching stations were a relic of the days when this section carried out control of a large area outside the city, and many stations were some distance outside the boundaries. In the city itself there is little hope of maintaining catching stations which could be of any value, as so many people now use insecticides and, in any case, stone and tiled houses are not nearly so attractive as resting places as are the mud and thatch huts of the rural areas.

TABLE

Malaria Cases and Vector Catches by Months

(Residents contracting in Nairobi)

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov	Dec.	Total
Europeans	1	—	—	—	—	—	1	—	—	—	1	1	4
Asians	—	1	—	—	1	—	—	—	—	—	—	—	2
Africans	—	2	5	4	7	2	7	5	3	1	7	5	48
TOTALS	1	3	5	4	8	2	8	5	3	1	8	6	54
Vector													
Anopheline	—	1	—	—	1	2	—	—	—	—	—	—	4
Catches													

Mosquito Control

The culicine nuisance persists, and in the main is due to lack of effective drainage. The City Square continued to be a major focus of culicine breeding, as this area is in the throes of development and the main drainage system, such as it was, was completely disrupted. Several plots were abandoned after foundation trenches had been excavated, and a long wrangle between the Crown and a citizen as to who owned one particular plot (lake) continued throughout the year, whilst the task of keeping mosquitoes under control fell to this section and the cost to the ratepayer, of course.

Many so-called anti-malarial drains carry a large volume of sullage water and consequently flow all the year round. These, and many other drains, frequently discharge above high water level rather than directly into the river or stream, and the low-lying ground in their vicinity becomes a market garden. The drains are deliberately blocked and irrigation channels constructed, sometimes flowing for several hundred yards on either side of the original drain. This area then becomes an ideal and prolific breeding ground of culicine mosquitoes.

The answer is obvious. These drains must be constructed to discharge into the main channel of the stream. The perpetrators of these irrigation schemes can never be found, of course, and therefore a continuous battle of wits ensues with regrettably greater honours to the gardeners!

Another persistent nuisance for which no solution has yet been found is the market gardening industry in the centre of the city in what is called the Nairobi Swamp. The swamp itself is under fair control after many years of clearing and reinforcing of banks, but unfortunately the main sewer runs across this area on higher ground, and this forms a ready supply of liquid fertiliser for some of Nairobi's vegetable supply.

The system employed is to lift an inspection chamber cover and block the sewer with stones, sticks, etc., and allow the sewage to flow during the hours of darkness, removing the blockage again at daybreak.

Apart from the mosquito nuisance, damage to the sewers and additional cost to mosquito control, this practice is obnoxious, extremely dangerous and could be the cause of many of the sporadic cases of dysentery, typhoid and even poliomyelitis.

This market garden is an industry on a large scale, and it has been proved that much of the produce finds its way into the city markets. A solution must be found and this dangerous practice brought to an end.

Staff

A trainee mosquito inspector was recruited in February, but, unfortunately, proved to be unsatisfactory and left in July. This was most disappointing, as much time had been spent on his training. Another young trainee joined the section to fill this post in September and shows promise.

The efficiency of this section depends to a great extent on the African staff and we are fortunate in having many old hands who are thoroughly conversant with malaria control routine and who know every nook and cranny, hollow and stream.

Anti-Malarial Drains

River and drain clearance is a continuous task, and consequently at no time could it be said that all of these were in a satisfactory state. During periods of heavy rain the emphasis is on keeping a clear flow by removal of obstructions as quickly as possible, and in the drier seasons vegetation is cleared from the banks, and a certain amount of stream training carried out.

Structural maintenance of anti-malarial drains was more satisfactory than for many years, and this was due entirely to the whole-hearted co-operation received from the staff of the City Engineer's Department.

During the year, 127 sub-divisional schemes were examined by this section, and recommendations on drainage were made in 35 of these.

Plot Clearance

Some difficulty has been experienced in the past in finding anyone at all who was willing to clear overgrown plots, and so during the year this section took over such work on a repayment basis, whenever labour was available. This service proved to be appreciated, and 24 plots were dealt with from the inception of the scheme to the end of the year. Revenue accruing from this work amounted to Shs. 1,414/20 cents.

MALARIA

Race	Cases	Attack rate per 10,000	Deaths	Death rate per 10,000
Europeans	4	1.7	—	—
Asians	2	0.21	—	—
Africans	48	3.9	28	2.27
TOTAL:	54	2.26	28	1.17

Attack Rate over past Five Years

	1955	1956	1957	1958	1959
Attack rate per 10,000	6.4	8.14	6.4	5.54	2.26

In all 54 cases were notified—of these 48 were Sub tertian and 2 Benign tertian. The remainder were diagnosed on clinical grounds only.

Locality of Cases

African Estates 38, Eastleigh 2, Central 1, Hill area 1, Parklands 2, Kilimani 1, Kabete 1, not stated 8.

Deaths

28 deaths from Malaria were notified but it is not known where the infection was contracted.

Other Cases

Residents notified as having contracted the infection outside Nairobi City numbered 131 only.

Aedes (Yellow Fever) Domestic Mosquito Control

Number of Premises and Inspections

The number of premises to be inspected, of course increased again, as it will continue to do each year, the increase in 1959 being 1,729 over the 1958 figure of 15,167.

Inspections were made again on a fortnightly cycle, as last year. The total number of inspections made during the year numbered 366,227, and from these 4,318 collections of mosquito larvae were made. These collections of larvae were divided as follows:

Culicine species	..	..	..	..	..	..	4,275
Aedes species	..	..	..	..	..	..	41
Anopheline species	..	..	..	..	..	..	2

Out of 41 aedes species, 27 collections were from temporary foci, such as old motor vehicle tyres and motor parts, old drums and tins, and 14 species were collected from permanent foci, mainly rain water tanks.

Comprehensive details of mosquito breeding during the year are in the table attached.

During the year, this section has also carried out the following work:

(a) Number of foci emptied	..	..	..	..	4,644
(b) Number of temporary foci destroyed	..	..	..	..	4,047
(c) Number of mosquito breeding foci destroyed	..	..	..	..	1,475

BREEDING FOCI

The following table gives a comparison of larvae collections over the past three years:

Year	Aedes	Anopheles	Culex	All Species
1957	155	—	10,263	10,418
1958	72	2	8,722	8,796
1959	41	2	4,275	4,318

Establishment Position

The following table gives details of premises to be inspected, and the number of inspectorate staff during the last three years, for comparison:

Year	Premises	Inspectors	Senior Headmen	Headmen	Searchers
1957	12,529	2	2	8	34
1958	15,167	2	2	8	34
1959	16,896	2	2	8	34

Notices and Prosecutions

The practice of serving a warning notice on first finding mosquito breeding in private premises was continued. In many cases this warning notice has the desired effect, but many people very quickly revert to their usual laxity, in which case prosecution follows.

86 prosecutions were instituted under the City By-law. Only two cases were withdrawn for various reasons.

84 persons were convicted, and fines imposed totalled Shs. 3,365/-.

1,864 warning notices were served during the year.

General

In general, all the staff have worked satisfactorily and conscientiously throughout the year.

During the year, over 1,000 mosquito fish were supplied to members of the public to assist them in mosquito control in ornamental ponds, etc.

197 complaints of mosquito nuisance were investigated and dealt with, the sources of the nuisance in 161 cases being in the complainants' or neighbours' waste disposal systems, and 36 in roadside drains or streams. In many cases the mosquito breeding had been located during routine inspection before the complaint was received.

T A B L E

Aedes Permanent and Temporary Breeding Foci and Indices

Permanent	No. examined	Larvae species found (times)				Larvae species found (per cent)			
		Aedes		Culex		Aedes		Culex	
		Aegypti	Anopheles	Aegypti	Anopheles	Aegypti	Anopheles	Culex	All Species
Septic tanks	1,070	..	..	..	0.011%	0.011%
Rain water tanks	38	..	0.147%	..	0.430%	0.577%
Gullies	182	..	..	..	0.004%	0.004%
Earth drains	2	235	0.003%	..	..	0.399%	0.403%
Concrete drains	225	..	..	..	0.047%	0.047%
Waste water pits	766	..	..	..	1.808%	1.808%
Bath pits and sunken drums	..	1	..	467	..	0.003%	..	1.532%	1.535%
Water meter boxes	75	..	..	..	0.043%	0.043%
		14	2	3,058	0.0001%	0.001%	0.0001%	0.230%	0.232%
1,324,696									
Temporary Foci									
Tins	53	..	0.005%	..	0.056%	0.062%
Drums	223	..	0.004%	..	0.167%	0.172%
Motor tyres	253	..	0.012%	..	0.521%	0.533%
Motor parts	17	..	0.071%	..	0.404%	0.475%
Hollows	94	..	0.179%	..	16.906%	16.086%
Other not specified	577	..	0.028%	..	2.707%	2.735%
		27	..	1,217	..	0.008%	..	0.405%	0.411%
Total Temporary Foci.	..								
300,183									
Grand total	2	4,275	0.0001%	0.002%	0.0001%	0.263%	0.265%
1,624,879									

RODENT AND VERMIN CONTROL

Plague

No cases of plague occurred in the city during the year, although cases were reported from elsewhere in the Colony in rural areas. 1768 rats were examined for *p. pestis*, with negative results.

Rodent Control

Hand catching remains one of the finest and quickest means of extermination, and in many cases where this follows rat proofing, premises can be completely cleared of rats in one day, which is infinitely better than days or weeks of trapping and poisoning.

The following tables illustrate the success of hand catching operations both indoors and in open spaces.

Handcatching in Premises

				Commercial	Industrial	Kariokor	Pumwani	Kaloleni	Bahati	Ofafa	Mbotela	TOTALS
Rattus rattus	..	..		154	17	39	31	1	—	—	—	242
Mice ..	..	..	..	114	32	5	66	—	15	101	19	352
Others	..	..	..	7	1	3	—	—	—	—	—	11
TOTALS	..	..	..	275	50	47	97	1	15	101	19	605

The system employed in premises is to move everything movable and dislodge and catch the rats as they break cover. When the last corner of a room is reached, the excitement often becomes intense as rats attempt to break the cordon of expert rat catchers. These men, many of whom have been catching rats by this means for 10-18 years, have become so adept that, on occasions, as many as four rats have been disposed of simultaneously by hand and bare feet.

Table Handcatching in Open Areas attached

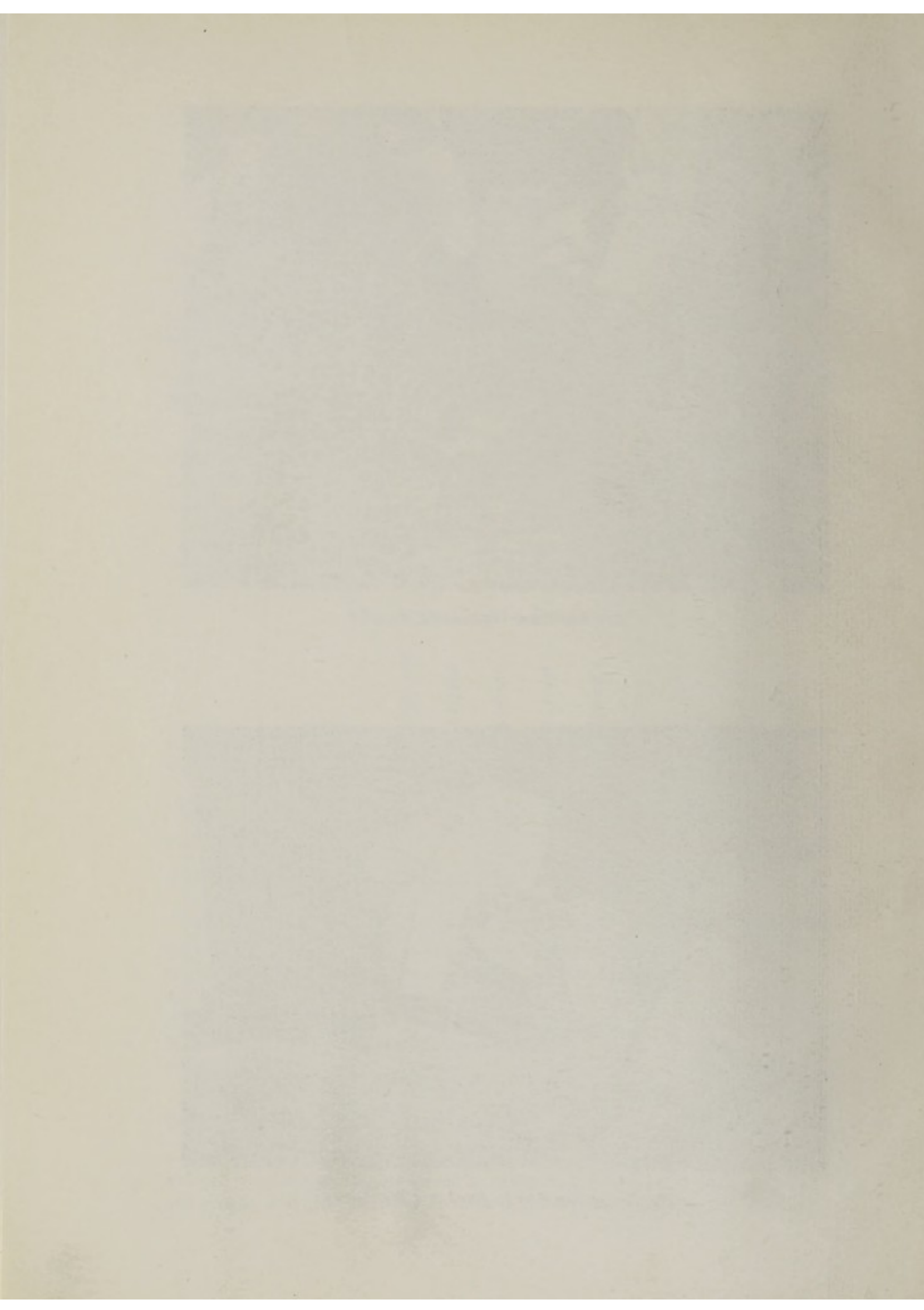
Hydrogen cyanide gas is employed in burrows in the banks of rivers, drains and like places where digging would be likely to cause damage. By this means and poisons it is estimated that upwards of 5,000 rats are disposed of annually.



Bait laying in Grassland



No. 29 Catching Rats by Hand in a Warehouse



Zinc phosphide is still found to be the most effective rat poison for use in the African estates, where interference with baits is the rule rather than the exception, but wherever possible Warfarin is used, usually with spectacular success.

Total Kill

Rattus rattus	4285
Rattus natalensis	4375
Arvicanthis abyssinicus	4441
Otomys angoniensis	801
Mice	5843
Others	262
Estimated kill, gas and poison	5000
	<hr/>
TOTAL	25007
	<hr/>

In the African estates, trapping followed by poisoning is a routine which continues and which is most necessary. It will be some time before responsibility for rodent control can be placed upon the individual African, but consideration might be given to making this a charge on the estates and consequently placing responsibility for payment in the right quarter.

Table—Trapping in African Estates attached

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Residents in other parts of the city receive advice on rodent control and can purchase ready mixed Warfarin bait at a reasonable price at the City Hall. In addition, rat catching is undertaken in private premises at a nominal fee of Shs. 25/- for six days service. Usually, traps are set in order to obtain quick results and some relief for the householder from the midnight stampede overhead and a supply of warfarin is then left in the ceiling to clear up strays and take care of future invasion. It has been found that dry bait in an open tin will remain attractive for almost a year.

Often it is possible to remove the main source of the trouble immediately, for example, in the case of rats nesting in trunks or boxes in the garage or loft.

The following table gives results of rat catching in 80 private premises:

Private premises—trapping and handcatching

Rattus rattus	455
Rattus natalensis	16
Arvicanthis abyssinicus	25
Otomys angoniensis	—
Mice	28
Others	—
	<hr/>
Totals	524
	<hr/>

This does not include an estimate for deaths by poison where the bodies were not found.

Fees for this work amounted to Shs. 2,096/-.

Cats

41 strays cats which were causing nuisance were caught and humanely destroyed.

Commercial and Industrial Areas

Routine trapping continued in these areas, not as an extermination campaign, but as a means of assessing the degree of infestation and locating premises requiring the attention of the Health Inspector.

From the following table it will be seen that there has been a reduction in both the infestation index and in density of rat population in both these areas:

				Commercial Area		Industrial Area	
				1959	1958	1959	1958
Rooms Trapped	..	..	..	1514	1634	866	396
Rooms Infested	..	..	..	167	185	225	154
Index	..	..	..	11%	11.3%	25.9%	38.8%
Trapping days	..	..	..	197	204	200	196
Rattus rattus	..	..	..	212	315	336	642
Mice	..	..	..	150	196	93	143
Others	..	..	..	3	—	—	8
Total	..	..	..	365	511	429	793

Vermin Control

This Section continued to operate a cheap disinfestation service, providing occupation and experience for teams of men who would be invaluable should a case of plague occur in the City.

These teams were fully occupied during the year, as will be seen from the table of details which follows, and they produced a useful addition to revenue of £1816.



No. 23 A Nest of young Rats exposed during Handcatching Operation

T A B L E
Disinfestations

	Bed Bugs (Cimex Species)	Cockroaches	Fleas	Flies	Safari Ants (Monomorium Pharaonis)	Sugar Ants (Lasius niger)	Termites	Nairobi Fly (Paederus crebrepunctatus)	Woodworms (Lyctus brunneus)	Borer beetle	Mites—various	Lice— (Pediculus humanus)	Ticks	Snakes	Bats	Adult Mosquitoes	General	TOTAL
Rooms—Private Residences ..	2,064	205	291	—	—	4	18	—	1	—	—	—	6	1	—	1	2	2,593
Rooms—Council African Estates ..	7,812	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7,812
Rooms and other institutions ..	470	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	471
Shops and Godowns ..	2	24	2	—	—	—	—	—	—	—	—	—	—	—	—	—	1	29
Bedding and Clothing ..	40	—	—	—	—	—	—	—	—	—	—	217	—	—	—	—	200	457
Roof Spaces ..	—	—	—	—	—	—	—	—	—	2	2	—	—	—	4	—	—	8
Gardens ..	—	—	2	—	—	—	27	—	—	—	—	—	—	4	—	—	—	33
Open places and drains ..	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	1	4
Lavatories and pit-latrines ..	6	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	8
Refuse tips (routine) ..	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Markets (routine) ..	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	3
..	10,394	229	295	9	—	4	45	—	1	2	3	217	6	5	4	1	204	11,419

Insecticides prepared by this Department and by other local enterprises and sold to the public in small quantities at the City Hall brought £2,280.

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T A B L E 7.
HANDCATCHING IN OPEN AREAS

	Kariokor and Ziwani	Pumwani and Gorofani	Shauri Moyo	Kaloleni	Bahati	Ofafa	Mbotela	Makadara	Swamp	Ngara and Pangani	Old abattoir	Other areas	Totals
Rattus rattus	430	436	182	12	380	61	9	1	612	269	214	102	2708
Rattus natalensis	88	193	524	334	595	957	171	91	116	253	383	654	4359
Otomys angoniensis	49	37	67	51	68	116	52	6	33	36	33	253	801
Arvicanthis abyssinicus	301	473	903	129	481	513	233	115	101	262	182	723	4416
Mice	114	65	153	39	60	88	54	141	709	284	83	98	1888
Others ..	7	16	52	3	4	15	1	3	8	16	45	43	213
TOTALS	989	1220	1881	568	1588	1750	520	357	1579	1120	940	1873	14385

T A B L E 4.
TRAPPING IN AFRICAN ESTATES

		Rooms trapped	Houses trapped	Rooms and houses infested	Index	Trapping days	Rattus rattus	Mice	Others	Totals
Kariokor and Ziwani		1681	—	134	7.9	88	48	214	—	262
Pumwani and Gorofani		—	359	155	43.4	118	91	242	—	333
Shauri Moyo	..	—	1687	542	32	168	190	844	—	1034
Kaloleni	.. ..	1452	—	252	1.7	80	—	661	—	661
Bahati	.. ..	1528	—	365	23.8	116	—	330	35	365
Ofafa	.. ..	2200	—	291	13.4	138	—	363	—	363
Mbotela	.. ..	1775	—	182	10.2	92	—	254	—	254
Makadara	.. ..	—	706	150	21.2	84	3	424	—	427
46 TOTALS	.. ..	—	—	—	—	—	332	3332	35	3699

Laboratory

The following are details of work carried out in 1959.

Malaria Slides

			St. Rings	St. Crescent	B.T.	Q.T.	Filaria	Negative	Total
January			16	3	5	—	—	488	512
February			49	8	16	—	—	501	575
March			45	8	18	—	—	404	475
April			65	10	10	—	—	527	612
May			81	13	17	—	—	630	731
June			119	25	21	—	—	624	808
July			79	11	15	—	—	570	675
August			55	8	9	—	—	455	527
September			88	14	8	—	—	590	700
October			86	20	12	—	1	462	581
November			96	9	8	—	1	508	621
December			88	16	5	—	1	468	582
TOTAL			1017	145	149	—	3	6228	7398

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STOOLS

Ascaris	1835
Ancylostoma	674
Taenia	737
Trichuris	128
Sch. Mansoni	174
Oxyuris	17
Strongyloides	63
E. Coli Cysts	343
Flagellates	24
Negatives	7300
TOTAL	11404

SPUTUMS

Positive T.B.	65
Negatives	847
TOTAL	912

SMEARS

Positive G. C.	49
Negatives	4076
TOTAL	4125

URINES

Positive Sch. Haemt.	68
Negatives	854
TOTAL	922

Blood Counts

Total Blood Counts & H.B's	932
Differential Counts ..	—
TOTAL	932

TOTAL

Malaria Slides	7,398
Stools	11,404
Sputums	912
Smears	4,125
Urines	922
Blood Counts	932
Rats for Plague, etc. ..	1,648
TOTAL	27,341

SANITARY ADMINISTRATION

It is disappointing once again to have to report that it has not been possible to increase the number of health inspectors on the staff. This has been due not to any reluctance on the part of the City Council, but to the fact that the pegging of the Government grant on its 1958 level has made it financially impossible.

The work of this section, however, continues to increase both in volume and variety, as will be seen from the tables which follow.

Sewerage and Drainage

The installation of sewers in the Parklands/Westlands, Hill and Eastleigh areas has meant the service of notices on all owners of properties in the areas affected, and the supervision and testing of all new drainage systems installed. The 178 premises connected to these sewers during the year represents only a small proportion of those involved, but when the conversions have been completed a great step will have been taken towards removing the nuisances inevitably associated with bucket latrines, conservancy tanks and sullage pits.

In spite of the heavy costs involved, the response to the notices has been good, and it seems likely that only in very few instances will court action be necessary to enforce the Council's requirements. No doubt in the Eastleigh area particularly, where the black cotton soil rendered proper disposal of waste within the plot boundary so difficult, owners are realising that main drainage means closer development, giving an enhanced value to the plot.

The laying of drains and construction of septic tanks and conservancy tanks in black cotton areas has always been a serious problem—so serious that not until the red soil and murrum plots had been fully developed was any large scale building on such sites considered. Where dwellings were built on black cotton soil, it had been the practice to instal septic tanks and conservancy tanks, but the tremendous pressure to which these structures were exposed during the rainy season led to fractures and even complete collapse, often within a few months. As a result, during rain, the whole system filled with subsoil water and the dwellings became uninhabitable. A new specification has now, however, been drawn up requiring all drainage systems constructed in such circumstances to be laid on a bed of reinforced concrete, with manholes and conservancy tanks cast in waterproofed concrete. The expense involved is considerable, but a saving has been effected by disposing of the septic tank in these cases.

26 houses on one estate which had been closed on account of the drains being inoperative during the rains have now been dealt with in this way, and after two rainy seasons have given no trouble. It seems safe to say that provided constant supervision is given at all stages of construction, a method has now been devised which will ensure the effective functioning of drainage systems in black cotton soil for a very considerable time.

Tidying up the City

It is a recognised fact that a clean city is likely to be a healthy city. It is also true that a tidy city is much more likely to be kept clean. A town which grows at Nairobi's pace cannot expect to be immune from untidiness, and this engenders a certain laxity in matters of cleanliness which can endanger health. The City Square is an example. This area, destined in the master plan to become the centre of attraction, has at the present time some of the oldest and most delapidated structures to be found anywhere within the municipal boundaries. The removal of these structures, relics of Nairobi's early administration, is a slow business, but there has been some progress.

At Nairobi West, the old P.W.D. camp has been completely demolished and the site cleared. Several derelict Police buildings have also been demolished, but the remainder are unlikely to be removed until a new Police Station has been built. Three delapidated Army stores have been repaired and the area generally improved in appearance. All the old servants' accommodation, latrines and ablution blocks adjoining the Army married quarters have been cleared and the staff rehoused elsewhere.

The many large plots still awaiting development are also sources of complaint. Those in private ownership are comparatively easy to deal with, but those reserved for public purposes or as permanent open spaces or road reserves continue to be a source of nuisance, completely defeating the purpose for which they are planned.

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The condition of many of the service lanes in the central commercial area of the city leaves much to be desired, and they could hardly be more incorrectly described than by their accepted title of "sanitary lanes". The Cleansing Department has done extremely well in keeping the main thoroughfares in a clean and tidy condition, but their efforts are constantly defeated in the hidden back streets by the irresponsible dumping of refuse by shopkeepers and others in lanes whose surfaces are potholed, badly surfaced, and incapable of proper cleansing.

The industrial area has its problems too. Although developing rapidly, it still seems to be regarded by some as the dumping ground for the city's scrap, refuse, soil and any other unwanted material, while the road verges are used for storing and repairing all manner of derelict and immobilised vehicles and machinery.

Unauthorised structures consisting of upturned packing cases, storage tanks and car bodies, all of which are used as living accommodation, add to the unsightly appearance as well as to the health problems of this area.

The remedy for all this, as has been said before, lies not so much in increased enforcement action by the Council's inspectorate as in the arousing of an element of responsibility and civic pride in its citizens.

Eastlands

At the beginning of the year the Departmental office at the Eastlands Administrative Centre became fully operative, with a staff of African health inspectors and a clerk under the supervision of a district health inspector. This has considerably facilitated the work in the African residential areas.

Again, the major sources of complaint have been the employers' housing in Mbotela, Shauri Moyo and Makadara, as well as the owner-built mud and wattle structures in the latter estate. Resort to legal proceedings in respect of insanitary conditions and overcrowding was found necessary in several instances and improvements were subsequently secured.

Conditions in Pumwani remained virtually unchanged, and one is left to wonder how long this slum can remain without giving rise to a serious epidemic. It will be sad indeed if such an occurrence should prove the only means of accelerating the demolition and redevelopment of this estate.

It is regrettable that at a time when the implementation of the new bylaws has raised the standard of food shops throughout the city, Council's own food premises in Shauri Moyo, Ofafa and Bahati show no improvement, while the recent practice of permitting the use of certain Council owned dwellings as temporary food shops has been further extended. It is to be hoped that the provision of adequate shopping centres will form an integral part of all future housing schemes.

A welcome change in the pattern of living accommodation is emerging as a result of the completion of the 1,900 houses in Ofafa Maringo and Ofafa Jerusalem. Here there has been a departure from the familiar single room type of dwelling to self-contained units comprising living room, bedroom, kitchen and toilet/bathroom. The Council and other large organisations are to be commended on introducing these most desirable changes.

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Restaurants, Tea Rooms and Eating Houses

The progress made in recent years in improving the standards of cleanliness and hygiene was maintained. The number of establishments continues to increase in spite of the gradual elimination of all unsatisfactory premises. New bylaws, which are in the process of being promulgated will, it is hoped, come into force next year. The objects of these bylaws are:—

- (1) to remove racial designations and replace them by the descriptions "restaurant", "eating house" and "snack bar";
- (2) to remove certain anomalies in the present bylaws;
- (3) to incorporate regulations which have been made from time to time in respect of eating houses and tea rooms;
- (4) to incorporate the Grade A scheme for restaurants which was inaugurated on a voluntary basis five years ago; and
- (5) to abolish the Eating House Committee which dealt only with Asian and African eating establishments.

No existing businesses will be forced to close by the introduction of the new bylaws, as all tea rooms and eating houses have been brought up to the standard required during the last two years. Of the 29 restaurants licensed at present, 14 have not yet attained the standard required by the new bylaws. However, most of these can be made to comply without carrying out major structural alterations, while the remainder will be classified as "eating houses."

No restrictions will be imposed on the type of food prepared in eating houses, but there will be a limit to the prices charged. The purpose is to protect the restaurant proprietor who is prepared to incur the greater expense of bringing his establishment up to the new standards.

The public will be helped in its choice of eating establishments by restricting the designation "restaurant" in any title or advertisement only to those premises which qualify for that designation.

The scope of the snack bar has been increased compared to the former tea room without giving an unfair advantage over eating houses and restaurants.

Premises Licensed for the sale of Intoxicating Liquor

The number of premises licensed to sell liquor now stands at 448, an increase of 7 over the previous year. These licences consist of the following:—

General Retail (Bar)	75, an increase of 7.
Non Spirituous ON	5, „ „ „ 3.
Non Spirituous OFF	7, „ „ „ 14.
Clubs	42, „ „ „ 2.
Canteens	5, „ „ „ 3.
Wine Merchants & Grocers	146, a decrease of 4.
Restaurants	24, „ „ „ 12.
Wholesalers	21, „ „ „ 4.
Theatres	6, „ „ „ 2.
Hoteliers	5, no change.
Bottlers	5, „ „ „

The marked decrease in the number of restaurant liquor licences has been brought about by their being changed to general retail or non spirituous "ON" licences. The restaurant licence which permits the sale of liquor only with a meal has proved extremely difficult to operate. The same amenities, fittings and premises are required by this Department for all three types of licence, and applicants are therefore encouraged to take out bar licences in preference to the more restricted restaurant licences.

The standard of licensed premises generally has been good and the hygienic conditions in all establishments with "ON" licences have been satisfactorily maintained. The abuse of "OFF" licences, however, by licensees who sell liquor cheaply by the bottle for consumption on the premises continues. Large scale drinking of beer from bottles is often discovered in common yards at the rear of licensed premises, with consequent fouling of the yards and the meagre

sanitary accommodation. Largely as a result of this, the Liquor Licensing Court now refuses to grant non spirituous off licences in respect of any shop not having its own separate yard.

It is pleasing to report that the cordial relations which have existed between this Department, the Liquor Licensing Court and the Police continue, and we are grateful for the co-operation obtained from all concerned.

Premises Licensed for the Manufacture of Foodstuffs

During the year there was a steady improvement in the cleanliness of most food factories. It was, however, necessary to take legal action against the owners of two bakeries and one sugar manufacturer. In one of these instances a fine of Shs. 2,200/- was imposed.

In addition to the routine inspection of these premises for hygienic purposes, advice was given to food manufacturers regarding compliance with the Public Health (Labelling and Advertisement of Food) Rules which came into force on the 1st April, 1959.

Most manufacturers whose attention was specifically drawn to these Rules have made or are making every effort to comply. However, those who fail to do so will, in future, find themselves faced with the prospect of legal proceedings. In fact at the end of the year two dairymen were so convicted.

Summary of Health Inspectors' Work

Inspections:—

(a) General

Dwelling Houses	..	..	..	..	..	..	..	..	..	16,827
Schools	..	..	..	..	..	..	..	..	..	153
Offices	..	..	..	..	..	..	..	..	..	768
Workshops	..	..	..	..	..	..	..	..	..	593
Other Buildings	..	..	..	..	..	..	..	..	..	1,213
Camps	..	..	..	..	..	..	..	..	..	322
Unauthorised Structures	..	..	..	..	..	..	..	..	..	126
Open Spaces, Lanes etc.	..	..	..	..	..	..	..	..	..	5,111
Poultry Abattoir	..	..	..	..	..	..	..	..	..	204
Drain Tests	..	..	..	..	..	..	..	..	..	674
Attendance at Court	..	..	..	..	..	..	..	..	..	146
Liquor Licensing Court	..	..	..	..	..	..	..	..	..	25
Miscellaneous	..	..	..	..	..	..	..	..	..	3,555

(b) Licensed Premises

Aerated Water Factories	..	..	..	..	..	..	..	..	..	115
Bakeries	..	..	..	..	..	..	..	..	..	293
Butchers	..	..	..	..	..	..	..	..	..	2,498
Dairies and Milkshops	..	..	..	..	..	..	..	..	..	940
Fishmongers	..	..	..	..	..	..	..	..	..	535
Food Factories	..	..	..	..	..	..	..	..	..	1,020
Greengrocers	..	..	..	..	..	..	..	..	..	3,171
Grocers	..	..	..	..	..	..	..	..	..	6,704
Ice Cream Manufacturers	..	..	..	..	..	..	..	..	..	38
Ice Cream Dealers	..	..	..	..	..	..	..	..	..	376
Eating Houses	..	..	..	..	..	..	..	..	..	2,014
Tea Rooms	..	..	..	..	..	..	..	..	..	386
Restaurants	..	..	..	..	..	..	..	..	..	507
Milk Producers	..	..	..	..	..	..	..	..	..	112
Market Stalls	..	..	..	..	..	..	..	..	..	2,581
Intoxicating Liquor	..	..	..	..	..	..	..	..	..	1,582
Food Carriers	..	..	..	..	..	..	..	..	..	194
Barbers and Hairdressers	..	..	..	..	..	..	..	..	..	562
Cycle Hirers	..	..	..	..	..	..	..	..	..	8
Day Nurseries	..	..	..	..	..	..	..	..	..	144
Entertainment Places	..	..	..	..	..	..	..	..	..	47
Hotels and Lodging Houses	..	..	..	..	..	..	..	..	..	295
Laundries	..	..	..	..	..	..	..	..	..	226
Offensive Trades	..	..	..	..	..	..	..	..	..	47
Second-hand Clothing	..	..	..	..	..	..	..	..	..	95
Swimming Pools	..	..	..	..	..	..	..	..	..	147

Miscellaneous Information

Complaints investigated	..	..	..	..	..	..	..	..	..	534
Notices served:										
(a) Informal	..	..	..	..	..	..	..	..	..	2,783
(b) Statutory	..	..	..	..	..	..	..	..	..	1,074
Defects remedied	..	..	..	..	..	..	..	..	..	2,254
Accumulations of junk removed	..	..	..	..	..	..	..	..	..	105
Premises connected to sewers	..	..	..	..	..	..	..	..	..	178
Unauthorised structures reported to City Engineer	..	..	..	..	..	..	..	..	..	92

Unsound Food Condemned:

											Lb.
Tinned Milk	..	..	..	..	..	..	..	..	..	..	99
Dried Milk	..	..	..	..	..	..	..	..	..	..	2,003
Tinned Meat	..	..	..	..	..	..	..	..	..	..	1,035
Tinned Sausages	..	..	..	..	..	..	..	..	..	..	347
Cooked Gammon	..	..	..	..	..	..	..	..	..	..	9
Fresh Meat	..	..	..	..	..	..	..	..	..	..	27
Tinned Fish	..	..	..	..	..	..	..	..	..	..	1,899
Frozen Fish	..	..	..	..	..	..	..	..	..	..	7,191
Tinned Fruit	..	..	..	..	..	..	..	..	..	..	3,476
Dried Fruit	..	..	..	..	..	..	..	..	..	..	993
Fresh Fruit	..	..	..	..	..	..	..	..	..	..	1,504
Fruit Juices and Squashes	..	..	..	..	..	..	..	..	..	..	217
Tinned Vegetables	..	..	..	..	..	..	..	..	..	..	1,190
Fresh Vegetables	..	..	..	..	..	..	..	..	..	..	2,160
Vegetable Ghee	..	..	..	..	..	..	..	..	..	..	28
Tinned Soups	..	..	..	..	..	..	..	..	..	..	264
Tinned Macaroni	..	..	..	..	..	..	..	..	..	..	75
Anchovies	..	..	..	..	..	..	..	..	..	..	200
Anchovy Paste	..	..	..	..	..	..	..	..	..	..	25
Jams	..	..	..	..	..	..	..	..	..	..	98
Christmas Puddings etc.	..	..	..	..	..	..	..	..	..	..	49
Biscuits	..	..	..	..	..	..	..	..	..	..	467
Sugar	..	..	..	..	..	..	..	..	..	..	605
Chocolates and Sugar Confectionery	..	..	..	..	..	..	..	..	..	..	419
Treacle	..	..	..	..	..	..	..	..	..	..	16
Honey	..	..	..	..	..	..	..	..	..	..	2
Custard Powder	..	..	..	..	..	..	..	..	..	..	30
Sauces and Pickles	..	..	..	..	..	..	..	..	..	..	336
Posho	..	..	..	..	..	..	..	..	..	..	579
Total										..	25,343

TOTAL FOOD CONDEMNED 11 tons, 6 cwt., 31 lbs.

Poultry:

Inspected	171,625.
Condemned	72.

LEGAL PROCEEDINGS

	Prosecutions	Acquitted	Dismissed	Withdrawn	Convicted	Fines	Costs
						Shs.	Shs.
Public Health Ordinance.							
Failing to comply with nuisance notice (Sec. 120).	50	3	3	14	30	1,861/-	348/-
Selling or depositing unsound food (Sec. 131)...	9	1	2		6	680/-	
Failing to demolish condemned dwellings (Sec. 124).	3				3	810/-	
Public Health (Food) Rules.							
Using unlicensed premises (Rule 4).	1				1	50/-	
Unsatisfactory maintenance (Rule 11).	8				8	2,420/-	
Public Health (Labelling of Food) Rules.							
Improperly labelled milk bottles (Rule 4).	2				2	220/-	
Nairobi Municipality (General) Bylaws.							
Dirty clothing of Eating House employees (Bylaw 101).	10			2	8	550/-	
Failing to maintain cleanliness in Eating House (Bylaw 109)	10			2	8	600/-	
Selling uninspected meat (Bylaw 151)	2		1		1	100/-	
Failing to deposit refuse in receptacle (Bylaw 256).	1				1	50/-	
Failing to provide latrine to dwelling (Bylaw 266).	1			1			
Discharging foul water to footpath (Bylaw 272).	1			1			
Failing to provide temporary latrines (Bylaw 274).	6				6	515/-	
Using unapproved meat van (Bylaw 283).	2			1	2	140/-	
Overgrown plots (Bylaw 328)	2				1	75/-	
Discharging foul water to street (Bylaw 410).	1				1	50/-	
Failing to provide cover to water tank (Bylaw 457).	1				1	10/-	
Accumulations of refuse (Bylaw 616).	8			1	7	700/-	
Depositing refuse in street (Bylaw 642).	2				2	40/-	

LEGAL PROCEEDINGS (Continued)

	Prosecutions	Acquitted	Dismissed	Withdrawn	Convicted	Fines	Costs
						Shs.	Shs.
Nairobi Municipality (Building) Bylaws.							
Failing to connect drainage to sewer (Bylaw 241/2).	15		3	6	6	2,155/-	
Failing to maintain drains in order (Bylaw 243).	1			1			
City of Nairobi (Food Shops and Stores) Bylaws.							
Inadequate segregation of goods (Bylaw 15).	1		1		2	150/-	
Food not protected from contamination (Bylaw 17a).	3		1		12	1,175/-	
Open food placed within 18" of floor (Bylaw 17b).	12		1		10	920/-	
Shop not maintained in clean condition (Bylaw 17c).	11				2	150/-	
Wash-hand basin not provided (Bylaw 19(1)).	2				21	1,485/-	
Supply of hot water not maintained (Bylaw 19(2)).	21		1		10	695/-	
Soap, towel and nailbrush not provided (Bylaw 19(3)).	11			1	1	50/-	
Dirty clothing of employees (Bylaw 21b).	3	1	—		1	50/-	
Inadequate cold storage (Bylaw 27 f).	1				1	50/-	
Unlicensed food shop (Bylaw 37).	2		1		1	100/-	
	203	5	14	30	154	15,801/-	348/-

NOTE: Prosecutions taken by the Licensing Officer for trading in foodstuffs without a licence are not included in the above.

FOOD INSPECTION

Milk

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The popularity of Tetrapak continues to increase with considerable sales now being made from grocers' shops. This has the advantage of providing a very convenient service for the customer, but unfortunately the great majority of grocers do not have sufficient refrigeration space for the quantity of milk exposed for sale. Although this results in occasional complaints from the public regarding the keeping quality of the milk, it is generally found that even after storage at atmospheric temperature for most of the day, it is still sound and fit for consumption on the day of purchase.

The department is now considering raising the legal standard of keeping quality, which while not materially affecting the producer or dairyman, will probably result in shops having to provide refrigerated storage space if they wish to continue the sale of milk.

In the Nairobi dairies a satisfactory standard was maintained throughout the year, and the introduction of new legislation resulted in each dairy being required to provide and use only their own bottles. This was particularly beneficial to the better type of dairy, as the 'black market' in stolen bottles was eliminated almost immediately.

As will be seen from the tabulated figures, the percentage of unsatisfactory samples continued to decrease, with the exception of the phosphatase tests. In the latter case, the unsatisfactory results were due entirely to lack of supervision, leading to raw milk being accidentally supplied in place of pasteurised milk.

TABLE

1. Resazurin Tests.

Month					Category			Total
					A	B	C	
					4—6	1—3½	0—½	
January ..	..	..	..	..	223	6	1	230
February ..	..	..	..	..	283	8	—	291
March ..	..	..	..	..	265	9	4	278
April ..	..	..	..	..	275	15	5	295
May ..	..	..	..	..	435	11	3	449
June ..	..	..	..	..	290	3	3	296
July ..	..	..	..	..	343	—	—	343
August ..	..	..	..	..	300	—	—	300
September ..	..	..	..	..	336	2	—	338
October ..	..	..	..	..	333	9	—	342
November ..	..	..	..	..	295	2	7	304
December ..	..	..	..	..	217	5	4	226
					3,595	70	27	3,692

2. Phosphatase Tests

Efficiently Pasteurised	Inefficiently Pasteurised	Not Pasteurised	Total
141	17	29	187

3. Estimation of Fat and Total Solids

					Satisfactory	Unsatisfactory	Total
Milk	1,791	71	1,862
Cream	4	1	5

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Food Poisoning

Three outbreaks of food poisoning were investigated during the year. The first, in May, concerned a large boarding school and affected 129 pupils. All had symptoms of a staphylococcal infection, but the cases were not serious and all recovered within 24 hours. The cause was eventually traced to a farm outside the city from which raw milk had been delivered in error instead of the usual pasteurised supply. Several cows were found to be secreting milk heavily infected with staphylococcus aureus organisms.

The second outbreak occurred at another boarding school, from which 10 cases of suspected dysentery were reported, all from the same House. Specimens from 4 of the patients were positive shigella sonnei. The source of the infection was not traced, but there was a heavy infestation of flies and this may well have been the cause.

In the third outbreak, also at a large boarding school, 100 pupils, including day students, were affected with severe diarrhoea overnight. There were no other symptoms, and the investigation led to the conclusion that a heavy infection of streptococcus viridans found in the cold meat which had been served at lunch the previous day was the probable cause.

Samples Submitted by Food Inspector to Government Bacteriologist

Article	Satisfactory	Unsatisfactory	Total
Aerated waters	53	—	53
Baby food	—	2	2
Butter	—	1	1
Fish (tinned)	—	4	4
Ice cream	15	12	27
Milk	1	—	1
Sausages	1	1	2
Sweetmeats	—	1	1
Water (mains)	39	2	41
Water (swimming pools)	25	8	33
Water (other)	—	4	4
Christmas puddings	2	—	2
	136	35	171

Samples Submitted by Food Inspector to Government Chemist

Article	Satisfactory	Unsatisfactory	Total
Aerated waters	2	3	5
Baby foods	2	—	2
Beer	—	1	1
Brandy	2	—	2
Bread	—	1	1
Coffee	6	—	6
Coffee and Chicory	1	—	1
Condensed milk	—	2	2
Dried milk	1	—	1
Fish (tinned)	1	—	1
Flour	1	—	1
Fruit Juices and squashes	2	5	7
Ghee	5	7	12
Honey	1	—	1
Posho	1	—	1
Sauces	1	—	1
Sugar	—	2	2
Vinegar	1	—	1
Whisky	2	—	2
White pepper	2	1	3
	31	22	53

EXTRACT FROM THE ANNUAL REPORT OF THE CITY ENGINEER

Sewerage and Sewage Disposal

The annual rate of construction of sewers was maintained at the 1958 level, even though additional work was placed upon the staff by the advent of the African Housing Project Phases II and III.

The total cost of sewerage schemes completed during 1959 was £205,050. Design work on the major schemes for 1960 is now up to schedule and schemes with an estimated cost of £605,750 have been designed. The scope of work in the office was expanded by the creation of a Sewage Disposal Works Design Team.

Three pumping stations were constructed and put into operation before the end of the year, and the day to day work in the office increased progressively as the sewerage schemes for Parklands/Westlands, Eastleigh and Pangani were completed, and more properties were served by waterborne sanitation. There was a substantial increase in the number of applications for connection to public sewers. A total of 715 connections was made during 1959 as against 456 in 1958.

A start was made to convert the existing Council's African housing estates to waterborne sanitation by the completion of the Bahati sewerage scheme. All new Council African housing estates are now provided with waterborne sanitation.

New Construction

A total of 67,710 feet of foul sewers was constructed by all agencies during the year, and the table below gives comparative annual statistics:—

	<i>Public sewers</i>	<i>Foul drains</i>
1953	58,884 feet	
1954	80,376 „	
1955	35,960 „	
1956	27,824 „	
1957	41,441 „	
1958	69,411 „	
1959	67,710 „	22,830 lin. ft.

Of the 1959 figure 63,434 lineal feet were constructed by the Council and 4,276 lineal feet by private developers. The above mentioned lengths of sewers only refer to the public sewers maintained by the Council. In addition, 22,830 lineal feet of foul drains to serve Council's African housing estates were also constructed.

Sewerage Disposal Works

The Eastleigh Sewage Disposal Works is now 50% overloaded and the position is expected to deteriorate until the first stage of the Boundary Sewage Disposal Works is completed in October, 1960.

If the present rate of increase of the sewage arriving at the Eastleigh Sewage Disposal Works continues, it is anticipated that the first stage of the Boundary Works will be loaded to capacity within two years of its completion. Steps have, therefore, been taken to proceed with the design of Stage II so that its construction will follow soon after the completion of Stage I. In order to do this it was decided to carry out the design of the sewage works departmentally, and a Sewage Works Design Team was formed, with the result that the design work is now in an advanced stage.

Maintenance

Preventive maintenance was carried out on the sewers in the City, and it was noted that some of the main sewers are overloaded and structurally unsound, due to age. Construction work on the Nairobi River Valley Trunk Sewer was commenced during 1959. This will replace the existing sewer constructed in 1937—38.

It is hoped that the completion of the Boundary Sewage Disposal Works and the larger size Nairobi River Valley trunk sewer in 1960, will help to reduce the quantity of foul water entering and polluting the Nairobi River.

WATER SUPPLY

Sources of Supply

- (a) Sasumua Reservoir commenced the year with about 1,905 million gallons storage. The water level has fluctuated a few feet below the spillway throughout the year. During the period from the 29th April to 31st May, 1959, water discharged over the spillway into the Sasumua River, but this was not excessive. 1,492,128,000 gallons have been supplied to the City at an average daily rate of 4,088,021 gallons.

Construction on the outstanding works programme was completed by the end of April, and there remain only a few items to be completed. It has not been possible to carry out the demolition of the Asian and African camps as these are being used by contractors engaged on the new treatment works.

Council's Consulting Engineers, Messrs. Howard Humphreys & Sons, continued work in connection with the purification works. Construction of the new treatment works commenced towards the latter end of the year and to date good progress has been made, it being anticipated that the new works will be in commission towards the middle of 1960.

Routine samples of raw water were taken for chemical analysis.

- (b) Ruiru Reservoir continued to overflow until the 5th March, and remained down until April 17th. It overflowed until September 15th, since when the reservoir has continued to remain slightly below spillway level. 1,570,155,000 gallons have been supplied to the City at an average daily rate of 4,301,794 gallons.

Maintenance work on all pipe lines and chemical dosing equipment has been carried out during the year in an effort to minimise corrosion. Routine thinning out and replanting of trees and the procuring of wattle bark and charcoal has continued.

Samples of raw water were taken for chemical analysis.

- (c) The Kikuyu Reservoir has been maintained at a constant level throughout the year and has not been allowed to overflow. 367,420,000 gallons have been supplied to the City at an average daily rate of 1,006,630 gallons.

Routine maintenance work has continued throughout the year, involving the removal of vegetable growth which accumulates around the reservoir. Water has been supplied from the 9" and 7" diameter mains to afford supplies to the Kiambu African District Council for their new villages.

Delivery is still awaited of equipment for the installation of micro-strainers on the Kikuyu supply, but it is hoped that these will be installed in the new year.

Routine samples of raw water were taken for chemical analysis.

- (d) The Nairobi Reservoir and treatment plant has remained closed down except for routine inspection and maintenance work.

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Quality of Water

The quality of the water delivered to the City has been maintained to a high standard and the colour is consistently below 5 Hazen units. 43 routine samples were taken for bacteriological tests and only 2 failed to reach the classification of 'highly satisfactory'. These samples were immediately re-taken and were found also to fall within this category, indicating that it was not the water but the samples which were at fault.

Delivery and Consumption

The total quantity of water treated and delivered to Council's mains during 1959 was 3,313,243,400 gallons on an overall average of 9,077,370 gallons per day. The City's total population is estimated at 240,000, and on this basis the average consumption per head of population had risen to 38 gallons/day by the end of the year. The average for the whole of 1959 was 37.82 gallons/day per head.

Building Activity

Building plans dealt with numbered 198 more than the preceding year, though in estimated value were less by £869,056. Notwithstanding, the building inspection fees for the year showed an increase of £142, totalling £7,023.

Plans approved show that residential development accounts for approximately 55% of the total cost, commercial development 30%, industrial development 7% and miscellaneous 8%.

Details of building plans and estimated costs approved during 1959 for private development:—

<i>Number of Plans</i>	<i>Estimated Cost</i>
Total: 2,116	Total Shs. 129,185,169/-

Ambulance Service

In May all ambulances administered by the Medical Officer of Health were transferred to the operational command of the Fire Brigade. This gave the ambulance section an additional four ambulances, making a total of five ambulances.

Classification of Calls

<i>Patients</i>	1959	1958	1957
Europeans	165	173	195
Asians	142	102	94
Africans	1,063	48	10
Police request	37	—	—
	<hr/>	<hr/>	<hr/>
	3,407	323	299
	<hr/>	<hr/>	<hr/>
Total mileage covered ..	31,265	2,748	2,493
Total number of patients carried:	6,175.		

Public Cleansing

Reorganisation of the Cleansing Section, commenced in September, 1957, has continued to progress satisfactorily. Conversion from articulated to rigid vehicles will be completed early in 1960, when the remaining night soil vehicle is delivered.

Considerable savings effected in the Refuse Collection Service are reflected similarly, by the conversion to rigid vehicles, on the Exhauster and Night Soil Collection Services.

New development in all areas, industrial, commercial and residential, has been absorbed in the conversion scheme. The number of dustbins collected in the city has increased from 19,527 to 23,952 during 1959. This addition of 4,425 dustbins includes 2,148 placed in the African Estates during the year to replace 40 gallon drums. All the African Estates, with the exception of Pumwani, now have dustbins in use.

Whilst the scope of the Refuse Collection and Scavenging Service continues to increase rapidly, that of the Exhauster and Night Soil Collection Service is slowly diminishing consequent upon conversion to waterborne sanitation where main sewerage is being constructed.

Refuse Removal

Refuse is collected three times a week in all areas, except the central area where there is a nightly collection. The Bin Container Service for commercial premises is a daily service operated by two 14 cu. yd. side loaders fitted with a one ton hydraulic hoist. It is intended, eventually, to replace the present large and cumbersome container with a lighter and more manageable container, and to this end, experiments are being made in fibre glass construction.

Refuse Disposal

The present disposal area at Blowers' Quarry has proved to be an ideal and economical tipping site. The quarry, however, is filling more quickly than we anticipated and will be completely full by mid-1960. Failing the acquisition of an alternative site, refuse disposal operations will return to the Leeds Road area.

Scavenging

As with the refuse collection service, the scope of the scavenging service continues to increase, consequent upon increasing development in most areas of the city.

In February, Cleansing Section assumed responsibility for the cleaning of drains and kerbsides over the whole of the city area. Certain outlying areas were previously maintained by the Highways Section.

In November, the new gully cleansing vehicle was put into operation, and this work is now carried on in an efficient and hygienic manner on a regular basis, as opposed to the previous unsatisfactory method of manual cleansing.

Experiments are being carried out on the introduction of fibre glass bins to replace metal bins on the street orderlies, and it is anticipated that this will result in a saving on maintenance costs on these pedestrian controlled vehicles.

Night Soil Collection and Disposal

Conversion to waterborne sanitation is proceeding rapidly and during the year there has been a reduction in the number of bucket latrines from 5,987 to 5,004. This total reduction of 983 is made up as follows:—

African Estates	456
Other areas	527

Conservancy—Exhauster Service

This service too, has been affected by the recently constructed sewerage scheme, but whilst there has been a considerable reduction in the number of tanks requiring service in Eastleigh and Parklands, new development in black cotton soil areas, particularly in the Hurlingham Road and Bernard Estate districts, has resulted in a further demand on this service.

STATISTICS

(a) Refuse Removal

Total daily collections	..	..	..	..	Tons	80,107
Special removals	..	..	..	..	„	520
General scavenging	..	..	..	..	„	25,648
Private deliveries to tip	..	..	..	..	„	11,743
Derelict vehicles removed	..	..	..	..	No.	54
Carcase collection—Vet. Clinic & others	..	..	..	..	„	739
Number of dustbins	..	..	..	..	„	23,952
Number of containers	..	..	..	..	„	91

(b) Exhauster Removals

Conservancy tanks	..	..	..	..	Loads	22,031
Waste water pits	..	..	..	..	„	5,909
Septic tanks	..	..	..	..	„	658

Regular Service

No. of conservancy tanks	..	..	..	..	No.	684
No. of waste water pits	..	..	..	..	„	214

(c) Gully Cleansing (commenced November, 1959)

Gullies cleansed	..	..	..	..	„	2,237
Detritus removed	..	..	..	..	Loads	40

(d) Night Soil Collection

Conservancy lorries	..	..	..	..	„	1,519
Small trailers (private to Cleansing Stn.)	..	..	..	..	„	1,321
Number of buckets—African Estates	..	..	..	..	„	1,446
—Other areas	..	..	..	..	„	3,558

(e) Choked Drains Cleared

African Estates	..	..	..	..	No.	797
Other areas	..	..	..	..	„	539

EUROPEAN CHILD WELFARE

The dominant factor in 1959, as in 1958, was financial limitation. Tighter purse strings amongst householders meant doing without, a lower level of amenities in life, and a consequent greater need of welfare services; and tighter Council purse strings meant scant money with which to provide them.

Staff

Dr. Philippa Gaffikin continued as Medical Officer in Charge, and also supervised the health of children attending the Parklands and Woodley Day Nurseries, and represented the City Council on the Committee of the Lady Northey Home.

Mrs. I. B. Pereira was in charge of Parklands Clinic and area throughout the year.

Mrs. F. Angel worked at Woodley Clinic until mid-April. There was some difficulty in finding a suitable applicant to replace her, and the vacancy was not filled until August, when Mrs. Alexander accepted the post. From April until August the work was done by one health visitor, assisted on occasions by a sister from another section during clinic sessions only. This disruption in staffing resulted in a drop in attendances for a few weeks.

Buildings

Parklands Clinic continued to cope satisfactorily with all that was required of it: the design has proved sound.

The position at Woodley Clinic continued to be unsatisfactory. Congestion was eased for a time, between April and August, but in an undesirable way, namely, by a drop in attendances due to staffing difficulty. Towards the end of the year a return to more normal attendance levels brought back what has come to be regarded as a "normal" state of congestion.

Clinic Activities

Clinic sessions were maintained on the established pattern through the year. Attendance further increased at Parklands and also at Woodley until staff difficulties disrupted the visiting in this area. There was an abrupt falling off in attendance from April, until a new full-time health visitor got into her stride in the last quarter of the year.

Once again sincere thanks are offered to the Kenya High School for Girls for the unfailing help of their senior girls on Wednesday afternoons at Parklands.

Vaccination against smallpox and immunisation against diphtheria, whooping cough and the typhoid group have been available at both clinics for many years and are accepted by parents as a normal part of proper child care. Propaganda on their behalf, beyond a simple reminder, is scarcely needed.

Protection against poliomyelitis is much newer, but the real and justified fear of this crippling disease has acted as a propaganda agent more potent than any persuasion. Nevertheless, it was increasingly evident through the year that pre-school children were in the main not receiving "polio" injections—possibly because the injection was not available conveniently enough in time or place. It was therefore decided to make anti-poliomyelitis injections available at the clinics on two afternoons a month from September. The response was immediate, and high attendances continued until the end of the year.

Health and Welfare

The general health of infants and children was good throughout 1959 and epidemics of chickenpox and measles late in the year were nowhere serious.

Repeated waves of 'flu-like illnesses occurred throughout the year and affected all ages from infancy to old age. The extreme ease and rapidity of spread, and the failure to isolate a causal organism were strongly suggestive of a virus as the cause and droplet infection as the mode of spread. Symptoms in the adult and older child were those of "gastric 'flu", with headache, malaise, nausea and constipation at the beginning and diarrhoea at a later stage. The younger patients nearly all had vomiting as well as nausea, as had some adults. In infants, the gastro-enteric symptoms dominated the picture, but there was usually a history of more generalised symptoms. In some cases there were distinct symptom patterns as, for example, temporal bone pain, and in one of these instances one toddler and an adult had blockage of the eustachian tube, which resulted in a ruptured drum. There was another symptom pattern where itchy erythema with small papules occurred. There are probably many different viruses causing these symptoms, and it is disappointing that more virus research cannot be carried out to investigate them.

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Home Visiting

This service was much hampered by staffing difficulties and, since home contact is the foundation of all child welfare, this reflected in all branches of the section. Throughout, the main effort was directed to keeping in touch with the most vulnerable section of pre-school children, those under a year of age.

Initial visits in the Princess Elizabeth Hospital and in Maternity Homes with the continuing help and co-operation of the Matrons and staffs, enabled the health visitors to meet Nairobi's newest citizens, and it is not too much to say that this early contact is the greatest single factor in aiding the service to be of real value to mothers.

The kindness and forbearance of the Matrons and Nursing Sisters, in particular of the Princess Elizabeth Hospital, which bears the biggest burden, is very truly appreciated.

An immediate follow-up visit when mother and infant had gone home maintained continuity, and repeat visiting was governed by the needs of each case, as the theoretical visiting pattern—a minimum of 12 and, if possible, 20 visits per infant—is hopelessly impracticable. Many mothers attended clinics regularly, thus the health visitors' attention was directed towards infants who were not making progress or who were living in unsatisfactory conditions or with inadequate care, and to the older children and that perennial neglected

group, the toddlers whose mothers are overburdened by the care of a "difficult" new baby.

During the year, the difficult work of enforcing the new by-laws for day nurseries was put upon the health visitors, although routine inspections had always been carried out before the by-laws were introduced. The amount of work entailed, covering not only health and wellbeing of the children but also buildings, sanitation, staffing and diets, proved so time-consuming as to encroach seriously on the rest of their duties. Finally, another sister was seconded for whole-time duties in connection with day nurseries for all races.

STATISTICAL RECORD

				Parklands	Woodley	Total
Attendances						
0—1 year	..	..	..	3,638	2,647	6,285
1—6 years	..	..	..	2,791	1,656	4,447

New Registrations						
0—1 year	..	..	..	322	197	519
1—6 years	..	..	..	391	175	566

Immunisations						
Vaccination	..	..	..	537	413	950
Diphtheria/Whooping cough	..	..	..	896	593	1,489
Diphtheria	..	..	..	2	3	5
Whooping cough	..	..	..	4	1	5
T.A.B.	..	..	..	69	19	88
Poliomyelitis	..	..	..	516	159	675

Home Visits:						
				Hospital	Home	Total
First Visits	..	..	..	877	1,256	2,153
Revisits	..	..	..	141	5,107	5,248

Comparative figures, 5-year period:

				1955	1956	1957	1958	1959
Attendance for advice, etc.	..	..	..	5,990	6,184	9,681	11,697	10,732
Vaccination	..	..	..	428	609	671	850	950
Diphtheria inoculation	..	..	..	172	64	109	65	5
Whooping cough inoculation	..	..	..	9	17	57	137	5
Diphtheria/whooping cough inoculation	..	..	..	548	842	1,035	1,298	1,489
T.A.B.	..	..	..	336	119	140	95	88
Poliomyelitis	..	..	..	—	—	—	—	675
TOTALS	..	..	..	7,483	7,835	11,693	14,142	13,944

DAY NURSERIES**Parklands Day Nursery**

There were no epidemics of infectious diseases in 1959, but many children were absent throughout the year due to influenza, colds and tonsillitis. The health of the children was, generally, excellent.

The staff worked very well and co-operated fully in all activities.

Mrs. Carcasson, Deputy Matron, resigned in February and Mrs. Vickerstaff was appointed Deputy Matron in March.

A pleasant afternoon was enjoyed by parents and children on a combined sports and fete day in July. Of the £81 raised at the fete, £21 was donated to the Salvation Army Children's Fund and £60 to St. Nicholas School.

The annual concert was held in December. £10 was collected and given to the Matron of Nicol House for the children's Christmas and £20—from raffles—was used for buying a gramophone for the Nursery.

On December 10th Father Christmas visited the Nursery after parents and children had enjoyed a Christmas tea party and been entertained by a Punch and Judy show.

Woodley Day Nursery

The intake to this Nursery was very much greater than in previous years.

The average monthly permanent roll was 126, but the average daily attendance was only 96.3, due to epidemics of influenza and chickenpox in February and March, scarlet fever in July and August and measles in November and December. The latter epidemic resulted in many absences and caused the Christmas party (arranged for December 22nd) to be postponed until January 5th, 1960.

The sports day, held on Saturday July 11th, went off very smoothly. This year the winners were given small silver cups.

The staff worked very well during the year.

High Ridge Day Nursery

This Nursery now seems to be well established, with 86 names on the register.

Attendances were higher during 1959. Absences were mainly due to local leave or minor illnesses. Very few cases of infection were reported—one case only of chickenpox and two of measles.

Three additional water closets were constructed. The verandah paving was also extended to the garden fence, and a new wire fence was erected at the rear of the premises.

The staff worked very well. During periods of leave Miss Logisse did relief duty and was a tremendous help in the Nursery.

A highly successful concert and party was held in December.

The Matron, Mrs. Snowball, resigned in December, giving three months notice. Her resignation was accepted with great regret, as she has done excellent work during her service.

DAY NURSERY ATTENDANCES

	Parklands		Woodley		High Ridge	
	1958	1959	1958	1959	1958	1959
Regular full day ..	26,142	24,187	17,796	19,921	9,996	9,264
Regular mornings ..	9,670	13,382	7,322	7,971	8,573	10,923
Casual full day ..	492	494	450	586	6	—
Casual half day ..	398	512	836	621	—	9

Private Day Nurseries

By-laws for the conduct of day nurseries came into force in 1958. Many day nurseries had already been in operation before this date, and the Emergency, in particular, had stimulated the need for these, as they provided better care than ayahs for the children of working mothers.

Routine inspection by health visitors had revealed that many, both European and Asian, were not entirely satisfactory and that many were, in fact, bad.

It was soon discovered that the job of inspecting and reporting on day nurseries would require a full-time member of staff, and to this end a health visitor was seconded from the African Maternity and Child Welfare Section.

The initial objective of our visits was to make an assessment of conditions generally in nurseries. Two points of view had to be reconciled in endeavouring to set standards for the conduct of these nurseries. Firstly, it was desirable to have places which from every point of view could cater adequately for the welfare of children; secondly, the standard for these places would not have to be so high as to compel closure, as many of them were undoubtedly doing a good job of work, and closure might mean the undesirable step of having more children being looked after by unsatisfactory ayahs.

The initial assessment took some considerable time, and many licences were issued on conditions requiring improvement. It is hoped that in 1960 the Department will get much nearer the position when they will be able to advise parents on suitable places where children may be left.

ASIAN MATERNITY AND CHILD WELFARE**Staff**

Dr. Philippa Gaffikin continued throughout the year as Medical Officer in charge. 1959 was the first year in which the section had the service of two doctors for twelve months, Dr. Pamela Anderson working until 31st May when she resigned, and Dr. Juliet Hayden for the rest of the year as the second medical officer. The additional doctor allowed for a notable expansion of the services. Valued assistance on a voluntary basis was given by Lady Twining, who attended, in particular, post-natal and family planning sessions.

Mrs. Arthur continued as Supervisor of Health Visitors and Midwives, and Mrs. Taylor held the appointment of Assistant Supervisor of Midwives.

The establishment for Health Visitors II and III was increased to fourteen, but only thirteen vacancies were filled.

Miss Gulshan Ahamed went to England in December to begin a course of training on speech therapy. When she returns to the Colony on the completion of her course, she will be able to do very valuable work for the Asian community.

Buildings

Ngara clinic continued to be overcrowded and serves three areas. Repeated requests have been made for additional clinics to be built to relieve Ngara of this overcrowding, and it is hoped that a new building will be started in 1960.

The Bohra Road clinic is very satisfactory, but also serves considerable numbers of people living in other areas who find it more easy to attend Bohra Road because of the transport services.

The Parklands and Pangani areas are in greater need of clinic buildings than any other districts. In order to supply services to the people in these areas, clinic sessions continue to be held at the Aga Khan Club. Once again, sincere thanks are offered to this community for their generosity in permitting the use of the building.

Maternal Welfare

Ante-natal sessions were held in all areas throughout the year, and were so well attended that extra sessions had to be provided for the residents of Ngara, Pangani, Victoria Street and Eastleigh areas.

There was an impression that maternal health in 1959 was not so good as in previous years. This was not due to serious or epidemic illness, but more

to a decrease in the general state of health, which may be due to economic stress, and the mental stress which undoubtedly existed, particularly during the latter part of the year, throughout the Colony.

There were ten maternal deaths, giving a mortality rate of 2.5 per thousand births, compared with 0.97 in 1958. Each of these was carefully investigated and a summary is made at the end of this report. It is a tragic document, but demonstrates that the Council services are not used to the full extent.

Family Planning

Sessions for advice on planned parenthood were held in all areas throughout the year by the staff of this section acting in co-operation with the Family Planning Association of Nairobi. A slow but steady spread of the principles of family spacing was apparent during the year.

Child Welfare

There were 21,104 attendances, with 2,458 new registrations. It was disappointing that new toddler registrations fell to 1,045. There were 174 infant deaths—the same as in 1958—but the neo-natal deaths formed only 65% of these, compared with 73% in the previous year. The predominant cause of neo-natal loss was prematurity (72%). 24 deaths could be ascribed to damage sustained during birth. 20 of these were full-term, and 4 premature. Deaths between 1 month and 1 year of age rose by 15 to 61. Gastro-enteritis accounted for 24 and pneumonia for a further 24 of these deaths.

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In the 1—5 age group, there is still considerable evidence of a poor state of general health, and indeed, evidence that the general health may be declining. Weight gains were poor, particularly in the Eastleigh/River Road/Canal areas. Enquiry into family situations revealed that there was much overcrowding and under-feeding.

There were no major epidemics, but sporadic cases of poliomyelitis occurred throughout the year, and in the last quarter the numbers were increasing. There were no deaths from poliomyelitis amongst Asian children of pre-school age.

Clinic Parties

Parties were held from November onwards and were greatly supported by the kindness and generosity of parents, friends and members of the business community.

Immunisations

It had been felt for some time that the community had not been using the poliomyelitis immunisation facilities provided at the City Hall, and so this service was extended to certain clinic sessions, and great use was made of these.

Great credit must go to the health visitors for publicising the poliomyelitis immunisation campaign.

Home Visiting

66,418 mothers and children were visited during the year. This number is a reflection of the industry and keenness of the staff. This work is still considered to be amongst the most important in this section. There is no doubt that a great deal of extremely valuable work can be done in helping and educating mothers in the overcrowded and poorer quarters of the town, and that home visiting should be concentrated in such districts. It is obvious from the clinic attendances resulting from home visits that people place a great deal of confidence in the staff. Such confidence is essential if home visiting is going to be of full value.

Health Education

Health education is at its best when it is brought home by the domiciliary visit and where the teaching done at clinics can be reinforced on the spot. Health education of other kinds, such as model displays, films and film strips, were also used.

Ante-natal and post-natal exercise classes were held in all areas, and were adequately attended.

Training

A course of training for the local diploma in health visiting started at the end of March, six candidates out of about twenty applicants having been accepted as suitable for training. Systematic lectures, and practical instruction in the organisation of a Maternity and Child Welfare Section and in the various aspects of clinic work were given.

A well attended refresher course for midwives was held during November. Probationers and midwives from the Indian Maternity Hospital and from the African Maternity Hospital also attended the lectures which were given by guest speakers, to whom we owe our thanks.

It is hoped in the near future that the refresher course will take the form of midwives doing resident duty for a short period at the Indian Maternity Hospital.

Liaison with other Departments

The Medical Officer served on the Management Committee of the Indian Maternity Hospital throughout the year, and also on several Government and non-Government sub-committees dealing with medical matters.

At the request of the Indian Maternity Hospital, special sessions were held at which probationers conducted ante-natal clinics. This was an extension of a previous scheme whereby probationers attended clinics but did not actually conduct them.

Co-operation with midwives and dais was satisfactory throughout the year and largely due to the personal relations with the Assistant Supervisor (Mid-

wives), midwives and dais are prepared to come to the Section for help and guidance more readily than in past years.

Private Maternity Homes

Five private maternity homes were being conducted at the beginning of the year, four in a reasonably satisfactory way, although regular inspections were necessary to keep them up to a good standard, and one in a very unsatisfactory way. The latter deteriorated until there was no alternative but to issue a notice for its closure.

Welfare Organisations

Contact was maintained with welfare organisations by the Supervisor, who served through the year on various committees, including the General Committee and the Asian Case Committee of the Child Welfare Society. This liaison was very valuable, enabling much real distress to be brought into contact with sources of help and relief.

Investigation was also made at the request of the Society for the Deaf and Dumb on the incidence of partial and total deafness. Several cases were discovered initially, and when parents came to realise that something could and should be done for these children, the news spread throughout the community and more cases came to light as ignorance, fear and diffidence gradually disappeared.

All these patients were examined and assessed by Dr. Clifford and remedial measures were adopted as far as possible. Speech therapy classes were conducted by Mrs. Clifford and Mrs. Couldrey. There is undoubtedly much more work to be done in this direction, but at least a beginning has been made.

This Maternity and Child Welfare Section has expanded throughout the year in various ways. This is largely the result of an interested and keen staff who appreciate the value and necessity for public health work, and the possibilities of expanding the work in a rapidly developing community which still needs to be enlightened on the value of such matters.

REPORT ON MATERNAL DEATHS:

Case 1:

Cause of death: "anaemia; post-partum haemorrhage." Age: 45 years. Multipara 6.

The patient was not booked with a midwife or doctor. A midwife was called, and found the patient's general condition was poor; pallor ++, generalised oedema, very distressed. She had a normal delivery soon after the midwife's arrival; loss reported as normal at completion of third stage. The family doctor was called and gave an injection; arranged for admission to nursing home and blood transfusion. Four pints given and condition improved generally, but the uterus filled with blood and a second opinion was

called. An attempt was made to evacuate the uterus and shreds of placental tissue obtained. The patient collapsed and died the same day. The family doctor who had been treating the patient stated that she had refused to go to hospital.

Case 2:

Cause of death: "anaemia, heart failure, full term confinement." Age: 45 years. Multipara 8.

Delivery by a dai. Placenta was slow to separate and a doctor was called, but there was some delay before his arrival. There was no undue bleeding. Manual removal was attempted and injections were given. There was still no bleeding, so the doctor returned home. The doctor was again sent for and gave another injection, and attempted to remove the placenta. The patient was eventually removed to hospital, but died before the arrival of the ambulance.

Case 3:

Cause of death: "eclampsia, cerebral haemorrhage." Age: 32 years. Multipara 7.

The patient attended a clinic once only, when she was seven months pregnant, and was later visited three times by a midwife. She was in a nursing home for four days shortly before delivery with ? sub-arachnoid haemorrhage. Returned home; normal delivery the day after, but later became abnormal in manner. A doctor was called and gave injections, but the next day her condition was unchanged and she was admitted to King George VI Hospital in a semi-comatose condition. She died the following day.

Case 4:

Cause of death: "anaemia; post-delivery shock, heart failure." Age: 25. Multipara 5.

Midwife booked a week before delivery. Became restless and anxious immediately after delivery because the child had not cried. Doctor arrived as the placenta was being expelled. Bleeding very slight. Patient given injection. Doctor and midwife remained in the house for two hours, and as the patient's condition was unsatisfactory, decided to call a second opinion, but the patient died as the second doctor arrived.

Case 5:

Cause of death: "embolism (air), childbirth, acute cardiac failure." Age: 35 years. Multipara 6.

Regular ante-natal care by doctor and midwife. Normal delivery and loss. Soon after delivery, midwife was recalled and found the mother complaining of pain in her foot, leg and chest. A doctor arrived almost immediately, but the patient was dying. A post mortem examination was performed.

Case 6:

Cause of death: "anaemia; post-partum haemorrhage." Age: 35 years. Multipara 10.

Midwife had been booked, but since the membranes ruptured early, the patient was sent to a nursing home by the doctor. Labour began the following day. Delivery was normal with the doctor present. She had some bleeding, and an injection was given. The bleeding continued, and the patient became restless, so the vagina was plugged and a second opinion called. Intravenous saline was begun and blood was sent for, but the patient died before it arrived.

Case 7:

Cause of death: "acute yellow atrophy and eclampsia." Age: 40 years. Multipara 6.

No ante-natal care, but a dai was called and the patient began having fits at seven months. A doctor was also called in and treatment was begun. The patient had to be transferred to a nursing home, and the following day had a normal delivery of a stillborn child. There was suppression of urine, but this began to improve after treatment. The fits continued, however, and she died a week later.

Case 8:

Cause of death: "air embolism; placenta praevia; hepatic failure due to anaemia." Age: 25 years. Multipara 5.

The patient booked a midwife, but ignored the midwife's advice that she should go to hospital because of bleeding throughout pregnancy. There was more bleeding when labour began, and doctor was called. Hospital was advised; delivery normal, child stillborn. Bleeding was slight, but she collapsed and died soon after. A post mortem examination was performed.

Case 9:

Cause of death: "retained placenta; shock; haemorrhage." Age: 40 years. Multipara 3.

Patient had a history of two stillbirths due to toxæmia and retained placenta with previous delivery. Both the patient and midwife were told that because of the previous history, she should be delivered in hospital. The midwife was called when the patient was in labour and an injection was given before the baby was born. Bleeding was heavy and the placenta was retained. The doctor was called and the patient was taken to hospital. The placenta was manually removed under a general anaesthetic and intravenous saline was begun. The patient was very restless, and bleeding continued. She died two hours after admission.

Case 10:

Cause of death: "toxæmia and circulatory failure." Age: 34 years. Multipara 6.

Booked a midwife, but refused to go to a doctor for examination. Painless bleeding began at full time and the midwife was called. The patient was visited

by a doctor several times during the day and was later transferred to hospital. Sedatives given, but patient continued to be restless all night. Labour continued, and forceps delivery of a stillborn baby performed under local anaesthetic. Bleeding was heavy, and the patient remained restless and complained of severe pain in the head. She died about two hours after delivery.

Some of these histories are not satisfactory, but they contain all the information which was made available on investigation after the deaths had been notified. One cannot but wonder if the information supplied was complete.

The following points are worthy of note:—

1. The ages of the patients—45; 45; 32; 25; 35; 35; 40; 25; 40; 34.
2. The parity of the patients—6; 8; 7; 5; 6; 10; 6; 5; 3; 6.
3. There was insufficient ante-natal care.
4. The advice of doctors and midwives was not accepted.

These deaths are, so to speak, positive findings. It is impossible to assess the numbers who miraculously survive child birth despite poor general health, lack of ante-natal care, a multitude of previous pregnancies, an appalling environment and, perhaps, questionable midwifery, but who, as a result, become chronically debilitated; but ten maternal deaths—the “positive findings”—are justification for saying that the number is probably very large, and that an enormous amount of work still faces the authorities and others, whose duty it is to help in the dissemination of education in such health matters and whose duty it is to strive for the improvement of midwifery standards and services which are so obviously falling short of even the adequate, far less the perfect.

STATISTICAL RECORD

	Ngara	Pangani	Victoria Street	Eastleigh	Sandiford Road	Nairobi South	Parklands	Total
MATERNAL WELFARE								
Sessions	69	60	91	85	12	49	—	366
Attendances ..	2,471	1,809	1,914	2,920	131	604	—	9,849
New Registrations	550	399	595	607	28	128	—	2,307
Postnatal Examinations	183	197	197	482	14	70	—	1,153
Ante and postnatal exercises ..	206	172	118	329	17	53	—	895
Family Planning ..	70	69	117	120	8	58	—	442
Child Welfare								
Sessions	53	57	73	101	12	51	50	397
Attendances ..	3,929	3,132	5,542	4,753	496	1,363	1,889	21,104
New registrations								
0—1 year	457	464	595	581	71	157	133	2,458
1—5 years	170	147	373	172	38	97	48	1,045
Immunisations								
Vaccination ..	736	769	982	1,223	196	285	210	4,401
Diphtheria/wh. cough ..	805	563	536	487	184	597	215	3,447
Diphtheria	—	—	3	2	2	12	2	21
T.A.B.	45	104	17	218	8	47	45	484
Poliomyelitis ..	1,941	1,840	1,317	1,500	613	902	1,052	12,433
„ (schools)	3,268	—	—	—	—	—	—	
Health Education								
Attendances ..	201	304	426	535	—	6	103	1,575
Home Visits								
Health Visitors ..	10,806	12,176	17,019	12,493	1,822	6,309	4,340	64,965
Supervisor ..	—	—	—	all areas	—	—	—	96
Asst. Supervisor (Midwives)	—	—	—	„ „	—	—	—	292
Health Visitor i/c Family Planning	—	—	—	„ „	—	—	—	1,065

COMPARATIVE FIGURES 5 YEAR PERIOD

					1955	1956	1957	1958	1959
Maternal Welfare									
Attendances	..	..	..	..	5,712	6,286	6,361	8,024	9,849
New Registrations	..	..	..	..	1,607	1,889	1,782	2,093	2,307
Child Welfare									
Attendances	..	..	..	..	14,738	16,639	17,991	19,343	21,104
New Registrations 0—1 year	..	..	..	..	1,741	2,266	2,326	2,484	2,458
New Registrations 1—5 years	..	..	..	..	900	1,474	1,282	1,424	1,045
Home Visits									
All Staff	..	..	..	..	21,081	39,258	55,552	64,398	66,418
Total Attendances									
All ages, all clinics	..	..	..	..	26,072	32,433	32,438	37,361	53,314
Notification of Births—Asian only									
							Live Births	Stillbirths	
Midwives	..	..	..	..	..	..	1,799	36	
Dais	..	..	..	..	..	..	642	8	
Indian Maternity Hospital	..	..	..	..	..	..	686	28	
Private nursing homes and other hospitals	..	..	..	..	..	..	768	10	
Doctors	..	..	..	..	..	..	6	2	
African midwives	..	..	..	..	..	..	2	—	
Stillbirths not notified	..	..	..	..	..	..	—	1	
							3,903	85	

Mortality Rates

Maternal deaths	10
Maternal mortality rate (per thousand births)	2.5
Infant deaths (under one year old)	174
Infant mortality rate (per thousand live births)	44.5

Causes of Stillbirth

Abnormalities of foetus:

Anencephalic	7
Hydrocephalic	2
Malformation of trunk	1
„ „ „ legs	1

Interference with foetal circulation:

Cord round neck	4
Prolapse of cord	4
„ „ „ plus Rh. incompatibility	1
True knot in cord	1

Maternal illness:

Anaemia	2
Diabetes	1
Toxaemia of pregnancy	24
„ „ „ and nephritis	1

Placenta praevia	2
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Postmaturity	1
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Prolonged labour	3
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„ „ (breech)	1
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„ „ (impacted shoulders)	1
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Unknown causes—full term	8
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„ „ —premature	18
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Causes of Death—Asian Children 0—6 years

	Birth— 1 month	1 month— 1 year	1 year— 6 years
Anaemia plus hepatic failure	—	—	1
Anaemia plus pneumonia	—	—	2
Asphyxia neonatorum	2	—	—
Asphyxia—peanut in trachea	—	—	1
„ —accidental poisoning	—	—	1
Atelectasis	2	—	—
Atrophy of liver	—	—	1
Bronchitis	—	1	—
Burns	—	—	1
Cardiac failure	—	2	—
Cerebral atrophy	—	1	—
Cerebral thrombosis	—	—	1
Cirrhosis of liver	—	—	2
Congenital heart disease	1	1	1
Congenital heart plus pneumonia	—	—	1
Diphtheria	—	—	1
Encephalitis	—	1	—
Epistaxis	1	—	—
Gastro-enteritis	2	24	6
Haemorrhagic disease of newborn	2	—	—
Infective hepatitis	1	—	1
Influenza and pneumonia	—	1	—
Influenza and convulsions	—	—	1
Intracranial injury	9	—	—
„ „ (Caesarean Section)	2	—	—
„ „ (forceps)	3	—	—
„ „ (breech)	2	—	—
Intestinal obstruction	1	2	1
Jaundice	2	—	—
Laceration of brain	—	—	1
Malformations—anencephaly	1	—	—
„ —broncho-oesophageal fistula	1	—	—
„ —cholemia	1	—	—
Malformations—of kidneys	1	—	—
„ —of liver	—	1	—
„ —recto-vaginal fistula (post-op.)	1	—	—
„ —spina-bifida	5	—	—
Malnutrition plus pneumonia	—	2	—
Measles plus pneumonia	—	—	2
Meningitis	—	—	1
Peritonitis plus pneumonia	—	1	—
Pneumonia	6	20	11
Pneumonia plus gastro-enteritis	1	2	—
Pneumonia plus jaundice	1	—	—
Post-operative—for birth injury	—	1	—
„ „ —for jejunostomy	—	1	—
Prematurity—cause not known	33	—	—
„ —due to antepartum haemorrhage	4	—	—
„ —atelectasis	3	—	—
„ —plus cerebral haemorrhage	4	—	—
„ —plus gastro-enteritis	1	—	—
„ —due to hysteria in mother	1	—	—
„ —due to accident to mother	1	—	—
„ —due to placenta praevia	4	—	—

Causes of Death—Asian Children 0—6 years (Continued)

	Birth— 1 month	1 month— 1 year	1 year— 6 years
Prematurity—plus pneumonia	3	—	—
„ —due to toxæmia of pregnancy	8	—	—
„ —plus congenital malformation of heart..	1	—	—
Sclerema neonatorum	2	—	—
Tonsillitis plus pneumonia	—	—	1
Tuberculous meningitis	—	—	2
Traffic accident (fractured skull)	—	—	2
	113	61	42

AFRICAN MATERNITY AND CHILD WELFARE

Staff

Three medical officers, Dr. Haskard in charge, and doctors Hume and Bhardwaj, worked full-time in this section during the year.

Mrs. Chalupka held the post of Supervisor of Health Visitors and Midwives. Five health visitors resigned during the year and five new appointments were made, such frequent changes disrupting the smooth running of the clinics, but being invariably unavoidable. The situation was not eased by an unstable junior staff, particularly in Scale E, but the position in these grades is improving in that the type of applicant is of a higher standard than before.

REVIEW OF ACTIVITIES

Through the kindness of the Social Services and Housing Department, a building owned by them was altered to make a small clinic in Shauri Moyo. It was immediately obvious that there was a need of facilities in this estate, but that the building would be inadequate.

The number of women and children attending Ofafa clinic has increased, as is shown in the following table:—

	1957	1958	1959
Total ante-natal attendances.	261	574	1,977
Total child welfare attendances.	2,093	2,670	5,786

The increase is great enough to warrant the immediate building of another clinic, but it is unlikely that this will be forthcoming. Application should be made in 1961 for houses to be used temporarily as clinics. The numbers necessitated extra clinic sessions being held, which meant that less time was devoted to an all-important part of the work, namely, home visiting.

Bahati clinic catered for Bahati estate and also for Makadara estate. The demand from Makadara estate, particularly for a domiciliary midwifery service, is increasing, and the midwife living at Mbotela was eventually asked to take over the Makadara area as well. There is justification for a clinic being built in Makadara and this is planned, but for some years ahead.

The Liverpool Road clinic is not well patronised, but from investigations made it would appear that this is because many of the women in this area spend much of their time in the reserves. The numbers may increase when five blocks of flats for senior grade Railway staff are completed in the near future.

GENERAL ACTIVITIES

The young ayah problem is increasing. More and more babies of two to three months are left in the care of children of seven to ten years while mothers are working. Frequently these babies are fed on tinned artificial foods, and the result often is gastro-enteritis, due to lack of hygiene, and eventual malnutrition as the artificial foods, being expensive, are made to last much longer than they should. Parents of these infants are difficult to contact, since they are out all day, but every endeavour is made to keep track of the ayahs while the parents are at work. There is a great need for creches to be opened for these unfortunate babies.

ATTENDANCES

The total number of attendances decreased—201,059 compared with 228,494 in 1958. This was largely due to the sick, who had previously attended the dispensary sessions, being sent, correctly, to Health Centres. There were 84,125 dispensary attendances in 1958 and 49,074 in 1959. In actual fact, the total attendances at the welfare session increased.

TOTAL ATTENDANCES				1958	1959
1st quarter	..	..	..	55,000	41,533
2nd quarter	..	..	..	59,720	51,839
3rd quarter	..	..	..	59,463	52,122
4th quarter	..	..	..	54,311	55,565
Total yearly	..	..	..	228,494	201,059

ANTE- AND POST-NATAL CLINICS

There was an increase of 1,061 attendances compared with 1958. This is regarded as satisfactory. Post-natal clinic attendances continued to be disappointing and the numbers actually dropped from 834 in 1958 to 753 in 1959. It is extremely difficult to persuade mothers of the desirability for post-natal examination, and even the persuasion of district midwives fails in this direction.

CHILD WELFARE CLINICS

There was an increase of 2,061 over 1958 of infants registered, and there was an increase of 1,461 in new pre-school registrations. Daily milk bar sessions continued throughout the year, the total attendances being 49,304. There were 6,104 lbs. of fat-free powdered milk sold to clinic attenders—an increase of 1,502 lbs. over 1958.

MEDICAL ASPECTS

Liaison with other medical departments, Municipal and Government, has been, on the whole, very satisfactory. Because of the shortage of beds at

King George VI Hospital, many children who are discharged still require some follow-up, and so all discharges are notified to the section by the hospital and an endeavour is made to trace all such patients and help them during convalescence. This is not always easy, as wrong addresses are frequently given by patients.

A similar follow-up has been carried out with regard to patients discharged from the African Maternity Hospital. This is an easier job, as many of the patients were originally directed to the hospital from the clinics. Likewise, tuberculous children are referred by the Chest Clinic and the taking of drugs such as P.A.S. and I.N.A.H. is supervised from the clinics. 65 children attended for this on an average each month.

Noteworthy was the exchange of patients between health centres and clinics which was developed throughout the year. Regular clinic attenders who were sick were referred to health centres for treatment, and this treatment was given at a much cheaper rate than to the public. Likewise, every endeavour was made to refer patients, mainly children, from the health centres to the clinics when it was considered that their main ailment was malnutrition, generally resulting from ignorance. This exchange worked very well through the year after a few preliminary but anticipated hitches.

There were no major epidemics throughout the year, but there was an alarming increase in the number of cases of acute poliomyelitis in December.

Immunisation sessions were continued but, as always, were poorly attended except when cases of smallpox or other serious infectious diseases were notified. 2,735 smallpox vaccinations and 1,144 T.A.B. inoculations were done.

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NURSERY SCHOOLS

Routine medical examinations were carried out on all children, and any needing treatment were referred to the health centres. Inoculations and vaccinations were made available at the nearest clinics, but although parents were notified of this service, few took the opportunity of using it.

LECTURES

Courses of lectures were given during the year to senior African staff by the medical officers and health visitors. A course of lectures was also given by one of the health visitors to the senior nursery school staff in preparation for an examination set by the Red Cross in practical child welfare.

Group teaching was carried out in all the clinics for mothers, and these lectures were, as usual, followed up by individual tuition in the homes. The greatest stress in these lectures was laid on nutrition and nutritional diseases, particular attention being given to the diets of the 1—2 year old children and to the weaning of infants.

LABORATORY TESTS

	Sent	Positive
Khan specimens	4,670	143
Cervical smears for G. C.	4,364	43
Blood slides for malaria	6,494	995
Stools for helminths	2,695	872

DISTRICT MIDWIFERY SERVICES

Mrs. Davis continued as Supervisor of District Midwives, but during her absence on overseas leave, her work was done by Mrs. McLean.

In Shauri Moyo, with the opening of the new clinic, a midwife was appointed to this area. The number of patients going to Pumwani was thus reduced.

Ofafa, as has been stated before, makes great use of all the services offered by the section, and a second midwife had to be appointed in the area.

Makadara also makes big demands. The district midwife from Mbotela attends to patients in Makadara, but this is not a satisfactory arrangement, as it is difficult for the clinic staff to pay follow-up visits. It is hoped that this will be remedied in a short time and that a district midwife may eventually be resident in the area, working from a new clinic building.

REFRESHER COURSES

Each district midwife spent one week attending a refresher course at the African Maternity Hospital. These courses will be continued. There is also a very valuable monthly discussion session given by the Medical Superintendent of the Maternity Hospital on all the abnormal cases which midwives send to the hospital during the month.

	Kariokor	Pumwani	Muthuruwa	Kaloleni	Makongeni	Maisha	Liverpool Road	Bahati	Bahati M.O.W.	Posts & Telegraphs	Mbotela	Ofara	Shaari Moyo	TOTALS					
														1954	1955	1956	1957	1958	1959
Ante-natal																			
New cases	400	609	321	264	312	191	156	669	198	349	267	800	233	1,845	2,540	2,591	3,702	4,196	4,769
Births—self, Nairobi	71	84	50	40	30	30	24	89	44	47	34	85	37	432	717	878	1,483	1,636	665
Births—hospital, Nairobi	78	137	78	55	52	32	28	126	48	65	40	119	28	334	570	655	727	944	886
Births—outside Nairobi	51	22	32	22	21	12	15	7	3	34	14	23	4	—	—	—	—	—	260
Total attendances	1,290	1,783	1,214	905	1,070	583	537	1,749	479	1,202	738	1,977	497	4,936	7,341	7,838	11,144	12,963	14,024
Post-natal attendances	46	114	147	63	55	46	19	13	34	61	52	100	3	—	—	—	—	834	753
Child Welfare																			
New cases: 0—1 year	371	447	323	291	350	213	201	445	172	303	290	681	204	1,716	2,521	2,572	3,368	2,230	4,291
Transfer of 0—1 year to P.S. cards (1—5 years)	89	83	148	123	140	89	54	77	50	86	85	93	11	249	365	559	791	970	1,128
New cases: 1—5 years	284	303	291	252	359	209	227	167	128	281	227	622	209	2,318	2,408	2,765	3,175	2,098	3,559
Total attendances	5,041	4,800	5,012	4,347	4,074	3,244	2,412	2,675	2,218	3,115	2,824	5,786	1,477	19,722	28,983	32,622	39,517	43,226	47,025
Home Visits																			
Health Visitors (European)	818	—	418	1,146	110	63	222	795	—	433	318	655	140	769	3,992	6,479	5,885	6,788	5,118
African Assistants	4,696	3,626	4,658	4,466	2,642	1,631	2,018	1,663	1,079	3,098	2,096	4,534	1,541	1,869	13,094	20,479	22,183	24,748	37,748
Total	5,514	3,626	5,076	5,612	2,752	1,694	2,240	2,458	1,079	3,531	2,414	5,189	1,681	2,638	17,086	26,958	28,068	31,536	42,866
Dispensary Service																			
Women—new cases	447	766	452	307	209	182	140	741	284	317	314	1,074	258	2,263	2,385	2,471	3,989	4,058	5,491
Women—repeat cases	384	513	331	314	253	132	183	452	632	138	304	910	432	6,531	4,539	4,912	8,410	9,085	4,978
Children—new cases	1,389	1,796	1,250	1,235	942	724	634	947	916	900	1,039	1,916	521	8,776	11,630	13,001	14,915	13,596	14,209
Children—repeat cases	2,050	3,415	1,681	1,602	3,687	1,478	2,092	1,093	754	1,181	2,341	2,063	959	58,555	54,317	52,583	61,428	57,386	24,396
Total	4,270	6,490	3,714	3,458	5,091	2,516	3,049	3,233	2,586	2,536	3,998	5,963	2,170	76,125	72,871	72,967	88,742	84,125	49,074
Attendances for Iron Tonics and Vitamins																			
Women	373	1,037	745	471	425	344	284	1,027	428	330	223	1,548	378	—	—	—	—	—	7,613
Children	507	621	641	209	553	602	480	461	487	64	92	92	155	—	—	—	—	—	4,962
Total	880	1,658	1,386	678	978	946	764	1,488	915	394	315	1,640	533	8,506	8,417	9,465	11,297	8,197	12,575
Total Dispensary and Tonics	5,150	8,148	5,100	4,136	6,069	3,462	3,813	4,721	3,501	2,930	4,313	7,603	2,703	84,631	81,288	82,432	100,039	92,322	61,649

AFRICAN MATERNITY HOSPITAL

Staff

Miss J. P. Koppert resigned and left the hospital in May. During her three year term of office as Matron the standards at the hospital were very greatly raised in all branches. Her energy, strong sense of duty and efficiency were very much appreciated. Miss J. Cormack took on the duties of Acting Matron, and was appointed Matron in September.

During the year the hospital suffered considerably from the staff point of view, as there were four resignations of European Sisters. Continuity of staffing is essential in a teaching hospital and instability causes a considerable setback. Towards the end of the year, however, greater stability was achieved amongst the European sisters.

There was a much greater permanence in the African Staff Nurses, and there was only one resignation during the year. Two African nurses who were upgraded to take greater responsibility proved that they were capable of taking the responsibility.

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Training

75% of the trainees who sat for the examination were successful. Great credit must go to the staff, and particularly to the Matron, who trained these girls, as additional duties in teaching were put upon them owing to the Sister Tutor post being vacant for a considerable part of the year. A fully qualified Sister Tutor is expected to arrive in the early part of 1960.

The standard of training and the standard of girl who comes to the hospital for training is rising, but the desirability of having trainees who have already passed their nursing examinations is again stressed.

General

There were seven maternal deaths during the year, giving a maternal mortality rate of 2.42. Details of the maternal deaths are as follows:

- (1) This patient had pre-eclamptic toxæmia followed by a concealed accidental hæmorrhage. After admission she developed afibrinogænaemia and died of hæmorrhage. Ante-natal care could have saved this patient, as she would have been admitted to hospital for early treatment.
- (2) This patient had a severe megaloblastic anaemia and died three hours after admission. Ante-natal attendance would probably have saved this patient, as the anaemia would have been detected.

- (3) This patient was admitted to hospital with a twin pregnancy, and an air embolism occurred after premature separation of the placenta before delivery of the second twin.
- (4) This patient died of eclampsia. Again, this is largely a preventable condition.
- (5) This patient died of acute yellow atrophy of the liver.
- (6) This patient had a severe post-partum haemorrhage and was admitted to hospital seven days after delivery with a haemoglobin of less than 20%. She developed an autohaemolysis and died despite transfusions.
- (7) This patient died of obstetric shock.

Four of the above deaths could have been prevented by proper ante-natal care. Ante-natal care is available and is of a high standard, but a large proportion of African women do not avail themselves of this service.

During the year, 24 patients were admitted suffering from eclampsia. As stated above, one of these died, giving a 4% mortality. Eclampsia is a preventable condition, and many of these patients could have been greatly assisted by adequate ante-natal care, but the majority had not attended clinics.

There were 431 premature infants born in the hospital, 14.9% of all births. This is an extremely high figure. An attempt was made to halt threatened premature labour and 175 out of 200 mothers who were treated with Mephenesin continued to full term. 48 of the premature babies died, giving a mortality rate of 11.1%. Mothers of premature babies remain in the hospital, and ways and means were investigated of speeding the growth of these babies. An investigation with 17 Norethandralone resulted in the average stay in hospital being reduced from 54 to 33 days.

851 out of a total number of 2,891 patients delivered in the hospital had a haemoglobin of 60% and less. This is a very large proportion, but the question of anaemia is a very difficult one to deal with. Ante-natal attendance would mean that many of these anaemias would be discovered and could be corrected before delivery, but as has so often been said, a very large number of Africans do not appreciate the value of ante-natal treatment. Much could be done in the way of prevention, but this involves so many different facets of the African way of life that it is not easy to deal with—education, ignorance, standards of living, the correct use of money, feeding and other matters.

107 cases of pre-eclamptic toxæmia were admitted during the year. Pre-eclamptic toxæmia is a relatively new condition in the African, but appears to be increasing in incidence. The maternal mortality rate was 4% and the infant mortality rate was 25%.

Close liaison was maintained with other Sections of the department, and in particular with the maternity and child welfare and domiciliary midwifery services.

Hospital Statistics

Total admissions	..	..	..	..	..	..	3,531
Births	..	..	..	..	..	..	2,891
Stillbirths	..	..	..	..	..	..	113—3.90%
Neo-natal deaths	..	..	..	..	..	..	92—3.19%
Maternal deaths	..	..	..	..	..	..	7—0.24%
Operations	..	..	..	..	..	..	629
Abnormal presentations	..	..	..	..	..	..	526—18.9%
Twins	..	..	..	..	..	..	51—1.8%
Triplets	..	..	..	..	..	..	2
Ante-natal Clinics—							
Number of clinics held	..	..	..	..	..	..	254
Attendances	..	..	..	..	..	..	16,411
Post-natal Clinics—							
Number of clinics held	..	..	..	..	..	..	51
Attendances	..	..	..	..	..	..	621
Admissions—							
Resident	..	..	..	..	..	..	2,671
Non-resident	..	..	..	..	..	..	860
Discharges	..	..	..	..	..	..	3,528
Patients in hospital on 31st December, 1959	..	..	..	..	..	..	70
Patient days	..	..	..	..	..	..	23,396

STILLBIRTHS

					Booked	Not Booked	Total
Intra-cranial haemorrhage	..	..	..	..	2	3	5
Macerated foetus	..	..	..	..	22	6	28
Anoxia							
Eclampsia	..	..	..	..	3	3	6
Premature separation of the placenta	..	..	..	..	4	—	4
Breech	..	..	..	..	6	5	11
Prolapsed cord	..	..	..	..	6	3	9
Prolonged labour	..	..	..	..	11	5	16
Ruptured uterus	..	..	..	..	1	5	6
Toxaemia	..	..	..	..	2	—	2
Ante partum haemorrhage	..	..	..	..	3	2	5
Unknown	..	..	..	..	6	5	11
Hydrocephalus	..	..	..	..	3	—	3
Anencephaly	..	..	..	..	2	—	2
Unknown	..	..	..	..	3	2	5
					74	39	113

NEO-NATAL DEATHS

Prematurity (cause unknown)	..	..	..	..	14	11	25
Anaemia	..	..	..	..	2	—	2
Congenital abnormalities	..	..	..	..	10	3	13
Anoxia (maternal anaemia)	..	..	..	..	2	—	2
Pneumonia	..	..	..	..	2	1	3
Pulmonary syndrome of the newborn	..	..	..	..	14	7	21
Kernicterus	..	..	..	..	—	2	2
Intra-cranial haemorrhage	..	..	..	..	10	3	13
Gastro-enteritis	..	..	..	..	8	1	9
Unknown	..	..	..	..	1	—	1
					63	28	91

Special Treatment and Skin Clinic

It will be noted that the name of the clinic has been altered from "Venereal Diseases Clinic" to that of "Special Treatment and Skin Clinic". A suitable opportunity for this change arose at the beginning of June, 1959, when, in addition to V.D. Clinics, it was decided to run Skin Clinics, to which could be referred from the Health Centres, Ante-Natal Clinics, etc., those cases of skin disease which presented problems of diagnosis and treatment.

It was particularly fortunate that such an opportunity arose, since many of the patients attending the Clinic for treatment are innocent victims of the venereal diseases, for example, wives or husbands infected by their marital partners, and young children accidentally infected by a parent or ayah. Many of these so-called "ayahs" are themselves of very tender years.

Again, numbers of ante-natal cases are referred because of doubtful or weakly positive serological tests for syphilis, which frequently prove to be "false positives" on investigation. Under these circumstances it was felt that the omission of the words "Venereal Diseases" from the title of the Clinic would encourage attendance.

373 skin cases were referred for opinion and advice in the course of the seven months from 1st June, 1959. Of these cases, 151 were females, and 222 males. There were 833 re-attendances.

The most notable feature of the venereal disease figures is the considerable increase in numbers of cases of gonorrhoea diagnosed in both sexes, and particularly among females. Such an increase in the incidence of gonorrhoea has already been reported from many countries, in spite of (or perhaps because of) the cheapness, availability and effectiveness of penicillin. In Nairobi, so far, there is no direct evidence that penicillin resistant strains of gonococci are emerging, as has been found of recent years in the United Kingdom, but penicillin is in such everyday use that this phenomenon is almost bound to appear.

During 1959 the Labour Office ceased to issue certificates of freedom from venereal disease, to be completed for females seeking employment as ayahs, and this is reflected in a considerable drop in the numbers of female domestics examined.

It will again be noted that no male defaulter tracing could be undertaken, as no staff was available for this work. The only female defaulters who can be traced are those living near the Clinic or near the homes of members of the female staff. The Clinic nurses perform this duty on several afternoons each week, but have to travel on foot. Their visiting is thus very limited.

Of the female defaulters who were found at the address given (340), a good proportion (266, or 78%) returned to the Clinic for further examination and treatment. It is clear that, if and when financial circumstances permit, it would be well worth while to employ extra staff to trace patients who default, and also known contacts who are unwilling to attend without persuasion.

In the course of the year, two papers were prepared by the consultant in charge, one to be read to the Annual Conference of the East African Branch of the Society of Medical Officers of Health, the other for the Ninth Session of the Regional Committee for Africa of the World Health Organisation. The first was entitled "The Changing Pattern of Venereal Disease", and the second "Venereal Disease in Kenya—an Attempt to Assess the Probable Extent of the Problem".

In comparing the figures which follow with those for 1958, it must be borne in mind that the male figures for 1958 covered a nine-month period only.

		(April to Dec.)			
		1959		1958	
		Female	Male	Female	Male
SYPHILIS					
New cases (all stages)		312	320	314	259
Completed one full course of treatment		244	233	284	130
Completed more than one full course of treatment ..		17	9	36	9
Total attendances for observation and treatment ..		3,262	2,768	4,190	1,796
GONORRHOEA					
New cases		391	1,375	213	873
Attendances for observation and treatment		1,913	3,731	1,115	2,211
NON-SPECIFIC INFECTIONS					
New cases		9	927	893	574
Attendances for observation and treatment		32	3,084	3,141	1,364
OTHER CONDITIONS REQUIRING TREATMENT					
New cases		948	606		
Attendances for observation and treatment		3,214	1,225		
HOME VISITS—DEFAULTERS (FEMALE ONLY)					
Home visits by clinic staff		787		756	
Defaulters interviewed at home		340		330	
Patients returned after home visit		266		218	
DEFAULTERS—TOTAL NUMBERS BY DISEASE					
Syphilis		234	239		
Gonorrhoea		167	735		
Others		110	503		
DOMESTICS EXAMINED					
Total		28	359	90	142
No. found to have V.D.		4	161	8	107
KAHN TESTS					
Blood specimens taken		2,166	3,555	2,969	2,308
Positive or doubtful		525	444	604	280
Negative		1,641	3,111	2,365	2,028
SMEARS FOR GONOCOCCI					
Urethral and cervical		5,958	1,860	5,694	1,154
Vaginal		28	—	67	—
Eyes		18	1	34	—
INJECTIONS GIVEN					
Penicillin		2,659	3,265	3,286	2,321
Streptomycin		473	1,089	286	551
TOTAL ATTENDANCES		8,430	10,808	8,470	6,940
SKIN DISEASES (1st June—24th December)					
New cases		151	222		
Attendances		359	474		

INOCULATION CENTRE

Inoculations and Vaccinations 1959

							Europeans	Asians	Africans	TOTAL
Smallpox	..	..	..	..	..	..	6,406	8,944	581	15,931
Yellow Fever	..	..	..	..	..	..	4,107	8,839	320	13,266
T.A.B.	..	..	..	..	..	..	351	475	348	1,174
Cholera	..	..	..	..	..	..	415	2,554	7	2,976
Diphtheria/Pertussis	..	..	..	..	..	..	155	7	1	163
Diphtheria	..	..	..	..	..	..	22	—	—	22
Whooping Cough	..	..	..	..	..	..	12	—	6	18
Poliomyelitis (all races)	..	..	..	..	..	..				7,779
Tetanus	..	..	..	..	..	..	57	—	1	58
							11,525	20,819	1,264	41,387

Inoculations and Vaccinations 1959

Dr. F. S. Gillespie, who had been in charge of the staff clinic and inoculation centre for almost four years, resigned at the end of this year, the resignation to take effect early in 1960.

This opportunity is taken of thanking Dr. Gillespie for these years of loyal and competent service, and of wishing him a long and happy retirement.

FUNERALS AND MORTUARY SERVICE

The number of cases handled during the year has increased considerably for all races, the most significant being a rise of 213 mortuary cases. At times the staff has been strained to the limit, although sickness and absenteeism were practically unknown.

Mortuary

The facilities available compare very favourably with any establishment of this nature in Africa. Visitors from Authorities in Uganda, Tanganyika, Southern and Northern Rhodesia are modelling developments on a similar pattern to the City Council mortuary.

The African and European communities appear to appreciate the usefulness and value of the mortuary and its ancillary services, but the Asian community is still very reluctant to use it, and indeed appear to have an abhorrence of these services.

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Both post mortem and transient cases have increased to well over twice the 1957 numbers. Because of this unforeseen rise in cases, refrigeration space has been at a premium, especially at weekends.

Two ozone generating machines were installed in September and deal successfully with the nuisances with which they were meant to cope.

Cemeteries

The new Langata cemetery is now the main burial ground for European and Asian Christians. The South, Park and Forest Road cemeteries are full, with the exception of a few reserved or family spaces. Despite a few complaints in the press concerning the Langata cemetery, the public in general has been very complimentary about the beauty and setting of this cemetery.

Much has been accomplished at the Mbagathi Road African cemetery by making an extension for a further 1,389 adult and 785 children's graves. Levelling and grassing of filled areas has given this cemetery a new look. The proposed Juja Road African cemetery will not now be required for some considerable time, due to the extensions at Mbagathi Road.

The policy of grassing filled blocks at the Forest Road and Mbagathi Road cemeteries has received many favourable comments from the public. The long term policy will eventually reduce the cost of maintenance at these places.

Our thanks are due to the Parks Department staff for their co-operation and good work throughout the year.

African Burials

The African community is becoming more and more burial-conscious. Whilst it is true that free burials of Africans have increased slightly, the number of paid burials has more than doubled. Ten coffins from the European funeral service were sold to Africans, many more enquiries were made for others, but the prices were found to be too high for the lower wage groups. Research has been carried out by the staff, and a coffin has been designed which will be available very early in 1960. It will be substantial, and of very pleasant appearance, and at a cost which the lower paid workers will be able to afford.

European and Asian Christian Funeral Service

This service runs two hearses, and during the year a 26 year old hearse was replaced by a modern vehicle. Thus it is now possible to transport to any place in the Colony. Eight bodies were transported for burial up-country and fourteen were sent by aircraft to destinations in the Colony and overseas.

New types of coffins and caskets were introduced during the year, which not only gives the public a greater selection, but also reduces the cost of the lower priced funeral by as much as Shs. 170/-. It is interesting that in the tender it was found to be much cheaper to purchase a coffin in South Africa and transport it by air to Nairobi than to have a similar article manufactured in Nairobi.

A portable awning is now in use at the cemetery when funerals take place. This shelters from the sun or rain the pall bearers, officiating clergy and approximately 25 mourners.

Crematorium

Towards the end of the year, work began on the foundations of the new crematorium near the Langata cemetery. The selection of the Langata site was dictated by a number of reasons, the main one being objections to the crematorium being inside the city. A thick belt of trees separates the crematorium from the road and also from the cemetery. It is estimated that the new crematorium should be in operation by the beginning of April, 1960.

CASES HANDLED AT MORTUARY:

							From Nbi.		Outside	
			African	Asian	European	P.M.	No P.M.	City	City	TOTAL
1957	..	..	240	41	35	291	25	256	60	316
1958	..	..	372	48	75	439	56	414	81	495
1959	..	..	497	72	139	600	108	528	180	708

FREE BURIALS OF AFRICANS:

From:

		K.G.VI	A.M.H.	Mathari	I.D.H.	Prisons	Mortuary	TOTAL
1957	..	262	208	22	22	1	57	572
1958	..	266	165	17	10	1	106	565
1959	..	299	191	8	21	0	173	692

CHRISTIAN FUNERALS:

1957	1958	1959
264	280	303 —of which 19 were pauper funerals.

HEALTH CENTRES

1959 was a year of consolidation, and the experience gained in running the Health Centres in 1958 from the date of their opening made possible the streamlining of the organisation with a concomitant increase in efficiency.

The extra African staff taken on at the beginning of the year enabled the service to cope more successfully and comfortably with the large number of patients attending.

There were 263,740 attendances compared with 152,036 from the day of opening (31st March, 1958) until the end of 1958. Of these attendances, 90,641 were initial attendances and 173,099 reattendances, thus making an average of two reattendances for each initial visit.

The pattern of disease was similar to that of 1958, respiratory conditions being predominant. There is still a very large number of non-specific complaints of abdominal pain which, when investigated with the limited resources available, produce no satisfactory diagnosis. Many of these patients also complain of diarrhoea, and it is intended in 1960 to make an investigation into this problem in the city, since it is extremely common amongst the African population.

A problem of great importance, and one which causes much concern, was the amount of malnourishment in children who come particularly from the peri-urban areas and who make their way into the city in search of treatment. This is another matter which is worthy of investigation, and it is hoped in the near future to be able to do something about it.

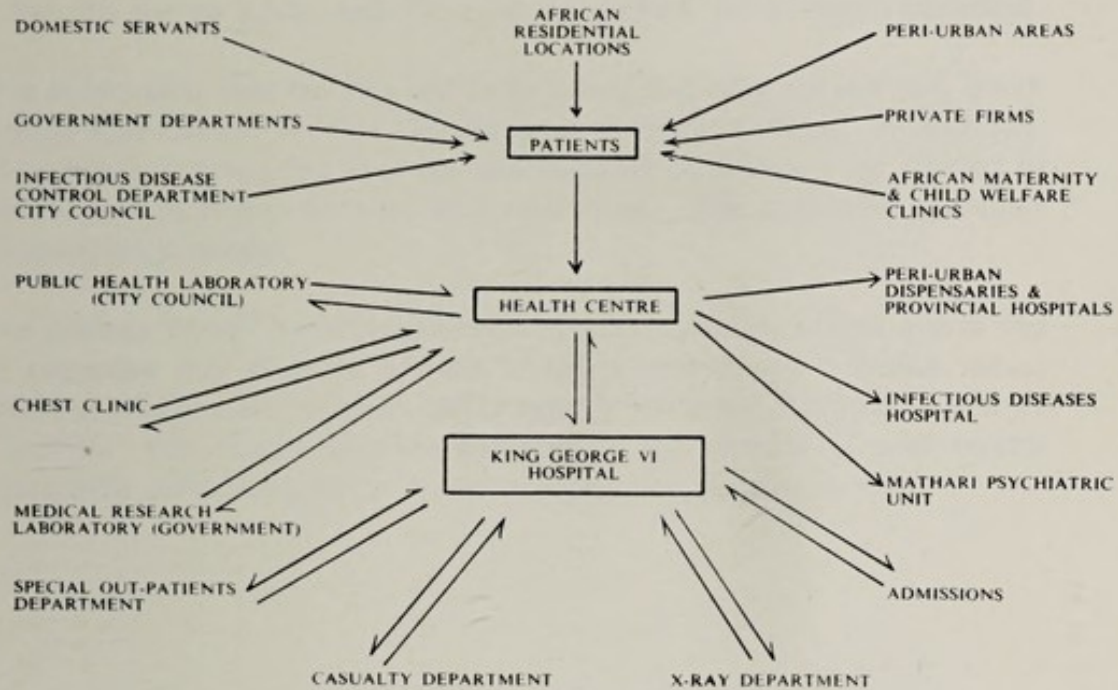
The problem of malnourishment with malnutrition is not nearly so acute amongst children who are actually resident in the city itself. It may be that the work of the Maternity and Child Welfare Section makes a considerable contribution to improving standards of child nutrition and welfare.

Buildings

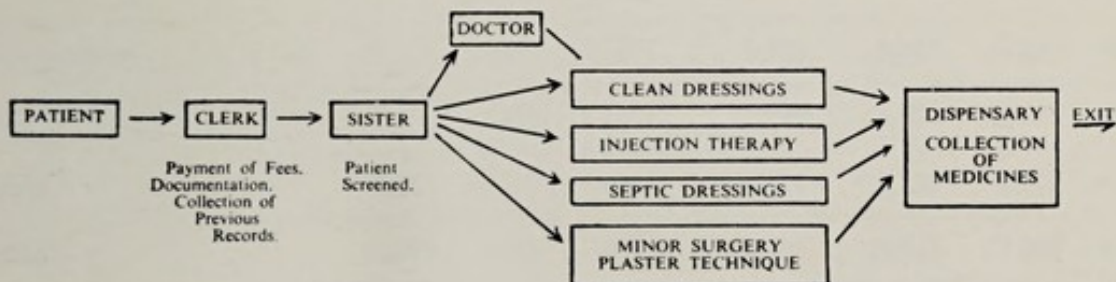
The continued use of the Centres has confirmed the original impression that the buildings are cramped. Basically the design is adequate, but in actual size the rooms are small and inadequate. Improvement, however, was made at Rhodes Avenue by the transfer of medical stores to another building in Pumwani. As a result of this, it was possible to increase the size of one of the rooms at Rhodes Avenue, which made working conditions more comfortable.

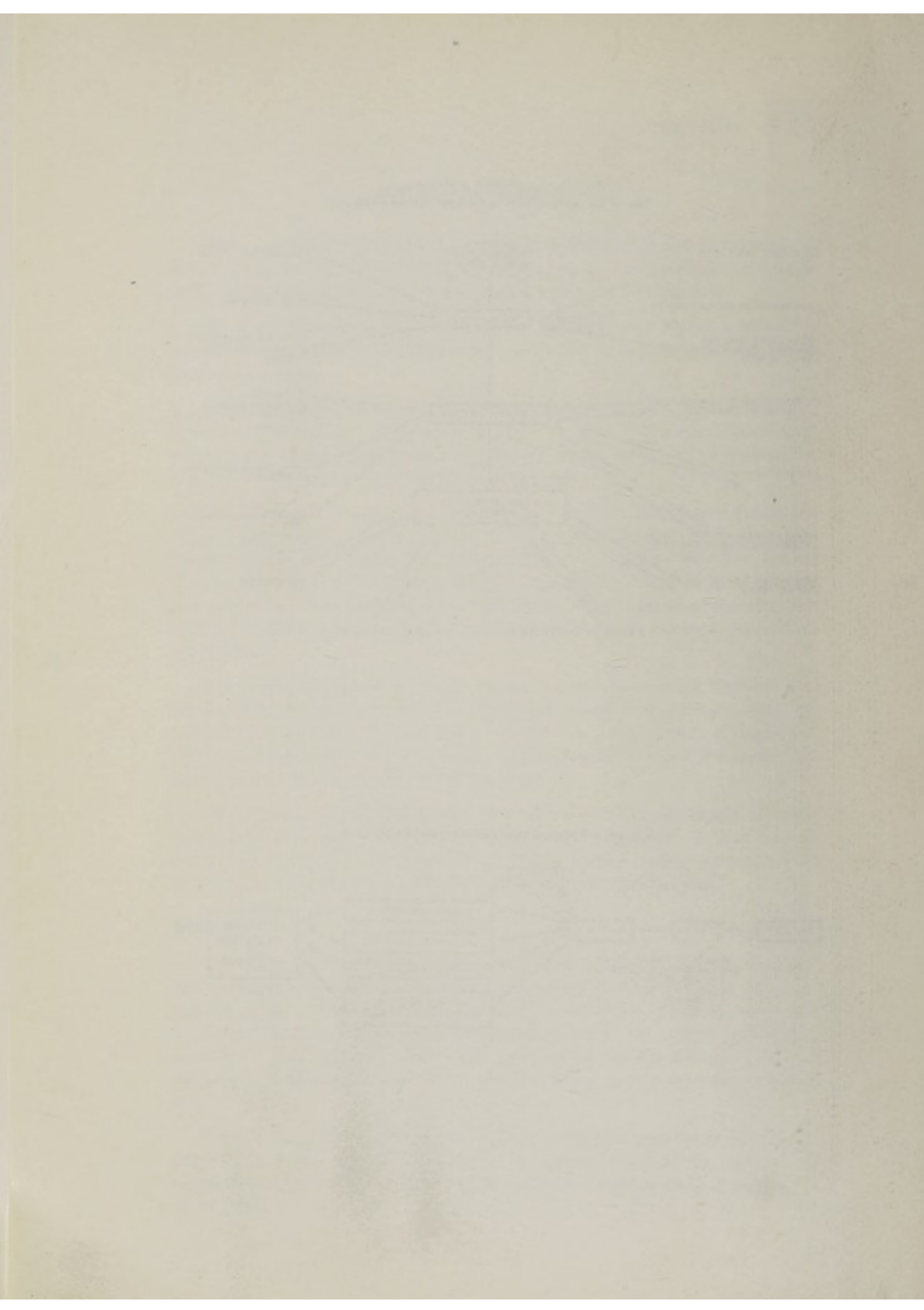
If money is available, it is hoped to make additional improvements in 1960, particularly in regard to the plastering of the upper half of all the walls, as the rough finish which now exists is not desirable in buildings dealing with work of this kind.

TABLE
ORIGIN and DISTRIBUTION of HEALTH CENTRE PATIENTS



PASSAGE of PATIENTS THROUGH HEALTH CENTRE UNIT





Fees

Financial stringency necessitated a revision of fees, and during the year it was decided, with Government agreement, that the first attendance should cost Shs. 3/-, and that every subsequent attendance should cost Sh. 1/-, both for adults and children. The original fees charged from the time of opening were Shs. 3/- for an adult, and Sh. 1/50 for a child, for a week's treatment.

It is unfortunate that the fees had to be raised, but they are still very much in keeping with charges at other Centres throughout the Colony. In addition, it is important to remember that the vast majority of Africans are entitled to obtain the cost of treatment from their employers. This applies in particular to the lower wage groups.

The African Ward Council was consulted on the question of fees, and at one point suggested that Nairobi African residents should pay a health tax at regular intervals, in order to make up the subsidy which the present fee structure now entails. This suggestion was not carried out because of considerable administrative difficulties, but it is something worth keeping in mind.

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HEALTH CENTRES

Summary 1959

Health Centre	City Council	Govern- ment	Privately Employ- ed	Un- employed	Women	Children	Total New Cases	Re- Attend- ances	Total All Cases
Rhodes Avenue ..	12	8,390	11,667	119	3,435	8,217	31,840	50,090	81,930
Bahati	13	2,126	2,803	177	2,930	11,023	19,072	41,664	60,736
Kaloleni		2,063	3,351	156	4,047	9,135	18,752	45,554	64,306
Pumwani		2,475	6,031	100	3,521	10,881	23,008	40,011	63,019
Pumwani Staff Clinic	5,918	—	—	—	—	—	5,918	11,725	17,643
TOTALS	5,943	15,054	23,852	552	13,933	39,256	98,590	189,044	287,634

Staff Clinic Breakdown

Total Attendances	New Cases	Re- attendances	No. of Work Days Lost
17,643	5,918	11,725	3,856

CHEST CLINIC

The main work of the clinic continued to be associated with the World Health Organisation/U.N.I.C.E.F./Kenya Government Tuberculosis Survey. A report of the Survey work has been published separately by the Director.

In addition to working in co-operation with the W.H.O. Survey, an attempt was made to increase the Public Health value of this clinic in a general way, and to this end the following operations were carried out:

- (1) X-ray facilities were made available to people of all races who were suspected of having tuberculosis. All Africans were treated at the clinic, drugs being made available by the Tuberculosis Survey. Other races were referred to the proper quarter if they were found to be positive. The service was used mainly by Africans, and about 200 volunteered for X-ray. 30 of these were found to have tuberculosis, and 50 children were given B.C.G. vaccination after negative Mantoux tests.
- (2) A scheme was started for the x-raying of food handlers. All hotels, bakers, butchers and other shops where food was handled were circulated and asked to send their employees for x-ray. The response was very good, but was not 100%. The scheme was eventually ended because of its doubtful value. The main drawback was the instability of the food handling population of the city and the inability to control them if they were found to have tuberculosis. No check can be kept on food handlers so that they can be x-rayed routinely. In addition, there was not sufficient support from employers, in that new employees were not sent for routine X-ray at the time they were taken on for service.
- (3) Wholesale contact x-raying was done in organisations where cases of tuberculosis had been found. In this way one large employer with 700 employees was able to find that 9 cases and several suspects were amongst his workers, while another firm of food handlers found 6 positive tuberculosis cases amongst their 400 employees. It is unfortunate to have to record with regard to the latter firm that when these 6 patients were discharged from hospital they were not re-employed, and were out of work.
- (4) B.C.G. vaccination (the vaccine being provided by the Kenya Government) was carried out whenever possible on all contacts, and a scheme for extensive B.C.G. vaccination of pre-school children at Welfare Centres was begun, but eventually delayed until 1960.

General

The efforts being made at prevention in the clinic are not yet adequate, but considerable progress has been made. It is hoped that when the W.H.O./U.N.I.C.E.F. Survey comes to an end Council will decide to continue financing the very useful work done at this clinic.

SCHEDULE OF STAFF

<i>Post</i>	<i>Name of Officer</i>
Medical Officer of Health	A. T. G. Thomas, M.D., B.S., D.P.H.
Deputy M.O.H.	J. W. McAllan, M.B., CH.B., D.P.H.
Chief Health Inspector	H. T. Beechey, Cert. R.S.I. and Meat Dip. R.I.P.H.H. (Hons.)
Health Inspectors (Grade I)	Mr. D. Mackintosh, Cert., R.S.A.S.
	Mr. A. Ramshaw, Cert., R.S.I. and Meat
	Mr. S. Daley, Cert., R.S.I. and Meat
	Mr. G. B. Ashford, Cert., R.S.A.S. and Meat
	Mr. J. Knowles, Cert., R.S.I. and Meat
	Mr. P. H. Newbold, Cert., R.S.I. and Meat
	Mr. G. V. Boid, Cert., R.S.A.S. and Meat
	Mr. D. Hastie, Cert., R.S.A.S. and Meat
	Mr. D. N. Faulkner, Cert., R.S.I. and Meat
Health Inspectors (Grade II)	Mr. Mohd. Din, Cert., R.S.I. (India)
	Mr. M. I. Shah, Cert., R.S.I. (India)
Health Inspectors (Grade III)	Mr. N. Mimano, Cert., R.S.I. (E.A.)
	Mr. T. L. Muganda, Cert., R.S.I. (E.A.) (to March)
	Mr. W. H. Njerenga, Cert., R.S.I. (E.A.)
	Mr. G. A. Otieno, Cert., R.S.I. (E.A.)
	Mr. E. O. Mboya, Cert., R.S.I. (E.A.)
	Mr. J. O. Mboga, Cert., R.S.I. (E.A.)

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Clerical Staff:

Administrative Assistant	Mr. R. C. Forster, M.B.E. Certs., R.S.I. etc.
Secretary	Mrs. C. Burge
Stenographers	Mrs. I. L. Cairns
	Mrs. E. V. Allin (from June)
Clerk/Typist	Mrs. S. Powell
	Mrs. M. C. Emmott (to June)

Inoculation Clinic:

Assistant Medical Officer	F. S. Gillespie, M. B., B.Ch., B.A.O.
Nursing Sister	Mrs. M. N. Wilson, R.G.N. (Scotland)

Infectious Diseases Control Section:

Officer-in-Charge	Mr. J. Morrill
Mosquito Inspectors	Mr. A. Gocs
	Mr. L. H. Clough
	Mr. M. Y. Ahmed
Junior Mosquito Inspector	Mr. A. W. Choudhry (from 1st. Sept.)
Malaria Overseer	Mr. S. Keli
Vermin Control Supervisor	Mr. J. Karebe
Statistician	Mrs. G. H. Millership

*Post**Name of Officer*

Laboratory Technicians	Mr. W. Ongare
	Mr. S. Otieno
	Mr. G. Moitta
Clerk	Mr. I. Atsinwa
Infectious Diseases Investigator	Mr. J. Achimbo

European Child Welfare:

Assistant Medical Officer (Grade I)	P. Gaffikin, M.B., Ch.B.
Health Visitor	Mrs. M. Alexander (began Aug.)

Parklands Day Nursery:

Matron	Mrs. I. B. J. Ross-Whyte, Princess Louise Childrens' Nurse
Assistant Matron	Mrs. C. Carcasson, S.R.N. (left Jan.)
Assistants	Mrs. C. Randall
	Mrs. L. Somen
	Mrs. H. Priest
	Miss. E. M. Munster (left Feb.)
	Mrs. M. Leimuller
	Mrs. M. Lucas (began Jan.)
	Mrs. Vickerstaff (began March)
	Mrs. J. Mackintosh (began Feb.)
Assistants (Part time)	Mrs. O. Rosson
	Mrs. H. Davies, S.R.N., S.C.M. (left Feb.)
	Mrs. Thompson (left April)
	Mrs. Smith (began April)
	Mrs. A. Elliot (began June)
	Mrs. Lucan (left Sept.)
	Mrs. Bell, S.R.N. (began Sept.)

Woodley Day Nursery:

Matron	Mrs. I. E. Daley, R.F.N.
Assistant Matron	Mrs. L. M. Simpson (Froebel trained)
Assistants	Mrs. G. Millar
	Mrs. G. Burnett
	Mrs. E. Reid
	Mrs. Pacini
	Mrs. P. Dowdell
	Mrs. B. Palmer, N.S.C.N. (left July)
	Mrs. R. Crane
	Mrs. E. Coleman
	Mrs. E. Burgin (left May)
	Mrs. Jones (began Oct.)
	Mrs. Bradshaw (began Oct.)
	Miss Carnegie (Trained Infant Teacher (Aug. to Oct.)
	Mrs. Rendle (April to Oct.)

High Ridge Day Nursery:

Matron	Mrs. L. D. Snowball
Assistant Matron	Mrs. E. H. Johannes, Teacher's Diploma and Domestic Science Diploma (Lebanon)

<i>Post</i>	<i>Name of Officer</i>
Assistants	Mrs. O. Pereira
	Mrs. L. Gunputrau
	Mrs. S. L. Puri
Assistant (part time or temporary)	Miss Gill
	Mrs. Monteiro (to July)
	Miss Logisse (to March)

African Maternity and Child Welfare:

Medical Officer (Grade I)	E. Haskard, M.R.C.S., L.R.C.P., D.P.H.
Assistant Medical Officer (Grade II)	V. R. Hume, M.B., B.S., M.R.C.S., L.R.C.P., D.T.M. and H.
	V. Bhardwaj, M.B., B.S., (Lucknow)
	J. Boaler, M.B., Ch.B., (Jan. to March)
	E. S. Baillie, M.B., B.S., D.T.M. & H. (Dec. only)
Supervisor of Health Visitors	Mrs. C. Chalupka, S.R.N., S.C.M., H.V. Cert.
Supervisor of District Midwives	Mrs. C. M. Davis, S.R.N., S.C.M., H.V.
Health Visitors	Mrs. D. M. MacLean, S.R.N., S.C.M., (Special Premature Baby Nursing Cert.) (Acting Supervisor) (April to Sept.)
	Mrs. B. J. Brooks, S.R.N., S.C.M.
	Mrs. A. Hoyle, S.R.N., S.C.M., D.N.O.
	Mrs. D. Wensley, S.R.N., S.C.M.
	Mrs. H. Stevens (to June)
	Miss E. Edgar, S.R.N., S.C.M. (to April.)
	Mrs. C. Giles
	Mrs. M. Parkhurst, S.R.N., S.C.M.
	Mrs. O. Corbin, S.R.N., S.C.M., (to May)
	Miss G. Kennedy, S.R.N., C.M.B., H.V. Cert. (to Sept.)
	Mrs. M. Jonkergown, S.R.N., S.C.M., H.V. Cert. Housekeeping Diploma (July to Nov.)
	Mrs. J. Kelleway, S.R.N., S.C.M. (from Aug.)
	Mrs. J. McNeill, S.R.N., S.C.M. (seconded to Asian M. & C.W.)

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Venereal Diseases Clinic:

Medical Officer	T. Lyall, M.D.
European Sister	Mrs. M. Bracken, S.R.N., S.C.M.

Lady Grigg African Maternity Hospital:

Medical Superintendent Matron	C. J. Goosen, M.B., B.Ch., M.M.S.A., M.R.C.O.G.
	Miss J. Koppert, S.R.N., S.C.M. (Resigned May)
	Miss Cormack, M.B.E., S.R.N., S.C.M. (from Sept.)
	Mrs. E. Greening, S.R.N., S.C.M.
	Miss I. W. Connie, S.R.N., S.C.M.
	Miss M. K. Donnellan, S.R.N., S.C.M.
	Mrs. F. C. Goosen, S.R.N., C.M.B.
	Mrs. M. Joyce, S.C.M.
Sister Tutor	Miss Cormack, M.B.E., S.R.N., S.C.M. (Feb. to Sept.)

Asian Maternity and Child Welfare

Assistant Medical Officer (Grade I)	P. Gaffikin, M.B., Ch.B.
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<i>Post</i>	<i>Name of Officer</i>
Assistant Medical Officer (Grade II)	R. J. Hayden, M.B., B.S., M.R.C.D., L.R.C.D., D.C.H.
Supervisor of Health Visitors	Mrs. M. Arthur, S.R.N., S.C.M., H.V., Cert. R.S.H.
Assistant Supervisor Midwives	Mrs. B. J. Taylor, A.R.R.C., S.R.N., S.C.M.
Health Visitors	Mrs. E. Tyagi, S.R.N., S.C.M., D.H.V. (Kenya) Mrs. R. Pachecos, S.R.N., S.C.M., D.H.V. (Kenya) Mrs. N. Nayer, D.H.V. (Kenya) Mrs. J. Safri, D.H.V. (Kenya) Mrs. M. Sandu, D.H.V. (Kenya) Mrs. K. B. Saleem, D.H.V. (Kenya) Mrs. Gurcharan Singh, D.H.V. (Kenya) Mrs. S. Daya, D.H.V. (Kenya) (May to Aug.) Miss Shirin Ahamed, D.H.V. (Kenya) Miss Gulshan Ahamed, D.H.V. (Kenya) Mrs. T. K. Trilochan Singh, D.H.V. (Kenya) Miss S. Shafi, S.C.M., D.H.V. (Kenya) (May to Aug.) Miss H. Haroon, D.H.V. (Kenya) (from Oct.) Miss V. Khanna, D.H.V. (Kenya) (from Sept.)
Clerk Interpreter	Miss D. K. Sehmi

Health Centres:

Medical Officer in Charge	G. C. Gould, M.B., B.S.
Assistant Medical Officers (Grade II)	R. Singh Ahluwalia, L.R.C.P., L.R.C.S., (to June) W. Morton, M.B., Ch.B., D.R.C.O.G. L. J. Da Costa, B.S.C., M.B.B.S. (from Dec.) A. Vohra, M.B.B.S. (Punjab) (from June) A. Parkar, M.B.B.S. (Bombay) (from July) B. L. McGregor, M.B.B.S (London) L.R.C.P., M.R.C.S. (from Oct.)
Nursing Sisters	Miss E. M. Sanctuary, S.R.N., S.C.M. Mrs. V. Hook, S.R.N., S.C.M. Mrs. L. Jack, S.R.N. (to Oct.) Mrs. N. Reade, S.R.N., S.C.M. Mrs. R. Miller, S.R.N., S.C.M. Mrs. Y. J. Averillo (from Oct.)
Medical Stores	Mrs. J. Young, S.R.N., T.A. Cert.

Chest Clinic:

Medical Officer	S. M. Jackson, M.B., B.Ch. (Rand.)
Health Visitor	Mrs. F. M. Adams, S.R.N., B.T.A. Cert.

Funerals and Mortuary:

Superintendent	F. Clayton, M.B.I.E.
Funerals Assistant	M. A. Butt
Mortuary Assistant and African Burials	Mr. U. Singh Gill

GENERAL FUND REVENUE ACCOUNT FOR THE PUBLIC HEALTH

EXPENDITURE

	£	s.	cts.	£	s.	cts.	£	s.	cts.
Public Health Administration:									
Employees—									
Salaries	33,063.	18.	31						
Housing—African Staff	39.	0.	00						
Housing Allowances	737.	17.	87						
Superannuation Charges	4,925.	10.	24						
Provident Fund Contributions	100.	0.	97						
Passages Reserve Contribution	240.	0.	00						
Medical Benefits	268.	0.	66						
Wages, etc.—African Staff	509.	6.	89						
New Appointments	159.	7.	10						
							40,043.	2.	04
Running Expenses—									
Equipment									
Maintenance of Equipment	60.	15.	48						
Transport									
Locomotion	1,491.	2.	81						
Other Transport	112.	4.	45						
Establishment Expenses									
Printing, Stationery and Advertising	437.	6.	09						
Printing Report	210.	0.	00						
Postages	352.	1.	34						
Telephone	421.	11.	09						
Insurances	671.	16.	00						
Uniforms	23.	12.	52						
Rent of Offices—									
City Hall	2,202.	9.	60						
Eastlands	352.	5.	59						
Central Establishment Charges	13,860.	0.	00						
Miscellaneous									
Bacteriological Examinations	1.	10.	00						
Food and Drug Analysis—Samples	45.	15.	97						
Food and Drug Examination	100.	0.	00						
Health Education	105.	16.	33						
Purchase of Laboratory Equipment	52.	12.	70						
Other Expenses	9.	0.	52						
Removal of Inoculation Centre	51.	5.	49						
Transport of Child Poliomyelitis Cases	127.	10.	00						
							20,688.	15.	98
							60,731.	18.	02
Less: Charged to Inoculation Centre and Poultry Abattoir							1,450.	0.	00
									59,281. 18. 02
Carried forward									59,281. 18. 02

YEAR ENDED 31st DECEMBER, 1959 **SERVICES**

INCOME											
						£	s. cts.	£	s. cts.	£	s. cts.
Public Health Administration:											
Government Grant—											
General	..	..	..	..	..	89,120.	19. 60				
Special	..	..	..	..	..	24,527.	2. 05				
						113,648.	1. 65				
Less adjustment, 1958	..	..	..	..	..	181.	3. 66				
						113,466. 17. 99					
Social Services	..	..	..	..	..			7,172. 19. 71			
Miscellaneous Income	..	..	..	..	..			1. 0. 00			
						120,640. 17. 70					
Carried forward 120,640. 17. 70											

EXPENDITURE

	£	s.	cts.	£	s.	cts.	£	s.	cts.
<i>Brought forward</i>							59,281.	18.	02
Infectious Diseases Prevention:									
Employees—									
Salaries	11,740.	5.	33						
Housing—African Staff	20.	12.	00						
Housing Allowances	1,392.	17.	51						
Superannuation Charges	977.	18.	75						
Provident Fund Contributions	238.	12.	38						
Medical Benefits	124.	2.	76						
Wages, etc.—African Staff	10,986.	12.	96						
New Appointments	22.	10.	80						
							25,503.	12.	49
Running Expenses—									
Premises									
Maintenance of Buildings	28.	9.	91						
Water and Conservancy	15.	19.	00						
Supplies, Equipment, Etc.									
Stores and Materials	3,043.	2.	76						
Laboratory Equipment	3.	4.	56						
Uniforms	528.	3.	72						
Transport									
Locomotion	1,021.	7.	41						
T.I.F.A. Unit—									
Running Expenses	—.	19.	21						
Renewals Reserve Contribution	100.	0.	00						
Other Transport	2,963.	9.	46						
Establishment Expenses									
Printing, Stationery and Advertising	193.	17.	69						
Telephone	85.	8.	65						
Rent of Offices	715.	3.	32						
Insurance	3.	10.	00						
Miscellaneous									
Hospital Fees	1,820.	11.	00						
Notification Fees	44.	0.	00						
Other Expenses	10.	4.	25						
							10,577.	10.	94
							36,081.	3.	43
<i>Carried forward</i>							95,363.	1.	45

INCOME

	£	<i>s.</i>	<i>dts.</i>	£	<i>s.</i>	<i>dts.</i>
Brought forward				120,640.	17.	70
Infectious Diseases Prevention:						
Vermine and Rodent Destruction	4,329.	5.	04			
Malaria Control	172.	2.	20			
Miscellaneous Income	53.	0.	00			
				4,554.	7.	24

Carried forward	125,195.	4.94
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EXPENDITURE

	£	s.	cts.	£	s.	cts.	£	s.	cts.
Brought forward							95,363.	1.	45
Inoculation Centre:									
Employees—									
Salaries	2,249.	3.	45						
Housing—African Staff	3.	5.	00						
Housing Allowances	49.	11.	00						
Superannuation Charges.. ..	24.	2.	68						
New Appointments	13.	6.	65						
							2,339.	8.	78
Running Expenses—									
Supplies, Equipment, etc.									
Medical Stores and Equipment ..	5,069.	13.	76						
Cleaning Materials	1.	17.	67						
Uniforms	4.	13.	91						
Laundry.. .. .	13.	18.	55						
Transport									
Locomotion	9.	17.	82						
Establishment Expenses									
Printing, Stationery and Advertising..	18.	2.	49						
Telephone	42.	14.	32						
Rent of Offices	315.	9.	32						
Departmental Establishment Charges	1,400.	0.	00						
Miscellaneous									
Ticket Issuing Machine	82.	15.	56						
Other Expenses.. .. .	—.	9.	80						
							6,959.	13.	20
							9,299.	1.	98
Carried forward									
							104,662.	3.	43

INCOME

[illegible]

EXPENDITURE

	£	s.	cts.	£	s.	cts.	£	s.	cts.
<i>Brought forward</i>							104,662.	3.	43
Venereal Diseases Treatment:									
Employees—									
Salaries	4,148.	1.	61						
Housing—African Staff	8.	5.	00						
Housing Allowances	256.	12.	56						
Superannuation Charges	424.	11.	08						
Provident Fund Contributions	23.	12.	92						
Medical Benefits	30.	3.	31						
Wages, etc. African Staff	482.	11.	60						
							5,373.	18.	08
Running Expenses—									
Premises									
Maintenance of Buildings	11.	5.	44						
Cleaning Materials	43.	1.	93						
Water and Conservancy	15.	9.	00						
Electricity and Fuel	102.	17.	90						
Supplies, Equipment, etc.									
Maintenance of Equipment	3.	14.	27						
Medical Stores and Equipment	1,853.	9.	22						
Uniforms	57.	13.	81						
Maintenance of Furniture	—.	13.	75						
Transport									
Locomotion	38.	15.	49						
Other Transport	39.	6.	60						
Establishment Expenses									
Printing, Stationery and Advertising	91.	1.	30						
Telephone	18.	15.	53						
Insurances	—.	18.	00						
							2,277.	2.	24
							7,651.	0.	32
<i>Carried forward</i>							112,313.	3.	75

INCOME

	£	s. cts.
Brought forward	134,598.	8.94

Carried forward	134,598.	8.94
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EXPENDITURE

	£	s.	cts.	£	s.	cts.	£	s.	cts.
<i>Brought forward</i>							112,313.	3.	75
Tuberculosis Survey:									
Employees—									
Salaries	3,897.	4.	67						
Housing—African Staff	25.	0.	00						
Housing Allowances	166.	8.	09						
	<hr/>						4,088.	12.	76
Running Expenses—									
Premises									
Maintenance of Buildings	10.	6.	36						
Maintenance of Furniture and Fittings	1.	5.	50						
Electricity	64.	11.	50						
Water and Conservancy	19.	10.	00						
Cleaning Materials	31.	1.	58						
Supplies, Equipment, etc.									
Maintenance of Equipment	—.	16.	26						
Uniforms	61.	9.	34						
Laundry	4.	6.	12						
Medical Stores	684.	18.	15						
Transport									
Locomotion	193.	11.	17						
Other Transport	56.	7.	55						
Establishment Expenses									
Printing, Stationery and Advertising	109.	4.	56						
Telephone	82.	4.	55						
Insurances	1.	5.	00						
	<hr/>						1,320.	17.	64
Loan Charges—									
Principal	31.	15.	85						
Interest	278.	7.	11						
	<hr/>						310.	2.	96
							<hr/>		
							5,719.	13.	36
Carried forward									
							<hr/>		
							118,032.	17.	11

INCOME

£ s. cts.

Brought forward 134,598. 8.94

113

Carried forward 134,598. 8.94

EXPENDITURE

	£	s. cts.	£	s. cts.	£	s. cts.
<i>Brought forward</i>					118,032.	17.11
Day Nurseries:						
European—Parklands						
Employees—						
Salaries	5,285.	14.41				
Superannuation Charges	103.	16.87				
Passages Reserve Contribution ..	56.	0.00				
Medical Benefits	20.	11.97				
Wages, etc.—African Staff	419.	6.75				
					5,885.	10.00
Running Expenses—						
Premises						
Maintenance of Buildings	144.	0.09				
Alterations to Buildings	19.	15.07				
Maintenance of Furniture and Fittings	170.	17.78				
New Furniture	73.	4.33				
Maintenance of Grounds	149.	5.05				
Fencing	17.	12.90				
Electricity and Fuel	265.	18.94				
Water and Conservancy	136.	1.00				
Cleaning Materials	125.	11.13				
Rates	137.	0.50				
Renewals Reserve Contribution ..	125.	0.00				
Supplies, Equipment, etc.						
Maintenance of Equipment, etc. ..	128.	19.71				
New Equipment	68.	13.88				
Provisions	1,087.	0.22				
Uniforms	58.	17.74				
Transport—Other Transport	40.	19.14				
Establishment Expenses						
Printing, Stationery and Advertising	45.	6.10				
Telephone	66.	7.05				
Insurances	5.	1.00				
Miscellaneous						
Loans Fund Expenses	11.	14.79				
Other Expenses	16.	17.01				
					2,894.	3.43
Loan Charges—						
Principal	301.	15.99				
Interest	456.	18.76				
					758.	14.75
					9,538.	8.18
<i>Carried forward</i>					127,571.	5.29

INCOME

£ s. cts.

Brought forward 134,598. 8.94

Day Nurseries:

European—Parklands

Fees 9,189.11.30

Carried forward 143,788. 0.24

EXPENDITURE

	£	s. cts.	£	s. cts.	£	s. cts.
<i>Brought forward</i>					127,571.	5.29
Day Nurseries (Continued):						
European—Woodley						
Employees—						
Salaries	4,505.	3.15				
Superannuation Charges	163.	6.62				
Housing Allowances	99.	19.92				
Medical Benefits	41.	3.93				
Wages, etc.—African Staff	423.	6.45				
					5,233.	0.07
Running Expenses—						
Premises						
Maintenance of Buildings	97.	6.32				
Maintenance of Grounds	83.	0.03				
Fencing	45.	12.73				
Maintenance of Furniture and Fittings	129.	19.81				
New Furniture	28.	3.08				
Electricity and Fuel	358.	3.02				
Water and Conservancy	128.	4.70				
Cleaning Materials	149.	19.37				
Rates	61.	5.00				
Renewals Reserve Contribution	150.	0.00				
Supplies, Equipment, etc.						
Maintenance of Equipment, etc.	168.	2.35				
New Equipment	75.	14.75				
Provisions	1,299.	5.02				
Uniforms	59.	1.73				
Transport						
Other Transport	34.	14.35				
Establishment Expenses						
Printing, Stationery and Advertising	32.	14.28				
Telephone	66.	7.20				
Insurances	4.	10.00				
Miscellaneous						
Loans Fund Expenses	21.	16.32				
Other Expenses	18.	12.81				
					3,012.	12.87
Loan Charges—						
Principal	615.	12.89				
Interest	651.	11.16				
					1,267.	4.05
					9,512.	16.99
<i>Carried forward</i>					137,084.	2.28

INCOME

								£	s. cts.	£	s. cts.
<i>Brought forward</i>	..	..	..	..	..	..	..			143,788.	0.24
Day Nurseries (Continued):											
European—Woodley											
Fees	..	..	..	..	..	..	..	7,622.	1.40		
Rent of Flat	..	..	..	..	..	..	..	120.	0.00		
Miscellaneous Income	..	..	..	..	..	..	..	3.	5.00		
										<hr/>	7,745. 6.40
<hr/>											
<i>Carried forward</i>	..	..	..	..	..	..	..			151,533.	6.64

EXPENDITURE

	£	s. cts.	£	s. cts.	£	s. cts.
<i>Brought forward</i>					137,084.	2.28
Day Nurseries (Continued):						
Asian—Highridge						
Employees—						
Salaries	2,858.	17.22				
Superannuation Charges	156.	7.05				
Medical Benefits	18.	9.42				
Wages, etc.—African Staff	270.	3.45				
					3,303.	17.14
Running Expenses—						
Premises						
Maintenance of Buildings	51.	15.29				
Alterations to Buildings	187.	16.57				
Maintenance of Grounds	76.	15.70				
Fencing	40.	12.07				
Maintenance of Furniture and Fittings	16.	1.60				
Electricity and Fuel	202.	11.18				
Water and Conservancy	73.	16.00				
Cleaning Materials	61.	0.67				
Rates	81.	7.50				
Renewals Reserve Contribution ..	85.	0.00				
Transport						
Other Transport	34.	17.21				
Supplies, Equipment, Etc.						
Maintenance of Equipment, etc. ..	108.	5.10				
Provisions	776.	14.73				
Uniforms	34.	1.92				
Establishment Expenses						
Printing, Stationery and Advertising	13.	1.16				
Telephone	25.	12.25				
Insurances	1.	10.00				
Other Expenses	8.	5.84				
					1,879.	4.79
					5,183.	1.93
<i>Carried forward</i>					142,267.	4.21

INCOME

£ s. cts.

Brought forward 151,533. 6.64

Day Nurseries (Continued):

Asian—Highridge

Fees 4,735. 9.85

Carried forward 156,268.16.49

	£	<i>s.</i>	<i>cts.</i>	£	<i>s.</i>	<i>cts.</i>	£	<i>s.</i>	<i>cts.</i>
Brought forward							142,267.	4.	21

European

Salaries	2,333.	2.21
Superannuation Charges	151.	14.45
Medical Benefits	9.	19.49
New Appointments	47.	19.85
	<hr/>	2,542.16.00

Premises

Supplies, Equipment, etc.

Transport

Establishment Expenses

Miscellaneous

Loan Charges

Carried forward	146,950.10.79
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INCOME

£ s. cts.

Brought forward 156,268.16.49

Maternity and Child Welfare:

European

Sale of Foods 1,322. 7.25

Carried forward 157,591. 3.74

EXPENDITURE

	£	s. cts.	£	s. cts.	£	s. cts.
<i>Brought forward</i>					146,950.	10. 79
Maternity and Child Welfare (Continued):						
Asian						
Employees—						
Salaries	13,686.	12. 24				
Superannuation Charges	1,407.	16. 26				
Provident Fund Contributions	166.	4. 00				
Passages Reserve Contribution	40.	0. 00				
Medical Benefits	152.	16. 41				
Wages, etc.—African Staff	316.	18. 70				
				15,770.	7. 61	
Running Expenses—						
Premises						
Maintenance of Buildings	201.	5. 61				
Maintenance of Grounds	120.	1. 10				
Maintenance of Furniture and Fittings	26.	11. 40				
New Furniture and Fittings	13.	1. 72				
Fencing and Gates	1.	16. 00				
Electricity and Fuel	226.	1. 16				
Water and Conservancy	57.	15. 00				
Cleaning Materials	52.	8. 69				
Rates	75.	15. 20				
Renewals Reserve Contribution	200.	0. 00				
Supplies, Equipment, etc.						
Medical Stores and Equipment	224.	10. 33				
Maintenance of Equipment	62.	18. 48				
New Equipment	39.	10. 75				
Uniforms	104.	2. 67				
Laundry	10.	3. 14				
Transport						
Locomotion	443.	10. 82				
Other Transport	1,101.	7. 49				
Establishment Expenses						
Printing, Stationery and Advertising	156.	15. 49				
Telephone	117.	19. 61				
Insurances	3.	2. 00				
Miscellaneous						
Health Visitors' Training Scheme	15.	11. 50				
Midwives' and Dais' Training Sch.	—.	12. 25				
Loans Fund Expenses	5.	5. 21				
Other Expenses	—.	10. 00				
				3,260.	15. 62	
Loan Charges—						
Principal	117.	15. 60				
Interest	96.	8. 40				
				214.	4. 00	
						19,245. 7. 23
<i>Carried forward</i>						166,195. 18. 02

INCOME

£ s. cts.

Brought forward 157,591. 3.74

Maternity and Child Welfare (Continued):

Asian

Training Fees	40. 0.00
Other income	32.11.00
	<hr/>
	72.11.00

Carried forward 157,663.14.74

EXPENDITURE

	£	s. cts.	£	s. cts.	£	s. cts.
<i>Brought forward</i>					166,195.	18.02
Maternity and Child Welfare (Continued):						
African						
Employees—						
Salaries	17,401.	6.42				
Housing Allowances	631.	16.67				
Superannuation Charges	828.	2.86				
Provident Fund Contributions	148.	2.25				
Passages Reserve Contribution	60.	0.00				
Medical Benefits	79.	11.89				
Wages, etc.—African Staff	4,163.	1.00				
			23,312.	1.09		
Running Expenses—						
Premises						
Maintenance of Buildings	97.	11.05				
Alterations to Buildings	104.	10.07				
Maintenance of Grounds	131.	9.90				
Maintenance of Furniture, etc.	26.	4.80				
New Furniture	16.	10.39				
Electricity and Fuel	228.	19.54				
Water and Conservancy	109.	7.00				
Cleaning Materials	60.	18.17				
Rents	440.	12.33				
Rates	155.	15.00				
Supplies, Equipment, etc.						
Medical Stores and Equipment—						
Clinics	821.	3.61				
Midwives	165.	9.64				
Maintenance of Equipment	62.	7.07				
New Equipment	70.	2.00				
Teaching Unit	21.	5.90				
Purchase of Infant Foods	524.	0.40				
Uniforms	347.	9.03				
Transport						
Locomotion	476.	9.02				
Other Transport	1,475.	6.26				
Establishment Expenses						
Printing, Stationery and Advertising	267.	13.39				
Telephone	70.	16.93				
Insurances	4.	16.50				
Miscellaneous						
Christmas Parties	128.	8.92				
Loans Fund Expenses	2.	14.95				
Other Expenses	—.	4.72				
			5,810.	6.59		
Loan Charges						
Principal	221.	12.25				
Interest	602.	18.82				
			824.	11.07		
					29,946.	18.75
<i>Carried forward</i>					196,142.	16.77

INCOME

£ s. cts. £ s. cts.

Brought forward 157,663.14.74

Maternity and Child Welfare (Continued):

African

Fees	590.13.50
Sale of Foods	491. 8.10
Other Income	52.19.00
	<hr/>
	1,135. 0.60

Carried forward 158,798.15.34

EXPENDITURE

	£	s.	cts.	£	s.	cts.	£	s.	cts.
<i>Brought forward</i>							196,142.	16.	77
African Health Centres:									
Employees—									
Salaries	16,628.	9.	09						
Housing—African Staff	57.	16.	00						
Housing Allowances	459.	5.	19						
Superannuation Charges	969.	13.	16						
Provident Fund Contributions	17.	0.	16						
Medical Benefits	88.	15.	40						
New Appointments	77.	18.	32						
Wages, etc.—African Staff	371.	17.	05						
							18,670.	14.	37
Running Expenses—									
Premises									
Maintenance of Buildings	212.	18.	48						
Alterations to Buildings	55.	9.	70						
Maintenance of Grounds	103.	6.	15						
Maintenance of Furniture and Fittings	12.	4.	30						
New Furniture	90.	5.	75						
Electricity and Fuel	274.	1.	27						
Water and Conservancy	158.	10.	00						
Cleaning Materials	189.	16.	28						
Rates	7.	17.	50						
Supplies, Equipment, etc.									
Medical Stores and Equipment	16,271.	14.	15						
Maintenance of Equipment	13.	14.	73						
Uniforms	240.	12.	63						
Laundry	230.	8.	83						
Transport									
Locomotion	251.	4.	69						
Other Transport	300.	8.	42						
Establishment Expenses									
Printing, Stationery and Advertising	226.	15.	02						
Telephone	142.	0.	43						
Insurances	5.	13.	50						
Miscellaneous									
Other Expenses	1.	1.	00						
							18,788.	2.	83
Loan Charges—									
Principal	38.	8.	63						
Interest	340.	10.	25						
							378.	18.	88
							37,837.	16.	08
<i>Carried forward</i>							233,980.	12.	85

INCOME

[illegible]

EXPENDITURE

	£	s.	cts.	£	s.	cts.	£	s.	cts.
<i>Brought forward</i>							233,980.	12.	85
Lady Grigg Maternity and Training Hospital:									
Employees—									
Salaries	9,374.	7.	60						
Housing Allowances	56.	7.	37						
Superannuation Charges	538.	3.	87						
Provident Fund Contributions	35.	9.	67						
Medical Benefits	53.	5.	00						
Wages, etc.—									
African Trainees	866.	10.	05						
African Domestic Staff	1,723.	10.	30						
New Appointments	302.	9.	52						
						12,950.	3.	38	
Running Expenses—									
Premises									
Maintenance of Buildings	316.	0.	52						
Alterations to Buildings	99.	7.	97						
Maintenance of Grounds	247.	2.	68						
Maintenance of Furniture and Fittings	181.	16.	84						
New Furniture and Fittings	53.	9.	12						
Electricity and Fuel	1,778.	10.	19						
Water and Conservancy	996.	18.	90						
Cleaning Materials, etc.	575.	8.	90						
Rates	364.	17.	50						
Renewals Reserve Contribution	500.	0.	00						
Supplies, Equipment, etc.									
Maintenance of Equipment	265.	14.	99						
New Equipment	48.	5.	00						
Linen and Cutlery	614.	9.	28						
Medical Stores	3,669.	18.	86						
Provisions	2,297.	2.	54						
Uniforms	220.	15.	95						
Library Books	2.	15.	00						
Transport									
Locomotion	1.	19.	36						
Other Transport	668.	17.	22						
Establishment Expenses									
Printing, Stationery and Advertising	305.	2.	28						
Telephone	170.	5.	00						
Insurances	17.	4.	50						
Miscellaneous									
Consultants and Anaesthetists' Fees	771.	15.	00						
Recreation and English Tuition	9.	12.	40						
Loans Funds Expenses	33.	1.	01						
Other Expenses	4.	19.	95						
						14,215.	10.	96	
Loan Charges—									
Principal	1,045.	9.	44						
Interest	1,047.	12.	43						
						2,093.	1.	87	
							29,258.	16.	21
<i>Carried forward</i>							263,239.	9.	06

INCOME

								£	<i>s.</i>	<i>cts.</i>		£	<i>s.</i>	<i>cts.</i>
	<i>Brought forward</i>													174,024. 6.63
Lady Grigg Maternity and Training Hospital:														
Fees								7,230.	9.	79				
Dressings								266.	17.	00				
Donations								5.	0.	00				
Other Income								8.	8.	20				
														7,510.14.99

EXPENDITURE

	£	s.	cts.	£	s.	cts.	£	s.	cts.
<i>Brought forward</i>							263,239.	9.06	
Ambulance Service:									
Employees—									
Wages, etc.—Drivers	1,285.	15.	83						
Superannuation Charges	9.	8.	78						
Running Expenses—									
Equipment	39.	2.	30						
Uniforms	18.	1.	20						
Laundry	1.	13.	30						
Vehicle Running Expenses	841.	10.	00						
Insurances	10.	2.	35						
Renewals Reserve Contribution ..	810.	16.	00						
Printing, Stationery and Advertising ..	6.	12.	00						
							3,023.	1.76	
Establishment Expenses							615.	0.00	
									3,638. 1.76
Anti-Malarial Works:									
Construction of Drains									
Employees—									
Wages, etc.—Artizans	130.	3.	20						
Wages, etc.—African Staff	87.	8.	00						
Stores and Materials	169.	8.	32						
Transport and Plant	51.	12.	62						
							438.	12.14	
Maintenance of Drains:									
Employees—									
Wages, etc.—Artizans	1,226.	4.	50						
Wages, etc.—African Staff	729.	8.	40						
Stores and Materials	813.	16.	11						
Transport and Plant	417.	4.	26						
							3,186.	13.27	
Cleaning of Drains:									
Employees—									
Wages, etc.—African Staff	2,976.	2.	88						
Stores and Materials	102.	16.	50						
Uniforms	42.	6.	93						
Transport and Plant	896.	9.	50						
Charges—									
Other Departments	1.	13.	00						
							4,019.	8.81	
									7,644. 14.22
<i>Carried forward</i>									274,522. 5.04

INCOME

£ s. cts.

Brought forward 181,535. 1.62

Ambulance Service:

Hire Charges.. .. . 1,325.12.00

Construction of Drains (see opposite): £ s. cts.

Asian Civil Service Ground

— off Park Road 438.12.14

Carried forward 182,860.13.62

EXPENDITURE

	£	s.	cts.	£	s.	cts.	£	s.	cts.
<i>Brought forward</i>							274,522.	5.	04
Mortuary, Funerals and Cemeteries:									
Supervision and Mortuary									
Employees—									
Salaries	2,763.	9.	85						
Superannuation Charges	224.	15.	76						
Provident Fund Contributions	38.	18.	56						
Passages Reserve Contribution	40.	0.	00						
Medical Benefits	48.	5.	52						
Wages, etc.—African Staff	258.	17.	60						
							3,374.	7.	29
Running Expenses—									
Premises									
Maintenance of Buildings	51.	15.	42						
Alterations to Buildings	111.	3.	18						
Maintenance of Grounds	56.	13.	08						
Electricity and Fuel	258.	7.	96						
Water and Conservancy	114.	11.	70						
Cleaning Materials	34.	12.	04						
Rates	31.	10.	00						
Renewals Reserve Contribution	200.	0.	00						
Supplies, Equipment, etc.									
Maintenance of Equipment	91.	1.	17						
General Stores	6.	0.	81						
Medical Stores	31.	0.	13						
Uniforms	36.	1.	22						
Transport									
Locomotion	185.	12.	43						
Establishment Expenses									
Printing, Stationery and Advertising	50.	5.	13						
Telephone	118.	6.	75						
Insurances	6.	11.	50						
Central Establishment Charges	865.	0.	00						
Other Expenses	15.	1.	25						
							2,263.	13.	77
Provision for Capital Expenditure							87.	11.	50
							5,725.	12.	56
<i>Less: Charged to Funerals and Burials</i>							3,117.	1.	70
							2,608.	10.	86
Funerals—European and Asian:									
Employees—									
Allowances to Staff							CR.	1.	10.00
Running Expenses—									
Cost of Coffins	5,435.	0.	86						
Lettering Plates	42.	18.	50						
Transport									
Hearse—Running Expenses	84.	5.	27						
Hearse—Renewals Reserve Contribution	200.	0.	00						
Printing, Stationery and Advertising	8.	19.	85						
Central Establishment Charges	385.	0.	00						
Other Expenses	344.	8.	71						
Supervision and Mortuary	1,558.	10.	85						
							8,059.	4.	04
							8,057.	14.	04
<i>Carried forward</i>							10,666.	4.	90
							274,522.	5.	04

INCOME

	£	s. cts.	£	s. cts.	£	s. cts.
<i>Brought forward</i>					182,860.	13. 62
Mortuary, Funerals and Cemeteries:						
Supervision and Mortuary						
Government Contribution	1,050.	0.00				
Embalming Fees	306.	4.20				
Refrigeration Charges	63.	0.00				
Other Income	177.	17.92				
					1,597.	2.12
Funerals—European and Asian:						
Funeral Charges	8,859.	8.00				
Maintenance of Graves	93.	5.00				
Wreath Frames Recoveries	101.	4.00				
Other Income	366.	4.65				
					9,420.	1.65
Carried forward						
			11,017.	3.77	182,860.	13. 62

EXPENDITURE

	£	s.	cts.	£	s.	cts.	£	s.	cts.
<i>Brought forward</i>				10,666.	4.90		274,522.	5.04	
Mortuary, Funerals and Cemeteries (Continued):									
Cemeteries—General									
Employees—									
Wages, etc.—African Staff				1,494.	4.50				
Running Expenses—									
Premises									
Maintenance of Buildings	32.	19.	13						
Cleaning Materials	2.	15.	05						
Water and Conservancy	97.	9.	44						
Supplies, Equipment, etc.									
Stores	93.	9.	81						
Uniforms	53.	4.	95						
Transport									
Other Transport	76.	12.	00						
Establishment and Other Expenses									
Telephone	9.	4.	27						
Insurances	31.	12.	50						
Central Establishment Charges ..	260.	0.	00						
Parks Department Establishment									
Charges	500.	0.	00						
Loans Fund Expenses	—.	12.	29						
						1,157.	19.	44	
Loan Charges—									
Principal	8.	1.	67						
Interest	10.	16.	64						
							18.	18.	31
Special Works (see Note opposite)									
Wages, etc.	487.	11.	55						
Transport	26.	15.	00						
Stores and Materials	103.	9.	95						
Charges—Other Departments ..	34.	0.	00						
						651.	16.	50	
Provision for Capital Expenditure—									
New Cemetery—Langata						49.	6.	96	
						3,372.	5.	71	
African Burials									
Running Expenses—									
Supplies, Equipment, etc.									
Stores	65.	12.	26						
Transport									
Hearse—Running Expenses ..	127.	18.	27						
Hearse—Renewals Reserve Contri-									
bution	167.	4.	00						
Establishment Expenses									
Printing, Stationery and Advertising	8.	5.	00						
Central Establishment Charges ..	205.	0.	00						
Supervision and Mortuary ..	1,558.	10.	85			2,132.	10.	38	
<i>Carried forward</i>				16,171.	0.99		274,522.	5.04	

INCOME

	£	s. cts.	£	s. cts.
<i>Brought forward</i>	11,017.	3.77	182,860.	13.62

Mortuary, Funerals and Cemeteries (Continued):

Details of Special Work (see opposite):

Forest Road Cemetery—	£	s. cts.
Paths	93.	8.84
Boundary Wall	36.	13.96
Wall and Chapel	26.	8.29
New Surface Drainage	30.	13.78
Gates and Pillars	30.	7.28
Regrassing and Replanting	99.	10.50
South Cemeteries—		
Grassing and Drainage	49.	13.48
Wall.. .. .	10.	14.77
Park & Forest Road Cemeteries—		
Repairs to Memorials and Graves	128.	16.52
Grave Numbering.. .. .	145.	9.08
	<u>£651.</u>	<u>16.50</u>

135

African Burials

Burial Fees	836.16.40	11,854. 0.17
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<i>Carried forward</i>	194,714.13.79
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EXPENDITURE

	£	s.	cts.	£	s.	cts.	£	s.	cts.
<i>Brought forward</i>				16,171.	0.99		274,522.	5.04	
Mortuary, Funerals and Cemeteries (Continued):									
Cemeteries—African									
Employees—									
Wages, etc.—African Staff				1,164.	19.00				
Running Expenses—									
Premises									
Maintenance of Buildings	68.	6.27							
Numbering of Graves	28.	8.90							
Water and Conservancy	23.	10.00							
Supplies, Equipment, etc.									
Loose Tools, etc.	47.	10.82							
Uniforms	15.	13.13							
Transport									
Other Transport	8.	5.00							
Establishment Expenses									
Insurances	25.	0.00							
Central Establishment Charges	80.	0.00							
Loans Fund Expenses	1.	3.54							
						297.	17.66		
Loan Charges—									
Principal	15.	9.68							
Interest	20.	14.97							
						36.	4.65		
						1,499.	1.31		
Crematorium—									
Provision for Capital Expenditure				3,413.	0.00	21,083.	2.30		
TOTAL							£295,605.	7.34	

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INCOME

	£	s.	cts.
<i>Brought forward</i>	194,714.	13.	79

TOTAL .. .	<u>£194,714.</u>	<u>13.</u>	<u>79</u>
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