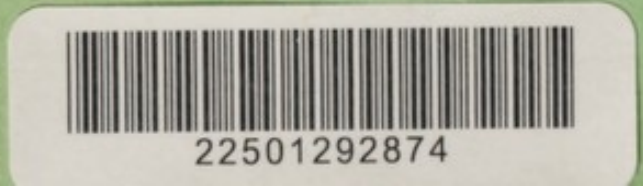
Annual report of the Health Department / City Council of Singapore.

CITY COUNCIL OF SINGAPORE

ANNUAL REPORT OF THE HEALTH DEPARTMENT 1959



ANNUAL REPORT OF THE
HEALTH DEPARTMENT
1959

BY

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City Health Officer

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1961

CITY HEALTH DEPARTMENT ANNUAL REPORT FOR 1959

I HAVE THE HONOUR to submit a report on the working of the City Health Department for the year 1959.

When reading this report and appendices it must be borne in mind that the statistics quoted are uncorrected for "inward" or "outwards" transfers unless otherwise stated: that patients from outside the town entering hospitals, and other institutions providing medical facilities in the town, adversely affect our Death and Infectious Diseases Rates; that the number of deaths shown as due to the various diseases must necessarily be inaccurate, as slightly over 17.69 per cent of the persons who die in Singapore have had no medical advice or treatment before death, and the causes of their deaths have had to be surmised by Inspecting Officers without the aid of clinical observations or autopsies.

MID-YEAR POPULATION

The Registrar of Statistics has supplied the following estimated mid-year population for the City for 1959.

ESTIMATED MID-YEAR POPULATION BY RACES, 1959

Malaysians	110,700
Chinese	771,400
Indians and Pakistan's	86,300
Europeans	10,600
Eurasians	6,100
Others	8,600
Total ..	993,700

Details concerning notifiable infectious diseases, vital statistics, etc. and the work carried out by the various sub-departments are set out in appendices as follows:—

A—Notifiable Infectious Diseases.

B—General Measures to combat spread of Infectious Diseases.

C—Birth and Still Birth Statistics.

D—General Death Rate, Infant Mortality Rate, Neo-Natal Rates, etc., Principal Causes of Death by whom certified.

E—Food Licences Issued; Abattoirs; Burial Grounds; and reports and returns from:—

(1) Officer in charge of Anti-Mosquito Department.
(2) Analyst.
(3) Bacteriologist.
(4) Senior Assistant Health Officer, Maternity and Child Welfare Department.
(5) Superintendent, Middleton Hospital.
(6) Superintendent of Abattoirs.
(7) Chief Public Health Inspector.
(8) Medical Officer in charge of Staff.
(9) Rodent Overseer.
(10) Infectious Diseases Nurse.

SUMMARY OF PRINCIPAL STATISTICS, 1959

BIRTHS AND DEATHS, ETC.—ALL RACES COMBINED

	1958	*1959*
Total births registered	47,106	48,694
Total deaths registered	8,272	8,122
Excess of births over deaths	38,834	40,572
Birth Rate	49.40	49.00
Crude Death Rate	8.67	8.17
Malarial Death Rate	0.002	0.007
Infantile Mortality Rate	45.81	37.17
Neo-natal Death Rate	22.42	19.53
Still-Birth Rate per 1,000 live and still-births	16.70	15.35
Maternal Mortality Rate per 1,000 live-births	0.91	0.739

DEATHS BY WHOM CERTIFIED

	1958 *Per cent*	*1959* *Per cent*
Medical Practitioners	65.56	65.65
Inspecting Officers	19.02	17.69
Coroner	14.96	16.36
Police Officers	.46	0.30

NOTIFIABLE INFECTIOUS DISEASES IN 1959

	Cases Notified		*Deaths*
Tuberculosis (all forms)	5,662	(including 1,224 non-residents)	555
Typhoid	157	(including 58 non-residents)	8
Paratyphoid	2	(including 1 non-residents)	—
Diphtheria	523	(including 88 non-residents)	32
Leprosy	128	(including 25 non-residents)	1
Poliomyelitis	64	(including 27 non-residents)	4
Erysipelas	2	(including 1 non-residents)	—
Chicken-pox	1,615	(including 381 non-residents)	1
Small-pox	10	(including — non-residents)	2
Cholera, Plague	—	(including — non-residents)	—

DEATHS CERTIFIED AS DUE TO SOME OF THE NON-NOTIFIABLE INFECTIOUS AND PARASITIC DISEASES IN 1959

	1958	*1959*
Dysentery—Bacillary	6	18
Unspecified	6	
Amœbic	12	
Malaria	2	7
Influenza	29	19
Whooping Cough and Complications	2	2
Measles and Complications	26	15
Leptospirosis Interhæmorrhagica (Weil's Disease)	4	—
Tetanus	41	41

NON-NOTIFIABLE INFECTIOUS DISEASES TREATED AT THE MIDDLETON HOSPITAL IN 1958 AND 1959

	1958	*1959*
Measles	358	146
Rubella	7	9
Whooping Cough	38	15
Amœbic Dysentery	156	112
Bacillary Dysentery	60	36
Clinical Dysentery	92	68
Mumps	43	47

VACCINATION

	1958	*1959*
Age Group (0—1)	33,643	38,548
Age Group (1—5)	1,666	2,693
Age Group (5 and over)	196	880
Total vaccinated and revaccinated	35,505	42,121

MATERNITY AND CHILD WELFARE DEPARTMENT HOME VISITS BY SISTERS AND HEALTH VISITORS

	1958	*1959*
Mothers visited by District Sisters within 10 days of confinement	16,637	13,876
Subsequent visits by District Sisters to Mothers ..	5,802	5,843
First visits by Health Visitors to new babies ..	28,343	28,437
Subsequent visits by Health Visitors to new babies	47,958	28,907
Visits to expectant mothers	7,128	5,326
Visits made in connection with Anti-Diphtheria Immunisation	6,654	3,980
Total visits to homes by Sisters and Health Visitors	112,522	86,369

ATTENDANCES AT CLINICS

	1958	*1959*
Infants (0—1)		
1st attendances	28,870	38,414
Subsequent attendances	188,699	193,579
Total attendances ..	217,569	231,993
Of these, attendances of sick babies	151,167	154,628
i.e. in percentage	69.48%	66.65%
Pre-school Children		
1st attendances	22,400	22,463
Subsequent attendances	41,953	54,964
Total attendances ..	64,353	77,427
Of these, attendances of sick toddlers	43,335	57,882
i.e. in percentage	67.34%	74.76%
Expectant Mothers		
1st attendances	7,311	7,116
Subsequent attendances	18,032	18,437
Total attendances ..	25,343	25,553

DIPHTHERIA IMMUNISATION—COMPLETE COURSES

	1958	*1959*
Infants (0—1)	5,232 (Clinics)	7,310
	5,046 (Mobile)	—
Pre-school children (1—5)	9,096	6,685
Older children (5—10)	1,376	242

COUNCIL FREE MIDWIFERY SERVICE

	1958	*1959*
Confinements attended by Council Midwives ..	1,411	1,295
Visits paid to cases discharged from Government Maternity Hospital three days or so after confinement	14,106	15,207
Visits subsequently paid to known cases of confinement not attended by Doctors or Midwives ..	84	82

CONDUCTION OF CONFINEMENTS

	1958	*1959*
Government Maternity Hospital	30,073	34,028
Private Maternity Homes and by Private Doctors ..	3,267	2,986
Private Midwives	13,310	11,448
Council Midwives	1,411	1,295
No skilled attention at confinement	497	389
Total ..	48,558	50,146

HEALTH OF CITY COUNCIL STAFF

AVERAGE STRENGTH OF CITY COUNCIL STAFF DURING 1959

Approximate number of Senior, Junior and Subordinate Staff stationed in Singapore including temporary staff paid out of 'Extra Clerical and Technical Assistance' Votes, and also including females. Figures supplied by Assistant Secretary, (Establishment)	4,000
Approximate number of Daily Rated Employees stationed in Singapore including females and young persons. Figure obtained from Establishment (Labour)	9,123

	Staff (*a*)	Daily Rated Employees (*b*)	Total (*a*) and (*b*)
New cases attended at dispensaries (including accidents)	14,729	63,592	78,321
Total attendances including first visits at dispensaries	24,846	113,803	138,649
Examination for physical fitness	624	524	1,148
Visits paid to homes by M.O. i/c. Staff ..	116	93	209
Cases treated by Private Doctors	737	2,984	3,721
	41,052	180,996	222,048
Days sick leave granted (excluding leave under Workmen's Compensation Ordinance) including leave on account of Tuberculosis by:—			
(*a*) M.Os. i/c. Staff	14,588	76,408	90,996
(*b*) Private Practitioners	1,913	6,386	8,299
(*c*) Hospitals	6,084	22,953	29,037
Total ..	22,585	105,747	128,332
Leave granted under Workmen's Compensation Ordinance	540	17,669	18,209
Days leave granted on account of Tuberculosis ..	3,423	12,465	15,888
Average number of days sick leave, excluding leave under Workmen's Compensation Ordinance including tuberculosis leave granted per person employed in Senior, Junior, Subordinate and Daily Rated Employees and Temporary Staff in 1959	6%	12.5%	10.9%

BIRTH RATE

The birth rate of the past five years are as follows:—

1955	*1956*	*1957*	*1958*	*1959*
48.86	49.11	50.40	49.40	49.00

The birth rate of 49.00 compares favourably with that of 49.40 in 1958. Although the rate is levelling off, it is still high as compared with England and Wales which, in 1959, was 16.5 per 1,000 population. This high population increase exerts heavy pressure on all the public services provided by the state, and the problem should be tackled positively and energetically both by Government and all voluntary organisations.

In India, in spite of elaborate plans for birth control, the country did not have much success in reducing the population. They were now thinking of using voluntary sterilisation on women who have had three or four children. Japan has achieved the "near miracle" of halving her birth rate during the last 10 years from about 34 per 1,000 to 17 per 1,000, but it was done in a manner which was highly repugnant to many people—that of legalised abortion. These two examples are cited of positive action being taken by neighbouring countries and although I do not suggest the adoption of the Japanese method, the Indian method should be given some consideration. The policy of the present Government is more intensive health education on family planning and the holding of a campaign in the coming year.

DEATH AND INFANTILE MORTALITY RATES

It is gratifying to record that the infantile mortality rate for 1959 is the lowest in the history of the City Council with a mortality rate of 37.17 per 1,000 live-births. In fact, our health statistics for the year 1959 have shown considerable all-round improvements.

The neo-natal death is also reduced from 22.42 in 1958 to 19.53 in 1959. The crude death rate of 8.17 is a further reduction and is even lower than that of England and Wales of 11.6 per 1,000 of population.

16.36 per cent of the deaths are certified by the Coroner. This figure which is higher than that of 1958 of 14.96 per cent, is probably due to the increased number of deaths as a result of secret society activities and murders. 17.69 per cent of the deaths are not attended by any doctor and are certified by Inspecting Officers who are qualified Hospital Assistants. This rate is still high and very undesirable in view of the extensive medical services provided by the country.

TUBERCULOSIS DEATH RATE PER 1,000 POPULATION

1936	*1947*	*1951*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*	*1959*
2.868	2.350	1.717	1.08	1.00	1.02	.74	.70	.56	.56

It is gratifying to note the gradual reduction in the death rate of the population from tuberculosis. The figure of 0.56 equals that of 1958.

TYPHOID FEVER

The total number of cases notified during the year was 157 of which 58 did not reside within the City Area. There were two cases of para-typhoid "A" of which one was a resident within the City Area.

A small outbreak of typhoid occurred in October 1959 when a group of twenty-one people from three families went for a picnic at Changi and took food from certain hawkers there. About two weeks later, 8 of them fell ill, and 7 were admitted to Middleton Hospital and confirmed as typhoid cases. The eighth

person improved after treatment without being admitted to hospital. In addition, 3 other people were taken ill about the same time but were not confirmed as typhoid. There was no history of the people affected having partaken food together on any other occasion. An investigation of the food and drinks commonly taken by the patients pointed to two possible sources of infection—the ice drinks and the satay. It was found that the owner of a sundry shop selling ice-drinks was a typhoid carrier. One culture of Salmonella Typhi from the carrier and seven cultures isolated from the patients were examined and all were found to be Phage Type "A" by the Institute of Medical Research, Kuala Lumpur. They are called Salmonella Typhi Type Phage "A". The carrier was immediately isolated for treatment at Middleton Hospital.

DIPHTHERIA

This preventable disease is still present in the country and a total of 523 cases were notified, with 32 deaths. The number of cases admitted to Middleton Hospital was 519 with 23 deaths. In our previous Annual Reports it was pointed out that the response to diphtheria immunisation by the public has been disappointing. Needless suffering and loss of life can be easily prevented by just two simple injections of prophylactic toxoid and it is discouraging that the incidence of the disease is still so high. Perhaps the time has come when compulsory legislation should be considered.

SMALL-POX

In April 1959 there was a small outbreak of small-pox, caused by an Indian boy who contracted the disease in India and who was in transit to Indonesia. He landed at Penang and shortly after developed a fever. Whilst travelling to Singapore by train the rash appeared on the body. He remained concealed in a hut at Kampong Alexandra for some time until the first case (a Malay adult female) was admitted and diagnosed at Middleton Hospital. Extensive preventive measures taken at the kampong revealed further cases. A total of 10 cases with 2 deaths occurred. Prompt action taken by the Department confined the disease to Alexandra Area only. An island-wide vaccination campaign was carried out and more than 562,558 persons were vaccinated in the City Area within 10 days.

The total number of contacts quarantined at St. John's Island was 240.

It is interesting to record that although the Indian boy had valid vaccination certificates, he was not vaccinated according to information obtained and although he had primary vaccination done at childhood, the vaccinations had not been successful. There was no evidence of vaccination scars on the body on examination. A more complete report on this outbreak is given in the report of the Medical Superintendent of Middleton Hospital.

I wish also to place on record the high degree of efficiency shown by the Department's Staff in preventing the spread of the disease and bringing the outbreak to an end within the shortest possible time. We are grateful to the Ministry of Health for their co-operation and all the necessary assistance rendered and for obtaining all the vaccines for the department.

POLIOMYELITIS

The epidemic in 1958 gradually subsided towards the end of the year stretching into January 1959 with 13 cases occurring in this month. Altogether a total of 64 cases, 37 in the City Area and 27 in the Rural Area were notified in 1959 and these were spread evenly throughout the year. A further description of the cases can be found in the report of the Medical Superintendent of Middleton Hospital.

MIDDLETON HOSPITAL

Altogether 3,451 patients were admitted in the year and 3,365 patients were discharged with 52 deaths. The hospital has been very busy throughout the year 1959 as a result of the small-pox outbreak in April and the outbreak of typhoid fever in November, and the care of convalescing polio cases. The hospital continues to be used as a teaching hospital for infectious disease for the University of Malaya.

MALARIA

The Anti-Mosquito Department extended its activities of anti-malarial control to the new boundary of the City Area from 1–1–59 covering an extra 11 square miles over Pasir Panjang, Bukit Timah and Ulu Pandan previously controlled by the Rural Board. The incidence of malaria in Singapore is still negligible. In the City Area, 30 cases of malaria were reported and on investigation, they were all found to be imported cases either from India, Indonesia or the Federation of Malaya. The malaria death rate was .006 per 1,000 population within the City Limits.

CITY ANALYST DEPARTMENT

The City Analyst's report showed continuous increase in the work during the year 1959. A total of 31,084 samples were examined. The increase in the number of specimens was approximately 2.6 per cent over the number examined in 1958. This increase may be due to extension of the water treatment works at Bedok, the new Phase II extension of Kim Chuan Sewage Disposal Works and the fresh water swimming pool at River Valley Road. The purity and quality of the water were satisfactorily maintained throughout the year.

FOOD AND DRUGS SECTION

The total number of samples examined for breaches of the Food and Drugs Regulations, 1957 was 1,455 .There were 281 prosecutions with 240 convictions. More than 80,000 lbs. of foodstuffs were destroyed being unfit for human consumption.

BARLEY FOOD POISONING

During the first week of September 1959 a number of patients were admitted into the General Hospital suffering from food poisoning. In all, 44 persons were affected with 8 deaths (all children), and the cause of the food poisoning was traced to the consumption of pearl barley. The outbreak, though scattered over the island, was concentrated chiefly in the Queenstown area. Investigations carried out by the Public Health Inspectorate of this department revealed the incriminating agent to be pearl barley which was imported in two consignments from Germany during the latter part of August 1959. These arrived within a week of each other. The total consignments amounted to 400 bags of 112 lbs. each. Further investigations revealed that a portion of this stock of barley was contaminated with parathion which is a highly toxic insecticide and which was a prohibited product in this country. It was proved that the contamination did not occur in Singapore. Although extensive investigations were carried out, the method of contamination could not be conclusively proved. 400 bags had already been distributed throughout Singapore, the Federation of Malaya and Sarawak. With the exception of 35½ bags, all of them were traced and destroyed later. The 35½ bags which were not traced must be either consumed or privately destroyed by holders as the result of our intensive campaign in the press and over the radio. Prompt action by the Ministry of Health prevented outbreaks in

the Federation and Sarawak. The prompt action and efficient co-operation of the Ministry Staff and the City Council Health Department Staff prevented the occurrence of further cases. The discovery of most of the contaminated food in the shortest time was instrumental in preventing further deaths.

LEAD POISONING

A case of lead poisoning was reported from General Hospital during the month of August 1959. The patient, an adult female who was treated for heart palpitation was given Chinese drugs by a Chinese "Sinseh" with "Ban Chuan" pills coated with "Chu Sa" powder. On investigation, these pills were found to contain, 4,800 parts per million of lead. Legal action was taken against the Chinese "Sinseh" and he was convicted.

ANÆMIA AND CYANOSIS

In November 1959 a number of children were admitted to the General Hospital suffering from anæmia and cyanosis. They were said to have taken overdoses of phenacetin from some Chinese drug which was reported to have been manufactured in Canton known as "Chin Foong Sun" and "Pau Ying Tang". In fact, on investigation it was found to be manufactured locally. 861 cartons containing 10 powders each were found at the manufacturer's premises and they were sealed. On analysis it was found that the content of phenacetin in "Chin Foong Sun" was 39.7 per cent and in "Pau Ying Tang" 27.5 per cent. In the resultant prosecution, the Court ordered forfeiture of the sealed stock of the fever powders.

MATERNITY AND CHILD WELFARE DEPARTMENT

There are now more and more confinements in the hospitals, the people being more conscious of the better facilities provided in the Kandang Kerbau Hospital. The number of confinement cases referred from Kandang Kerbau Maternity Hospital for post-natal domiciliary aftercare by City Council midwives has increased tremendously during the past two years. In 1958 there were 14,106 cases and in 1959, 15,207. This has actually taxed the staff considerably especially as there were a number of resignations with no replacements of staff. Because of the shortage of staff, and more work at the Clinics due to increased attendances of infants, toddlers and post-natal mothers, the remaining staff of Health Visitors were not able to do their usual health visiting work during the year. This is very undesirable as the fundamental function of the department is health visiting and health educating in the homes.

One new clinic was ready for opening at Stirling Road, but because of the difficulty in the recruitment of staff, this clinic could not be opened during the year. The quarters attached to this clinic is used by the two midwives who are now providing a domiciliary midwifery service for that area.

During the year, the administration of all creches was transferred to the Department of Social Welfare, Ministry of Labour and Law, to comply with the policy of integration of City Council Departments into various Ministries.

INTEGRATION OF THE CITY COUNCIL AND RURAL BOARD WITH THE CENTRAL GOVERNMENT MINISTRIES

Rural Board

The Rural Board ceased to exist on 10th July, 1959 and the functions of the various Rural Health Departments in the various District Councils were merged into the City Health Department.

City Health Department

Under the Plan of Integration the following sections of the City Health Department were integrated into the Government Ministries in November 1959 as follows:—

1. Administration
2. Analytical Laboratory
3. Bacteriological Laboratory
4. Anti-Mosquito Department
5. Middleton Hospital
6. Maternity and Child Welfare Department
7. Vaccination
8. Other Public Health Sevices
9. Travelling Dispensaries
10. Public Outdoor Dispensaries
11. Staff Dispensaries
12. Central Medical Store.

} Ministry of Health.

13. Registration of Births and Deaths—Ministry of Home Affairs.
14. Creches—Ministry of Labour and Law.
15. Cemeteries
16. Slaughter House

} Unallocated at first but were integrated into the Ministry of Health at a later date.

The Anti-Mosquito Department came under the administrative control of the Superintendent, City Cleansing Department, as from 27th July, 1959 but was transferred back to the City Health Department with effect from 2nd November, 1959.

STAFF

The following changes in the staff occurred during 1959:—

Appointments—Senior Staff

Drs. V. R. Gabriel, M. A. Gabriel, Stella R. Rao and S. K. Nath were appointed Temporary Assistant Health Officers in charge of Public Outdoor Dispensaries.

Dr. Margaret Tan was appointed Lady Assistant Health Officer (Staff).

Mr. Ng Theng Kang was appointed Secretary on 8th May, 1959 and was transferred to the Engineer's Department on 18th June, 1959.

Miss Ho Siew Gim was appointed Temporary Assistant Analyst.

The following Junior and Subordinate Officers retired during 1959:—

1 Health Visitor.

1 Laboratory Assistant.

1 Clerk.

1 Junior Overseer.

2 Senior Attendants.

Resignations

The following Senior Officers resigned during 1959:—

Dr. Ling Ding Seng, Assistant Health Officer (Administration).
Dr. R. S. Corbitt, Assistant Health Officer (Administration).
Dr. A. Manoharan, Assistant Health Officer (Administration).
Dr. Diana Loh Pui Ying, Assistant Health Officer (Maternity and Child Welfare).
Dr. S. D. S. Grewal, Assistant Health Officer (Outdoor Dispensaries).
Dr. C. S. Manyam, Assistant Health Officer (Outdoor Dispensaries).
Dr. K. H. Notaney, Assistant Health Officer (Outdoor Dispensaries).
Dr. Ong Cheng Hooi, Assistant Health Officer (Outdoor Dispensaries).
Mr. J. L. da Silva, Superintendent, Abattoirs.
Mr. Tan Tong Teck, Assistant City Analyst.

The following Junior and Subordinate Officers also resigned during 1959:—

1 Chief Hospital Assistant.
4 Sisters.
2 Divisional Public Health Inspectors.
2 Senior Public Health Inspectors.
1 Chief Clerk.
5 Health Visitors.
1 Laboratory Officer.
2 Laboratory Assistants.
1 Steward (Hospital).
2 Staff Nurses.
1 Senior Hospital Assistant.
1 Hospital Assistant.
3 Clerks.
1 Cashier.
1 Superintendent, Cemetery.
1 Nursing Assistant.
1 Maintenance Fitter.
1 Senior Laboratory Attendant.
1 Senior Dispensary Attendant.
2 Attendants.

Termination of Service on Medical Grounds

The services of a temporary Assistant Health Officer (Outdoor Dispensary), a Deputy Chief Public Health Inspector, a Sister and two Attendants were terminated on medical grounds.

Promotions

Mr. Lim Chin Kuan, Deputy City Analyst, was promoted City Analyst with effect from 5th May, 1959.

Mr. Ting Siew Sau, Chief Food and Drugs Inspector was promoted Chief Public Health Inspector with effect from 18th April, 1959.

Transfers

Mr. Yeo Joo Lim, Assistant Secretary, Secretariat, was seconded to the department as Secretary on 18th June, 1959. He proceeded on vacation leave on 10th September, 1959 prior to retirement on 22nd July, 1960.

There were three transfers from the department to other departments of the City Council and two transfers from another department to the department.

General

Dr. Chan Tuck Kin, Assistant Health Officer (Maternity and Child Welfare) was granted two years no pay leave with effect from 11th July, 1959 to proceed to the United Kingdom for post-graduate course.

Mrs. Cecilia Liaw and Mrs. Pang Bee Luan, Health Visitors, who were granted Colombo Plan Junior Fellowships left for Australia on 3rd February, 1959 and returned on 12th November, 1959 after having successfully completed their courses.

Misses Goh Sock Eng and Ruth Lim attended the Public Health Nursing Course with effect from 23rd April, 1959 for one academic year.

NG SEE YOOK, L.M.S., D P.H.
City Health Officer.

Table 1

NOTIFIABLE INFECTIOUS DISEASES

The number of cases notified in persons who were stated to be ordinarily resident within the City Area in 1959 and in the previous five years are shown in the table which follows:—

——	1954	1955	1956	1957	1958	Average for 5 years	1959
Small-pox	..	..	..	..	..	..	10
Plague	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..
Typhoid Fever	120	100	74	85	103	96.4	99
Para-typhoid Fever	..	..	2	1	..	0.6	1
Diphtheria	267	347	425	576	414	405.8	435
Cerebro-Spinal Fever ..	2	1	1	..	..	0.8	..
Typhus Fever*	15	4†	5‡	1 §	1§	5.2	1‡
Scarlet Fever	..	..	..	..	..	..	..
Leprosy	120	120	115	88	84	105.4	103
Poliomyelitis	53	9	26	41	255	76.8	37
Anthrax	..	..	..	..	..	..	..
Puerperal Fever	52	60	64	84	81	68.2	120
Erysipelas	13	10	3	4	2	6.4	1
Chicken-pox	1,057	1,687	1,402	980	524	1,130.0	1,234
Tuberculosis	2,580	2,979	2,835	2,559	2,995	2,789.6	4,438
Total ..	4,279	5,317	4,952	4,419	4,459	4,685.2	6,479

* Under the heading of Typhus are included Tsutsugamushi or Scrub Typhus of Malaya (Mite Borne) and Flea Borne (Urban Type Tropical Typhus). Louse Borne Typhus has not been seen in Singapore.

† 2 Flea Borne and 2 Mite Borne.

‡ Flea Borne.

§ Mite Borne.

Table 2

NOTIFIABLE INFECTIOUS DISEASES BY RACES FOR THE YEAR 1959

	Europeans	Eurasians	Chinese	Malays	Indians	Others	Total
Typhoid Fever ..	1 (1)	— (1)	79 (38)	10 (15)	9 (3)	— (—)	99 (58)
Diphtheria ..	— (—)	2 (—)	393 (73)	17 (11)	23 (3)	— (1)	435 (88)
Chicken-pox ..	3 (3)	18 (10)	480 (125)	149 (73)	579 (169)	5 (1)	1,234 (381)
Puerperal Fever ..	— (—)	— (—)	26 (1)	90 (13)	4 (1)	— (—)	120 (15)
Poliomyelitis ..	3 (3)	— (2)	30 (19)	3 (1)	1 (2)	— (—)	37 (27)
Cerebro-spinal Fever ..	— (—)	— (1)	— (—)	— (—)	— (—)	— (—)	— (1)
Para-typhoid Fever ..	— (—)	— (—)	— (1)	— (—)	1 (—)	— (—)	1 (1)
Leprosy ..	— (—)	— (—)	90 (17)	6 (5)	7 (2)	— (1)	103 (25)
Typhus Fever ..	— (—)	— (—)	1 (1)	— (—)	— (—)	— (—)	1 (1)
Erysipelas ..	— (—)	— (—)	1 (—)	— (1)	— (—)	— (—)	1 (1)
Small-pox ..	— (—)	— (—)	2 (—)	5 (—)	3 (—)	— (—)	10 (—)
Cholera ..	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)
Scarlet Fever ..	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)
Total ..	7 (7)	20 (14)	1,102 (275)	280 (119)	627 (180)	5 (3)	2,041 (598)

The figures not in brackets are of cases notified in persons ordinarily resident in the City Area.

The figures in brackets are Imported Cases and cases from Rural Board treated in Hospitals or Institutions in the City Area but not ordinarily resident in the City Area.

Table 3

NOTIFIABLE INFECTIOUS DISEASES BY MONTHS FOR THE YEAR 1959

(Figures in brackets are cases in non-residents)

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Typhoid Fever ..	14 (15)	7 (9)	10 (3)	6 (5)	5 (3)	2 (1)	3 (6)	8 (1)	9 (4)	8 (2)	17 (6)	10 (3)	99 (58)
Diphtheria ..	36 (9)	27 (6)	18 (6)	30 (9)	33 (13)	39 (5)	36 (3)	48 (10)	46 (9)	42 (6)	33 (6)	47 (6)	435 (89)
Chicken-pox ..	67 (14)	89 (16)	162 (38)	237 (63)	115 (48)	46 (16)	70 (26)	72 (35)	97 (31)	96 (36)	79 (35)	104 (23)	1,234 (381)
Puerperal Fever ..	5 (—)	7 (4)	7 (—)	7 (3)	13 (3)	15 (1)	7 (—)	15 (2)	13 (—)	12 (—)	10 (1)	9 (1)	120 (15)
Poliomyelitis ..	5 (8)	5 (7)	3 (3)	3 (2)	1 (4)	2 (—)	— (—)	1 (—)	4 (1)	3 (1)	4 (1)	6 (—)	37 (27)
Cerebro-Spinal Fever ..	— (—)	— (—)	— (1)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (1)
Leprosy ..	5 (3)	7 (5)	10 (2)	13 (2)	6 (—)	8 (2)	12 (3)	15 (—)	7 (3)	6 (2)	8 (3)	6 (1)	103 (25)
Typhus Fever ..	— (—)	— (—)	— (—)	— (1)	— (—)	— (—)	1 (—)	— (—)	— (—)	— (—)	— (—)	— (—)	1 (1)
Erysipelas ..	— (—)	— (—)	— (1)	— (—)	— (—)	— (—)	— (—)	1 (—)	— (—)	— (—)	— (—)	— (—)	1 (1)
Small-pox ..	— (—)	— (—)	— (—)	9 (—)	1 (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	10 (—)
Cholera ..	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)
Scarlet Fever ..	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)
Para-typhoid Fever ..	— (—)	— (1)	— (—)	1 (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	1 (1)
Total ..	132 (49)	142 (48)	210 (54)	306 (85)	174 (71)	112 (25)	129 (38)	160 (48)	176 (48)	167 (47)	151 (52)	182 (34)	2,041 (598)

Table 4

POLIOMYELITIS

CONFIRMED CASES NOTIFIED IN 1959 BY RACES, SEX AND AGE GROUPS

Table includes imported cases as well as those in City Resident (Cases in service personnel and families included)

	Europeans			Eurasians			Chinese			Malays			Indians			Others			Total		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
0- 5 years	2	2	4	1	1	2	30	15	45	3	1	4	2	0	2	..	..	..	38	19	57
5–10 „	..	..	..	..	..	..	1	1	2	..	..	..	..	1	1	..	..	..	1	2	3
10–15 „	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1	1
15–20 „	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20–25 „	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
25–35 „	..	1	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	2	2
35–45 „	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–55 „	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	3	3	6	1	1	2	31	18	49	3	1	4	2	1	3	..	..	..	40	24	64

Table 5

POLIOMYELITIS CASES NOTIFIED AND CONFIRMED IN 1959

Under 5 years of age (Resident and non-resident)

Cases in Service Personnel and Families included

Races	0–1 year		1–2 years		2–3 years		3–4 years		4–5 years		Total under 5 years	Total over 5 years
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
Europeans	..	..	2	1	..	1	..	..	..	1	4	2
Eurasians	..	..	..	..	..	1	..	..	1	..	2	..
Chinese	9	6	6	6	6	1	3	1	4	2	44	5
Malays	1	..	1	1	1	..	..	..	..	..	4	..
Indians	1	1	1	..	..	..	..	..	..	..	3	..
Others	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	11	7	10	8	7	3	3	1	5	3	57	7

Table 6

PERCENTAGE OF PARALYTIC AND NON-PARALYTIC POLIOMYELITIS CASES TREATED AT MIDDLETON HOSPITAL 1958 AND 1959.

	1958	*1959*
Total cases treated at Middleton Hospital ..	404	66
Paralytic cases	393	57
Non-paralytic cases	11	9
Paralytic cases	97%	86%

Table 7

INSTITUTIONS, ETC. WHENCE TUBERCULOSIS NOTIFICATIONS WERE RECEIVED

4,438 cases of Tuberculosis (All Types) in City residents and 1,224 in non-residents i.e. 5,662 in all, were notified during the year.

Notified by	T.T.S.H	SATA	Private Prac.	G.H.	City Council	St. And.	Death Cert.	Total
Number of cases notified	2,402	1,725	882	156	31	3	463	5,662

APPENDIX *B*

Table 1

GENERAL MEASURES TAKEN TO PREVENT IMPORTATION AND SPREAD OF INFECTIOUS DISEASES

PASSENGERS UNDER SURVEILLANCE DURING THE YEAR 1959

Number of Passenger under surveillance ..	171
Number of Passenger Undertakings received ..	171
Number of Persons seen ..	167
Number of Persons not seen and could not be traced ..	4

Table 2

HOUSES QUARANTINED, DISINFECTED, AND INFECTIOUS CASES REMOVED TO INFECTIOUS HOSPITAL, TRAFALGAR HOSPITAL

Houses quarantined	9
Houses Disinfected	1,480
Infectious cases removed to Infectious Hospital ..	1,720
Leper cases removed to Trafalgar Hospital ..	—

Table 3

VACCINATIONS BY CITY VACCINATORS, MEDICALMEN, PRIVATE AND GOVERNMENT VACCINATORS

1959

———	Successful	Modified	Failed	Not seen	Total
City Vaccinators	26,429	8	30	1,202	27,669
Medicalmen	14,030	..	36	..	14,066
Private and Government Vaccinators	386	..	..	..	386
Total ..	40,845	8	66	1,202	42,121

Table 4

VACCINATION BY RACE, 1959

Race	Under 6 months	6–12 months	1–5 years	Over 5 years	Total
Chinese	20,936	8,915	2,475	802	33,128
Malays	4,068	1,536	159	56	5,819
Indians	2,201	564	45	17	2,827
Eurasians	194	72	12	5	283
Europeans	18	13	..	..	31
Others	27	4	2	..	33
Total ..	27,444	11,104	2,693	880	42,121

APPENDIX *C*

Table 1

BIRTHS AND STILL-BIRTHS

The following is the number of births for each month of the year, the 1958 figures being also shown:—

Month	1958	1959	Month	1958	1959
January	3,864	3,835	July	4,735	3,965
February	2,984	3,483	August	3,863	4,172
March	2,862	3,928	September	3,452	4,264
April	4,713	3,888	October	4,926	4,532
May	4,109	4,048	November	4,030	4,337
June	3,413	3,882	December	4,155	4,120
Total ..	21,945	23,064	Total ..	25,161	25,390

Table 2

The births registered by races were:—

	1958			1959		
	Males	Females	Total	Males	Females	Total
Europeans	451	410	861	444	437	881
Eurasians	138	165	303	159	139	298
Chinese	18,480	17,209	35,790*	18,934	18,007	36,941
Malays	2,786	2,640	5,426	3,042	2,698	5,740
Indians	2,125	2,048	4,174†	2,168	2,072	4,240
Others	294	258	552	319	275	594
Total ..	24,274	22,830	47,106	25,066	23,628	48,694

* Includes 1 Chinese sex unknown. † Includes 1 Indian sex unknown.

Table 3

The birth rate for each race in 1959 and the corresponding rate for 1958 are shown in the able which follows:—

	1958	1959
Europeans	89.69	83.11
Eurasians	51.36	43.85
Chinese	48.27	47.89
Malays	51.38	51.85
Indians	50.23	49.13
Others	70.27	69.07
All Races Combined	49.40	49.00

Table 4

The table which follows, shows the number of live-births by race and sex that occurred at the Kandang Kerbau Maternity Hospital in 1959 and also the percentage of the total registered live-births of each race born at this hospital:—

	1959			Percentage of total births registered by race born at Kandang Kerbau Maternity Hospital	
	Males	Females	Both Sexes	1958	1959
Chinese	14,353	13,525	27,878	69.75	75.47
Indians	1,703	1,634	3,337	75.90	78.70
Malays	881	762	1,643	20.53	28.62
Europeans	47	49	96	22.65	10.90
Eurasians	125	101	226	71.95	75.84
Others	139	131	270	48.37	45.45
Total All Races ..	17,248	16,202	33,450	63.53	68.69

Table 5

The percentage of the total births registered by races in the Census years 1911, 1921, 1931, 1947 and in 1953—1959 is shown in the table which follows:—

Year	Total Births	Chinese	Malays	Indians	Other Races	Percentage of Total Births			
						Chinese	Malays	Indians	Other Races
1911 ..	5,560	3,750	1,051	405	353	67.4	18.8	7.3	7.52
1921 ..	10,237	7,789	1,270	640	538	76.0	12.4	6.2	5.26
1931 ..	16,488	13,229	1,758	917	584	80.23	10.66	5.56	3.54
1947 ..	30,548	24,247	3,233	2,323	745	79.3	10.5	7.6	2.44
1953 ..	39,322	31,076	4,062	3,387	798	79.03	10.33	8.61	2.03
1954 ..	40,935	32,018	4,466	3,468	983	78.22	10.91	8.47	2.40
1955 ..	42,090	32,830	4,564	3,650	1,046	78.00	10.84	8.67	2.49
1956 ..	44,044	34,500	4,679	3,801	1,064	78.33	10.62	8.63	2.42
1957 ..	46,503	36,367	4,849	4,198	1,089	78.20	10.43	9.03	2.34
1958 ..	47,106	35,790	5,426	4,174	1,716	75.98	11.52	8.86	3.64
1959 ..	48,694	36,941	5,740	4,240	1,773	75.86	11.79	8.71	3.64

Table 6

The Still-births registered in 1959 and 1958 are shown in the table which follows:—

	1959			1958		
	Males	Females	Total	Males	Females	Total
Europeans	4	9	13	2	3	5
Eurasians	2	5	7	2	2	4
Chinese	218	211	432‡	259	244	503
Malays	90	77	168*	85	77	164*
Indians	67	59	128†	43	65	108
Others	6	5	11	11	5	16
Total ..	387	366	759§	402	396	800*

* Includes 1 unknown sex
‡ Includes 3 unknown sex
† Includes 2 unknown sex
§ Includes 6 unknown sex
* Includes 2 Malays sex unknown.

Table 7

The percentage of illegitimate births over live-births was .06 for the year 1959 and the table below shows the sex and racial groups of mothers:—

	Male	Female	Total
Europeans	..	..	..
Eurasians	..	..	..
Chinese	10	12	22
Malays	2	1	3
Indians and Pakistanis	2	2	4
Others	..	1	1
Total ..	14	16	30

APPENDIX *D*

Table 1

DEATHS

The following return shows the number of deaths and the death rate for each month of the year:—

Month	No. of Deaths	Death Rate	Month	No. of Deaths	Death Rate
January	632	7.51	July	761*	9.02
February	641	8.41	August	685	8.12
March	701	8.31	September	698	8.55
April	633	7.76	October	668	7.92
May	753	8.93	November	573	7.02
June	694	8.50	December	683	8.10

* Includes 1 unknown sex Chinese.

Table 2

The chief causes of death and the rate per 1,000 living for each disease in 1959 and 1958 are set in the table which follows:—

	1958		1959	
	Cases	Rate per Mille	Cases	Rate per Mille
Bronchitis and Pneumonia	1,018	1.07	1,012	1.02
Tuberculosis	532	0.56	555	0.56
Diarrhœa and Enteritis	486	0.51	444	0.45
Diseases of early Infancy	928	0.97	646	0.65
Infantile Convulsions (up to 5 years) ..	120	0.13	85	0.09
Violence	541	0.57	627	0.63
Heart Disease	593	0.62	640	0.64
Old Age	456	0.48	495	0.5
Cancer	631	0.66	900	0.91
Nephritis	186	0.19	187	0.19
Beri-Beri	54	0.06	46	0.05
Diphtheria	40	0.04	32	0.03
Malaria	2	0.002	7	0.007
Dysenteries	24	0.025	18	0.02
Typhoid	8	0.008	8	0.008
Cerebral Hæmorrhage and other vescular lesions	399	0.42	326	0.33

Table 3

SINGAPORE INFANT DEATHS REGISTERED IN 1959 IN CITY AREA BY AGE GROUP, RACIAL GROUP AND SEX

AGE GROUP	TOTAL			MALAYSIANS		CHINESE		INDIANS AND PAKISTANIS		EURASIANS		EUROPEANS		OTHERS	
	M. and F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 day ..	273	180	93	30	15	134	69	9	6	1	..	2	..	4	3
1 day and under 2 days ..	173	94	79	17	13	65	56	8	8	1	1	1	1	2	..
2 days and under 3 days ..	100	64	36	10	4	48	28	6	3	..	..	..	..	..	1
3 days and under 4 days ..	64*	33	30	8	5	22	19	1	4	..	..	1	1	1	1
4 days and under 5 days ..	53	31	22	8	3	21	16	2	2	..	..	..	1	..	..
5 days and under 6 days ..	37	20	17	1	7	16	10	3	..	..	..	..	..	..	..
6 days and under 7 days ..	32	21	11	6	2	14	8	1	1	..	..	..	..	..	..
7 days and under 14 days ..	106	63	43	9	6	49	33	4	3	..	..	..	1	1	..
14 days and under 21 days ..	70	36	34	6	10	25	21	5	3	..	..	..	..	..	..
21 days and under 28 days ..	43	30	13	2	1	17	12	1	..	..	..	..	..	..	..
Neo-Natal Deaths ..	951*	572	378	107	66	411	272	40	30	2	1	4	4	8	5
Under 28 days	951†	572	378	107	66	411	272	40	30	2	1	4	4	8	5
28 days and under 2 months ..	157	95	62	35	10	55	45	4	4	..	..	1	2	..	1
2 months and under 3 months ..	131	72	59	22	16	39	39	8	3	1	..	..	..	2	1
3 months and under 4 months ..	86	50	36	16	11	30	23	3	1	..	..	..	1	1	..
4 months and under 5 months ..	78	43	35	12	6	29	24	1	3	..	..	1	1	..	1
5 months and under 6 months ..	71	30	41	9	11	20	28	1	2	..	..	..	..	..	..
6 months and under 7 months ..	74	48	26	15	8	29	15	3	3	..	..	..	..	1	..
7 months and under 8 months ..	60	35	25	9	6	22	16	4	3	..	..	..	..	..	..
8 months and under 9 months ..	71	35	36	13	10	20	24	2	2	..	..	..	..	..	..
9 months and under 10 months ..	49	24	25	6	5	16	17	2	3	..	..	..	..	..	..
10 months and under 11 months ..	46	25	21	9	6	14	15	2	..	..	..	..	..	..	..
11 months and under 1 year ..	36	20	16	8	8	11	7	1	1	..	..	..	..	..	..
Infant Mortality† ..	1,810†	1,049	760	261	163	696	525	71	55	3	1	6	8	12	8

*Includes 1 of unknown sex

†Includes neo-natal deaths.

Table 3—*continued*

SINGAPORE DEATH REGISTERED IN 1959 IN THE CITY AREA BY AGE, RACIAL GROUP AND SEX

AGE GROUP	TOTAL			MALAYSIANS		CHINESE		INDIANS AND PAKISTANIS		EURASIANS		EUROPEANS		OTHERS	
	M. and F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 year	1,810*	1,049	760	261	163	696	525	71	55	3	1	6	8	12	8
1 year and under 2 years ..	281	134	147	32	38	94	96	7	12	..	..	..	1	1	..
2 years and under 3 years ..	188	96	92	21	17	67	72	6	3	..	..	..	..	2	..
3 years and under 4 years ..	112	54	58	5	6	43	44	5	7	..	1	..	..	1	..
4 years and under 5 years ..	70	38	32	9	6	25	22	2	4	1	..	..	..	1	..
5— 9 years	199	106	93	18	11	79	76	4	5	..	..	3	..	2	1
10—14 years	102	60	42	6	5	50	34	3	1	..	1	1	1	..	..
15—19 years	111	71	40	9	8	55	28	5	2	..	..	2	2	..	..
20—24 years	164	106	58	7	6	78	43	11	7	2	1	7	1	1	..
25—29 years	168	100	68	10	13	74	46	7	8	1	1	7	..	1	..
30—34 years	207	110	97	17	20	69	60	20	11	..	2	2	4	2	..
35—39 years	268	161	107	20	22	102	71	35	11	..	1	2	1	2	1
40—44 years	290	196	94	13	14	131	70	45	10	1	..	4	..	2	..
45—49 years	510	361	149	27	8	268	130	60	7	1	1	4	2	1	1
50—54 years	592	415	177	25	21	324	149	57	5	..	1	3	1	6	..
55—59 years	706	520	186	32	13	412	158	58	11	3	2	6	..	9	2
60—64 years	693	465	228	32	13	384	204	41	4	3	4	4	1	1	2
65—69 years	568	348	220	18	17	302	188	21	7	2	4	2	3	3	1
70—74 years	438	239	199	16	7	207	183	8	2	3	4	2	1	3	2
75—79 years	326	160	166	9	9	137	154	10	3	..	..	..	..	4	..
80—84 years	187	57	130	4	9	50	116	2	2	..	2	1	..	..	1
85 years and over	122	35	87	4	11	30	73	..	1	1	1	..	..	..	1
Unknown	10	5	5	2	..	1	3	1	..	..	..	..	..	1	2
Total ..	8,122	4,886	3,235	597	437	3,678	2,545	479	178	21	27	56	26	55	22

*Includes 1 of unknown sex.

Table 4

INFANTILE MORTALITY BY RACES, 1950–1959

Year	Europeans	Eurasians	Chinese	Malays	Indians	Others	All Races
1950 ..	18.9	53.0	87.4	145.8	71.3	65.9	91.22
1951 ..	21.7	41.1	73.7	130.4	68.5	158.2	78.79
1952 ..	35.7	45.6	71.0	120.8	64.9	102.6	75.34
1953 ..	21.7	64.6	66.7	116.7	63.8	127.3	71.54
1954 ..	29.5	37.2	52.5	110.4	64.3	68.1	59.66
1955 ..	12.2	36.7	45.0	106.9	47.7	43.6	51.60
1956 ..	9.3	27.8	38.8	96.0	34.7	21.5	44.02
1957 ..	10.8	27.0	37.1	89.7	42.2	49.1	42.94
1958 ..	27.9	46.2	40.3	89.7	40.7	38.0	45.81
1959 ..	15.89	13.42	33.05	73.87	29.72	33.67	37.17

Table 5

The main causes of death in infants and the rate per 1,000 live-births for each disease in 1958 and 1959 are set in the table which follows:—

	1958		1959	
	Cases	Rate per Mille	Cases	Rate per Mille
Congenital syphilis	5	0.11	3	0.06
Pneumonia and Bronchitis	346	7.34	452	9.28
Diarrhœa and Enteritis	325	6.90	273	5.61
Congenital Malformations	156	3.31	128	2.63
Diseases of Early Infancy	928	19.70	644	13.23
Tetanus	8	0.17	10	0.21
Beri-beri	13	0.28	6	0.12
Tuberculosis	7	0.15	8	0.16
Ill-defined and unknown causes ..	162	3.44	103	2.12
Other diseases	209	4.37	183	3.76

Table 6

1959 INFANTILE MORTALITY ACCORDING TO RACE, SEX AND AGE GROUPS

Race	Sex	AGE GROUP								
		0–1 Day	1–7 Days	1–4 Weeks	0–4 Weeks	4 Weeks–3 Months	3–6 Months	6–9 Months	9–12 Months	0–12 Months
Europeans	M.	2	2	..	4	1	1	..	..	6
	F.	..	3	1	4	2	2	..	..	8
Eurasians	M.	1	1	..	2	1	..	..	..	3
	F.	..	1	..	1	..	..	..	..	1
Chinese	M.	134	186	91	411	94	79	71	41	696
	F.	69	137	66	272	84	75	55	39	525
Malays	M.	30	50	27	107	57	37	37	23	261
	F.	15	34	17	66	26	28	24	19	163
Indians	M.	9	21	10	40	12	5	9	5	71
	F.	6	18	6	30	7	6	8	4	55
Others	M.	4	3	1	8	2	1	1	..	12
	F.	3	2	..	5	2	1	..	..	8
Total Races ..	M.	180	263	129	572	167	123	118	69	1,049
	F.	93	195	90	378	121	112	87	62	760
Total ..		273	458	219	950	288	235	205	131	1,810*

*Includes 1 unknown sex.

Table 7

NEO-NATAL RATES BY RACES AND SEX (1957-59)

	1957			1958			1959		
	Males	Females	Both Sexes	Males	Females	Both Sexes	Males	Females	Both Sexes
Europeans	5.35	5.49	5.42	24.02	19.37	21.81	4	4	8
Eurasians	22.47	7.84	18.02	14.49	36.59	26.49	2	1	3
Chinese	21.22	14.58	18.01	25.09	15.19	20.34	411	272	684*
Malays	32.60	35.61	34.03	43.69	31.11	37.56	107	66	173
Indians	18.88	19.75	19.29	21.69	18.62	20.18	40	30	70
Others	39.41	32.61	36.18	31.25	12.20	22.47	8	5	13
Total ..	22.25	17.27	19.85	26.90	17.53	22.40	572	378	951

* Includes 1 unknown sex.

Table 8

The chief causes of the neo-natal deaths in infants in 1958 and 1959 are shown in the table which follows:—

	1958		1959	
	No. of Cases	% Total Neo-natal deaths	No. of Cases	% Total Neo-natal deaths
1. Ill-defined diseases peculiar to early infancy and Immaturity	282	26.72	251	26.39
2. Birth Injuries	211	20.00	153	16.09
3. Post-natal asphyxia and atelectasis ..	130	12.32	150	15.77
4. Infection of new born	183	17.34	185	19.45
5. Hæmolytic disease of new born ..	79	7.48	60	6.31
6. Other diseases of early infancy ..	12	1.13	9	0.95
7. Congenital malformations	97	9.19	73	7.68
8. Ill-defined and unknown causes ..	28	2.65	32	3.36
9. Congenital syphilis	3	0.28	2	0.21
10. Beri-beri	..	..	1	0.11
11. Septicæmia and Pyæmia	2	0.18	1	0.11
12. Tetanus	7	0.66	8	0.84
13. Other diseases	21	1.98	26	2.73
Total ..	1,055		951	

Table 9

CERTIFICATION OF DEATHS, 1959

By whom certified	Europeans	Eurasians	Chinese	Malays	Indians	Others	Total
Medical Practitioners ..	47	42	4,310	487	399	47	5,332
Inspecting Officers ..	..	2	906	448	76	5	1,437
Coroner ..	35	4	996	88	181	25	1,329
Police Officers ..	..	..	12	11	1	..	24
Total ..	82	48	6,224	1,034	657	77	8,122

Table 10

In the table which follows are shown the percentage number of deaths in the causes of which were certified by Medical Practitioners, Inspecting Registrars, and the Police Officers in the years 1950 to 1959:—

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
Medical Practitioners ..	58.89	59.82	63.30	66.63	65.25	64.56	65.17	63.70	65.56	65.65
Registrars ..	31.55	30.10	25.90	22.99	22.45	22.22	21.09	20.70	19.02	17.69
Coroner ..	9.56	10.08	10.80	10.38	12.30	13.22	13.74	15.63	14.96	16.36
Police Officers ..	..	..	..	..	..	..	..	..	0.46	0.3

Table 1

LICENCES ISSUED AND FEES COLLECTED

Year	LICENCES ISSUED			Total Fees
	Total	Food By-laws	Offensive Trades	
				$ c.
1958	2,217	1,778		81,475 00
			439	12,850 83
				94,325 83
1959	2,080	1,659		77,431 00
			421	14,542 00
				91,973 00

Table 2

THE NUMBER OF ANIMALS SLAUGHTERED AT THE ABATTOIRS IN 1958 AND 1959

	1958	*1959*
Pigs	417,199	436,452
Sheep	74,048	81,717
Goats	4,225	3,293
Oxen	5,102	5,868
Buffaloes	862	3,379
Horses	39	8
Total ..	501,475	530,717

CARCASES TOTALLY CONDEMNED AT THE ABATTOIRS
1959

Swine	*Sheep*	*Oxen*	*Buffaloes*	*Goats*	*Total Condemned*
40	26	5	4	1	76

REVENUE

The total revenue excluding the rent received for use of chilling rooms from the Abattoirs in 1959 was $1,033,833.25. This is nearly $58,534.40 more than the previous year's revenue which was $975,298.85.

Table 3

BURIAL GROUNDS

1959	Deaths Registered within the City Area	Burials and Cremations made in City Cemeteries and Licensed Burial Grounds in the City Area	Exhumations
Europeans ..	82	43+1 ash.	..
Eurasians ..	48	80	
Chinese ..	6,224	3,994+2 ashes (13)	4,296
Malays ..	1,034	1,377	..
Indians ..	657	576 (219)	..
Others ..	77	44+5 ashes (8)	..
Total ..	8,122	6,114+8 ashes (240)	4,296

Figures in brackets denote number cremated.

ANTI-MOSQUITO DEPARTMENT

I HAVE THE HONOUR to submit the report on the work of the Anti-Mosquito Department for the year 1959.

Extension of Anti-Malarial Areas

By an order of the then Minister of Local Government, parts of the City area at Katong, Serangoon and the Thomson Road areas come under the jurisdiction of District Councils with effect from 1–1–59. These excised portions embrace an area of about 3½ square miles. Simultaneously a wider area comprising approximately 11 square miles of land under the previous Rural Board at Pasir Panjang, Bukit Timah and Ulu Pandan is placed under the jurisdiction of the City Council. This exchange has resulted in an additional area which is about 3 times the size of the excised areas to be placed under the control of the Anti-Mosquito Department.

Incidence of Malaria

30 cases of Malaria within the City were reported. All these cases were thoroughly investigated and all were found to be imported cases either from India, Indonesia or the Federation of Malaya. The malaria death rate was .006 per thousand within the City Limits.

Trapping of Adult Mosquitoes

The 3 mosquito traps set in various parts of the City for the collection and identification of adult mosquitoes continued to provide a valuable check on our malarial control measures. For details, see Appendix *A*.

Larvæ Searching

15,633 collections of mosquito larvæ were brought by the field staff to the departmental laboratory for identification. As in the past a close watch for breeding of *A. sundaicus* was kept on all boats brought into the Singapore and Kallang Rivers for repairs. No breeding was found in any of the boats. Appendix *B* is an analysis of 1,000 consecutive larval collections showing the common breeding places within the City. Appendix *C* gives the total number of collections and the different vector species with their respective places.

Permanent Anti-Malarial Works

The areas under permanent control were extended by the construction of 923 yards of concrete anti-malarial drains and the laying of 243 yards of subsoil pipe lines. In addition, 751 yards of worn-out anti-malarial drains were constructed with new materials. Details of permanent anti-malarial works are listed in Appendix *D*. Minor repairs to existing permanent anti-malarial works were carried out as and when required and details of these are given in Appendix *E*.

Prawn Ponds in Kallang Basin

Weekly inspections continued as in past years to ensure that sluice gates were opened and algal growth in ponds removed. No breeding of *A. sundaicus* was found during the year.

Maintenance

Maintenance works by 10 gangs and 4 machine units were carried out in accordance with past practice. Five patrol gangs worked around the General

Hospital, Tan Tock Seng Hospital, Kallang Basin, Tanjong Rhu, Katong and Geylang Areas, mainly to control the breeding of *A. sundaicus*. Altogether 192,201 yards of concrete drains and 46,597 yards of earth drains were regularly maintained. 1,402 baskets of tins and other water-bearing receptacles were collected and disposed of.

31,888 yards of concrete drains were cleansed by contract labour at an average monthly cost of $4,180. These drains which were originally constructed to serve as anti-malarial drains are now serving as sullage drains for developed areas.

Larvicidal Works

Anti-Malarial Mixture—A total of 91,200 gallons of anti-malarial mixture were used. To ensure that the anti-malarial mixture received was effective and according to specifications, regular field and laboratory tests were carried out.

Apart from routine oiling, the department had to deal with many mosquito breeding places created through development of properties, damaged and blocked public and private roadside drains and the activities of squatters in kampongs.

Shell Malariol Emulsion—19½ gallons were used in places where an oily larvicide was undesirable.

Shell Malariol H.S.—336¼ gallons were used in fish and vegetable ponds in Sungei Whampoa and the Kallang Basin areas.

Gammexane Powder—338 lb. were used against nuisance mosquito breeding in septic tanks and chocked concrete drains.

Kerosene—48¼ gallons were used in kampong wells against mosquito breeding.

Kerosene with 10% *D.D.T.*—3 gallons were used for barrier spraying and as an anti-fly measure.

Benzine with 10% *D.D.T.*—899½ gallons were used along the margins of the reservoirs. Malaria vectors (*A. letifer*) were found breeding in the creeks of MacRitchie Reservoir. Periodical oiling with D.D.T. in benzine had to be carried out by this department. The cost was recovered from the Water Engineer's Department.

Dieldrex 15—7½ gallons were used through the Swing-fog machines against adult mosquitoes.

Filling in of Low-lying Areas

The filling of the extensive tidal swamp at Kolam Ayer Lane was continued by controlled tipping by the City Cleansing Department.

Notices

125 notices under the Destruction of Mosquitoes Ordinance were served. The majority of these were served on owners of lands which were either covered with undergrowth or low-lying and which provided mosquito breeding grounds to accumulation and stagnation of water.

Kampong Sanitation

In addition to maintaining the existing kampong sanitation drainage, extensive works in certain kampongs involving the more frequent cleansing of earth and concrete drains and construction of dumping enclosures and incinerators for the collection and disposal, on the spot, of refuse were commenced since August 1959. These constructions were of cement, bricks and perforated steel plates and the cost was very low.

The process of the disposal of the refuse is that the residents dump their refuse in the enclosures and the departmental labour removes the refuse and burns it in the incinerator.

Details of such construction works are shown in Appendix *F*.

Moreover, at the request of the City Cleansing Department, this department constructed such incinerators next to selected bin centres to dispose of combustible refuse on the spot by the Cleansing Department labour so that the department could minimise transportation to the dumping ground at Kolam Ayer Lane. For details of such works, please see Appendix *G*.

Daily maintenance works were carried out in Kampong Silat, Mt. Washington, Alexandra, Bukit Teresa, Bukit Purmei, Wishart, Radin Mas, Amber, Wak Tanjong, Fernhill, Chia Heng, Lorong Koo Chye, Boon Teck Road and Aljunied/Lorong 23.

512 gallons of anti-malarial mixture were used as fuel for burning of refuse. For details, please see Appendix *H*.

To carry out the maintenance of kampongs on this scale, the existing kampong sanitation labour had to be supplemented with part of Anti-Mosquito Department labour.

Anti-fly Measures

Our oilers helped to carry out anti-fly measures on many occasions.

Training

(*a*) Dr. Ling Ding Seng, Assistant Health Officer (A.M.D.) and Mr. J. R. Fernandez, Acting Superintendent (A.M.D.) underwent a 3-month-course on "Malariology" in the Philippines—Scholarship Grants offered by the Philippines Government under the Colombo Plan—from 14th April to 4th July.

(*b*) Probationary Public Health Inspectors, Loh Fang Tong and Philip Loh Kok Wah, were under training in the Department on anti-mosquito measures and in the bionomics and taxonomics of Malayan mosquitoes.

Layout Plans

166 layout plans from the Planning Officer, Singapore Improvement Trust, were referred for our opinion on the problem of drainage. In all cases the sites were inspected and comments given.

Staff

(i) Dr. Ling Ding Seng was in charge of the department till his transfer on 14–7–59 to the main office as Acting Senior Assistant Health Officer.

(ii) During the absence of Dr. Ling Ding Seng in the Philippines, the duties of the Assistant Health Officer (A.M.D.) were shared by Dr. V. M. S. Thevathesan, Dr. R. S. Corbitt and Dr. A. Manoharan.

(iii) Mr. K. Muthucumaru, Superintendent (A.M.D.) was medically boarded out of service with effect from 7–4–59 and was re-engaged on 25–4–59 on a temporary basis.

Labour

Authorised Labour Force	607
Average monthly strength in payroll	569
Percentage of shortage	6%
Number of working days in 1959	313
Number of man-days taken as sick leave	5,691
Number of man-days taken as annual leave	3,718
Number of man-days taken as public holidays	7,852

403 different labourers took sick leave on at least one occasion during the year. This meant that 66 per cent of the total labour force went on sick leave at least once during the year. The average number of man-days lost per labourer on account of sickness was 10.0 days.

Miscellaneous

(i) A close liaison was maintained with the District Councils, the Singapore Harbour Board, the Malayan Railway Authorites and the Army Department, all concerned with the control of mosquito breeding.

(ii) As directed by the Administrator, all personnel engaged in construction of and repair of anti-malarial drains were transferred to the City Engineer's Department with effect from 28–7–59 and were reverted to this department with effect from 21–8–59.

(iii) On 27–7–59, as directed by the Administrator, this department was placed under the direct control of the Superintendent, City Cleansing Department but was brought back under the administration of the City Health Officer with effect from 2–11–59 with Dr. Ng Cheng Hin as Assistant Health Officer (A.M.D.).

(iv) The cost of malaria control per head of population within the City Limits was $1.02 for the year.

SUMMARY OF WORKS AND COSTS FOR 1959

Particulars		MATERIALS			Total
	Labour	Mason	Machine	Larvicide	
	$ c.	$ c.	$ c.	$ c.	$ c.
Major Works including ⅓ cost of Store Labour ..	68,608 26	18,286 77	..	..	86,895 03
Patrol Works including Tidal-Gate Labourers ..	123,169 23	..	..	..	123,169 23
MAINTENANCE					
1. Grass cutting, cleansing drains, including hire and benzine ..	458,926 46	..	4,446 02	..	463,372 48
2. Larvicidal works, trappers, oiling checkers and ⅓ cost of Store Labour ..	123,682 01	..	..	57,909 86	181,591 87
3. Repairs including ⅓ cost of Store Labour ..	61,317 97	31,923 94	..	..	93,241 91
4. Cleansing of drains by Contract Labour ..	35,530 00	..	..	..	35,530 00
Total ..	871,233 93	50,210 71	4,446 02	57,909 86	983,800 52
Cost of Haulage ..	..	..	..	..	24,175 99
Grand Total ..	..	..	..	..	1,007,976 51

I am, Sir,
Yours obediently,
Dr. NG CHENG HIN,
Assistant Health Officer (A.M.D.).

Mosquito traps were set in the following areas with the results indicated below:—

Locality	No. of Nights	Anopheline			Other *Anophel.*	Others	Total
		A. mac.	*A. sund.*	*A. letifer*			
Aljunied Road	60	..	..	..	41	1,053	1,094
Topez Road	60	..	1	..	33	875	909
Dunearn Road	14	..	..	..	..	128	128
Pasir Panjang Road ..	20	..	..	..	..	116	116
Bukit Timah Road ..	108	..	..	..	4	894	898
Raffles Park	90	..	..	..	10	742	752
Lorong 29, Geylang ..	18	..	..	..	..	273	273
Bendemeer Area ..	230	..	..	..	45	3,135	3,180
McNair Road	105	..	..	..	1	1,152	1,153
Tanjong Rhu	49	..	..	..	2	469	471
Lorong 40, Geylang ..	37	..	..	..	..	490	490
Mount Vernon	40	..	..	..	1	472	473
Soon Wing Road ..	24	..	..	..	9	353	362
Kolam Ayer Lane ..	18	..	..	..	3	233	236
Total ..		..	1	..	149	10,385	10,535

1 *A. sundaicus* and 147 other Anopheline females were trapped. In addition, 10,385 adult mosquitoes were identified.

Daily reports on adult catches were forwarded, as requested, to the D.A.D.A.H., Headquarters Singapore Base District for information.

PNG BOON HEE,
Laboratory Assistant.

12*th January*, 1960.

1,000 consecutive collections from common breeding places:—

Roadside concrete drain ..	81
Sullage concrete drain	10
Sullage earth drain	7
Concrete drains	81
Earth drains	80
Excavations for scrap metal ..	11
Stagnant pools	297
Grassy pools	109
Seepages	18
New building excavations ..	30
Lorry tracks	21
Vegetable ponds	13
Fish ponds	1
Earth ponds	57
Hyacinth ponds	27
Earth wells	41
Concrete wells	14
Concrete holes	12
Septic tanks	6
Concrete tanks	12
Water stop cock pits	6
Boats	5
Disused tins	18
Disused drums	10
Disused jars	17
Disused tyres	10
Disused buckets	2
W.C. water tanks	4
Total ..	1,000

PNG BOON HEE,
Laboratory Assistant.

12*th January*, 1960.

15,633 collections of mosquito larvæ were brought to the laboratory for identification. 5 of them contained larvæ of *Anopheline sundaicus*, 38 contained larvæ of *Anopheline maculatus* and 16 contained larvæ of *Anopheline letifer*. The other 15,574 collections did not contain larvæ of malaria vectors.

The types of breeding places in which the larvæ of malaria vectors were found were as follows:—

A. sundaicus

Tidal pools and depressions	4
Lorry tracks	1
Total ..	5

A. maculatus

Concrete well	1
Concrete drains	2
Seepage pools	11
Earth drains	7
Earth wells	16
Earth pond	1
Total ..	38

A. letifer

Edges of creeks in MacRitchie Reservoir ..	13
Edge of creek in Pierce Reservoir	1
Earth well	1
Seepage pool	1
Total ..	16

PNG BOON HEE,
Laboratory Assistant.

12*th January*, 1960.

APPENDIX *D*

PERMANENT ANTI-MALARIAL WORKS CARRIED OUT DURING 1959

Area No.	Name of Anti-Malarial Area	INVERTS							SLABS		SUB-PIPES			Labour Cost	Material Cost	Remarks
		21″	18″	15″		12″		9″	18″	12″	6″	4″				
		New	New	New	Old	New	Old	Old	New	New	New	New	Old			
														$ c.	$ c.	
35	Tiong Bahru (Bukit Permei)	..	295	955	..	89	..	..	1,005	1,492	..	..	..	20,847 56	5,691 46	Construction of sub-soil drain in progress.
68	Pearl's Hill	..	..	..	..	50	..	..	..	84	..	..	..	203 70	190 42	Construction of concrete drain. Completed.
44	Holland Park No. 2 ..	..	..	..	..	..	..	..	..	..	700	60	..	2,739 13	644 40	Construction of sub-soil drainage. Completed.
50	Tanglin Barracks No. 1 ..	..	..	..	..	..	..	..	220	..	..	..	..	418 08	23 90	Re-construction of concrete drain. Completed.
100	Adam Park	477	..	5	6	31	3	2	180	..	2	17	6	17,192 61	5,177 74	Re-construction of the main drain. Completed.
107	Wayang Satu ..	..	..	..	..	..	..	..	530	..	..	..	..	257 65	519 37	Re-construction of main drain. Completed.
121	Brick Factory Ravine ..	280	..	..	..	30	..	..	1,120	50	30	20	..	8,101 05	3,464 30	Re-construction of concrete drain. Completed.

APPENDIX *E*

DETAILS OF REPAIRS CARRIED OUT TO THE EXISTING ANTI-MALARIAL WORKS (1959)

Anti-Malarial Area	MATERIALS USED																				Labour Cost	Material Cost
	INVERTS										SLABS						SUB-SOIL PIPES							
	21″		18″		15″		12″		9″		18″		15″		12″		8″		6″		4″			
	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R		
																							$ c.	$ c.
1. Anderson Road	50	..	15	..	28	..	..	..	..	..	..	95	154	..	..	..	..	..	..	..	..	..	389 55	411 94
4. Claymore	..	..	..	..	5	..	299	165	..	..	50	64	..	..	116	49	..	..	250	..	..	..	2,360 06	1,153 73
5. Cluny Ravine	85	45	15	..	..	..	..	..	3	..	145	248	..	..	..	..	5	..	..	..	..	..	551 49	543 85
8. Kings Road/Tyersall	..	..	20	..	..	..	10	..	..	..	30	62	..	..	..	..	..	..	..	..	..	..	252 20	117 34
9. Nassim and Dalvey	..	..	..	..	..	..	30	2	..	..	..	..	..	15	105	..	..	..	..	..	..	..	159 14	81 24
10. Fern Hill	..	4	..	..	..	..	..	..	..	10	..	20	..	8	..	..	..	..	10	..	..	..	111 20	3 70
18. Hammer & Co., Ravine	..	..	..	..	90	..	..	..	..	..	50	110	..	..	..	..	..	..	..	..	..	..	251 50	269 75
19. Singapore Harbour Board Ravine	20	..	30	..	..	..	10	5	..	..	40	..	..	..	..	..	..	..	..	..	..	..	122 20	163 49
20. Jervois Road No. 1	..	..	..	..	..	..	5	..	16	..	25	30	..	..	..	..	..	..	..	..	..	..	125 80	83 70
21. Jervois Road No. 2	5	..	..	..	..	..	5	..	..	..	55	90	..	..	..	..	..	..	..	..	..	..	245 70	120 86
22. Jervois Road No. 3	6	..	..	..	..	..	..	..	60	10	50	80	..	..	..	..	..	..	..	..	..	..	359 10	195 30
25. Morse Road Ravine	..	..	80	..	140	5	..	..	..	..	160	185	40	..	..	..	..	..	..	..	..	..	1,010 62	779 39
30. Orchard Road	..	..	30	..	..	..	..	..	..	..	30	20	..	..	..	..	..	..	..	..	..	..	122 20	113 94
31. Paya Goyang	84	110	50	..	..	..	25	100	..	..	250	190	30	235	..	..	..	..	..	..	..	..	1,566 84	819 50
32. Radin Mas	20	..	65	..	..	..	20	..	..	..	120	210	..	..	..	..	..	..	..	..	..	..	688 90	420 60
35. Tiong Bahru	65	10	..	10	130	20	6	70	..	50	270	845	..	..	..	..	..	..	..	..	..	..	1,761 18	1,015 07
36. Wishart Road Ravine	55	10	50	10	..	..	..	..	..	..	135	155	..	..	..	..	..	..	..	..	40	..	948 70	322 53
38. Alexandra Swamp	60	20	..	..	..	..	..	..	..	..	70	215	..	..	..	..	..	..	..	45	..	..	663 10	325 70
40. Cluny Road Ravine	..	..	15	..	..	..	..	..	..	..	20	92	..	..	..	..	..	..	..	..	..	..	87 44	81 31
41. Gallop Road	30	80	..	..	..	..	30	..	..	..	40	400	..	..	..	..	..	..	..	..	..	..	485 00	321 62
42. Grange Road	..	..	..	..	..	..	..	..	..	..	..	10	..	..	..	..	..	..	..	..	..	..	52 65	..
43. Holland Park	..	..	..	..	..	..	..	..	..	..	30	30	..	..	..	..	..	..	..	..	..	..	82 60	56 84
47. Newton Ponds	..	..	..	..	..	..	..	30	..	..	80	100	..	..	..	..	..	..	..	..	..	..	371 00	157 52
49. Swettenham Road	5	..	..	..	10	..	..	..	..	..	45	230	..	..	..	..	..	..	..	..	..	..	388 52	166 74
50. Tanglin Hill No. 1	..	..	..	..	..	..	..	..	..	..	35	..	30	110	..	..	..	..	..	..	..	..	96 20	139 31
56. Henderson Road	20	4	..	..	..	..	10	10	20	10	50	60	..	..	..	10	..	..	..	..	..	..	296 77	98 44
58. Kampong Java (Mergui Road)	..	..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	46 90	15 37
63. Swiss Cottage	6	..	..	..	..	..	20	23	..	..	5	20	..	35	..	..	..	..	..	..	..	..	118 15	73 34
67. Spottiswoode Park	10	..	..	..	..	..	..	..	..	..	80	235	..	..	..	..	..	..	..	..	..	..	421 36	165 64
70. Chancery Lane	..	20	..	..	10	..	65	..	..	..	25	90	..	..	..	..	..	..	..	..	..	..	526 60	199 97
71. Tanglin Post Office	..	..	..	..	..	..	..	..	5	..	30	90	..	..	..	..	..	..	..	..	..	..	113 40	61 66
73. Mandalay Road	..	..	..	..	..	..	5	..	..	..	15	20	..	..	..	..	..	..	..	..	..	..	57 93	41 37
80. Economic Gardens	170	127	..	..	..	..	..	..	..	..	240	130	..	..	..	..	..	..	5	..	..	..	1,147 65	1,134 44
81. Mount Rosie	45	58	12	25	..	..	35	..	2	..	255	360	..	..	..	..	..	..	10	..	..	..	1,510 63	747 25
85. Ewe Boon Road	..	..	..	..	20	..	50	92	..	..	120	..	..	..	..	..	..	..	..	..	..	..	647 40	308 18
91. Holland/Bukit Timah	30	..	5	..	..	..	..	422	10	..	120	229	..	..	..	..	..	..	..	..	..	..	2,005 65	446 62
95. Nassim Road	30	..	..	..	..	..	2	..	..	..	40	68	..	..	..	..	..	..	..	..	..	..	210 28	159 31
96. Western Reclamation	..	..	..	..	..	..	15	..	..	..	..	100	..	..	..	..	..	..	..	..	..	..	205 00	13 96
100. Adam Park	16	..	210	30	25	15	25	10	..	..	620	870	..	..	..	..	..	..	..	..	..	..	2,515 65	1,756 79

DETAILS OF REPAIRS CARRIED OUT TO THE EXISTING ANTI-MALARIAL WORKS (1959)—*continued*

Anti-Malarial Area	MATERIALS USED																						Labour Cost	Material Cost
	INVERTS										SLABS						SUB-SOIL PIPES							
	21″		18″		15″		12″		9″		18″		15″		12″		8″		6″		4″			
	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R		
																							$ c.	$ c.
101. Joo Seng Road	..	..	..	..	..	..	..	..	6	..	60	287	..	30	..	..	..	..	..	..	..	..	406 72	200 28
104. Kampong Amber	..	..	..	..	..	..	3	..	15	..	10	..	..	..	..	..	..	..	..	..	..	..	47 75	48 99
107. Wayang Satu	..	40	70	30	..	..	35	..	3	..	295	620	..	..	..	..	..	..	..	..	..	..	1,942 49	904 84
109. Mount Pleasant	..	288	..	150	..	4	30	..	..	..	580	420	5	..	..	..	..	..	20	..	40	..	1,990 75	2,578 80
110. MacRitchie Reservoir	..	28	63	..	..	..	40	..	..	..	140	125	..	..	..	..	..	..	..	..	20	..	753 40	540 62
114. Dunearn Road	..	..	..	40	..	..	..	..	..	..	80	110	..	..	..	..	..	..	..	..	..	..	123 50	233 60
115. Alexandra Road Ravine	..	31	..	15	..	20	20	..	10	..	95	325	..	..	..	..	..	..	50	..	..	..	1,281 54	342 05
116. St. George's Road	..	10	15	..	..	45	..	30	205	..	55	340	..	..	..	..	..	..	..	..	..	..	763 95	229 04
117. Telok Blangah Ravine	..	120	50	..	..	..	..	160	90	..	360	280	..	..	..	..	..	..	50	4	50	..	2,299 85	1,237 59
121. Brick Factory Ravine	..	185	..	..	..	..	..	15	..	..	260	370	..	..	..	..	..	..	..	..	..	..	2,303 71	1,057 82
123. Kampong Limau Ravine	..	..	..	..	..	..	..	10	..	..	20	15	..	..	..	..	..	..	..	..	..	..	66 32	49 93
129. Sungei Namley	..	..	..	..	..	5	..	5	..	..	77	..	15	..	..	..	..	..	..	..	..	..	198 00	54 23
130. Mount Washington	..	180	45	106	335	20	40	135	100	37	40	860	960	..	..	..	..	..	..	..	..	..	3,500 36	2,645 90
133. Aljunied Road	..	..	..	..	70	30	70	75	795	5	..	165	775	..	..	..	..	..	..	..	..	..	1,623 06	620 66
135. Kim Keat Road Ravine	..	10	..	..	..	..	..	5	15	..	..	40	220	40	..	..	..	..	..	..	..	..	284 49	202 17
136. Boon Teck Road Ravine	..	..	..	10	..	..	20	70	..	..	..	255	920	..	..	..	..	..	..	..	..	..	1,464 89	562 01
137. Jalan Rajah	..	..	..	..	..	..	..	40	40	..	..	30	105	..	..	..	..	..	..	..	..	..	303 35	130 16
138. Ah Hood Road Ravine	..	20	..	10	25	..	..	25	45	10	..	75	65	..	..	..	..	..	..	..	..	..	591 96	309 45
141. Thomson Road Ravine No. 5	..	..	..	..	..	..	..	10	..	..	..	10	45	..	..	..	..	..	..	..	..	..	68 67	37 43
145. Hindu Cemetery Ravine No. 2	..	..	..	60	50	..	..	20	..	..	..	70	250	..	..	..	..	..	..	..	..	..	510 12	314 24
146. Mohamedan Cemetery	..	..	..	10	5	..	..	..	..	..	..	10	25	..	..	..	..	..	..	..	..	..	78 48	44 43
153. St. Michaels Road	..	..	..	..	..	..	..	..	..	..	..	110	110	..	..	..	..	..	..	..	..	..	228 00	170 93
154. Thomson Road Ravine No. 4	..	..	..	..	..	..	..	..	..	..	..	10	25	..	..	..	..	..	..	..	..	..	57 00	21 93
156. Henderson Road Ravine	..	4	10	..	5	..	..	..	10	..	..	..	120	..	..	..	..	..	..	..	..	..	307 50	39 93
158. Jalan Datoh	..	..	..	10	..	..	..	5	..	..	..	20	60	..	..	..	..	..	..	..	..	..	176 58	71 44
166. Craig Road Railway	..	..	..	..	..	..	8	90	..	..	..	..	..	..	..	..	..	..	..	..	..	..	273 14	144 22
167. Carey Road Ravine	..	..	..	..	..	..	5	..	..	..	..	..	80	..	..	..	..	..	..	..	..	..	129 18	7 44
170. Braddell Road Ravines	..	..	..	55	..	..	..	20	25	..	..	100	360	..	..	..	..	..	..	..	..	..	562 33	347 80
183. Namley Avenue	..	..	..	..	..	..	..	10	..	..	..	15	15	..	..	..	..	..	..	..	..	..	71 40	45 25
191. Raffles Park	..	..	..	..	15	..	..	..	..	..	..	30	70	..	..	..	..	..	..	..	..	..	272 71	65 76
192. Eng Neo Avenue	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	49 25	23 48
194. Swiss Club	..	..	..	..	..	..	..	5	..	15	..	30	..	..	..	..	..	..	..	..	..	..	123 12	78 99
202. Annamalai Avenue	..	..	..	..	..	..	..	..	..	130	..	..	..	..	..	..	..	..	..	..	..	..	104 26	169 00
209. Clementi Road	..	25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	180 44	141 57
211. West Coronation Road	..	..	..	..	..	8	..	..	..	..	..	5	42	..	..	..	..	..	..	..	..	..	81 60	35 78
214. Bin Tong Park	..	..	..	135	..	..	..	37	..	..	..	360	..	..	..	..	..	..	..	..	..	..	593 88	803 32
215. Belmont Road	..	..	..	..	..	..	..	..	..	5	..	7	15	..	..	..	..	..	..	..	..	..	95 00	21 97
224. Pasir Panjang School	..	..	..	..	..	..	..	100	150	..	..	75	210	..	..	60	..	..	..	..	..	..	966 19	437 62
227. Ulu Pandan	..	..	..	..	..	..	..	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	75 60	21 33

APPENDIX *F*

DETAILS OF NEW WORKS CARRIED OUT IN KAMPONGS

Kampongs	MATERIALS USED								COST		Remarks
	Sand cu. yd.	Gr. chips cu. yd.	Bricks pcs.	Cement bags	Slabs 18"	Perf. Plates. (steel)			Labour	Material	
						10 ft.	6 ft.	5 ft.			
									$ c.	$ c.	
Boon Teck Road ..	5½	5½	88	25	..	28	12	28	515 60	226 25	4 dumping enclosures and 2 incinerators.
Potong Pasir ..	10¼	14	504	49	..	32	..	140	1,110 63	534 08	8 dumping enclosures and 5 incinerators.
Amber	4	6	168	21	..	16	..	52	393 28	219 78	4 dumping enclosures and 2 incinerators.
Lorong Koo Chye ..	4	4	84	16	..	12	..	30	250 67	156 55	3 dumping enclosures and 1 incinerator.
Chia Heng ..	1	2½	84	8	..	12	..	7	171 67	103 26	1 dumping enclosure and 1 incinerator.
Wishart	2½	4	168	13	..	8	..	44	232 27	151 24	2 dumping enclosures and 2 incinerators.
Aljunied/Lorong 23	1½	2	84	7	..	4	..	22	147 85	78 86	1 dumping enclosure and 1 incinerator.
Radin Mas ..	2½	4	168	12	15	8	..	44	274 38	166 75	2 dumping enclosures and 2 incinerators.
Bukit Permai ..	2	3	168	10	18	4	..	40	232 27	146 36	1 dumping enclosure and 2 incinerators.
Bukit Teresa ..	1	2	84	6	..	4	..	22	118 64	72 45	1 dumping enclosure and 1 incinerator.
Fernhill	1	2	84	7	25	4	..	22	127 94	108 67	1 dumping enclosure and 1 incinerator.

DETAILS OF WORKS CARRIED OUT NEXT TO BIN CENTRES

Locality of Bin Centre	MATERIALS USED							COST		Remarks
	Sand cu. yd.	Gr. chip cu. yd.	Bricks pcs.	Cement bags	Perf. steel plates			Labour	Material	
					10 ft.	6 ft.	5 ft.			
								$ c.	$ c.	
Havelock Road ..	¼	¼	84	2	..	6	12	42 21	29 92	1 incinerator.
Aljunied Road ..	¼	¼	84	2	..	..	18	36 76	30 34	1 incinerator.
Silat Road	¼	¼	84	2	..	..	18	47 31	30 34	1 incinerator.
Bendemeer	½	¾	84	3	..	..	19	55 90	39 25	1 incinerator.
Beo Lane	½	½	84	2	..	..	19	52 82	31 67	1 incinerator.
Lorong 29, Geylang ..	½	½	84	2	..	..	19	65 97	31 67	1 incinerator—demolished on 8–10–59.
Pasir Panjang Road ..	½	½	84	2	..	..	19	61 11	31 67	1 incinerator—demolished on 15–10–59.
Sims Av./Kg. Wak Tg. ..	½	½	84	2	6	..	13	70 57	31 67	1 incinerator.
Kolam Ayer Lane Incinerator compound ..	1½	1½	252	6	4	..	36	132 44	94 95	1 incinerator.

MAINTENANCE OF KAMPONGS

Kampongs	MATERIALS USED						Labour Cost	Material Cost	Remarks
	Inverts		Slabs		Sub-soil Pipes	Anti-Malarial mixture			
	12″	9″	18″	12″	6″	gallons			
							$ c.	$ c.	
Kampong Silat and Tiong Bahru ..	416	135	70	270	2	..	29,523 15	1,550 21	2 gangs utilised to desilt anti-malarial drains from Jan.—April.
Kampong Silat (S.I.T.) ..	..	..	..	..	..	..	1,443 35	..	
Kampong Mt. Washington ..	..	..	..	..	..	..	3,010 90	..	
Kampong Alexandra	10	10	..	..	..	..	4,726 35	34 87	
Kampong Bukit Teresa ..	..	..	..	..	..	26	2,500 60	15 08	
Kampong Bukit Permei ..	..	..	..	..	..	30	988 23	17 40	
Kampong Wishart	..	..	..	..	..	30	720 20	17 40	
Kampong Radin Mas	..	..	..	..	..	30	1,111 42	17 40	
Kampong Amber	..	..	..	..	..	40	4,730 61	23 20	
Kampong Wak Tanjong	..	..	..	..	..	..	13,717 32	..	
Kampong Fernhill	..	..	..	..	..	28	457 45	16 24	
Kampong Chia Heng	..	..	..	..	..	28	1,190 00	16 24	
Kampong Lorong Koo Chye ..	..	..	..	..	..	28	2,157 00	16 24	
Kampong Boon Teck Road ..	..	..	..	..	..	100	3,979 80	58 00	
Aljunied/Lorong 23	..	..	..	..	..	12	478 40	6 96	
Kampong Potong Pasir ..	..	..	..	..	..	160	3,945 60	92 80	

ANNUAL REPORT ON THE CITY ANALYST'S DEPARTMENT FOR THE YEAR 1959

THE VOLUME OF work undertaken by the City Analyst's Department continued to increase during the year 1959 when a total number of 31,084 samples were examined. The increase in the number of samples was approximately 2.6 per cent over the number examined in 1958, and this could be accounted for by the commissioning of several new undertakings by the City Council during 1959, notably the Water Treatment Works at Bedok, the new Phase II extension to the Kim Chuan Road Sewage Disposal Works and the fresh-water swimming pool at River Valley Road.

The samples received for testing can be classified according to their source of origin as follows:—

Water Department	21,053 samples
Gas Department	121 samples
Electricity Department	8 samples
Engineer's Department:	
Sewerage Section	3,872 samples
Sewerage Section: Extension Works ..	69 samples
Stores and Workshop	24 samples
Architect and Building Surveyor's Department ..	3,533 samples
Health Department	1,226 samples
Veterinary Department	2 samples
Secretariat	11 samples
Assessment and Estates Department ..	3 samples
Fire Brigade	2 samples
Commercial Firms	1,160 samples
Total ..	31,084 samples

The cost of running the laboratory worked out at $5.31 per sample analysed A general indication of the nature of the samples examined and of the diverse consultative and advisory work carried out for the various departments of the Council is given below.

WATER DEPARTMENT

The following samples were analysed for the Water Department:—

Routine Daily Water San ples:	
from treatment works and distribution system	12,099 samples
from Bedok Works	835 samples
from camp supplies	1,461 samples
for fluorine test	5,391 samples
Monthly samples from clear water tanks ..	49 samples
Urine for fluorine test	325 samples
Boiler Water	292 samples
Special Investigations:	
Raw water from new sources	36 samples
Galvanised pipe	4 samples
Sediment	4 samples
Chlorine content in Gunong Pulai main ..	60 samples
Chlorine content in Tebrau main	13 samples
Tap water for check test	14 samples
Carried forward ..	20,583

Brought forward: ..		20,583
Chemicals for specification tests:		
Sulphate of alumina		21 samples
Hydrated lime		50 samples
Sodium silicate		3 samples
Sodium silicofluoride		7 samples
Sodium bicarbonate		2 samples
Preparation of Chemical reagents		384 samples
Fertilizer		1 sample
Sterilizing Tablets		2 samples
Total ..		21,053 samples

The water supply of Singapore, which was derived exclusively from surface water from one river source and several impounding reservoirs, was augmented by an underground supply in early 1959. This new supply at Bedok valley was reached by sinking some ten wells, and the water is pumped to the treatment works also situated in Bedok. This water differs considerably from the surface waters previously treated; the water is fairly hard (100 p.p.m. as CaC^03) and contains a good amount of iron (2 p.p.m.) held in solution by carbon dioxide (40 p.p.m.). The water also possesses much turbidity and colour. The method developed for treating the water consisted of the following stages:

(*a*) removal of carbon dioxide by aeration at a low pH value, induced by early addition of sulphate of alumina,
(*b*) flocculation at a pH value of about 6.2,
(*c*) sedimentation at pH 7.5 for maximum removal of iron,
and (*d*) filtration and chlorination.

Towards the end of the year the dam at Bedok valley, which was constructed as a flood prevention measure, was being filled and tests were carried out to establish the best method for the treatment of this water.

Investigations were carried out on several new sources, hitherto unexploited, particularly river water drawn at Lubok Pekan and Kota Tinggi on the Johore River. Water from the Scudai River was also tested.

The water produced in the four large works continued to receive fluoridation to the level of 0.7 part per million of fluorine throughout the year. Fluoridation of the Singapore water supply has been carried out for almost three years and the effect of this addition, whether beneficial or otherwise, on the dental health of school children should be known shortly. Tables *A*, *B* and *C*, attached, give average analyses of the City water supply.

GAS DEPARTMENT

The following samples were analysed:—

Boiler water		51 samples
Oil gas tar		3 samples
Circulating water		3 samples
Naphthalene content of City gas		6 samples
Coke		1 sample
Preparation of chemical reagents		57 samples
Total ..		121 samples

The number of samples analysed for the Gas Department in 1959 is considerably less than that of the previous year. The analysis of boiler water from the Gas Works is understood to be carried out now on the site.

ELECTRICITY DEPARTMENT

The following samples were analysed:—

Fuel oil	7 samples
Water for identification of skin irritant ..	1 sample
Total ..	8 samples

The fuel oil samples represented deliveries at Pasir Panajang Power Station. During the second half of the year an Assistant Analyst from the department was seconded for duties at the Pasir Panjang Power Station laboratory because of a staff shortage there.

ENGINEER'S DEPARTMENT

Sewerage Section

The following samples were analysed:—

Sewage, sludges, top-waters and effluents from sewage disposal works	2,260 samples
Septic tanks	1,210 samples
River water	395 samples
Water from fish-pond at Serangoon works ..	2 samples
Sewer water for sub-soil water infiltration ..	5 samples
Total ..	3,872 samples

Routine examination of sewage samples from the two sewage disposal works run by the City Council, one at Alexandra Road and the other at Kim Chuan Road, was carried out regularly throughout the year. At Alexandra Road Works the sewage is treated on percolating filter beds and the effluent discharges into Singapore River. At the Kim Chuan Road Works the activated sludge process is used and the effluent discharges into Serangoon River.

The new Phase II extension of the Kim Chuan Road sewage disposal works was commissioned early in the year. Before the gas produced in the new digestion tanks could be used to drive the gas engines it was necessary to make sure that all the air had been displaced. One Assistant Analyst attended the works to make daily determinations of the composition of the gas. The effluent from the Phase II extension was generally of good quality and that from Phase I also improved because of the reduced load. The average results for the effluents from Kim Chuan Road works as well as from Alexandra Road works are given below:—

AVERAGE ANALYSIS OF SEWAGE WORKS EFFLUENTS
(in parts per million)

	Alexandra Works	KIM CHUAN ROAD WORKS	
		Phase I	Phase II
Free and Saline Ammonia	15.8	22.5	21.9
Albuminoid Ammonia	1.9	4.0	2.8
Oxygen Absorbed in 4 hours ..	13.9	25.6	21.7
Biochemical Oxygen Demand ..	25.7	53.5	36.4
Total Solids	667	416	379
Suspended Solids	39	54	48
Nitrates	absent	absent	absent
Chlorides (as Cl)	263	118	115
pH	7.4	7.4	7.4

The number of samples from private purification plants increased from 636 in 1958 to 1,210 in 1959. This is due to the taking over of a large number of septic tanks in the area around Pasir Panjang, Holland Road and Raffles Park, formerly in the Rural Area but now forming part of the City. A comparison between the results of the effluents from tanks in the old City area and those in the new City area is interesting:—

AVERAGE ANALYSIS OF SEPTIC TANK EFFLUENTS
(in parts per million)

	Old City Area	New City Area
Free and Saline Ammonia	17.3	26.2
Albuminoid Ammonia	2.6	1.8
Oxygen Absorbed in 4 hours	15.9	21.6
Suspended Solids	55	58
Chlorides (as Cl)	36	43
Nitrates	3	4

The results for the new City area were generally poor, exceeding the suggested limits of 10 p.p.m. for Oxygen Absorbed in 4 hours and 30 p.p.m. for Suspended Solids. The poor results could be due to poor design, inadequate tank capacity or lack of maintenance. There appears to be a real need for standardisation of septic tank design. There should also be some agreement regarding tank capacity; an over-designed septic tank would obviously cost too much, and an under-designed tank would not produce the desired degree of purification.

The River Pollution Survey alluded to in last year's annual report was completed in May and a report was submitted to the Administrator of the City Council. The survey attempted to establish the various sources of pollution entering each river. One such source, which was discovered to be polluting the effluent from Alexandra Road sewage works, was effectively dealt with, resulting in a marked improvement in the condition of Singapore River.

Sewerage Section: Extension Works

The construction of a new sewage disposal works at Ulu Pandan, which will ultimately replace the Alexandra Road works, has called for the analysis of certain building materials. The following samples were analysed in this connection:—

Concrete for composition	5 samples
Soil for pH value	62 samples
White deposit for identification	1 sample
Spring water for effect on concrete	1 sample
Total ..	69 samples

Stores and Workshop

The samples analysed for this section were as follows:—

Boiler water	21 samples
Soap for specification tests	3 samples
Total ..	24 samples

The following samples were analysed:—

Swimming pool water:	
from Mount Emily Pool	784 samples
from Yan Kit Road Pool	1,180 samples
from Farrer Park Pool	1,080 samples
from River Valley Pool	428 samples
Van Kleef Aquarium Water	60 samples
Sand	1 sample
Total ..	3,533 samples

A new swimming pool at River Valley Road was opened to the public in August and this brought the number of swimming pools run by the City Council to four. These pools are all filled with fresh water, which are tested daily. The good condition of the water in all the pools was maintained throughout the year.

Samples of salt and fresh water from Van Kleef Aquarium were also received for examination.

HEALTH DEPARTMENT

1,226 samples were received from the Health Department. These consisted mainly of samples taken in connection with the licensing of food factories and in the enforcement of the Sale of Food and Drugs Ordinance.

The number of formal samples received under the Sale of Food and Drugs Ordinance was 535, of which 119 were found to be adulterated, below standard or otherwise defective, and appropriate certificates were issued for these samples. The proportion of unsatisfactory samples was 22.2 per cent as compared with 24.6 per cent for 1958. Details of the adulteration and other irregularities found are given in Table *D*.

Routine tests were done regularly on samples of food and beverages manufactured locally on premises licensed by the Health Officer. These samples were tested for compliance with standards, metallic contamination, saccharin and prohibited preservatives.

An outbreak of severe food poisoning occurred in early September in which pearl barley was incriminated. The poisoning was characterised by congestion of the lungs and there were 9 fatalities. This laboratory established that parathion, an insecticide, was present as a contaminant in the incriminated barley. Other bags in the consignment were examined and from the distribution of the insecticide it was apparent that contamination had occurred from outside the bags. A large number of samples of pearl barley from later consignments were checked for the presence of this insecticide, but with negative results.

The raising of electricity rates for cinemas early in the year resulted in several of these places of entertainment shutting off their air-conditioning plants in April. It was feared that this would increase the carbon dioxide content and humidity of the air to very high levels, and tests were carried out to verify this suspicion. It was found that the carbon dioxide contents of two large cinemas ranged between 0.04 per cent and 0.09 per cent by weight, while the relative humidity was between 64 per cent and 68 per cent. These low values were undoubtedly due to the small audience present at the shows.

The range and variety of the samples examined are given in the following list:—

Food (1,084 samples):	
Milk and milk products	189 samples
Beverages	463 samples
Condiments	68 samples
Cooking Oils and Fats	45 samples
Canned Food	79 samples
Fresh fruits and other foods	240 samples
Drugs (130 samples):	
B.P. and B.P.C. drugs	36 samples
Patent medicines and native medicines ..	94 samples
Other samples	12 samples
Total ..	1,226 samples

The City Analyst served on the Food and Drugs Sub-committee of the Medical Advisory Council. The committee met on many occasions during the first half of the year to make recommendations for amending and revising the existing legislations on the Sale of Food and Drugs.

VETERINARY DEPARTMENT

Two veterinary preparations were received for adjustment of pH value.

SECRETARIAT

Eleven lots of photographic developer solution were prepared for the Secretariat.

ASSESSMENTS AND ESTATES DEPARTMENT

Three metal house-number plates were analysed for their composition.

FIRE BRIGADE

One sample of low-boiling petroleum and one sample of cellulose nitrate were received for classification.

COMMERCIAL FIRMS

A total of 1,160 samples were received and reported on. The samples may be classified as follows:—

Essential oils	35 samples
Vegetables oils	113 samples
Ores	14 samples
Local produce	187 samples
Food	158 samples
Drugs	19 samples
Chemicals	37 samples
Fertilizers and feedings stuffs	9 samples
Metals and alloys	4 samples
Building materials	20 samples
Fuels and petroleum products	17 samples
Swimming pool water, etc.	529 samples
Damaged goods	6 samples
Miscellaneous	12 samples
Total ..	1,160 samples

Swimming pool water and potable water made up almost one half of the samples analysed for the public. The swimming pool water were from several social clubs, one seamen's club and two Royal Air Force stations. Requests for advice on water supply and water treatment continued to be received from several places overseas. Samples of water were received for analysis regularly from Jesselton in British North Borneo, the samples arriving both by air and by sea. Samples were also received from Tanjong Pinang, an island in the Rhio Archipelago. This island depends on wells for its water supply and a water catchment was being planned.

PUBLIC RELATIONS

The laboratory participated in the Singapore Constitution Exposition which was held at the abandoned Kallang Airport site from January 24 to March 10th. The department's stall, which was manned by members of the staff, attracted a good number of spectators especially students.

The laboratory had many distinguished visitors. Early in the year Town Councillors from various towns in the Federation of Malaya visited the laboratory. The Prime Minister of Singapore visited the laboratory in October 1959. The laboratory was also visited on different occasions by Chinese school students, Nanyang University students and various groups of tourists from the Federation of Malaya.

STAFF

During the year there were three resignations from the junior staff and one from the senior staff. The staff situation was much improved in November with the appointment of three temporary officers. The writer welcomes this opportunity of placing on record his thanks to all members of the staff for their loyal support and consistent and conscientious work throughout the year, but particularly during August, when the staff situation was rather poor, and during September, when the outbreak of parathion poisoning demanded extra effort from members of the staff.

LIM CHIN KUAN, B.SC., M.SC., F.R.I.C.,
City Analyst.

TABLE *A*

RAW WATER

AVERAGES OF DAILY ANALYSIS FOR YEAR 1959

(Results in Parts Per Million)

	Tebrau River	Pontian Reservoir	G. Pulai Reservoir	Peirce Reservoir	MacRitchi Reservoir
Nitrite Nitrogen	a	a	a	a	a
Carbon Dioxide	4.2	2.1	5.1	2.0	1.9
Total Alkalinity (as $CaCO_3$) ..	2.4	5.4	5.4	2.0	2.50
pH Value	5.9	6.6	6.3	5.9	6.1
Colour (Hazen Units) ..	37	16	19	18	19
Iron	.37	.33	.32	.32	.28

TABLE *B*

TREATED WATER

FROM CLEAR WATER TANKS

AVERAGES OF DAILY ANALYSIS FOR YEAR 1959

(Results in Parts Per Million)

	Tebrau	G. Pulai	Wood-leigh	Bukit Timah
Nitrite Nitrogen	a	a	a	a
Carbon Dioxide	.17	.16	.82	.75
Total Alkalinity (as $CaCO_3$)	13.8	12.2	7.6	8.6
pH Value	8.5	8.4	7.3	7.4
Colour (Hazen Units)	5	5	5	5
Iron	.10	.11	.107	.103
Soluble Alum (as Al)	.74	.67	.84	.68
Residual Chlorine	.52	.67	.34	.36

TABLE *C*

TREATED WATER

FROM CLEAR WATER TANKS

AVERAGES OF MONTHLY COMPLETE ANALYSIS 1959

(Results in Parts Per Million)

	Tebrau	Gunong Pulai	Wood-leigh	Bukit Timah	Bedok
Ammoniacal Nitrogen ..	0.16	0.33	0.19	0.19	1.80
Albuminoid Nitrogen ..	0.04	0.07	0.06	0.06	0.15
Nitrite Nitrogen	a	a	a	a	t
Nitrate Nitrogen	0.03	0.04	0.02	0.02	0.09
Carbon Dioxide	0.20	0.08	0.72	0.7	11.6
Total Alkalinity (as $CaCO_3$) ..	13.5	11.8	8.0	9.8	97.0
Total Hardness (as $CaCO_3$) ..	23.5	24.1	26.5	23.6	123.5
Carbonate Hardness ..	13.5	11.8	8.0	9.8	97.0
Chlorides (as Cl)	6.5	6.9	6.8	6.8	35.0
Iron	0.10	0.12	0.10	0.10	0.20
Soluble Alum (as Al) ..	0.70	0.65	0.84	0.85	0.05
Free Chlorine	0.47	0.77	0.33	0.38	0.40
Oxygen Absorbed from Permanganate in 4 hours ..	0.53	0.68	0.54	0.48	1.17
B.O.D. in 3 days	0.20	0.20	0.22	0 20	0 36
Total Solid Residue ..	51	55	53	47	306
Suspended Solids	0.9	a	0.4	0.1	4
Colour (Hazen Units) ..	5	5	5	5	5
pH Value	8.3	8.5	7.2	7.5	7.5

TABLE *D*

FOOD AND DRUGS SAMPLES ADULTERATED OR OTHERWISE IRREGULAR

No.	Sample	Nature of Irregularity
1	Margarine	Contained boric acid.
13	Milk	Deficient in solids-not-fat
18	Syrups and Cordials ..	Contained saccharin.
7	Blackcurrant Syrup	Deficient in ascorbic acid.
6	Coffee Powder	Deficient in coffee.
55	Coffee Mixture	Deficient in coffee.
1	Maize Powder	Not wholly maize powder.
4	Preserved Fruit	Contained saccharin.
1	Gingelly Oil	Not genuine gingelly oil.
2	Mepacrine Hydrochloride Tablets	Not genuine mepacrine hydrochloride.
1	Hydrogen Peroxide, B.P. ..	Deficient in hydrogen peroxide.
1	Aspirin Tablets	Deficient in aspirin.
1	B-Complex Tablets	Deficient in Vitamin B1.
1	Multivitamin Tablets ..	Deficient in Vitamin B1.
1	Multivitamin Tablets ..	Deficient in Vitamins B1 and C.
1	Acid Acetylsalicylic and Caffeine Tablets, B.P.C.	Deficient in acetylsalicylic acid and caffeine.
1	Typhoid Fever Powder ..	Contained aspirin in excess of stated amount.
1	"Buan Chuan" Pills ..	Contained excessive lead.
1	"Chin Foong Sun" Fever Powder	Contained undeclared phenacetin.
2	"Pau Ying Tang" Fever Powder ..	Contained undeclared phenacetin.

Total number of formal samples received	535
Number of unsatisfactory samples	119
Percentage of unsatisfactory samples	22.2%

BACTERIOLOGICAL DEPARTMENT

The following is the report on the work carried out in this laboratory during the year 1959.

SECTION *A*—PUBLIC HEALTH SPECIMENS

Source	*1958*	*1959*
Medical Officers i/c Staff	9,169	9,478
Medical Officers i/c Outdoor Dispensaries ..	17	133
Maternity and Infant Welfare Clinics and Creches	10,867	9,296
Middleton Hospital	16,331	17,973
St. Andrew's Mission Hospital	7	5
Kwong Wai Siu Hospital	2	—
Johore and Tebrau Water Works ..	207	305
Private Medical Practitioners	3,034	2,489
Rats from Plague Prevention Section ..	6,051	3,841
Ecto-parasites from Plague Prevention Section	6,293	6,442
Total ..	51,978	49,962

SECTION *B*—WATER EXAMINATIONS

Routine, from City Water Engineer ..	13,409	13,770
Routine, from City Council Swimming Pools	2,894	4,155
Miscellaneous Sources	326	778
Algæ and other specimens	103	189
Wash Water from City Cleansing Department	36	35
Grand Total ..	68,746	68,889

SECTION *A*—PUBLIC HEALTH SPECIMENS

Public health specimens from the Rural areas of the Island also are now being received. The figures for the various examinations are given below:

MALARIA

596 blood films were examined for malarial parasites.

3 specimens were positive for *P. falciparum*.

4 specimens were positive for *P. Vivax*.

TUBERCULOSIS

	Positive	Negative	Total
Sputum specimens	14	1,191	1,205
Milk specimens	..	13	13
Total ..	14	1,204	1,218

ENTERIC FEVER

	Positive	Negative	Total
Agglutination with Salmonella Typhi	72	459	531
Agglutination with Para-typhi *A*.	1	376	377
Agglutination with Para-typhi *B*.	16	361	377
Agglutination with Para-typhi *C*.	12	365	377
Blood clot culture—Sal. typhi isolated ..	69		
Blood clot culture—para-typhi *A*. isolated ..	1	310	380
Fæces culture—Sal. typhi isolated ..	104	1,334	1,439
Fæces culture—para-typhi *B*. isolated ..	1		
Urine culture—Sal; typhi isolated	4	1,348	1,352
Ice-cream	..	1	1
Total ..	280	4,554	4,834
Agglutination with Vi antigen			531
Grand Total ..			5,365

Early in November, an outbreak of typhoid fever occurred in a family among most of its members who had attended a picnic and had taken food obtained from hawkers there. On examination of the hawkers in the locality one of them who had supplied iced drinks to the family was found to be excreting typhoid bacilli in his fæces. Salmonella typhi isolated from the blood or fæces of these patients was found to be of the same phagetype as that found in the hawker. Thanks are due to the Senior Bacteriologist, Institute for Medical Research, Kuala Lumpur, for getting the organisms phage-typed for us.

TROPICAL TYPHUS

A total of 714 specimens of blood were examined for Weil Felix reaction and all were negative.

DYSENTERIES

	Positive	Negative	Total
Amœbic: Entamœba histolytica	12	1,989	2,001
Bacillary: Shigella flexner	72		
Bacillary: Shigella schmitz	1	..	..
Bacillary: Shigella shiga	5	..	..
Bacillary: Shigella sonnei	87	1,714	1,879
Total ..	177	3,703	3,880

PLAGUE

No specimens of human orgin were received.

3,841 rats were dissected and none showed any signs of plague infection.

6,442 ecto-parasites combed from the rats were examined.

The species and distribution of all rats and ecto-parasites are given in the following table:—

Table 1.

RATS AND FLEAS—SPECIES AND DISTRIBUTION, YEAR 1959

Source	*R. Norvegicus*		*R. Rattus*		*R. Concolor*		*M. Musculus*		*Croci-dura*	Total Rats	Fleas *X* Cheo-pies	Fleas Others C. Felis	Total Fleas	Mites	Remarks
	M.	F.	M.	F.	M.	F.	M.	F.							
City Health ..	631	1,648	48	21	21	96	99	60	57	2,681	5,435	1	5,436	632	
Government Health	16	66	11	9	56	86	231	201	5	681	275	..	275	28	
S. H. B. ..	19	51	39	59	13	11	2	..	..	194	70	..	70	1	
Port Health ..	..	..	64	94	38	70	11	7	1	285	..	..	..	..	Fumigated H.C.N.
Total ..	666	1,765	162	183	128	263	343	268	63	3,841	5,780	1	5,781	661	
Grand Total ..	2,431		345		391		661		63	3,841	5,781		5,781	661	

CEREBRO-SPINAL FEVER

No specimens were received.

CHOLERA

Three specimens were examined and all were negative.

LEPROSY

Seven skin smears were examined and all were negative.

DIPHTHERIA

A total of 14,080 throat swabs, nasal swabs and swabs from other sites were cultured for examination and *C. diphtheriæ* was demonstrated in 2,071 specimens.

MISCELLANEOUS EXAMINATIONS

	Positive	Negative	Total
Pathological exudates for General Examination ..	..	..	7
Urine for General Examination	..	..	1,803
Pus and Urine for Gonococci	24	356	380
Blood for Hæmoglobin percentage	..	..	62
Blood for T.R.C., T.W.C., and differential Counts ..	..	..	511
Blood for B.S.R.	..	..	19
Blood for Kahn Test	82	3,019	3,101
Cerebral spinal fluid for Kahn test	0	3	3
Fæces for Occult Blood	0	4	4
Fæces for Intestinal parasites	..	..	10,724
Sundried humus and sludge	..	..	125
Ice-cream	..	..	221
Milk	..	..	49
Milk bottles for sterility tests	..	..	12
Canned foods	..	..	18
Syrup drink	..	..	3
Fresh water fish	..	..	6
Disinfectant	..	..	3
Meat and Baked cuttlefish for food-poisoning group ..	..	..	2
Sewage effluent	..	..	12

Source—Pipe Supply	Year's Average total colonies per ml. at 37° C. in 24 hours	Year's Average presumptive coliform count per 100 m.l.
MacRitchie Reservoir Valve Tower	211	48
Peirce Reservoir Valve Tower	270	11
Seletar Reservoir Suction Well	170	22
Pontian Reservoir Valve Tower	294	50
Bukit Timah Reservoir Clear Water Tank ..	37	Less than 1
Woodleigh Reservoir Clear Water Tank ..	11	Less than 1
Gunong Pulai Reservoir Clear Water Tank ..	9	..
Tebrau Reservoir Clear Water Tank ..	12	Less than 1
Bedok Reservoir Clear Water Tank ..	48	Less than 1
Pontian Camp Supply Tank	21	Less than 1
Pearl's Hill Reservoir Tank 1	13	Less than 1
Pearl's Hill Reservoir Tank 2	12	Less than 1
Fort Canning Reservoir	9	Less than 1
Taps: Bacteriological Laboratory	9	..
Lorong Lalat Office	13	Less than 1
Havelock Road Office	15	Less than 1
Pasir Panjang Office	16	Less than 1
Dunearn Road Office	11	..
Joo Chiat Office	13	..
Average of six (6) taps	13	Less than 1
Swimming Pools		
Mount Emily—Shallow End	7	..
Deep End	7	..
Yan Kit—Shallow End	8	..
Deep End	10	Less than 1
Main Pool—Inlet	9	..
Outlet	10	Less than 1
Farrer Park—Shallow End	8	..
Deep End	10	..
Main Pool—Inlet	8	..
Outlet	10	..
*River Valley Road—Shallow End	8	Less than 1
Deep End	10	Less than 1
Main Pool—Inlet	9	Less than 1
Outlet	9	Less than 1
*Started in September 1959		
Miscellaneous Samples		
Singapore Swimming Club	..	263 samples
Tanglin Club	..	26 samples
Chinese Swmiming Club	..	51 samples
Other Sources	..	438 samples
Total ..		778 samples
Algæ and other Samples		
Algæ	..	87 samples
Sewage Effluent	..	102 samples
Total ..		189 samples

Wash Water

A total of 35 samples were examined for the City Council Cleansing Department and the results obtained were satisfactory throughout the year.

Staff

On 27–2–59 the post of City Bacteriologist was downgraded to Class II in the Senior Officers' Salary Scale.

Dr. Ling Ding Seng who was acting as City Bacteriologist relinquished the post on 13–4–59. Since then the Assistant Health Officer (Bacteriology) has been carrying out the duties of City Bacteriologist, in addition to his own.

Laboratory Attendant Rahmat bin Kamis was appointed Senior Laboratory Attendant with effect from 1–5–59. Laboratory Attendant Mohamed Taib bin Kechik expired on 13th October, 1959. Junior Laboratory Attendants Loo Khek Kheng and V. Karuppiah joined this department on transfer from the Registrar of Vehicles Office on 16–10–59.

I wish to record the unstinting co-operation given by all the members of the Staff.

K. KARUNAKARAN,
Assistant Health Officer, (Bacteriology)

10*th March*, 1960.

ANNUAL REPORT OF MATERNAL AND CHILD WELFARE DEPARTMENT 1959

THE DEPARTMENT continued to carry out all aspects of the Maternal and Child Welfare work in spite of severe shortage of staff.

It was even envisaged at the beginning of the year to expand by the addition of 2 new clinics and by 1–7–59 the premises, furniture and equipment of a new clinic at Stirling Road were ready for functioning. To date no staff were available for manning this clinic.

Extensions to 3 creches were almost embarked upon but scheme was dropped due to impending integration.

Mass Polio immunisations which commenced in the latter part of 1958 was carried out to the beginning of 1959. On January 10th, the team of Maternal and Child Welfare staff consisting of 1 Senior Sister, 10 Health Visitors, and 5 clerks who assisted in above programme, returned to the department.

Midwifery Sessions

Number of Domiciliary Aftercare and total visits to homes have increased although confinements conducted by City Council midwives have dropped due to changing trend and popularity of having deliveries in Kandang Kerbau Maternity Hospital.

Health Visiting

This aspect of the work has suffered. Due to increased demands on clinic activities, priority was given to such over Health Visiting. However, 1st visits following birth report is being kept up as far as possible, and visits to defaulters over vaccination at 6 months were carried out by vaccinators.

District Visiting and Supervision of Midwifery Services

There was a drop in number of mothers visited by District Sisters within 10 days after confinement due to increase of confinements in Kandang Kerbau Maternity Hospital. Visits to sick mothers and treatment of such by Assistant Health Officers in their homes have been kept up.

CLINIC ACTIVITIES

Ante Natal Consultations

The total attendances in clinics have increased although visits to homes have dropped slightly.

An extra Ante Natal session per week, conducted by Midwives and Ante Natal nurse for normal cases and booking referrals to clinic doctors, was started towards the end of the year in 3 clinics, namely:—

Joo Chiat Clinic.
Kreta Ayer Clinic.
Alexandra Road Clinic.

This relieves greatly the pressure on full Ante Natal sessions when 2 doctors in addition to Sisters and other staff of the clinic are in attendance.

Attendances of infants, toddlers and Post-natal mothers show a very marked increase especially in the infant group.

Vaccination of infants against small-pox —the figures have greatly exceeded those of previous years both in clinics and outside centres. In August, 5 new centres in different districts were started.

A total of over 29,000 vaccinations out of 38,414 infants attending the various clinics is fairly satisfactory.

Mass Vaccination against small-pox necessitated by Small-pox outbreak was carried out in all Maternal and Child Welfare clinics from 14th April to 10th May. A total of 288,873 vaccinations was done during this period.

Immunisation against diphtheria (using P.T.A.P.) has increased by 2,000 (completed course) over 1958 figures and using Triple Antigen has increased by over 3,000 (completed course)—a total of 10,380 out of 38,414 clinic infants being assured of immunity against diphtheria. The response, though far from satisfactory has been the best so far (excluding mass campaign figures).

B.C.G. The numbers have doubled that of 1958. This serivce was extended to a 4th clinic, namely Aljunied Road Clinic in August. Capable of further increase in numbers vaccinated if facilities are extended to the remaining 3 clinics as well.

Dental Service offered to Antenatal mothers and their toddlers is increasing in popularity. Number of attendances has increased tremendously.

TEACHING

Medical Undergraduates

Sister-in-charge Institute of Health arranged for a minimum of 6 normal healthy infants to be present every Saturday at the lecture room attached to the Maternal and Child Welfare department for medical undergraduates to learn mother-craft and infant care under the supervision of the padiatrician.

Public Health Nursing Course

12 Nursing doing this local course were posted to Institute of Health in groups of 3, for a fortnightly period to observe and learn both the indoor and field work of Maternal and Child Welfare.

General Hospital Nurses

Lectures were given by 2 Senior Sisters to 6 batches of student nurses (each batch consisting of 14 nurses) who were sent to Institute of Health and Prinsep Street Clinic to familiarise themselves with Maternal and Child Welfare work.

In-training Course for Health Visitors

A course of some 46 lectures was started in February for Health Visitors in the department. Lectures were held every Saturday from 12 noon to 1 p.m. and were given mainly by different doctors and sisters in the department. A written and oral exam will be given at the end of the course to qualify the candidates for crossing the salary bar at $411.

STAFF

There has been great depletion of staff due to:

8 Resignations.
2 Retirements.
3 Boarded out.
5 On Study Leave and
1 On secondment.

Resignations are:

1 Assistant Health Officer—to join husband in Federation of Malaya.
2 Health Sisters—to join commercial firms.
5 Health Visitors—various personal reasons.

Retirements are:—

1 Health Visitor.
1 Male Clerk.

Boarded out are:—

2 Health Sisters.
1 Amah.

On Study Leave:—

1 Assistant Health Officer—on no-pay leave overseas.
2 Health Visitors—on Colombo Plan awards to Australia from 3-2-59—16-11-59.
2 Health Visitors—on local Public Health Nursing Course since 22-4-59.

On Secondment:—

Senior Assistant Health Officer was seconded to Ministry of Health on 25th July, 1959.

All vacancies due to above plus those carried forward from 1958 have not been filled.

DEVELOPMENTS

New Clinic in Stirling Road occupying S.I.T. premises at a heavy rental of $700 per month is still waiting to be opened.

Re-organisation of Kreta Ayer Clinic to vacate the ground floor of the premises in order to make space for a public dispensary took place in the first part of the year.

Extensions to 3 clinics namely Aljunied Road Clinic, Alexandra Road Clinic and Kim Keat Road Clinic providing a big waiting hall and sufficient space to set up a dental clinic in each, were carried out and completed.

Creches—the 4 Creches started in 1958 under Maternal and Child Welfare department were integrated into Social Welfare Department. Handing over took place on 2-11-59 but City Health Officer is still responsible for annual recurrent expenditure and matters pertaining to staff.

Integration with Rural Maternal and Child Welfare

This is supposed to be effected in November. However, the City Council staff are still manning City Council Clinics as matters pertaining to staff and annual recurrent expenditure are still under Administrator's control. Sanction pertaining to Staff matters is obtained through City Health Officer.

Uniformity of policy has been the keynote and City Council Clinics are following whatever policy that has come down to the department.

Dr. N. S. MAH,
Acting Senior Asst. Health Officer,
Maternal and Child Welfare Dept.

21*st March*, 1960.

ANNUAL REPORT OF MATERNAL AND CHILD WELFARE DEPARTMENT 1959

	1958	*1959*	
I. *Total number of confinements in City Area* ..	47,147	48,851	
Nature of Confinements:			
In Hospital	30,073	34,028	more and more confinements in Hospital
By Private Doctors	3,267	2,986	
By Private Midwives	13,310	11,448	
By City Council Midwives	1,411	1,295	
With no skilled attention	497	389	
Of these confinements:			
Number of Mothers visited by District Sisters within 10 days after confinement	16,637	13,876	
Subsequent visits to sick mothers	5,802	5 843	
Sick Mothers treated in their homes by Lady Assistant Health Officers	6,668	6,041	
Maternal Deaths in Puerperium	14	8	
Mothers removed and untraced	334	956	
Total Number of Birth in City Area	47,106	49,339	
Number of twins	398	398	
Number of triplets	2	5	
Number of quadruplets	1	—	
Still-births	737	766	
Babies died	180	286	
Number of newborn babies seen by District Sisters	16,334	13,692	
Babies born in Hospital	29,784	33,555	
Babies untraced	510	960	
II. *Free Midwivery Services from the Clinics*			
Free Confinements conducted by the City Council Midwives	1,411	1,295	
Number of cases referred from Kandang Kerbau Hospital for post-natal domiciliary aftercare by City Council Midwives	14,106	15,207	
Abnormal cases referred to Kandang Kerbau Hospital	24	35	
Number of self attended deliveries followed up by City Council Midwives	84	82	
Total visits paid by City Council Midwives to patients' homes	41,626	47,113	
III. *Visits paid by Health Visitors to homes* ..	76,301	57,344	
1st visits following Birth Report	28,343	28,437	
Subsequent visits	47,958	28,907	
Percentage of Total Births visited by Health Visitors	60.12%	57.64%	
Total number of visits of Sisters and Health Visitors to homes	98,740	77,375	
IV. *Clinic Activities*			
A. INFANTS			
New infants 1st attendances at Clinics ..	28,870	38,414	
Subsequent attendances of Infants at Clinics	188,699	193,579	
Total attendances ..	217,569	231,993	
Of these, attendances of Sick Babies were ..	151,167	154,628	
i.e. in percentage	69.48%	66.65%	

	1958	*1959*	
B. TODDLERS—1st visits	22,400	22,463	
Subsequent visits	41,953	54,964	
Total visits ..	64,353	77,427	
Of these, attendances of Sick Toddlers were	43,335	57,882	
i.e. in percentage	67.34%	74.76%	
C. SICK MOTHERS			
Number of Sick Mothers treated:			
In Clinics	34,449	39,646	
On District	6,668	6,041	
Total ..	41,117	45,687	
D. ANTENATAL CONSULTATIONS IN CLINICS			
Antenatal mothers 1st attendances ..	7,311	7,116	
Subsequent attendances	18,032	18,437	
Total ..	25,343	25,553	
Antenatal home visiting by Health Visitors	7,128	5,326	
Kahn Blood Tests taken	4,131	2,505	
Number positive	161	59	
i.e. in percentage	3.89%	2.35%	
E. VACCINATION OF INFANTS AGAINST SMALL-POX			
Clinics	19,896	24,993	
District	3,988	4,097	
F. IMMUNISATION AGAINST DIPHTHERIA		*Mobile Team*	*Clinic*
(*a*) *Under 1 year old*			
1st injections	5,820	6,667	8,669
2nd injections (Number who completed the course)	5,232	5,046	7,310
Total injections ..	11,052	11,713	15,979
(*b*) *Over 1 year*			
1st injections	6,417	—	7,336
2nd injections (Number who completed the course)	9,096	—	6,685
Total injections ..	15,513	—	14,021
Visits to homes to follow-up cases ..	6,654	—	3,980
Febrile actions	1,665	—	4,499
(*c*) *T.A.F. Injections (over 10 years)*			
1st injections	873	312	460
2nd injections	938	196	314
3rd injections	1,376	—	242
Total ..	3,187	508	1,016
(*d*) *Contact Cases*			
1st injections	471	—	672
2nd injections	328	—	428
Total ..	799	—	1,100
(*e*) *Boosting Doses*	2,658	901	2,412

G. IMMUNISATION AGAINST DIPHTHERIA AND WHOOPING COUGH		
1st injections	4,396	1,289
2nd injections	4,717	1,249
3rd injections (Number who completed the course)	4,568	1,182
Total ..	13,681	3,720
Febrile reactions	2,297	1,008
H. TRIPLE ANTIGEN		
1st injections	103	5,054
2nd injections	49	3,905
3rd injections	48	3,070
Total ..	200	12,029
I. B.C.G. VACCINATION		
No. of Babies under 1 month vaccinated ..	2,904	5,936
No. of Babies returned for Mantoux Test ..	893	3,917
J. FREE MILK POWDER		
Total number of babies given Free Milk ..	9,851	11,127
Number of nursing mothers given Free Milk	1,139	490
Number of Re-issues	64,423	59,656
Total number of lbs. of Powdered Milk used	57,886	48,252
V. *Supervision of Midwives in Private Practice by Supervisor of Midwives*		
(*a*) No. of inspections of Private Midwives bags	1,371	1,170
(*b*) District visits to check on work of Private Midwives	1,857	1,842
(*c*) Investigation of Puerperal Fever Cases reported	83	116
(*d*) Investigation of Tetanus Neonatorum Cases reported	2	4
VI. *Medical Examination of City Council Female Staff*		
(*a*) For fitness to join service, confirmation in service and to join Municipal Provident Fund	393 } 1,064	126 } 639
(*b*) For treatment of ailments	671 }	513 }
VII. *Dental Clinic*		
Antenatal Mothers	378	564
Toddlers	40	87
Total Number of Attendances	2,080	3,668
VIII. *Attendances at Creches*		
Infants	1,166	—
Toddlers	17,742	—
Total ..	18,908	—

MIDDLETON HOSPITAL

I HAVE THE HONOUR to submit the Annual Report of the Middleton Hospital for the year 1959.

Table I below shows the number of admissions, discharges, transfers and deaths during the year.

Table I

Diseases	Remaining 31-12-58	Admitted	Discharged	Transferred	Died	Remaining 31-12-59
Small-pox	..	10	8	..	2	..
Chickenpox	..	987	954	..	..	33
Pneumonia	..	4	4	..	..	..
Broncho pneumonia ..	..	10	8	1	1	..
Diphtheria	22	519	477	1	23	40
Diphtheria Carriers ..	8	528	519	..	..	17
A. A. Poliomyelitis (paralytic) ..	146	57	147	4	3	49
A. A. Poliomyelitis (Non-paralytic)	..	1	1	..	..	..
Post-poliomyelitis	..	8	5	..	..	3
Typhoid Fever	4	161	141	3	5	16
Measles	1	129	120	1	3	6
Measles with Broncho pneumonia	..	17	14	..	3	..
Tuberculous Meningitis ..	..	2	1	1	..	..
Mumps	..	47	47	..	..	..
Whooping Cough	..	12	8	..	2	2
Amœbic Dysentery ..	..	112	104	..	..	8
Bacillary Dysentery (Flexner) ..	..	21	15	..	..	6
Bacillary Dysentery(Sonne) ..	..	13	13	..	..	..
Bacillary Dysentery (Shiga) ..	..	2	2	..	..	..
Clinical Dysentery	..	69	64	..	..	5
Rubella	..	9	9	..	..	..
Transverse Myelitis	..	1	..	1	..	..
Peripheral Neuritis	..	1	1	..	..	..
Encephalitis	..	6	4	..	2	..
Encephalitis/C'pox	..	1	1	..	..	..
Intestinal Obstruction ..	..	1	..	1	..	..
Malaria (B.T.)	..	1	1	..	..	..
Ascariasis	..	8	6	..	..	2
Ankylostomiasis	..	2	2	..	..	..
Pulmonary Tuberculosis ..	..	3	1	2	..	..
Influenza	..	34	33	..	..	1
Salmonella Enteritis ..	..	1	1	..	..	..
Encephalitis (Jap. B.) ..	..	1	..	..	1	..
Leprosy	..	1	..	1	..	..
Whooping Cough with Broncho pneumonia	..	3	3	..	..	..
Other Diseases/Carriers ..	9	669	651	10	7	10
Total ..	190	3,451	3,365	26	52	198

During the year there were 3,451 admissions with 52 deaths, a mortality rate of 1.5 per cent.

Small-pox

The first case of small-pox since 1948, was admitted on 12–4–59. She was a Malay woman from Kampong Alexandra who had not been away from Singapore and had not had visitors from outside Singapore. The source of infection was traced to an Indian boy in an adjacent house who had brought the disease from India and whose relatives had hid him in the Kampong for nearly four weeks before discovery. Subsequently 8 other cases of small-pox all from the same area were discovered, making a total of 10 cases.

Classification

The cases were classified into the following categories:—

Discrete	2
Semi-Confluent	1
Confluent	1
Hæmorrhagic	1
Modified	5

One fulminating case with extensive hæmorrhages all over died on the 6th day. An unvaccinated male Chinese infant aged 2 months was admitted on 6–5–59 with Confluent Small-pox. He died on 11–5–59. The rest of the family had been vaccinated a week before the infant fell ill but the infant was omitted because the parents thought he was too young. He was the tenth and last case of small-pox in the outbreak.

The small number of cases was due in large measure to the early diagnosis of the 1st case, the immediate search for cases in the area and their prompt removal to Hospital, the vaccination and quarantine of contacts at St. John's Island, and an intensive vaccination campaign in the affected area (Kampong Alexandra) as well as the mass vaccination of the whole population.

Small-pox	Ethnic Groups	Admissions	Deaths	Mortality Rate
Europeans	..	..	..	..
Eurasians	..	..	..	..
Chinese	..	2	1	50%
Malays	..	5	..	..
Indians	..	3	1	33%
Others	..	..	..	..
Total ..	..	10	2	20%

SMALL-POX SEX AND AGE GROUPS

(Deaths in Brackets)

Sex	Under 1 year	3 years	4 years	11 years	20 years	24 years	27 years	29 years	39 years	40 years	Total
Male ..	1 (1)	..	1	1	..	1	1	..	..	2 (1)	7 (2)
Females ..	..	..	..	..	1	..	..	1	1	..	3
Total ..	1 (1)	..	1	1	1	1	1	1	1	2 (1)	10 (2)

Total number of vaccinations done during the small-pox outbreak on Staff and families as well as on patients, their relatives and anyone entering the Hospital compound=1,257.

Table II

DIPHTHERIA ADMISSIONS AND DEATHS FOR THE LAST 10 YEARS

Year	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
Admissions ..	222	370	427	332	345	460	552	712	548	519
Deaths ..	28	91	80	47	34	41	47	58	34	23
Mortality rate	12.61	24.59	18.73	14.15	9.86	8.91	8.51	8.14	6.20	4.43%

Table III

MONTHLY DIPHTHERIA ADMISSIONS AND DEATHS FOR 1959

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Admissions ..	45	33	25	38	46	44	37	56	55	46	41	53	519
Deaths ..	..	1	..	1	4	2	3	5	2	3	..	2	23

During the year the number of diphtheria admissions remained at a high level. 519 cases of diphtheria were admitted with 23 deaths. The mortality rate of 4.43 per cent is the lowest on record. 3 cases died within 24 hours after admission. 44 cases required tracheotomy operation of which 10 died. In addition to the clinical cases there were 528 cases of diphtheria carriers.

Table IV

REGIONAL DISTRIBUTION OF DIPHTHERIA ADMISSIONS BY MONTH

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Urban ..	38	30	22	35	42	41	34	54	53	43	39	49	480
Rural ..	7	3	3	3	4	3	3	2	2	3	2	4	39
Total ..	45	33	25	38	46	44	37	56	55	46	41	53	519

Table V

DIPHTHERIA ADMISSIONS AND DEATHS BY AGE AND SEX GROUP

Age group	ADMISSIONS		Total Admissions	DEATHS		Total Deaths
	M.	F.		M.	F.	
Under 1 year	19	19	38	1	2	3
1 year	22	13	35	..	1	1
2 years	36	36	72	1	2	3
3 years	47	37	84	5	2	7
4 years	24	15	39	1	2	3
5 years	19	17	36	1	..	1
6—10 years	73	58	131	3	2	5
11—15 years	11	33	44	..	..	..
16—20 years	5	13	18	..	..	..
21+	2	20	22	..	..	..
Total ..	258	261	519	12	11	23

Table VI

DIPHTHERIA ADMISSIONS AND DEATHS BY ETHNIC GROUP

Nationality	ADMISSIONS		Total	DEATHS		Total
	M.	F.		M.	F.	
Europeans	..	..	..	..	..	..
Eurasians	2	.. 1	3	..	..	..
Chinese	241	228	469	11	6	17
Indians	5	16	21	..	2	2
Malays	9	15	24	1	3	4
Others	1	1	2	..	..	..
Total ..	258	261	519	12	11	23

Table VII

DIPHTHERIA:—TYPE OF CASES AND DEATHS

Type	Admissions	Deaths
Laryngeal	75	12
Pharyngeal	95	8
Faucial	263	3
Aural	8	..
Nasal	74	..
Cutaneous	4	..
Total ..	519	23

Table VIII

DIPHTHERIA: ADMISSIONS, DEATHS AND TRACHEOTOMY OPERATIONS

Total Admissions	519
Total Deaths	23
Case mortality rate	4.43%
Number of Tracheotomies done	44
Number of deaths after Tracheotomies ..	10

Table IX

POLIOMYELITIS

A. A. POLIOMYELITIS. POLIOMYELITIS ADMISSIONS AND DEATHS FOR LAST 10 YEARS

Year	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
Admissions ..	81	78	50	41	71	19	29	52	404	66
Deaths ..	10	8	8	5	2	2	..	5	12	3

Table X

POLIOMYELITIS ADMISSIONS AND DEATHS BY MONTH

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Admissions ..	13	9	7	4	5	2	..	2	4	7	9	4	66
Deaths ..	..	..	..	..	..	..	..	..	..	2*	1†	..	3

* 1 case died of Broncho-Pneumonia. † died from gastro-enteritis

Table XI

REGIONAL DISTRIBUTION OF POLIOMYELITIS CASES BY MONTH

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Urban ..	7	6	6	3	4	1	..	2	3	6	8	4	50
Rural ..	6	3	1	1	1	1*	..	..	1	1	1	..	16
Total ..	13	9	7	4	5	2	..	2	4	7	9	4	66

* Federation of Malaya.

Table XII

AGE, SEX AND ETHNIC GROUPS OF POLIOMYELITIS CASES

Age Group	EUROPEANS		EURASIANS		CHINESE		INDIANS		MALAYS		OTHERS		TOTAL	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Under 1 year ..	..	..	..	..	8	8	..	..	..	..	..	..	8	8
1 year ..	..	..	..	..	1	1	..	1	..	..	1	..	2	2
2 years ..	1	..	..	1	11	2	2	..	2	1	..	..	16	4
3 years ..	..	..	..	..	7	2	..	..	..	..	..	..	7	2
4 years ..	..	..	1	..	4	2	..	..	..	..	..	..	5	2
5 years ..	..	..	..	..	2	..	..	..	..	..	..	..	2	..
6–10 years ..	..	..	..	..	2	2	..	..	..	..	..	..	2	2
11–14 years ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–19 years ..	..	..	..	..	1	..	..	..	..	..	..	..	1	..
20 + ..	1	..	..	..	1	1	..	..	..	..	..	..	2	1
Total ..	2	..	1	1	37	18	2	1	2	1	1	..	45	21

Table XII—*continued.*

POLIOMYELITIS ADMISSIONS AND DEATHS BY ETHNIC GROUPS

Nationality	*Admissions*	*Deaths*
Europeans	2	..
Eurasians	2	..
Chinese	55	2*
Indians	3	1†
Malays	3	..
Javanese	1	..
Others	..	..
Total ..	66	3

* 1 case died af Broncho-pneumonia. † died from gastro-enteritis.

Table XIII

TYPHOID FEVER, ADMISSIONS AND DEATHS BY ETHNIC GROUPS
(*Deaths in brackets*)

Age	0–10		11–19		20 +		Total	
Sex	M	F	M	F	M	F	M	F
Europeans	..	..	1	..	..	..	1	..
Chinese	17	17	15(1)	14	40(3)	12	72(4)	43
Indians	2	1	1	2	5	2	8	5
Malays	4	.	7	3	11(1)	2	22(1)	5
Javanese	..	3	..	1	..	..	..	4
Others	..	..	1	..	..	..	1	..
Total ..	23	21	25(1)	20	56(4)	16	104(5)	57

Table XIV

TYPHOID FEVER—ADMISSIONS AND DEATHS BY MONTH

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Admissions ..	27	14	12	10	8	2	11	8	14	17	21	17	161
Deaths ..	1	1	..	..	1	..	..	..	1	..	1	..	5

161 cases of typhoid were admitted with 5 deaths. Of these 2 cases had peroration and 1 case died of a sudden severe intestinal hæmorrhage in spite of transfusions and hæmostatic agents.

A total of 169 persons employed by various Ice Cream Manufacturers and Dairy farms were investigated for the typhoid carrier state during the year.

Chickenpox

987 cases of chickenpox were admitted during the year.

Table XV

CHICKEN POX ADMISSIONS BY AGE, SEX AND ETHNIC GROUPS

Age	0–10		11–19		20 +		Total		Grand Total
Sex	M	F	M	F	M	F	M	F	
Eurasians	5	3	3	5	36	6	44	14	58
Chinese	52	50	43	14	57	24	152	88	240
Indians	59	43	62	35	290	71	411	149	560
Malays	26	14	12	6	36	6	74	26	100
Others	2	11	5	5	4	2	11	18	29
Total ..	144	121	125	65	423	109	692	295	987

Table XVI

CHICKENPOX CASES REGIONAL DISTRIBUTION BY MONTH

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Urban	2	4	128	124	89	41	61	81	82	103	76	106	897
Rural..	—	—	17	14	8	5	8	6	14	3	10	5	90
Total ..	2	4	145	138	97	46	69	87	96	106	86	111	987

Table XVII

DYSENTERY

TYPE OF DYSENTERY

	Admissions	*Deaths*
Amœbic Dysentery	112	—
Bacillary Dysentery		
(*a*) Flexner	21	—
(*b*) Sonne	13	—
(*c*) Shiga	2	—
Clinical Dysentery	68	—
Total ..	216	—

Table XVIII

ADMISSIONS OF THE MORE IMPORTANT DISEASES FOR THE LAST 10 YEARS

Diseases	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
Small-pox	..	..	..	..	..	..	..	..	..	10
Plague	..	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..	..
Chickenpox	422	610	450	836	1,313	1,769	1,488	1,039	472	987
Measles	50	204	142	117	182	200	301	153	357	146
Rubella	1	11	9	..	1	..	86	36	7	9
Diphtheria	222	370	427	382	345	460	552	712	547	519
Cerebro-spinal Meningitis	4	4	2	4	2	..	..	..	4	..
Typhoid Fever	88	91	117	91	125	114	76	118	127	160
Acute Anterior Poliomyelitis	81	78	50	41	70	19	37	52	405	66
Erysipelas	12	4	3	..	3	..	2	3	1	..
Whooping Cough	27	5	3	..	10	5	85	30	38	15
Scarlet Fever	..	79	..	..	..	..	..	1	..	..
Mumps	14	..	15	9	35	54	52	14	43	47
Tropical Typhus	3	7	92	4	7	..	1	..	1	..
Amœbic Dysentery	90	105	22	134	122	136	126	197	156	112
Bacillary Dysentery	9	18	9	25	18	17	26	74	60	36
Clinical Dysentery	17	40	..	16	34	35	63	150	92	68
Pneumonia	..	..	..	..	..	..	..	..	1	4
Other diseases,carriers and Observation	731	591	455	440	647	503	936	1,083	1,368	1,272
Total ..	1,771	2,217	1,796	2,049	2,914	3,312	3,831	3,662	3,679	3,451

MEASLES

129 cases of measles were admitted. 17 cases had Broncho-pneumonia. There were 3 deaths from Broncho-pneumonia and 3 deaths from gastro-enteritis.

Table XIX

OTHER DISEASES

Other Diseases	Remaining 31-12-58	Admitted	Discharged	Transferred to Hospital	Died	Remaining 31-12-59
Acute Tonsillitis	1	183	182	..	..	2
Acute Nasopharyngitis ..	..	8	8	..	..	..
Acute Bronchitis	..	2	2	..	..	..
P.U.O.	..	10	10	..	..	..
Rheumatism	..	9	9	..	..	..
Arthritis	..	5	5	..	..	..
Gastro-enteritis	..	23	17	1	4	1
Hæmorrhoids	..	2	2	..	..	..
Infective hepatitis	..	4	3	..	1	..
Pyelitis	..	5	5	..	..	..
Acute Infective Polioneuritis ..	..	3	2	..	..	1
Dermatitis	..	7	7	..	..	..
Yaws	..	1	1	..	..	..
Impetigo	..	10	10	..	..	..
Typhoid Carrier	..	1	..	..	..	..
Typhoid investigations ..	..	169	169	..	..	..
Measles with congenital heart disease	..	1	1	..	..	..
Acute lymphatic leukæmia ..	..	1	1	..	..	..
Asthmatic Bronchitis ..	..	3	3	..	..	..
Allergic Rash	..	2	2	..	..	..
Acute Septicæmia	..	1	..	..	1	..
Serous Meningitis	..	1	1	..	..	..
Steven-Johnson Syndrome ..	..	1	..	1	..	..
Pemphigus	..	2	..	1	1	..
Hydropneumothorax ..	..	1	..	..	..	1
Generalised Vaccinia ..	..	1	1	..	..	..
Carcinoma colon	..	1	1	..	..	..
Carcinoma rectum	..	1	1	..	..	..
Tuberculous Hip Joint ..	..	1	..	1	..	..
Thyrotoxieosis	..	1	..	1	..	..
Parametritis	..	1	..	1	..	..
Nothing abnormal detected ..	..	5	5	..	..	..
Observations	8	203	203	4	..	4
Total ..	9	669	651	10	7	10

Table XX

NUMBER OF ADMISSIONS, DAYS IN HOSPITAL AND DEATHS BY ETHNIC GROUPS

Ethnic Group	REMAINING 1958		ADMITTED 1959		TOTAL		Deaths
	No. of Patients	No. of Days in Hospital	No. of Patients	No. of Days in Hospital	No. of Patients	No. of Days in Hospital	
Europeans	..	..	14	139	14	139	..
Eurasians	..	..	36	300	36	300	..
Chinese	146	21,279	2,179	25,658	2,325	46,937	38
Indians and Pakistanis ..	22	2,748	826	5,997	848	8,745	7
Malays	17	1,605	326	2,554	343	4,159	5
Javanese	5	843	8	83	13	926	2
Others	..	..	62	552	62	552	..
Total ..	190	26,475	3,451	35,283	3,641	61,758	52

Table XXI

	Remaining 1958	Admitted 1959	Total Treated	Discharged	Transferred	Died	Remaining 1959	Deaths Percentage	Average Daily Number of Patients
Male	86	2,074	2,160	1,991	20	30	119	1.38%	..
Female ..	104	1,377	1,481	1,374	6	22	79	1.48%	..
Total ..	190	3,451	3,641	3,365	26	52	198	1.43%	167

Maximum capacity of the hospital = 250 beds.

AMBULANCE

A total of 1,651 cases of infectious diseases were removed by the Hospital Ambulances during the year.

STAFF

There were 7 resignations, 1 temporary appointment, 2 retrenchments, 3 transfers, 2 retirements, 1 post declared vacant and 1 boarded out of Service during the year.

RESIGNATIONS

Miss Lim Hee Choo, Nursing Assistant, with effect from 10–2–59.
Mrs. Tan Siew Ting, Staff Nurse, with effect from 15–5–59.
Mr. Koo Soo, Maintenance Fitter, with effect from 31–7–59.
Mr. Lee Shin Onn, Senior Hospital Assistant, with effect from 1–9–59.
Mr. Loh Heng Kwai, Steward, with effect from 17–9–59.
Miss Lim Siew Hong, Nursing Assistant, with effect from 30–10–59.
Mrs. T. E. Monteiro, Staff Nurse, with effect from 26–10–59.

TEMPORARY APPOINTMENT

Mr. Lam Chong Pak was appointed to the post of temporary maintenance fitter, Middleton Hospital, with effect from 7–12–59.

RETRENCHMENTS OF TEMPORARY DAILY-RATED ATTENDANTS

Madam Tong Joon Jong and Madam Tan Kuan Lin, who were appointed as Temporary Junior Female Attendants (day to day basis) to cope with the poliomyelitis outbreak were retrenched with effect from 17–8–59 and 19–8–59 respectively.

TRANSFERS

Mr. Yong Kwee Vian, was transferred to City Health Office as the Accounts Clerk, with effect from 13–2–59.

Miss Choo Suan Neo, Nursing Assistant, was transferred to the Public Dispensary with effect from 20–5–59.

Miss E. McIntyre, clerk i/c Middleton Hospital, was transferred to City Health Office with effect from 1–6–59.

Mr. Lawrence Christopher, clerk i/c Aljunied Road Clinic was transferred to Middleton Hospital with effect from 1–6–59 to replace Miss E. McIntyre.

RETIREMENTS

Mr. Leo Ah Pow and Mr. Narayanasamy, Senior Attendants, Middleton Hospital retired from Service on reaching retirement ages with effect from 31–12–59 and 30–12–59 respectively.

POST DECLARED VACANT

The post of Junior Outdoor Attendant (Kebun) was declared vacant with effect from 27–6–59 following the disappearance and absence from duty of Mr. P. Nagapan.

BOARDED OUT OF SERVICE

Mr. Chua Chang Lak, the Senior Mortuary Attendant was medically boarded out of Service with effect from 21–7–59.

SCHOLARSHIPS

Staff Nurse Devikarani sailed to U.K. with effect from 3–5–59 on 2 year's no pay study leave.

Staff Nurse Lee Soak Keng who was awarded a Sino-British Scholarship sailed to U.K. on 6–8–59 on 2 years no pay study leave.

Staff Nurse K. Retnam resumed duty on 7–9–59 after completion of her studies under the Colombo Plan in Australia.

ACKNOWLEDGEMENTS

We are grateful to Professor Monteiro and Professor Ransome for acting as consultants and to Professor Karlen and Mr. Gunn for supervising the orthopædic treatment of post-poliomyelitis cases.

I would like to extend my thanks to all the Staff for their excellent work during the small-pox outbreak and for their co-operation and loyalty during the year.

Dr. K. W. LEONG,
Acting Medical Superintendent,
Middleton Hospital,
Singapore.

CITY ABATTOIRS

I HAVE THE HONOUR to submit my report for the year ending 31st December, 1959.

During the year 530,717 animals were slaughtered in the City Abattoirs: 436,452 were swine, 5,868 oxen, 3,379 buffaloes, 81,717 sheep, 3,293 goats and 8 horses.

287 swine, 24 oxen, 1 buffalo, 655 sheep and 62 goats died in the pens.

21 swine died in the depot.

40 swine, 5 oxen, 4 buffaloes, 26 sheep and 1 goat (all carcases) were totally condemned.

I have the honour to be,
Sir,
Your obedient servant,

M. G. BYRNE,
Acting Superintendent of Abattoirs.

——	Swine	Oxen	Buffaloes	Horses	Sheep	Goats
Admitted for slaughter, 1959 ..	436,696	5,883	3,379	8	82,271	3,345
Slaughtered 1959	436,452	5,868	3,379	8	81,717	3,293
Died in pens	287	24	1	..	655	62
Died in depot	21	..	..	..	..	..
Carcases condemned ..	40	5	4	..	26	1
Diseased organs, etc. condemned and destroyed in lbs. ..	28,796	7,524	10,333	..	21,338	75

TOTAL RECEIPTS FOR THE YEAR 1959

	$	c.
Fees for slaughter at Cattle section ..	27,810	00
Fees for slaughter at Sheep section ..	85,620	00
Fees for slaughter at Pig section ..	873,392	00
Fees for storage at French Road Depot ..	6,713	85
Fees for inspection of wild boar carcases ..	850	00
Receipts for sale of blood and Pig's bristles	120	00
Receipts as pen rents (all slaughter houses)	40,693	40
Total Receipts for the year 1959	1,035,199	25
Less refund of slaughter fees	1,366	00
Total Net Receipts for the year 1959 ..	1,033,833	25
Total Net Receipts for the year 1958 :	975,298	85

Special slaughtering licences issued during the year 1959:
4 pigs @ $10 each, 4 oxen @ $15 each,
13 sheep and 9 goats @ $5 each .. 210 00

——	Swine	Oxen	Buffaloes	Horses	Sheep	Goats
Number slaughtered ..	436 452	5,868	3,379	8	81,717	3,293
Died in pens	287	24	1	..	655	62
Died in depot	21	..	..	..	..	..
Carcases condemned ..	40	5	4	..	26	1
Diseased organs, etc. condemned and destroyed in lbs. ..	28,796	7,524	10,333	..	21,338	75

CASES OF PARTIAL CONDEMNATION

——	Swine	Oxen	Buffalces	Sheep	Goats
Abscesses	14,942	2	..	33	..
Bruising/Fracture ..	1,830	54	..	385	..
Caseous Lymphadenitis ..	..	..	..	11,746	..
Cirrhosis	130	3	..	43	5
Congestion	16,468	22	7	12,483	12
Cysts	77	5	2	27	..
Degeneration	..	..	..	..	..
Fascioliasis	..	1,547	1,099	..	17
Fatty Infiltration	179	7	..	723	1
Hydronephrosis	171	..	..	5	..
Inflammation	91	4	2	14	2
Maggots	1	..	..	32	1
Mastitis (Mammitis) ..	..	25	..	..	..
Melanosis	2	1	..	10	4
Necrosis	12	..	1	..	..
Nephritis	281	2	..	75	..
Onchocerciasis	..	36	..	..	..
Parasites	134	..	..	..	..
Pericarditis	5	3	1	3	1
Pleurisy	685	..	1	200	..
Pneumonia	922	4	3	191	1
Pregnancy	31	81	16	..	2
Sarcosporidiosis	..	..	1,210	..	..
Strongylosis	..	..	..	330	..
Tuberculosis	..	29	..	..	..
Telangiectasis	..	5	3	..	..

CASES OF TOTAL CONDEMNATION FOR THE YEAR 1959

	Swine	Oxen	Buffaloes	Sheep	Goats	Total
Bruising (Generalised) ..	5	..	..	..	..	5
Cysticercosis (Measles) ..	2	..	..	..	..	2
Dropsy with Emaciation ..	..	..	..	..	1	1
Jaundice	8	..	..	1	..	9
Mammitis—Septic	..	1	..	..	..	1
Pyrexia	13	1	..	25	..	39
Sarcosporidiosis	..	..	1	..	..	1
Septicæmia	6	..	..	..	..	6
Tuberculosis—Generalised ..	..	2	..	..	..	2
Multiple Abscesses	2	..	..	..	..	2
Splashing (Generalised) ..	1	..	..	..	..	1
Extreme Emaciation ..	3	1	1	..	..	5
Melanosis—Generalised ..	..	..	1	..	..	1
Odema and Pyrexia ..	..	..	1	..	..	1
Total	40	5	4	26	1	76

ANIMALS SLAUGHTERED MONTHLY IN THE CITY ABATTOIRS DURING THE YEAR 1959

	Swine	Oxen	Buffaloes	Horses	Sheep	Goats
January ..	36,919	356	195	..	6,398	370
February ..	34,724	333	237	2	6,128	395
March ..	35,760	302	412	..	7,067	548
April ..	35,324	552	320	..	7,534	372
May ..	36,105	369	352	..	6,736	249
June ..	36,512	772	89	..	7,130	185
July ..	37,093	498	207	1	6,143	175
August ..	38,808	882	64	..	6,830	248
September ..	36,243	640	143	1	6,999	164
October ..	36,008	268	462	..	7,573	185
November ..	34,749	528	320	1	5,681	179
December ..	38,207	368	578	3	7,498	223
Total slaughtering during 1959 ..	436,452	5,868	3,379	8	81,717	3,293
Total slaughtering during 1958 ..	417,199	5,102	862	39	74,048	4,225

The former Superintendent of Abattoirs, Mr. J. L. da Silva resigned from the City Council service on 28th February, 1959.

The cashier, Chua Chian Lee and two clerks, Chow Siew Wah and Lee Chia Hoe resigned during the year. A new cashier, Ng Chong Seng and two temporary clerks, Leow Cher Young and Chong Chee Tiong were appointed during the year.

There has been an increase in the number of animals slaughtered and consequently an increase in revenue which has passed the million dollar mark.

No disease of an infectious nature was reported during the year.

The drainage system of the sheep abattoir, Jalan Besar, was connected to the City sewer and two water closets were installed at the sheep section.

M. G. BYRNE,
Acting Superintendent of Abattoirs.

PUBLIC HEALTH INSPECTORS' SECTION

STAFF

The Staff as at 31st December, 1959 comprised one Chief Public Health Inspector, one Senior Public Health Inspector, two Food and Drugs Inspectors, twenty-eight qualified Public Health Inspectors and twelve Probationary Public Health Inspectors.

Mr. Ting Siew Sau, Chief Food and Drugs Inspector, who was seconded to act as Chief Public Health Inspector on Mr. J. W. Bennett's resignation from 1–1–59, was appointed Chief Public Health Inspector on 18–4–59.

LEAVE

Mr. Koh Cheng Khiang, Public Health Inspector, went on long leave for 4 months and 1 day from 31–3–59.

RESIGNATIONS, ETC.

Mr. J. W. Bennett, Chief Public Health Inspector, resigned from service on 1–1–59.

Mr. Lee Kwong Soon, Deputy Chief Public Health Inspector, was boarded out of service on 6–5–59.

Mr. E. C. Mathieu, Divisional Public Health Inspector, resigned from service on 3–6–59.

Mr. J. A. Then, Divisional Public Health Inspector, resigned from service on 30–6–59.

Mr. E. H. Holloway, Senior Public Health Inspector, resigned from service on 24–4–59.

Mr. A. S. Maniam, Senior Public Health Inspector, resigned from service on 1–9–59.

DIPLOMA OF THE ROYAL SOCIETY FOR THE PROMOTION OF HEALTH

During the year, Messrs. E. N. Saltoon, Lawson Wong, Tan Liang Chew and Philip Chew Peng Kia attended the above course and were all successful in obtaining the Diploma.

SANITARY WORK

During the year, there were 9,736 man-working days, 861 days Vacation Leave were granted and 146 days sick leave taken.

1,917 days were spent in Meat Inspection at the City Abattoirs, 926 days in the Food and Drugs Section and the remaining 6,893 days were utilised as follows:—

Kampong Inspections

111 man-working days were spent during which 4,244 huts were inspected in kampongs in connection with Kampong Sanitation.

House Inspections

In connection with environmental sanitation, 561 man-working hours were spent in inspecting 3,262 houses.

Investigation of Complaints

A total of 1,848 complaints were received from the general public involving 37,675 visits as follows:—

Complaints	No. of Complaints	Primary Visits	Revisits	Total visits
Mosquitoes	796	8,169	25,155	37,675
Others	1,052	4,351		

Mosquito breeding was found in 2,810 premises. Fly breeding was found in 258 premises.

INFECTIOUS DISEASES

The following cases of Infectious Diseases were investigated and dealt with involving 10,124 visits:—

Small-pox	10	Typhus	1
Poliomyelitis	37	Typhoid	99
Diphtheria	435	Leprosy	103
Chickenpox	1,234		

4,820 throat swabs of diphtheria contacts were taken.

8 cases of Infectious Diseases were removed to Middleton Hospital by the Public Health Inspectors.

2 premises in which cases of Poliomyelitis occurred and their vicinities were dealt with by barrier spraying.

MEAT INSPECTION

Six Public Health Inspectors were seconded monthly on a 28 day roster to the City Abattoirs to assist in the inspection of meat. A total of 1,917 man-working days was spent.

FOOD AND DRUGS

1,455 samples were taken by the Public Health Staff for Chemical analysis, bacteriological examination and breaches of the Food and Drugs Regulations, 1957.

416 of these samples were taken by the Public Health Inspectors and the remaining 1,039 samples by the Food and Drugs Inspectors.

238 samples were taken for bacteriological examination. For details, please see Appendix *I*, Table *A*.

Routine inspection of premises in connection with food and drugs was carried out by the Food and Drugs Inspectors involving 8,674 visits. 69,976 packages of unsound food were surrendered and destroyed. For details, please see Appendix *I*, Table *B*.

OFFENCES AND PROSECUTIONS

280 summonses were applied for, for all types of infringements of the Ordinances and By-laws. There were 281 prosecutions with 240 convictions.

17 summonses were not served, 4 were struck off, 4 were withdrawn and 13 cases were acquitted.

Total fines amounted to $9,999.

INSPECTION OF PREMISES

Inspections carried out on other classes of premises not included in the above, involved a total of 49,121 visits as follows:—

Sauce Factories	190
Oilmills	125
Sawmills	66
Smoke Observations	53
Places of Entertainment	520
Coffee Grinding Mills	49
Goldsmiths	29
Printing Presses	427
Licensed Premises	33,709
Unlicensed Premises	951
Public Houses	480
Hotels	630
Serving Notices	1,649
Inspecting Notices	2,627
Cautioning Cases	52
Other Premises	7,564
Total ..	49,121

Inspections of (*a*) Places of Entertainment; (*b*) Printing Presses; (*c*) Public Houses and (*d*) Hotels were made with a view to putting up recommendations with regard to the licensing, registration or renewal of licences by other Licensing Authorites.

NOTICES

A total of 1,344 notices was served during the year. The following is a summary of Notices served:—

Type of Notices	B/f	Served	Total	Complied with	Cancelled	C/f
Intimation	136	933	1,069	849	47	173
Limewash	4	367	371	359	1	11
Nuisance	59	43	102	63	17	22
Abatement Order ..	2	..	2	..	..	2
Well	10	..	10	..	10	..
Prohibition Order ..	..	1	1	..	..	1
Total ..	211	1,344	1,555	1,271	75	209

Reports to other Departments

Cleansing	153
Building	110
Sewerage	128
Fire Brigade	53
Others	220
Total ..	664

Plague Prevention Section

Total number of rats caught in City area ..	2,681
Number of fleas combed from rats	5,436
Number of mites combed from rats	632

No plague infected rats were found.

Cemetery Section

Burials in Public Cemeteries	..	.. 5,322
Burials in Private Cemeteries	..	.. 792
	Total	.. 6,114

Cremations	.. 240
Exhumations	.. 4,296
Ash Burials	.. 8

For number of Burials, etc. by Races, please see Table *C*.

GENERAL

Small-pox

The outstanding feature of the year was an outbreak of small-pox in April. On the 13th April, 1959, a case of small-pox, a Malay female adult, was reported at Kampong Alexandra Area. Immediate control measures were instituted. A house to house search was carried out by all available Public Health Inspectors with an Assistant Health Officer in charge of the campaign. Vaccination of direct contacts and all persons in the vicinity was carried out by the Public Health Inspectors.

As a result of systematic search and the untiring efforts of the Public Health Inspectors, nine other cases were discovered. All contacts and all persons in this kampong were vaccinated by the Public Health Inspectors. All the infected houses were put under quarantine with the assistance of the Police and disinfected. Direct contacts were sent to St. John's Island for quarantine and all infected personal effects were disinfected at the Middleton Hospital.

A mass vaccination of the Singapore population was started and all the Infant Welfare Clinics, Public Dispensaries, Mobile Dispensaries were being used as Vaccination Centres.

Through the strict vigilance and the untiring efforts of the Public Health Inspectors and our island-wide mass vaccination campaign, the outbreak was checked within a short period of two months.

I wish to place on record the wonderful work done by all the Public Health Inspectors during this outbreak of small-pox.

Public Health Education

The City Health Department took part in the Singapore Constitution Exposition held in January—March at Kallang and which lasted 42 days. Assistant Health Officer, Dr. A. Manoharan was assisted by Public Health Inspector, Mr. H. R. Perry, who were responsible for the exhibits and the supervision of the stall during the Exposition.

The Health Department stall put up many interesting and educational exhibits pertaining to Public Health Work and was well patronised by the General public.

Two Public Inspectors were seconded for duty every night during the week and 4 Public Health Inspectors during week-ends and Public Holidays for the duration of the Exposition.

In connection with the Exposition, the Health Department took measures in controlling fly and mosquito breeding in and around the Exposition Site before, during and after the Exposition.

The Public Health Inspectorate gave lectures and practical demonstrations in Public Health Work to students taking the D.P.H. Course, R.S.P.H. Course, University of Malaya medical students, and Public Health Nurses. In addition, the usual internal training course for Probationary Public Health Inspectors was held during the year.

Tiong Bahru Fire

In this disaster the Health Department took part in fly and mosquito control measures. The Public Health Inspectorate also supervised the disposal of animal carcases and rendered general assistance when required.

Integration of Government and City Health Departments

The Government and City Health Departments were integrated in August, 1959. 3 Senior Public Health Inspectors, 1 qualified Public Health Inspector and 1 Probationary Public Health Inspector were incorporated with the Inspectorate.

Food and Drugs Section

The Food and Drugs Section of the City Health Department since 1955 comprised a Chief Food and Drugs Inspector and 2 Food and Drugs Inspectors. In spite of the increase in the volume of work in recent years, these officers are still maintaining the high standard of food inspection thus ensuring a safe and unadulterated food and drug supply to the public.

With the integration of the Government and City Health Departments 2 additional Public Health Inspectors were seconded to this section in November, 1959. 1,039 Food and Drugs samples were sent by them for Chemical Analysis and Bacteriological examination. More than 80,000 lb. of foodstuffs were destroyed as unfit for human consumption.

The following events occurred during the year and are worth mentioning.

During the first week of September, a number of patients were admitted into the General Hospital suffering from food poisoning. 9 of the victims (all children) died. In all 44 persons were affected.

Immediate investigations carried out by the Food and Drugs Inspectorate and the Public Health Inspectorate revealed the incriminating agent to be Pearl Barley imported in 2 consignments from Germany, during the latter part of August, arriving within a week of each other. The total consignments amounted to 400 bags by 112 lb. Further investigation revealed that a portion of this stock of barley was contaminated with parathion which is a highly toxic insecticide and which was a prohibited product in the country. The investigations further revealed that the contamination did not occur in Singapore and that the 400 bags had been distributed throughout Singapore, the Federation of Malaya and Sarawak. How and where the barley was contaminated was not known. Except for 35 $\frac{70}{112}$ bags which were reported by the various local purchasers as having been consumed prior to or since the outbreak, all the 400 bags of barley were traced, surrendered and destroyed. Prompt action on the part of the Ministry of Health in notifying the Governments of the Federation of Malaya and Sarawak prevented outbreaks in their territories.

Lead Poisoning

A case of lead poisoning was reported during the month of August. The patient was an adult female who was treated for heart palpitation by a physician in the art of Chinese medicine. Investigation carried out revealed that the "Sinseh" had treated the patient with "Ban Chuan" pills which were coated with "Chu Sa" powder which was found to contain 4,800 parts per million of lead. Legal action taken against the "Sinseh" resulted in him being convicted.

Cases of Anæmia and Cynosis in Infants.

During November, information was received that a number of infants had been admitted into General Hospital as a result of home treatment with Chinese drugs, some of which contained a dangerously high amount of phenacetin.

These infants were treated in the hospital for anæmia and cyanosis. The Government Toxicologists' report suggested that the symptoms appeared to be consistent with over dosages of phenacetin.

Originally our information was that the drugs were manufactured in Canton but investigations showed that these powders ("Chin Foong Sun" and "Pau Ying Tang") were in fact manufactured locally. 861 $\frac{3}{10}$ cartons containing 10 powders each and 11 large and small glass containers of this drug were placed under seal at the manufacturer's premises whilst samples of the powder were submitted to the City Analyst for analysis. Results of the analysis showed an undeclared content of 39.7 per cent phenacetin in "Chin Foong Sun" and 27.5 per cent in "Pau Ying Tang".

In the resultant prosecution, the Court ordered forfeiture of the sealed stock of the fever powders.

TING SIEW SAU,
Chief Public Health Inspector.

21*st May*, 1960.

APPENDIX I

Table *A*

SAMPLES TAKEN FOR CHEMICAL EXAMINATION

1. *Food*

Milk and Milk Products:—

Milk	108
Sweetened Condensed Milk	34
Evaporated Milk	2
Skimmed Milk Powder	27
Full Cream Milk Powder	1
Butter	4
Cheese	8
Other Milk Products	9
Milk Ice	1
	194

Coffee, Coffee Mixtures, etc.:—

Coffee	22
Coffee Mixture	189
Coffee and Chicory	2
Tea Dust	2
Coffee Extract	1
Chrysant Lemon Tea	1
	217

Beverages, etc.:—

Beer	2
Whisky	1
Champagne Cider	2
Stout (1 for labelling)	3
Champagne Perry	2
Carbonated and Non-Carbonated drinks	214
	224

Other Products:—

Meat and Meat Products	21
Fish and Fish Products (1 for labelling)	45
Fruit and Vegetable Products	25
Fresh Fruits	82
Other Foods	8
	181

Edible Oil and Fats:—

Groundnut Oil	3
Cooking Oil	22
Gingelly Oil	7
Coconut Oil	2
Lard	8
Margarine	4
Peanut Butter	2
	48

Sauces and Vinegars:—

Malt Vinegar	4
Tomato Sauce	4
	8

Spices and Condiments:—

Pepper Powder	5
Other spices	1
	6

Colouring, Flavouring and Preserving Agents:—

Cane Sugar	1
Colouring Powder	54
Glucose	1
	56

Re Food Poisoning:—

Food Samples	149

2. *Drugs*

B.P. and B.P.C. Drugs	29
Vitamins	33
Proprietory Drugs	27
Chinese Drugs	38
Other Eastern Drugs	6
Cosmetics	1
	134

APPENDIX I—*continued*

SAMPLES TAKEN FOR BACTERIOLOGICAL EXAMINATION

Milk Ice	1
Ice-Cream	115
Popsicles	93
Lollimix	5
Canned Fish Products	12
Re Food Poisoning Cases	12
	238

Table *B*

SUMMARY OF FOODSTUFFS SURRENDERED AND DESTROYED

	Packages	*Weight*
Assorted Provisions ..		
Ham including canned Ham ..		
Canned Luncheon Meat ..		
Canned Meat		
Canned Fish	69,976	89,192
Onions		
Pigs Lungs		
Tea		
Pearl Barley		
Total ..	69,976	82,192 lb.

Table *C*

Race	Burials and Cremations made in Public Cemeteries and licenced Burial Grounds in the City area	Exhumations
Europeans	43 and 1 ash	..
Eurasians	80	..
Chinese	3,994 and 2 ashes (13)	4,296
Malays	1,377	..
Indians	576 (219)	..
Others	44 and 5 ashes (8)	..
Total ..	6,114 and 8 ashes (240)	4,296

Note:—Figures in brackets denotes cremations.

CITY HALL DISPENSARY

I HAVE THE HONOUR to submit the Annual Report of the three Staff Dispensaries for the year 1959:

Table I

SUMMARY

	Staff	Open Vote	Total
Number of cases of new illness seen—first visits ..	14,729	63,592	78,321
Number of consultation given including first visits and dressings	24,846	113,803	138,649
Monthly average attendance of patients	2,070	9,483	11,553
Number of patients treated by Private Practitioners ..	737	2,984	3,721
Number of sick days leave granted by:—			
(*a*) Dispensaries A.H.O. Staff	14,588	76,408	90,996
(*b*) Private Practitioners	1,913	6,386	8,299
(*c*) Government Hospitals	6,084	22,953	29,037
(*d*) T.T.S. Hospital—T.B. leave	3,423	12,465	15,888
(*e*) Leave due to Accidents (W.C.F.)	540	17,669	18,209
Total ..	26,548	135,881	162,429
Number of patients sent to Government and Middleton Hospital	840	2,332	3,172
Number of visits by A.H.O. Staff	116	93	209
Number of medical examination for physical fitness ..	624	524	1,148
Number of cases of Accidents (W.C.F.) ..	112	5,154	5,266
Number of cases of staff treated by Middleton Hospital	486	..	486
Number of cases of staff treated by Maternity, Child and Welfare Department	344	..	344

Table II

NUMBER OF CASES OF NEW ILLNESS SEEN—FIRST VISITS

		City Hall Dispensary	Lorong Lalat Dispensary	Alexandra Road Dispensary	Total
January ..	.. Staff	870	133	77	1,080
	Open Vote	762	2,625	1,080	4,467
February ..	.. Staff	824	115	77	1,016
	Open Vote	672	2,584	968	4,224
March ..	.. Staff	779	145	110	1,034
	Open Vote	636	2,702	999	4,337
April ..	.. Staff	988	133	104	1,225
	Open Vote	795	3,154	1,245	5,194
May ..	.. Staff	1,006	194	90	1,290
	Open Vote	794	3,208	1,080	5,082
June ..	.. Staff	1,024	189	86	1,299
	Open Vote	840	3,591	1,143	5,574
July ..	.. Staff	1,125	192	132	1,449
	Open Vote	854	3,495	1,312	5,661
August ..	.. Staff	900	180	79	1,159
	Open Vote	821	3,574	1,221	5,616
September	.. Staff	852	191	73	1,116
	Open Vote	826	3,703	1,212	5,741
October ..	.. Staff	1,128	209	90	1,427
	Open Vote	860	3,749	1,214	5,823
November	.. Staff	1,008	205	92	1,305
	Open Vote	886	3,681	1,260	5,827
December	.. Staff	1,023	215	91	1,329
	Open Vote	905	3,765	1,376	6,046
	Total ..	21,178	41,932	15,211	78,321

Table III

TOTAL NUMBER OF CONSULTATIONS GIVEN TO PATIENTS AT THREE DISPENSARIES INCLUDING FIRST VISITS AND DRESSINGS

——		City Hall Dispensary	Lorong Lalat Dispensary	Alexandra Road Dispensary	Total
January ..	Staff	1,451	234	254	1,939
	Open Vote	1,290	4,569	2,380	8,239
February ..	Staff	1,374	245	222	1,841
	Open Vote	1,115	4,888	2,111	8,114
March ..	Staff	1,269	286	241	1,796
	Open Vote	1,194	4,882	2,392	8,468
April ..	Staff	1,571	252	272	2,095
	Open Vcte	1,295	5,307	2,575	9,177
May ..	Staff	1,659	295	279	2,233
	Open Vote	1,371	5,666	2,572	9,609
June ..	Staff	1,757	299	222	2,278
	Open Vote	1,584	5,674	2,410	9,668
July ..	Staff	1,937	405	244	2,586
	Open Vote	1,623	5,596	2,580	9,799
August ..	Staff	1,475	280	207	1,962
	Open Vote	1,560	6,023	2,501	10,084
September ..	Staff	1,353	274	154	1,781
	Open Vcte	1,609	5,976	2,560	10,145
October ..	Staff	1,667	311	218	2,196
	Open Vote	1,488	5,858	2,567	9,913
November ..	Staff	1,582	301	182	2,065
	Ope Vote	1,576	6,027	2,553	10,156
December ..	Staff	1,586	321	167	2,074
	Open Vote	1,430	6,481	2,520	10,431
Total ..		35,816	70,450	32,383	138,649

NUMBER OF NEW CASES ATTENDING MONTHLY FROM VARIOUS DEPARTMENTS AT THE THREE STAFF DISPENSARIES

Month	Departments C.A.B.S.	Assessor's	City Cleansing	City Engineers	Electricity	Fire Brigade	Gas	Health	Markets and Hawkers	Government Department	Secretariat	S.I.T.	Treasurers	Vehicles	Veterinary	Water	Total
January ..	185	19	1,673	1,410	693	114	112	377	76	..	29	236	149	30	15	429	5,547
February ..	194	13	1,614	1,321	687	117	97	352	77	..	42	209	124	20	13	360	5,240
March	167	15	1,639	1,376	674	108	127	326	86	..	33	248	119	24	14	415	5,371
April	238	15	1,987	1,571	823	165	142	420	107	..	47	299	123	27	7	448	6,419
May	232	25	1,881	1,556	830	141	161	449	103	..	47	252	144	22	23	506	6,372
June	254	18	1,965	1,709	902	133	199	457	110	..	41	288	173	31	29	564	6,873
July	259	28	2,073	1,681	968	186	185	488	152	2	56	309	162	25	20	516	7,110
August ..	223	17	2,096	1,648	920	134	167	440	120	16	44	286	164	24	23	453	6,775
September ..	233	11	2,012	1,675	950	128	213	455	143	15	34	297	175	15	15	486	6,857
October ..	258	9	2,133	1,695	993	172	224	477	142	43	48	341	187	35	26	467	7,250
November ..	241	14	2,116	1,681	954	140	222	490	146	41	30	333	193	18	23	490	7,132
December ..	269	17	2,067	1,786	973	175	217	480	156	33	38	381	162	25	34	562	7,375
Total ..	2,753	201	23,256	19,109	10,367	1,713	2,066	5,211	1,418	150	489	3,479	1,875	296	242	5,696	78,321

DISEASES TREATED AT THE THREE STAFF DISPENSARIES DURING 1959

Short fevers	3,912
Diseasse of the Nervous System	759
Disease of the Respiratory System	19,763
Disease of the Cardiovascular System	480
Diseases of the Digestive System	6,987
Diseases of the Urogenital System	754
Diseases of the Eye	2,691
Diseases of the Ear, Nose, Throat and Mouth	3,703
Diseases due to Deficiency	2,349
Diseases of the Skin	6,145
Dental Diseases	1,869
Tuberculosis	35
Venereal Diseases	213
Diabetes	925
Accidents and Injuries (W.O.D.)	5,211
Accidents and Injuries (Off Duty)	7,604
Eruptive fevers	152
Malaria	—
Other minor ailments	14,769
Total	78,321

Medical attention including house visits is provided to all categories of employees. The number of monthly paid staff eligible for medical care is about 3,500, and the number of daily paid workers is about 12,000. Besides, the employees of various ministries in the City Hall building are also attending City Hall Dispensary for treatment. The staff of Middleton Hospital and Maternity and Child Welfare departments are treated by the medical officers attached to these departments. An average of 11,553 cases are treated monthly at the three staff dispensaries. During the outbreak of Small-pox in April, 1959, the staff of the three dispensaries vaccinated more than 15,000 of the Council staff and their dependants.

The practice of accepting sick leave certificates from Private Practitioners was discontinued in October 1958 but resumed again since July 1959.

The services of the Visiting Medical Officer for the three dispensaries at the Johore Water Works were terminated in September this year. Instead the Medical Officer i/c of City Hall Dispensary is visiting these three places fortnightly.

There is no income for this department. All the medical supplies are purchased through the Central Medical Store—a department set up as a separate unit under the City Health Officer. From the budget provision of $50,000 for drugs and dressings for this year, a saving of more than $20,000 was effected due to the reduction on purchase of proprietary and other expensive items of drugs. All first aid requirements for various departments of the City Council are supplied from City Hall Dispensary.

The authorised strength of medical officers is seven and one Lady medical officer, making a total of 8 doctors. At present there are only four doctors including the Lady medical officer, thus having four posts vacant. One senior hospital assistant, one timescale hospital assistant, one dispensary attendant resigned during the year. It is essential for the proper administration of this department to appoint at least 1 more medical officer, 2 hospital assistants and a dispensary attendant.

In conclusion, I wish to thank the staff of these three dispensaries for their co-operation and hard work.

DR. A.C.S. RAJAN,
Medical Officer i/c Staff,
City Hall Dispensary.

PLAGUE PREVENTION

THE FOLLOWING IS A RETURN OF RATS CAUGHT FOR THE YEAR, 1959

Source	R NORVEGICUS		R RATTUS		R CONCOLOR		M MUSCULUS		Crocidura	Total Rats	Total Preg. Rats	Total Dead Rats	Fleas X. Cheopies	Fleas Others C. Felis	Total Fleas.	Mite	T LEWISI		Average Fleas per rat	Remarks
	M.	F.	M.	F.	M.	F.	M.	F.									+ve	-ve		
City Health ..	631	1,648	48	21	21	96	99	60	57	2,681	273	28	5,435	1	5,436	632	4	49	2.03	..
Govt. Health ..	16	66	11	9	56	86	231	201	5	681	38	8	275	..	275	28	..	..	0.4	..
S.H.B. ..	19	51	39	59	13	11	2	..	..	194	9	..	70	..	70	1	..	..	0.36	..
Port Health ..	..	..	64	94	38	70	11	7	1	285	23	285	..	..	..	..	..	..	..	Fumigated H.C.N.
Total ..	666	1,765	162	183	128	263	343	268	63	3,841	343	321	5,780	1	5,781	661	4	49	..	..
Grand Total ..	2,431		345		391		611		63	3,841	343	321	5,780	1	5,781	661	4	49	..	..
Pregnant Rats..		266		22		20		35			343									

All the Rats were dissected and none were found infected with Plague.

105 live rats, trapped in the City Area, were sent to D.A.D.A.H. Headquarters Singapore Base District. These rats care not included in the above totals.

INFECTIOUS DISEASE NURSE'S REPORT FOR THE YEAR 1959

	Malays		Chinese		Indians		Others		Total		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	T.
(1) *Home Visits*											
T.B. Patients first visits ..	24	..	30	..	34	..	2	..	90	..	90
T.B. Patients Revisits ..	304	..	492	..	528	..	10	..	1,334	..	1,334
T.B. Patients untraceable ..	1	..	7	..	5	..	..	..	13	..	13
Deaths	1	..	1	..	1	..	..	..	3	..	3
Total ..	330	..	530	..	568	..	12	..	1,440	..	1,440
Home Visits											
Contacts first visits ..	16	15	16	25	4	9	3	1	39	50	89
Contacts Revisits ..	10	10	14	14	3	2	3	1	30	27	57
Total ..	26	25	30	39	7	11	6	2	69	77	146
Details of Above											
Contacts Adults referred to T.T.S.H. for X-ray ..	..	7	3	9	..	2	..	..	3	18	21
Contacts Adults referred to S.A.T.A. for X-ray ..	..	..	..	1	..	..	..	..	..	1	1
School Children referred to School Clinic ..	..	..	..	..	..	..	..	..	..	..	..
Total ..	..	7	3	10	..	2	..	..	3	19	22
Mantoux Tests Done											
Adults	..	..	..	..	..	..	..	..	..	..	..
Children	16	8	14	5	4	7	3	1	37	21	58
Total ..	16	8	14	5	4	7	3	1	37	21	58
Mantoux Tests Done											
Positive	2	2	3	2	..	..	..	..	5	4	9
Negative	9	8	11	12	3	2	2	1	25	23	48
Total ..	11	10	14	14	3	2	2	1	30	27	57
Poliomyelitis Investigation	2	1	15	27	..	1	..	..	17	29	46

ALICE TAN,
Infectious Disease Nurse.

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