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

CITY COUNCIL OF SINGAPORE

ANNUAL REPORT OF THE
HEALTH DEPARTMENT
1960

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BY

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

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CITY HEALTH DEPARTMENT ANNUAL REPORT FOR 1960

ON THE INSTRUCTIONS of the Administrator, City Council, at the commencement of the year 1960, steps were taken to implement the integration of the City Health Department into the Ministry of Health with the removal of its offices from the City Hall to new locations. In January 1960, the City Health Officer and the Administrative Section shifted to the top floor of the Ministry of Health building at Palmer Road. In December 1960, the Licensing Section, Public Health Inspectorate, Food and Drugs Section, and Assistant Health Officers moved to the ground floor of this same building while the Anti-Mosquito Section shifted to its new office at Kampong Java Road.

With this integration, the following changes in the existing organisation were envisaged:—

Sub-Department	*Responsibility of*
Midwives and Child Welfare	Asst. Director of Medical Services (Health)
Middleton Hospital	Asst. Director of Medical Services (Hospitals)
Staff Dispensaries	Asst. Director of Medical Services (Hospitals)
Public Outdoor Dispensaries	Asst. Director of Medical Services (Hospitals)
City Analytical Laboratory	Government Chief Chemist.
City Bacteriological Laboratory	Government Pathologist.
Registration of Births and Deaths	Ministry of Home Affairs
City Cleansing Department	City Health Officer
Markets and Hawkers Department	City Health Officer

As a result of these changes consequent upon integration and reorganisation this will be the last report in this series to be published by the City Health Officer. The various activities will, in future, be incorporated into the report of the Ministry of Health.

MID-YEAR POPULATION

The Registrar of Statistics' figure for our estimated mid-year population (city area only) is as follows:—

ESTIMATED MID-YEAR POPULATION BY RACES, 1960

Malaysians	115,300
Chinese	795,600
Indians and Pakistanis	88,000
Europeans	10,200
Eurasians	6,200
Others	8,400
Total	1,023,700

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.

SUMMARY OF PRINCIPAL STATISTICS 1960

BIRTHS AND DEATHS, ETC.—ALL RACES COMBINED

	1959	*1960*
Total births registered	48,694	50,391
Total deaths registered	8,122	8,339
Excess of births over deaths	40,572	42,052
Birth Rate	49.00	49.22
Crude Death Rate	8.17	8.15
Malaria Death Rate	0.007	0.004
Infantile Mortality Rate	37.17	35.26
Neo-Natal Death Rate	19.53	19.79
Still-Birth Rate per 1,000 live and still-births	15.35	15.13
Maternal Mortality Rate per 1,000 live births	0.739	0.48

CERTIFICATION OF DEATHS

	1959 *Per cent*	*1960* *Per cent*
Medical Practitioners	65.65	64.83
Inspecting Officers	17.69	17.87
Coroner	16.36	16.92
Police Officers	0.30	0.38

NOTIFIABLE INFECTIOUS DISEASES IN 1960

	Cases Notified		*Deaths*
Tuberculosis (all forms)	3,857	(including 1,200 non-residents	583
Typhoid	98	(including 81 non-residents)	9
Paratyphoid	3	(including — non-residents)	—
Diphtheria	555	(including 90 non-residents)	38
Leprosy	119	(including 27 non-residents)	2
Poliomyelitis	119	(including 78 non-residents)	6
Erysipelas	3	(including — non-residents)	—
Chickenpox	1,800	(including 450 non-residents)	4
Small-pox, Cholera and Plague	—	—	—

DEATHS CERTIFIED AS DUE TO SOME OF THE NON-NOTIFIABLE INFECTIOUS AND PARASITIC DISEASES IN 1960

	1959	*1960*
Dysentery—Bacillary, Amœbic, Unspecified	18	23
Malaria	7	3
Influenza	19	27
Whooping Cough and Complications	2	7
Measles and Complications	15	11
Leptospirosis Icterohæmorrhagica (Weil's Disease)	—	—
Tetanus	41	28

VACCINATION

	1959	*1960*
Age Group (0—1)	38,548	36,107
Age Group (1—5)	2,693	872
Age Group (5 and over) ..	880	44
Total vaccinated and revaccinated ..	42,121	37,023

MATERNAL AND CHILD WELFARE DEPARTMENT

HOME VISITS BY SISTERS AND HEALTH VISITORS

	1959	*1960*
Mothers visited by District Sisters within ten days after confinement	13,876	12,112
Subsequent visits by District Sisters to Mothers	5,843	6,905
First visits by Health Visitors to new babies ..	28,437	29,080
Subsequent visits by Health Visitors to new babies	28,907	27,133
Visits to expectant mothers	5,326	4,439
Visits made in connection with Anti-Diphtheria Immunisation	3,980	7,202
Total visits to homes by Sisters and Health Visitors	86,369	86,871

ATTENDANCES AT CLINICS

	1959	*1960*
Infants (0—1)		
1st attendances	38,414	40,606
Subsequent attendances	193,579	209,944
Total attendances ..	231,993	250,550
Of these, attendances of sick babies ..	154,628	159,788
i.e. in percentage	66.65%	63.77%
Pre-school Children		
1st attendances	22,463	28,743
Subsequent attendances	54,964	69,196
Total attendances ..	77,427	97,939
Of these, attendances of sick toddlers ..	57,882	61,684
i.e. in percentage	74.76%	62.98%
Expectant Mothers		
1st attendances	7,116	6,887
Subsequent attendances	18,437	19,154
Total attendances ..	25,553	26,041

DIPHTHERIA IMMUNISATION—COMPLETE COURSES

	1959	*1960*
Infants (0—1)	7,310	1,481
Pre-school Children (1—5)	6,685	4,773
Older Children (5—10)	242	538

COUNCIL FREE MIDWIFERY SERVICE

	1959	*1960*
Confinements attended by Council Midwives	1,295	1,137
Visits paid to cases discharged from Government Maternity Hospital three days or so after confinement	15,207	15,172
Visits subsequently paid to known cases of confinement not attended by Doctors or Midwives	82	84

CONDUCTION OF CONFINEMENTS

	1959	*1960*
Government Maternity Hospital	34,028	36,310
Private Maternity Homes and by Private Doctors	2,986	3,264
Private Midwives	11,448	8,307
Council Midwives	1,295	1,137
No skilled attention at confinement ..	389	270
	50,146	49,288

HEALTH OF CITY COUNCIL STAFF

AVERAGE STRENGTH OF CITY COUNCIL STAFF DURING 1960

Approximate number of Senior, Junior and Subordinate Staff stationed in Singapore including temporary staff and also including females. Figures supplied by Assistant Secretary (Staff)	4,000
Approximate number of Daily-Rated Employees stationed in Singapore including females and young persons. Figures supplied by Labour and Welfare Officer ..	9,100

——	Staff (*a*)	Daily Rated Employees (*b*)	Total (*a*) and (*b*)
New cases attended at dispensaries (including accidents while on duty)	16,211	66,852	83,063
Total attendances including first visits. ..	25,158	114,672	139,830
Examination for physical fitness	729	743	1,472
Visits paid to homes by M.O. i/c. Staff ..	81	77	158
Cases treated by Private Practitioners ..	2,549	17,907	20,456
	44,728	200,251	244,979
Days sick leave granted (excluding leave under Workmen's Compensation Ordinance) including leave on account of Tuberculosis by:—			
(*a*) M.O. i/c. Staff	14,598	82,266	96,864
(*b*) Private Practitioners	5,153	29,507	34,660
(*c*) Hospitals	7,739	36,990	44,729
Total ..	27,490	148,763	176,253
Leave granted under Workmen's Compensation Ordinance by M.O. i/c. Staff and General Hospital.	435	17,910	18,345
Days leave granted for Tuberculosis. ..	2,152	14,375	16,527
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 1960	6.42%	15.06%	12.67%

BIRTH RATE

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

1956	*1957*	*1958*	*1959*	*1960*
49.11	50.40	49.40	49.00	49.22

It is noted that the birth rate of 49.22 has shown no significant change when compared with 49.00 in 1959.

DEATH AND INFANTILE MORTALITY RATES

The general reduction in the Crude Death Rate, Infantile Mortality Rate and Maternal Mortality Rate shows a good response from the population in utilising the medical services provided. The Malaria Death Rate of 0.004 shows a decrease as compared with 0.007 for 1959.

TUBERCULOSIS DEATH RATE PER 1,000 POPULATION

1947	*1951*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*	*1959*	*1960*
2.350	1.717	1.08	1.00	1.02	0.74	0.70	0.56	0.56	0.57

The death rate for 1960 of 0.57 shows a slight increase over that of 0.56 for 1959.

TYPHOID FEVER

There were seventeen cases notified in persons resident within the City Area, eighty cases in persons not residing within the City Area and one imported case. There were also three cases of para-typhoid in persons resident within the City Area. Nine persons died of this disease.

A sudden outbreak of typhoid occurred in September, 1960, on Pulau Bukom Besar where fifty-three people contracted the disease. Although hawkers and food handlers from the island were screened for the carrier state, the results were negative. The source of the outbreak was subsequently found to be a carrier from a neighbouring island.

DIPHTHERIA

During the year 465 cases were notified in persons ordinarily resident in the City Area and 90 cases in persons resident in the Rural Area. There were 38 deaths from this disease. In view of the high incidence of this disease, serious consideration was given for the introduction of legislation for compulsory immunisation which it is anticipated will be enforced next year.

POLIOMYELITIS

There were forty-one cases notified in persons resident in the City Area and seventy-eight cases in persons resident in the Rural Area. Six deaths occurred from this disease. Most of these cases occurred in children aged 3 years and below. A further description of these cases can be found in the report of the Medical Superintendent of the Middleton Hospital.

MIDDLETON HOSPITAL

4,924 patients were treated in this hospital with 76 deaths. The number of admissions was the highest ever recorded in this hospital and showed a marked increase over that of 3,451 in 1959.

MALARIA

The incidence of malaria in Singapore is still negligible. In the City Area 14 cases were reported and on investigation they were all found to be imported cases from neighbouring countries. The malaria death rate was 0.004 per 1,000 population within City Limits.

CITY ANALYST DEPARTMENT

This department continued its valuable work in the examination of various samples which totalled 30,831 for the year. The purity and quality of the Singapore water supply was satisfactorily maintained throughout the year.

BACTERIOLOGICAL DEPARTMENT

Public Health specimens examined totalled 55,842, while the total of water specimens examined was 74,196. The bacteriological results of water analyses from all the taps continued to be satisfactory. A total of 4,022 rats were dissected but none were found to be infected with plague.

FOOD AND DRUGS SECTION

The total number of samples examined for breaches of the Food and Drugs Regulations, 1957, was 1,886. There were 164 prosecutions with 161 convictions. In addition 144,235 lb. of food were unfit for human consumption and 2,555 packages of drugs were destroyed.

There were 54 incidents of food poisoning affecting 568 persons. In 8 of these incidents, 3 food establishments were involved where it was found that the contamination was due to cuts and wounds on handlers, careless handling of food and feeding utensils, and improper storage of food.

Following a report by the Chief Chemist on a sample of Chinese Medicine called "PING GOH CHIN", an investigation revealed that a nine year old child was affected with temporary blindness after having been given doses of this medicine. An analysis showed that this drug contained 97% aspirin although the formula on the label declared Phenacetinum 37% ,Caffeinae Citras 10% and Acidum Acetyl Salicylicum 53%. A court conviction was obtained against the manufacturer and all the entire stocks of this drug were forfeited and destroyed.

ABATTOIRS

The total number of animals slaughtered in the City Abattoirs was 529,094 and these comprised 435,124 swine, 6,219 oxen, 3,474 buffaloes, 16 horses, 81,984 sheep and 2,277 goats. The carcases of 86 swine, 12 oxen, 6 buffaloes and 11 sheep were condemned. The net receipts for the year amounted to a total of $1,028,743.15.

SMALL-POX VACCINATION

There was an appreciable decrease in the number of vaccinations for the year which totalled 37,023 as compared with 42,121 for 1959. This was due to the absence of any incidence of small-pox, whereas in 1959 a small outbreak of this disease entailed an island-wide vaccination campaign.

On the basis of vaccinations carried out on infants under 6 months old, there was a slight drop in the number of primary vaccinations with a total of 26,834 as compared with 27,444 for 1959.

MATERNAL AND CHILD WELFARE DEPARTMENT

The general public is very conscious of the hospital facilities and pregnant women prefer to have their babies in hospital. The number of confinement cases referred from Kandang Kerbau Maternity Hospital for post-natal domiciliary after-care by City Council midwives maintained a steady level with 15,172 cases as compared with 15,207 for 1959. Due to the poor response to advertisements for recruitment to the many vacancies, the department, with its shortage of staff, had no alternative but to curtail its activities on Home Visiting and concentrate more on the needs of the public in the various clinics.

B.C.G. immunisation is progressing slowly as parents are becoming more aware of the dangers of T.B. However, during the last few months of the year a good number of adenitis and abscesses were seen after B.C.G. and the severe cases were referred to the Pædiatric Unit for treatment.

Anti-Diphtheria Immunisation was confined to the use of Triple Antigen for all Primary Immunisation of infants instead of using Plain A.P.T., or A.P.T. plus Whooping Cough. With the follow-up of children in the Clinics through their Pre-School years there was an increased number of Booster doses given.

An intensive Family Planning Campaign was launched in November with courses of lectures in Chinese and English to "Lay Workers". Wide publicity was given by the Press and Radio. An Exhibition was held in the Victoria Memorial Hall from November 26th to December 4th with an average attendance of 10,000 persons daily and 12,000 at weekends. It is hoped that this favourable response by the public together with the services provided in the City Clinics will result in more sensible planning of families thereby progressing towards the achievement of the Government policy in fostering Family Planning.

In the Public Health Nurse Training Course which commenced in June, the Senior Assistant Health Officer, two Doctors and the Senior Sister gave a series of lectures at this Course, and the students were given all the facilities for observation and experience in the practical aspects of the work carried on at the Institute of Health and other City Clinics. These facilities were also made available to Medical Students doing their Public Health Course and eight Pædistric Nurse Trainees.

STAFF CHANGES

Appointments

Mr. M. R. Marcus was appointed Temporary Secretary in the Administrative Section on 30th July, 1960.

Dr. Ho Chee Heng, Temporary Assistant Health Officer who resigned on 17th November, 1960, was reappointed to a similar post on 22nd December, 1960.

Four Clerks, one Superintendent Muslim Cemetery, one Hospital Assistant, five Midwives, one Creche Assistant, five Watchmen and six Attendants were appointed in a temporary capacity.

Retirements

Mr. Yeo Joo Lim, Secretary, retired on 22nd July, 1960.

Three Watchmen and one Attendant also retired during the year.

Resignations

The following Junior and Subordinate officers resigned during the year:—

One Public Health Inspector, one Health Visitor, two Staff Nurses, one Clerk, one Nursing Assistant, one Creche Assistant, two Temporary Midwives, one Senior Attendant, four Attendants, one Junior Attendant and one Watchman.

Termination of Service

The services of a Temporary Physiotherapist, one Clerk and one Attendant were terminated. One Store Attendant was dismissed from the service on court conviction. One post of Junior Overseer was declared vacant on the holder of the post absenting himself without authority. The services of a Senior Laboratory Assistant were terminated on medical grounds.

Promotions

The following staff were promoted during the year:—

Two Clerks as Section Inspectors, Water Department.
One Temporary Laboratory Assistant as Overseer, Chemical Treatment, Water Department.
One Junior Overseer as Assistant Superintendent, Hindu Cemetery.
One Senior Attendant as Market Keeper, Markets and Hawkers Department.
One Attendant as Meter Reader, Treasurer's Department.
One Temporary Watchman as Caretaker, Labour and Welfare Department.

General

Dr. Ng See Yook, City Health Officer, was seconded to the Ministry of Health, officiating in the post of Director of Medical Services and Permanent Secretary as from 17th October, 1960, and most of his duties were carried out by Dr. V. M. S. Thevathasan, Senior Assistant Health Officer.

Dr. Chan Tuck Kin, Assistant Health Officer (Maternity and Child Welfare), who proceeded on no-pay leave on 11th July, 1959, to the United Kingdom for post graduate course, resumed duty on 30th December, 1960, having obtained the Diploma of Child Health.

Health Visitors Tay Chee Chee, Loke Low Cheng, Lau Gek Choo and Heng Bok Lan attended the Public Health Nursing Course with effect from 20th June, 1960, for one academic year.

Mr. P. M. Balasandren, Rodent Overseer, died on 16th August, 1960.

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 1960 and in the previous five years are shown in the table which follows:—

	1955	1956	1957	1958	1959	Average for 5 years	1960
Small-pox	..	..	..	..	10	2.0	..
Plague	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..
Typhoid Fever	100	74	85	103	99	92.2	98
Para-typhoid Fever	..	2	1	..	1	.8	3
Diphtheria	347	425	576	414	435	439.4	555
Cerebro-Spinal Fever ..	1	1	..	..	..	.4	..
Typhus Fever*	4†	5‡	1§	1§	1	2.4	1‖
Scarlet Fever	..	..	..	..	..	..	..
Leprosy	120	115	88	84	103	102.0	119
Poliomyelitis	9	26	41	255	37	73.6	119
Anthrax	..	..	..	..	..	..	..
Puerperal Fever	60	64	84	81	120	81.8	76
Erysipelas	10	3	4	2	1	4.0	3
Chicken-pox	1,687	1,402	980	524	1,234	1,165.4	1,800
Tuberculosis	2,979	2,835	2,559	2,995	4,438	3,161.2	3,857
Total ..	5,317	4,952	4,419	4,459	6,479	5,125.2	6,631

* 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.
‖ Louse Borne.

Table 2

NOTIFIABLE INFECTIOUS DISEASES BY RACES FOR THE YEAR 1960

	Europeans	Eurasians	Chinese	Malays	Indians	Others	Total
Typhoid Fever ..	— (—)	— (—)	74 (27)	8 (52)	12 (2)	4 (—)	98 (81)*
Diphtheria ..	— (1)	4 (—)	496 (75)	30 (10)	23 (4)	2 (—)	555 (90)
Chicken-pox ..	5 (5)*	23 (11)	607 (161)	326 (118)	776 (143)	63 (12)	1,800 (450)*
Puerperal Fever ..	— (—)	— (—)	11 (3)	62 (3)	3 (2)	— (—)	76 (8)
Poliomyelitis ..	— (1)	— (—)	96 (60)	6 (6)	15 (11)	2 (—)	119 (78)
Cerebro-spinal Fever ..	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)
Para-typhoid Fever ..	— (—)	— (—)	2 (—)	— (—)	1 (—)	— (—)	3 (—)
Tuberculosis ..	— (—)	— (—)	3,346 (941)	257 (164)	231 (77)	23 (18)	3,857 (1,200)
Small-pox ..	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)
Leprosy ..	— (—)	— (—)	96 (22)	9 (3)	14 (2)	— (—)	119 (27)
Typhus Fever ..	— (—)	— (—)	— (—)	— (—)	1 (2)	— (1)	1† (3)‡
Erysipelas ..	— (—)	— (—)	3 (—)	— (—)	— (—)	— (—)	3 (—)
Total ..	5 (7)*	27 (11)	4,731 (1,289)	698 (356)*	1076 (243)	94 (31)	6,631 (1,937)

* One Imported case of Typhoid.
One Imported case of Chicken-pox.
† Louse Borne.
‡ Flea Borne.

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 1960

(Figures in brackets are cases in non-residents)

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Typhoid Fever ..	10	14	5	4	12	10	15	7	6	4	5	6	98
	(4)	(5)*	(—)	(1)	(2)	(—)	(2)	(1)	(52)	(5)	(6)	(3)	(81)*
Diphtheria ..	54	47	42	36	40	55	61	41	41	37	48	53	555
	(5)	(6)	(7)	(11)	(9)	(7)	(7)	(4)	(9)	(6)	(7)	(12)	(90)
Chicken-pox ..	142	190	259	210	182	118	107	94	105	154	132	107	1,800
	(27)	(20)*	(52)	(38)	(40)	(30)	(39)	(58)	(44)	(29)	(24)	(49)	(450)*
Puerperal Fever ..	5	2	6	6	7	8	6	12	7	5	7	5	76
	(—)	(—)	(—)	(1)	(4)	(1)	(2)	(—)	(—)	(—)	(—)	(—)	(8)
Poliomyelitis ..	6	7	4	4	8	16	14	19	22	9	5	5	119
	(1)	(4)	(—)	(3)	(3)	(6)	(5)	(15)	(13)	(8)	(10)	(10)	(78)
Cerebro-Spinal Fever ..	—	—	—	—	—	—	—	—	—	—	—	—	—
	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)
Leprosy ..	8	8	11	18	5	12	6	12	9	11	9	10	119
	(3)	(2)	(3)	(5)	(1)	(2)	(1)	(1)	(2)	(—)	(—)	(7)	(27)
Typhus Fever ..	—	—	—	—	—	—	1	—	—	—	—	—	1†
	(—)	(1)	(—)	(—)	(2)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(3)‡
Erysipelas ..	—	—	—	—	1	—	1	—	—	1	—	—	3
	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)
Small-pox ..	—	—	—	—	—	—	—	—	—	—	—	—	—
	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)
Cholera ..	—	—	—	—	—	—	—	—	—	—	—	—	—
	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)
Scarlet Fever ..	—	—	—	—	—	—	—	—	—	—	—	—	—
	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)
Para-typhoid Fever ..	—	1	—	—	—	—	—	—	—	—	1	1	3
	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)	(—)
Total ..	225	269	327	278	255	219	211	185	190	221	207	187	2,774
	(40)	(38)*	(62)	(59)	(61)	(46)	(56)	(79)	(120)	(48)	(47)	(81)	(737)*

* One imported case of Typhoid. • One imported case of Chicken-pox. † Louse Borne. ‡ Flea Borne.

Table 4

POLIOMYELITIS

CONFIRMED CASES NOTIFIED IN 1960 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	..	..	..	..	..	..	90	55	145	7	4	11	17	10	27	1	..	1	115	69	184
5–10 „	..	..	..	..	..	..	4	3	7	..	..	..	..	1	1	..	..	..	4	4	8
10–15 „	..	..	..	..	..	..	..	1	1	..	..	..	..	1	1	..	..	..	..	2	2
15–20 „	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20–25 „	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–35 „	1	..	1	..	..	..	..	1	1	..	..	..	..	..	..	..	1	1	1	2	3
35–45 „	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–55 „	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	1	..	1	..	..	..	94	60	154	7	4	11	17	12	29	1	1	2	120	77	197

78 of the 197 confirmed cases of Poliomyelitis notified within the City Area were non residents.

Table 5

POLIOMYELITIS CASES NOTIFIED AND CONFIRMED IN 1960

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	..	..	..	..	..	..	..	..	..	..	..	1
Eurasians	..	..	..	..	..	..	..	..	..	..	..	..
Chinese	21	15	30	20	20	6	12	9	7	5	145	9
Malays	3	1	2	2	1	1	1	..	..	..	11	..
Indians	5	2	7	4	3	3	2	1	..	..	27	2
Others	..	..	1	..	..	..	..	..	..	..	1	1
Total ..	29	18	40	26	24	10	15	10	7	5	184	13

Table 6

PERCENTAGE OF PARALYTIC AND NON-PARALYTIC POLIOMYELITIS CASES TREATED AT MIDDLETON HOSPITAL 1959 AND 1960.

	1959	*1960*
Total cases treated at Middleton Hospital ..	66	201
Paralytic cases	57	192
Non-paralytic cases	9	9
Paralytic cases	86%	95%

INSTITUTIONS, ETC. WHENCE TUBERCULOSIS NOTIFICATIONS WERE RECEIVED

3,857 cases of Tuberculosis (all types) in City residents and 1,200 in non-residents that is 5,057 in all, were notified during the year. 18 of these were not ordinarily resident in the State.

Notified by	R.S.T.C.	T.T.S. Clinic	General Hospital	Total R.S.T.C. and Hospitals	Private Practitioners and others	Total
Number of cases notified ..	1,459	2,468	90	4,017	1,040	5,057

NOTIFICATIONS OF TUBERCULOSIS (ALL TYPES) BY SEX AND AGE GROUPS 1960 (CITY RESIDENTS ONLY)

Sex	AGE GROUPS						
	0–5 years	5–10 years	10–15 years	15–20 years	20–45 years	Over 45 years	Total
Males	14	16	9	123	1,244	1,527	2,933
Females	18	12	14	62	478	340	924
Total ..	32	28	23	185	1,722	1,867	3,857

Table 1

GENERAL MEASURES TAKEN TO PREVENT IMPORTATION AND SPREAD OF INFECTIOUS DISEASES

PASSENGERS UNDER SURVEILLANCE DURING THE YEAR 1960

Number of Passenger under surveillance	121
Number of Passenger Undertakings received	107
Number of Persons seen	106
Number of Persons not seen and could not be traced	17

Table 2

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

Houses quarantined	—
Houses Disinfected	1,535
Infectious cases removed to Infectious Hospital	185
Leper cases removed to Trafalgar Hospital	—

Table 3

VACCINATIONS BY CITY VACCINATORS, MEDICALMEN, PRIVATE AND GOVERNMENT VACCINATORS

1960

———	Successful	Modified	Failed	Not seen	Total
City Vaccinators	27,266	2	8	925	28,201
Medicalmen	8,534	..	65	..	8,699
Private and Government Vaccinators	123	..	..	..	123
Total	36,023	2	73	925	37,023

Table 4

VACCINATION BY RACE AND AGE GROUPS, 1960

Race	Under 6 months	6–12 months	1–5 years	Over 5 years	Total
Chinese	20,358	7,381	748	42	28,529
Malays	4,104	1,284	88	2	5,478
Indians	2,143	532	32	..	2,707
Eurasians	169	67	4	..	240
Europeans	32	5	..	..	37
Others	28	4	..	..	32
Total	26,834	9,273	872	44	37,023

Table 1

BIRTHS AND STILL-BIRTHS

The following is the number of births for each month of the year, the 1959 figures being also shown:—

Month	1959	1960	Month	1959	1960
January	3,835	4,026	July	3,965	4,177
February	3,483	3,697	August	4,172	4,302
March	3,928	3,982	September	4,264	4,251
April	3,888	3,976	October	4,532	4,768
May	4,048	4,248	November	4,337	4,299
June	3,882	4,242	December	4,120	4,423
Total ..	23,064	24,171	Total ..	25,390	26,220

Table 2

The births registered by races were:—

	1959			1960		
	Males	Females	Total	Males	Females	Total
Europeans	444	437	881	165	148	313
Eurasians	159	139	298	164	181	345
Chinese	18,934	18,007	36,941	19,847	18,345	38,192
Malays	3,042	2,698	5,740	3,463	3,172	6,635
Indians	2,168	2,072	4,240	2,266	2,207	4,473
Others	319	275	594	250	183	433
Total ..	25,066	23,628	48,694	26,155	24,236	50,391

Table 3

The birth rate for each race in 1960 and the corresponding rate for 1959 are shown in the table which follows:—

	1959	1960
Europeans	83.11	30.69
Eurasians	43.85	55.65
Chinese	47.89	48.13
Malays	51.85	57.55
Indians	49.13	50.83
Others	69.07	51.55
All Races Combined	49.00	49.22

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 1960 and also the percentage of the total registered live-births of each race born at this hospital:—

	1960			Percentage of total births registered by race born at Kandang Kerbau Maternity Hospital	
	Males	Females	Both Sexes	1959	1960
Chinese	15,490	14,214	29,704	75.47	77.78
Indians	1,756	1,693	3,449	78.70	77.11
Malays	1,218	1,085	2,303	28.62	34.71
Europeans	15	14	29	10.90	9.27
Eurasians	95	113	208	75.84	60.29
Others	160	131	291	45.45	67.21
Total All Races ..	18,734	17,250	35,984	68.69	71.41

Table 5

The percentage of the total births registered by races in the Census years 1911, 1921, 1931, 1947 and in 1953—1960 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	406	353	67.4	18.18	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	745	2,323	79.3	10.5	7.6	2.44
1951 ..	34,776	26,686	3,542	2,819	729	79.61	10.19	8.11	2.10
1952 ..	36,529	28,853	3,842	3,097	737	78.99	10.52	8.48	2.02
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
1960 ..	50,391	38,192	6,635	4,473	1,091	75.79	13.17	8.88	2.16

Table 6

The Still-births registered in 1960 and 1959 are shown in the table which follows:—

	1960			1959		
	Males	Females	Total	Males	Females	Total
Europeans	2	–	2	4	9	13
Eurasians	2	1	3	2	5	7
Chinese	255	253	508	218	211	432*
Malays	73	78	151	90	77	168‡
Indians	40	58	98	67	59	128†
Others	7	5	12	6	5	11
Total ..	379	395	774	387	366	759§

Note:—Figures in the above table exclude 15 Still-births of wives of non-locally domiciled personnel (including United Kingdom-based civilians employed by the Services).

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

Table 7

The percentage of illegitimate births over live-births was .09 for the year 1960 and the table below shows the sex and racial groups of mothers:—

	Male	Female	Total
Europeans	–	–	–
Eurasians	2	1	3
Chinese	18	18	36
Malays	1	–	1
Indians and Pakistanis	2	2	4
Others	1	2	3
Total ..	24	23	47

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	682	7.85	July	681	7.84
February	652	8.31	August	724	8.33
March	723	8.32	September	627	7.46
April	742	8.82	October	661	7.61
May	777	8.94	November	650	7.73
June	725	8.62	December	695	8.00

Table 2

The chief causes of death and the rate per 1,000 living for each disease in 1960 and 1959 are set in the table which follows:—

	1959		1960	
	Cases	Rate per Mille	Cases	Rate per Mille
Bronchitis and Pneumonia	1,012	1.02	992	0.97
Tuberculosis	555	0.56	583	0.57
Diarrhœa and Enteritis	444	0.45	427	0.42
Diseases of early Infancy	646	0.65	747	0.73
Infantile Convulsions (up to 5 years) ..	85	0.09	62	0.06
Violence	627	0.63	515	0.50
Heart Disease	640	0.64	722	0.71
Old Age	495	0.5	404	0.39
Cancer	900	0.91	945	0.92
Nephritis	187	0.19	204	0.20
Beri-Beri	46	0.05	51	0.05
Diphtheria	32	0.03	38	0.04
Malaria	7	0.007	3	0.003
Dysenteries	18	0.02	23	0.02
Typhoid	8	0.008	9	0.009
Cerebral Hæmorrhage and other vescular lesions	326	0.33	474	0.46

Table 3

SINGAPORE INFANT DEATHS REGISTERED IN 1960 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 ..	292†	173	117	28	21	133	86	10	8	..	..	1	2	1	..
1 day and under 2 days ..	178	104	74	19	11	74	59	9	1	..	..	2	1	..	2
2 days and under 3 days ..	120	72	48	8	7	58	37	6	4	..	..	..	..	..	..
3 days and under 4 days ..	98	60	38	13	9	40	28	7	1	..	..	..	..	..	..
4 days and under 5 days ..	51	26	25	9	4	17	17	..	3	..	1	..	..	..	..
5 days and under 6 days ..	40	25	15	4	1	17	14	3	..	..	..	..	..	1	..
6 days and under 7 days ..	24	13	11	4	2	9	7	..	2	..	..	..	..	..	..
7 days and under 14 days ..	115	75	40	15	7	53	27	5	6	1	..	..	..	1	..
14 days and under 21 days ..	42	26	16	9	6	15	7	1	3	..	..	..	..	1	..
21 days and under 28 days ..	37	16	21	4	6	11	13	1	1	..	1	..	..	..	..
Neo-Natal Deaths ..	997†	590	405	113	74	427	295	42	29	1	2	3	3	4	2
Under 28 days	997†	590	405	113	74	427	295	42	29	1	2	3	3	4	2
28 days and under 2 months ..	117	66	51	24	13	35	31	6	7	..	..	..	..	1	..
2 months and under 3 months ..	121	59	62	19	20	39	35	1	7	..	..	..	..	..	..
3 months and under 4 months ..	85	41	44	15	10	16	27	8	7	..	..	1	..	1	..
4 months and under 5 months ..	76	43	33	14	16	24	14	5	2	..	..	..	..	..	1
5 months and under 6 months ..	53	31	22	12	8	17	11	1	3	..	..	..	..	1	..
6 months and under 7 months ..	70	33	37	12	5	18	27	3	3	..	1	..	1	..	..
7 months and under 8 months ..	68	37	31	12	13	22	16	2	2	..	..	..	..	1	..
8 months and under 9 months ..	71	35	36	6	13	25	20	3	3	..	..	..	..	1	..
9 months and under 10 months ..	38	16	22	6	6	7	14	3	2	..	..	..	..	..	..
10 months and under 11 months ..	49	22	27	8	8	14	16	..	3	..	..	..	..	..	..
11 months and under 1 year ..	32	12	20	6	4	5	15	1	1	..	..	..	..	..	..
Infant Mortality* ..	1,777†	985	790	247	190	649	521	75	69	1	3	4	4	9	3

*Includes neo-natal deaths. † Includes 2 of unknown sex (1 Malaysian and 1 Others).

Note:—Figures in the above table exclude 32 deaths of children under 1 year of non-locally domiciled Services personnel (including United Kingdom-based civilians employed by the Services).

Table 3—*continued*

SINGAPORE DEATHS REGISTERED IN 1960 IN THE 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 year	1,777*	985	790	247	190	649	521	75	69	1	3	4	4	9	3
1 year and under 2 years ..	245	135	110	30	27	81	66	22	15	1	1	..	..	1	1
2 years and under 3 years ..	165	86	79	16	22	65	52	5	3	..	..	..	..	..	2
3 years and under 4 years ..	125	63	62	11	10	44	50	8	2	..	..	..	..	..	..
4 years and under 5 years ..	75	38	37	4	3	33	31	1	3	..	..	..	..	..	..
5— 9 years	212	116	96	15	8	84	78	14	9	2	..	1	..	..	1
10—14 years	123	71	52	11	6	56	43	2	2	..	1	..	..	2	..
15—19 years	100	63	37	8	8	51	27	4	1	..	..	..	..	..	1
20—24 years	127	70	57	10	13	52	39	6	4	..	..	2	..	..	1
25—29 years	130	78	52	6	8	63	37	8	4	..	..	1	2	..	1
30—34 years	180	102	78	10	13	68	54	20	11	..	..	..	..	4	..
35—39 years	227	145	82	18	9	95	69	26	4	2	..	3	..	1	..
40—44 years	346	219	127	12	18	147	98	51	8	4	2	2	1	3	..
45—49 years	453	322	131	22	18	248	105	45	6	2	2	3	..	2	..
50—54 years	658	455	203	31	24	349	166	67	5	2	4	2	2	4	2
55—59 years	690	492	198	37	20	394	165	51	8	3	2	4	..	3	3
60—64 years	745	490	255	47	25	393	204	42	15	5	3	..	3	3	5
65—69 years	679	422	257	31	20	364	218	16	9	4	7	3	1	4	2
70—74 years	542	287	255	12	24	254	224	10	4	4	1	3	2	4	..
75—79 years	368	163	205	10	11	145	187	3	4	1	1	3	2	1	..
80—84 years	227	74	153	6	13	60	132	7	2	..	2	..	2	1	2
85 years and over	138	33	105	5	13	24	88	1	1	..	2	..	..	3	1
Unknown	7†	6	..	..	..	4	..	1	..	..	..	..	..	1	..
Total ..	8,339‡	4,915	3,421	599	503	3,723	2,654	485	189	31	31	31	19	46	25

* Includes 2 unknown sex (1 Malaysian and 1 Others). † Includes 1 unknown sex (Others). ‡ Includes 3 unknown sex.

Note:—Figures in the above table exclude 61 deaths of non-locally domiciled Services personnel (including United Kingdom based civilians employed by the Services) and their families.

Table 4

INFANTILE MORTALITY BY RACES, 1951–1960

Year	Europeans	Eurasians	Chinese	Malays	Indians	Others	All Races
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
1960 ..	25.56	11.59	30.63	65.86	32.19	27.71	35.26

Table 5

The main causes of death in infants and the rate per 1,000 live-births for each disease in 1960 and 1959 are set in the table which follows:—

	1959		1960	
	Cases	Rate per Mille	Cases	Rate per Mille
Congenital syphilis	3	0.06	..	..
Pneumonia and Bronchitis	452	9.28	386	7.66
Diarrhœa and Enteritis	273	5.61	270	5.36
Congenital Malformations	128	2.63	128	2.54
Diseases of Early Infancy	644	13.23	744	14.76
Tetanus	10	0.21	4	0.08
Beri-beri	6	0.12	12	0.24
Tuberculosis	8	0.16	3	0.06
Ill-defined and unknown causes ..	103	2.12	74	1.47
Other diseases	183	3.76	188	3.73
Total ..	1,810	37.16	1,809	35.40

Table 6

1960 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.	1	2	..	3	..	1	..	..	4
	F.	2	1	..	3	..	..	1	..	4
Eurasians	M.	..	..	1	1	..	..	..	..	1
	F.	..	1	1	2	..	..	1	..	3
Chinese	M.	133	215	79	427	74	57	65	26	649
	F.	86	162	47	295	66	52	63	45	521
Malays	M.	28	57	28	113	43	41	30	20	247
	F.	21	34	19	74	33	34	31	18	190
Indians	M.	10	25	7	42	7	14	8	4	75
	F.	8	11	10	29	14	12	8	6	69
Others	M.	1	1	2	4	1	2	2	..	9
	F.	..	2	..	2	..	1	..	..	3
Total Races ..	M.	173	300	117	590	125	115	105	50	985
	F.	117	211	77	405	113	99	104	69	790
Total ..		292*	511	194	997*	238	214	209	119	1,777*

*Includes 2 unknown sex. (1 Malaysian and 1 Others).

Table 7

NEO-NATAL RATES BY RACES AND SEX (1958-60)

	1958			1959			1960		
	Males	Females	Both Sexes	Males	Females	Both Sexes	Males	Females	Both Sexes
Europeans	24.02	19.37	21.81	9.01	9.15	9.08	18.18	20.70	19.17
Eurasians	14.49	36.59	26.49	12.58	7.19	10.07	6.10	11.05	8.70
Chinese	25.09	15.19	20.34	21.71	15.11	18.52	21.51	16.08	18.90
Malays	43.69	31.11	37.56	35.17	24.46	30.14	32.63	23.33	28.18
Indians	21.69	18.62	20.18	18.45	14.48	16.51	18.53	13.14	15.87
Others	31.25	12.20	22.47	25.08	18.18	21.89	16.00	10.93	13.86

Table 8

The chief causes of the neo-natal deaths in infants in 1959 and 1960 are shown in the table which follows:—

	1959		1960	
	No. of Cases	% Total Neo-natal deaths	No. of Cases	% Total Neo-natal deaths
1. Ill-defined diseases peculiar to early infancy and Immaturity	251	26.39	200	20.06
2. Birth Injuries	153	16.09	294	29.49
3. Post-natal asphyxia and atelectasis ..	150	15.77	164	16.45
4. Infection of new born	185	19.45	138	13.84
5. Hæmolytic disease of new born ..	60	6.31	48	4.81
6. Other diseases of early infancy ..	9	0.95	14	1.40
7. Congenital malformations	73	7.68	67	6.72
8. Ill-defined and unknown causes ..	32	3.36	25	2.51
9. Congenital syphilis	2	0.21	..	..
10. Beri-beri	1	0.11	..	..
11. Septicæmia and Pyæmia	1	0.11	..	..
12. Tetanus	8	0.84	4	.40
13. Other diseases	26	2.73	60	6.02
Total ..	951		1,014	

Table 9

CERTIFICATION OF DEATHS, 1960

By whom certified	Europeans	Eurasians	Chinese	Malays	Indians	Others	Total
Medical Practitioners ..	35	49	4,301	576	398	47	5,406
Inspecting Officers ..	1	3	970	421	88	7	1,490
Coroner ..	14	10	1,094	88	187	18	1,411
Police Officers ..	..	..	12	18	1	1	32
Total ..	50	62	6,377	1,103	674	73	8,339

Table 10

In the table which follows are shown the percentage number of deaths the causes of which were certified by Medical Practitioners, Inspecting Registrars and the Coroner, in the years 1951 to 1960:—

	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Medical Practitioners ..	59.82	63.30	66.63	65.25	64.56	65.17	63.70	65.56	65.65	64.83
Registrars ..	30.10	25.90	22.99	22.45	22.22	21.09	20.70	19.02	17.69	17.87
Coroner ..	10.08	10.80	10.38	12.30	13.22	13.74	15.63	14.96	16.36	16.92
Police Officers ..	..	..	..	..	..	..	..	0.46	0.3	0.38

Table 1

LICENCES ISSUED AND FEES COLLECTED

Year	LICENCES ISSUED			Total Fees
	Total	Food By-laws	Offensive Trades	
				$ c.
1959	2,080	1,659		77,431 00
			421	14,542 00
				91,973 00
1960	2,059	1,636		76,356 00
			423	13,045 43
				89,401 43

Table 2

THE NUMBER OF ANIMALS SLAUGHTERED AT THE ABATTOIRS IN 1959 AND 1960

	1959	*1960*
Pigs	436,452	435,124
Sheep	81,717	81,984
Goats	3,293	2,277
Oxen	5,868	6,219
Buffaloes	3,379	3,474
Horses	8	16
Total ..	530,717	529,094

CARCASES TOTALLY CONDEMNED AT THE ABATTOIRS
1960

Swine	*Sheep*	*Oxen*	*Buffaloes*	*Total Condemned*
86	11	12	6	115

REVENUE

The total revenue excluding the rent received for use of chilling rooms from the Abattoirs in 1960 was $1,028,734.15 as compared with $1,033,833.25 for 1959.

Table 3

BURIAL GROUNDS

1960	Burials and Cremations made in City Cemeteries and licensed burial grounds in City Area	Exhumations
Europeans	43	2
Eurasians	73	..
Chinese	4,007 and 1 ashes 6 exhumed remains (13)	14
Malays	1,317	..
Indians	629 and 1 exhumed remains (212)	1
Others	62 and 3 ashes (2)	..
Total ..	6,131 and 4 ashes 7 exhumed remains (227)	17

Figure in brackets denotes cremation.

ANTI-MOSQUITO DEPARTMENT

I HAVE THE HONOUR to submit the report on the work of the Anti-Mosquito Department for the year 1960.

INCIDENCE OF MALARIA

Fourteen cases of Malaria within the City were reported. All these cases were thoroughly investigated and all were found to be imported cases either from Hongkong, Indonesia or the Federation of Malaya. The malaria death rate was .004 per thousand within the City Limits.

TRAPPING OF ADULT MOSQUITOES

The three 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

15,877 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* givens the total number of collections and the different vector species with their respective breeding places.

PERMANENT ANTI-MALARIAL WORKS

The areas under permanent control were extended by the construction of 1,022 yards of concrete anti-malarial drains and the laying of 392 yards of subsoil pipe lines. In addition, 906 yards of worn-out anti-malarial drains were reconstructed 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

Prawn catching activities have ceased in this area, due to the gradual reclamation of the tidal swamp. The prawn ponds are now thrown open to the free ebb and flow of the tide. In spite of this, weekly inspections are carried out to ensure there are no breedings of *A. sundaicus*.

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 297,069 yards of concrete drains and 378,931 yards of earth drains were

regularly maintained. 1,702 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 a monthly cost of $5,200. These drains which were originally constructed to serve as anti-malarial drains are now serving more as sullage drains for developed areas.

LARVICIDAL WORKS

Anti-malarial mixture

A total of 74,307 gallons of anti-malarial mixture was 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.—42 gallons were used in places where an oily larvicide was undesirable.

Shell Malariol H.S.—357 gallons were used in fish and vegetable ponds in Ulu Pandan, Sungei Whampoa and the Kallang Basin Areas.

Gammexane Powder.—177 lb. were used against nuisance mosquito breeding in septic tanks and choked concrete drains.

Kerosene.—55 gallons were used in kampong wells against mosquito breeding.

Benzine with 10% *D.D.T.*: 455¼ gallons were used along the margins of the McRitchie and Pierce Reservoirs. Malaria vectors (*A. letifer*) were found breeding in the creeks of McRitchie 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—One gallon was used through the Swing-fog machine 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

Sixty-four 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 provide mosquito breeding grounds due to stagnation of water.

KAMPONG SANITATION

(i) *Kampong Soo Poo* (*Kallang*): To alleviate the floods and mosquito nuisance in this kampong, a length of approximately 106 yards of drain was constructed. This department supplied the materials and the labour was supplied by the Special Squad supervised by the P.W.D. The materials cost was $1,086.00.

(ii) *Kampong Heap Guan San (Telok Blangah Area)*: Although approval to construct drains in this kampong was given in August 1960, it was agreed that such works should only commence after the kampong road was made up. This was completed in early December and work on the drains was commenced in the latter part of the same month and is now in progress.

(iii) *Kampong Bukit Permei*: It was decided to construct a concrete drain to serve a stand pipe. This department supplied the materials and the kampong people have volunteered to carry out the construction. The length of drain involved is 53 yards and the cost of materials supplied was $350.

ANTI-FLY MEASURES

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

LAYOUT PLANS

Comments on the anti-malarial point of view were given as and when development plans were referred to this department.

STAFF

A. Devaneson, a junior overseer, was dismissed by the Administrator, City Council, with effect from 12th February, 1960.

P. Singaravelu, a junior overseer, was transferred as Assistant Superintendent (Hindu Cemetery) with effect from 18th August, 1960.

LABOUR

Authorised Labour Force	607
Average monthly strength in payroll	549
Percentage of shortage	9%
Number of working days in 1960	314
Number of man-days taken as sick leave	7,458
Number of man-days taken as annual leave	5,090
Number of man-days taken as holidays	6,547

434 different labourers took sick leave on at least one occasion during the year. This meant that 71% of the total labour force went on sick leave once during the year. The average number of man-days lost per labourer on account of sickness was 13.6 days.

MISCELLANEOUS

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

(ii) This department shifted from City Hall to 22 Kampong Java Road on 5th December, 1960.

(iii) The cost of malaria control per head of population within the City Limits was $1.00 for the year.

SUMMARY OF WORKS AND COST FOR YEAR—1960

Particulars	Labour	MATERIALS			Total
		Mason	Machine	Larvicide	
	$ c.	$ c.	$ c.	$ c.	$ c.
Major Works including ⅓ cost of store labour ..	107,906 47	17,358 70	..	..	125,265 17
Maintenance					
Patrol Works, grass cutting, cleansing drains including tide-gate labour, hire and benzine	562,965 93	..	4,910 32	..	567,876 25
Larvicidal Works, trappers, oiling checkers and ⅓ store labour ..	116,120 33	..	..	44,737 79	160,858 12
Repairs including ⅓ store labour	66,909 55	19,902 52	..	..	86,812 07
Cleansing of drains by Contract Labour ..	62,400 00	..	..	..	62,400 00
Total ..	916,302 28	37,261 22	4,910 32	44,737 79	1,003,211 61
Cost of Haulage ..	..	..	..	..	22,777 95
Grand Total ..					1,025,989 56

I am, Sir,
Yours obediently,

Dr. NG CHENG HIN,
Assistant Health Officer (A.M.D.)

APPENDIX *A*

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

Locality	Number of Nights	*A. mac.*	*A. sund*	*A. letifer*	Other *Anoph.*	Others	Total
Tanjong Rhu ..	121	..	..	..	4	1,052	1,056
Soon Wing Road ..	38	..	..	..	8	565	573
Kolam Ayer Lane ..	121	..	..	..	5	1,210	1,215
MacRitchie Reservoir	10	..	..	..	9	96	105
Sime Road ..	70	1	..	..	17	613	631
Aljunied Road ..	19	..	..	..	2	187	189
Serangoon Road ..	179	..	..	..	10	2,104	2,114
Kim Keat Road ..	161	..	..	..	162	1,857	2,019
Jalan Mawar ..	161	..	..	..	3	2,071	2,074
	..	1	..	..	220	9,755	9,976

1 *A. maculatus* and 217 other Anopheline females were trapped. In addition 9,755 adult mosquitoes were identified. Daily reports on adult catches were forwarded to the O.C. Hygiene and Malaria Control Unit, Singapore Base District, for information as requested.

PNG BOON HEE,
Laboratory Assistant (A.M.D.)

20th January, 1961.

1,000 consecutive collections from common breeding places:—

Roadside Concrete Drains ..	156
Sullage Concrete Drains ..	69
Sullage Earth Drains	119
Concrete Drains	36
Lorry Tracks	44
Earth Ponds	18
Grassy Pools	67
Hyacinth Ponds	87
Vegetable Ponds	102
Stagnant Pools	113
Earth Wells	69
Concrete Wells	13
Seepages	5
Septic Tanks	7
Water Pipe Stop Cocks ..	22
New Building Excavations ..	8
Silt Traps	22
Fish Ponds	3
Concrete Pond	1
Concrete Tanks	5
Boats	6
Brick Well	1
Disused Tins	2
Disused Drums	8
Disused Jars	8
Disused Tyres	4
Disused Buckets	5
Total ..	1,000

PNG BOON HEE,
Laboratory Assistant (A.M.D.).

20*th January*, 1961.

15,877 collections of mosquito larvæ were brought to the laboratory for identification. 1 of them contained larvæ of *Anopheline sundaicus*, 28 contained larvæ of *Anopheline maculatus* and 9 contained larvæ of *Anopheline letifer*. The other 15,839 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

Earth pool	1
Total ..	1

A. maculatus

Earth wells	6
Concrete drains	3
Earth drains	7
Wooden Well	1
Seepages	9
Edges of creeks in MacRitchie Reservoir	2
Total ..	28

A. letifer

Edges of creeks in MacRitchie Reservoir	8
Earth Well	1
Total ..	9

PNG BOON HEE,
Laboratory Assistant (A.M.D.).

20*th January*, 1961.

APPENDIX *D*

PERMANENT ANTI-MALARIAL WORKS CARRIED OUT DURING 1960

Area No.	Name of Anti-Malarial Area	INVERTS									SLABS				SUB-PIPES				Labour Cost	Material Cost	Remarks
		21″		18″	15″	12″		9″			18″		15″	12″	8″		6″	4″			
		New	Old	New	New	New	Old	New	Old	New	New	Old	New	New	New	Old	New	New			
																			$ c.	$ c.	
105	Kg. Bt. Permei ..	5	..	..	225	567	60	125	13	..	421	6	..	816	..	..	38	..	11,089 15	3,647 19	Construction of subsidiary drain completed.
227	Ulu Pandan ..	200	48	81	15	132	6	..	17	..	952	..	..	8	130	..	530	104	12,719 27	2,915 11	Reconstruction of a worn out Anti-Malarial drain completed.
132	Bugis Rubber Estate	6	..	5	..	..	..	..	..	..	30	100	..	..	1	130	2	..	1,867 36	121 08	Re-laying of sub-soil pipe lines and major repairs to Anti-Malarial drain completed.
172	Sommerville Ravine	..	..	404	238	30	..	4	..	..	1,484	..	..	..	..	..	170	..	18,702 48	4,371 20	Construction of subsidiary Anti-Malarial drains completed.
107	Wayang Satu ..	..	..	135	..	..	3	..	..	..	319	52	19	..	..	..	..	..	3,717 49	1,047 55	Re-construction of Anti-Malarial drain. Completed.
144	Hindoo Cemetery Ravine No. 1 ..	..	..	585	..	10	..	..	..	..	100	..	124	..	..	..	205	..	8,650 17	3,313 98	Reconstruction of Anti-Malarial drain. In progress.
114	Dunearn Road ..	..	..	132	..	..	..	14	..	..	776	66	..	71	..	..	..	..	4,508 93	1,684 35	Reconstruction of Anti-Malarial drain. Completed.

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

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	..	..	..	..	..	..	15	..	..	..	20	40	..	..	..	..	..	..	..	..	..	..	200 85	58 33
2. Barker Road	2	..	3	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	61 55	27 37
4. Claymore	..	..	4	..	..	..	60	81	..	..	14	25	..	..	10	80	..	..	..	..	..	..	555 25	154 54
5. Cluny Ravine	15	..	..	..	..	..	2	..	..	..	15	47	..	..	..	..	..	..	..	..	..	..	132 21	83 51
7. Glencaird	..	..	..	..	..	..	20	30	..	..	15	75	10	30	..	..	..	..	..	..	..	..	529 60	85 49
8. Kings Road	..	..	25	..	..	..	10	..	..	..	15	80	..	..	..	..	..	..	..	..	..	..	275 40	98 00
9. Nassim and Dalvey ..	7	..	..	..	..	..	32	80	..	..	28	193	20	70	..	..	..	..	..	..	..	..	693 45	177 03
12. Scott's Road Railway ..	..	..	..	..	10	130	50	60	..	..	..	..	65	70	35	..	..	..	..	..	..	..	684 64	197 19
13. Steven's Road	..	..	..	..	..	..	..	..	..	..	5	40	..	..	..	..	..	..	..	..	..	..	97 50	14 58
14. Watten Estate	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	37	..	..	..	103 50	88 42
15. Woodleigh	..	..	40	20	..	..	..	..	..	..	35	170	..	..	..	..	..	..	..	..	..	..	378 68	182 42
16. Tyersall Ponds	..	..	13	30	10	..	..	..	..	..	21	64	..	..	..	..	..	..	..	10	..	..	163 65	130 08
18. Hammer & Co. Ravine ..	25	..	..	..	..	..	75	10	..	..	55	290	..	..	75	..	..	..	..	..	..	..	892 24	379 72
19. Singapore Harbour Board Ravine ..	5	3	..	..	..	..	15	6	..	..	35	5	..	..	..	..	..	..	..	..	..	..	89 97	32 75
20. Jervois Road	..	..	..	..	..	..	..	..	4	..	10	..	..	..	..	..	..	..	..	..	2	..	133 75	36 52
25. Morse Road	..	..	40	30	5	..	..	..	..	..	60	120	25	..	..	..	..	..	..	..	..	..	482 94	210 48
27. Henderson Road ..	..	..	..	..	..	..	..	..	10	..	15	25	..	..	..	..	..	..	..	..	..	..	629 57	73 57
30. Orchard Road No. 3 ..	5	..	..	..	..	..	..	..	..	..	10	20	..	..	..	..	..	..	..	..	..	..	146 25	32 58
32. Radin Mas	85	119	34	30	20	20	114	125	22	20	176	935	..	..	15	20	..	..	..	..	..	..	2,324 48	1,285 91
35. Tiong Bahru	42	..	..	..	25	15	80	55	80	45	133	350	10	20	..	..	..	..	..	..	..	..	1,637 34	813 57
36. Wishart Ravine ..	60	6	15	15	..	10	70	65	5	..	89	980	40	..	..	..	..	..	70	..	..	..	2,416 54	761 15
38. Alexandra Swamp ..	50	..	20	..	3	2	..	..	..	..	55	47	..	..	..	..	..	..	..	..	..	..	474 38	313 35
39. Balestier Plain	..	..	40	..	..	..	20	30	4	..	40	233	10	20	..	..	..	..	..	..	..	..	649 14	241 37
40. Cluny Road	..	..	21	..	..	..	..	..	..	..	22	50	..	..	..	..	..	..	..	..	..	..	173 20	48 28
41. Gallop Road	..	..	10	17	10	..	5	21	..	..	45	64	..	..	..	..	..	..	..	..	..	..	898 82	138 20
42. Grange Road	41	2	..	..	..	..	10	2	..	..	31	150	..	..	..	..	..	..	..	..	..	..	422 50	234 81
43. Holland Park No. 1 ..	..	..	42	41	..	..	42	41	..	..	8	35	..	..	..	..	15	..	..	..	..	..	315 98	96 61
47. Newton Ponds	..	..	..	..	..	..	..	..	..	..	3	50	..	..	..	..	..	..	..	..	..	..	64 00	12 02
48. Rochalie Drive ..	1	..	..	..	..	..	..	..	..	..	..	30	..	..	..	..	..	..	..	..	..	..	128 13	20 42
49. Swettenham Road ..	..	..	..	..	15	..	12	10	..	..	65	170	..	..	..	..	8	..	..	..	..	..	649 48	202 75
50. Tanglin Barracks ..	..	..	..	..	..	..	..	..	..	..	..	10	..	..	..	..	..	..	..	..	..	..	32 50	..
53. Tanglin Hill No. 1 ..	..	..	25	10	..	..	..	..	..	..	10	47	..	25	..	..	..	..	..	..	..	..	352 85	74 88
57. Bukit Brown Golf Club ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	40	280	..	..	..	..	465 00	56 80

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

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.
58. Kg. Java Area	..	..	..	..	96	80	..	85	..	..	18	210	..	..	..	..	..	..	..	..	..	..	666 03	162 08
59. Moulmein Road	..	..	..	..	6	..	25	..	..	..	6	..	..	..	10	..	..	..	..	..	..	..	89 34	83 66
67. Spottiswoode Park	..	..	..	..	..	..	30	10	..	..	50	35	..	..	..	..	..	..	..	..	..	..	349 00	125 46
68. Pearl's Hill	..	..	..	..	..	..	75	..	..	..	12	..	6	..	..	..	..	..	..	..	..	..	559 50	166 84
70. Chancery Lane No. 1	..	..	..	..	..	..	10	..	..	..	5	20	..	..	..	..	..	..	..	..	..	..	106 00	29 92
73. Mandalay Road	15	..	15	..	30	..	25	..	..	..	56	302	..	..	..	..	..	..	2	..	3	..	990 97	349 57
75. Government Hill	..	..	33	..	..	..	..	..	..	..	20	106	..	..	..	..	..	..	80	16	..	..	424 33	212 39
81. Mt. Rosie	30	..	..	..	..	..	70	..	8	40	173	355	..	..	..	..	..	..	..	..	..	..	1,227 35	515 79
85. Ewe Boon Road	..	..	..	..	10	200	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	279 82	27 48
88. Jewish Cemetery	..	..	..	..	15	140	53	15	..	..	20	80	15	..	6	..	..	..	..	..	..	..	714 16	221 40
89. Silat Road	..	..	72	..	..	..	..	..	..	..	12	..	..	..	..	..	..	..	..	..	..	..	266 50	206 34
91. Holland/Bt. Timah	182	52	44	57	20	432	49	35	..	87	605	395	..	150	..	..	..	..	5	..	..	..	3,679 76	1,655 99
96. Western Reclamation	..	..	..	..	..	..	5	..	..	..	10	..	..	..	..	..	..	..	..	..	..	..	139 91	25 73
98. Keith Swamp	..	..	..	..	..	..	10	10	..	..	..	..	..	..	..	..	..	..	90	40	..	..	51 25	57 34
100. Adam Park	..	..	11	15	1	..	7	25	..	..	52	160	..	..	..	..	..	..	..	..	..	..	895 11	151 41
101. MacPherson Road	5	..	..	..	..	3	20	110	..	..	125	590	..	..	..	..	..	..	..	..	..	..	1,991 32	347 30
105. Bukit Permei	10	..	33	55	..	..	25	40	10	15	85	365	..	15	..	..	..	..	..	..	..	..	1,232 93	326 16
107. Wayang Satu	60	..	11	..	8	..	41	28	..	..	125	740	..	..	..	..	..	..	..	..	..	..	1,749 44	460 51
108. Berlayar Village	..	..	..	..	10	..	15	..	..	..	35	..	..	..	..	..	..	..	10	..	..	..	543 52	133 55
109. Mt. Pleasant Ravine	93	51	10	52	..	..	26	..	..	..	72	370	..	..	..	..	..	..	..	..	..	..	1,216 69	654 61
110. McRitchie	23	20	10	18	10	..	..	..	..	..	20	200	..	..	..	..	..	..	..	..	..	..	574 97	158 54
113. Kheam Hock Road	..	..	4	..	..	..	..	..	..	..	4	40	..	..	..	..	..	..	..	..	..	..	53 10	21 16
115. Alexandra Road	67	..	..	..	3	3	25	47	..	..	68	830	20	..	..	..	..	..	..	..	..	..	2,015 14	419 32
116. Sungei Whampoa	..	..	12	40	10	7	20	..	..	..	34	365	..	..	..	..	..	..	..	..	..	..	972 51	185 19
117. Telok Blangah Ravine	13	8	..	5	..	..	25	10	3	..	45	155	..	..	..	..	..	..	..	..	..	..	701 89	183 84
120. Kim Seng Road	..	..	..	..	..	..	..	..	..	..	4	10	..	..	..	..	..	..	..	..	..	..	128 12	13 25
121. Brick Factory	..	..	..	..	..	..	..	..	..	..	10	15	..	..	..	..	..	..	..	..	..	..	113 75	206 34
122. Alexandra Road 4th Mile Ravine ..	..	..	..	..	..	..	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	134 00	54 81
123. Kg. Limau Ravine	..	..	..	..	..	..	..	..	..	..	5	22	10	..	..	..	..	..	..	..	..	..	95 50	8 95
124. Cemetery Ravine	..	..	..	..	10	..	..	20	..	..	25	20	..	..	..	..	..	..	..	..	..	..	176 75	68 88
125. Faber Ridge Ravine	..	..	..	..	..	..	2	..	..	..	3	20	..	..	..	..	..	..	..	..	..	..	113 75	17 43
129. Sungei Namley	12	..	10	..	..	..	5	..	..	..	45	176	..	..	..	..	..	..	..	..	..	..	321 40	168 43
130. Mt. Washington Ravine	60	25	65	30	5	15	65	15	..	..	236	560	..	..	..	..	..	..	100	100	..	..	2,599 39	710 46

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

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.
132. Bugis Rubber Estate	..	..	..	..	5	..	..	..	..	..	..	30	..	..	..	..	..	..	..	..	..	..	164 00	27 59
133. Kallang Basin	..	..	..	..	49	45	52	145	10	..	55	..	..	..	..	..	..	..	..	..	..	..	2,343 24	393 06
135. Kim Keat Road Ravine ..	..	..	..	..	..	..	13	..	..	..	39	50	..	..	..	..	..	..	..	..	..	..	415 90	121 90
136. Boon Teck Road Ravine ..	..	..	..	..	..	..	2	25	..	..	15	200	..	..	..	..	..	..	..	..	..	..	211 47	64 96
137. Jalan Rajah	..	..	10	5	..	..	65	25	25	5	25	130	..	..	..	..	..	..	..	..	..	..	330 95	111 73
138. Ah Hood Road ..	10	15	..	..	10	..	..	130	..	..	65	150	..	..	..	..	..	..	..	..	..	..	610 54	210 52
144. Hindoo Cemetery ..	..	..	15	..	..	..	..	..	..	..	10	45	..	..	..	..	..	..	..	..	..	..	173 70	54 71
153. St. Michael's Road ..	..	..	..	10	5	30	20	125	..	..	45	233	5	240	..	..	..	..	..	..	..	..	1,475 22	110 66
154. Thomson Road Ravine No. 4 ..	30	15	..	..	..	..	..	60	..	..	..	50	..	..	..	..	..	..	..	..	5	..	356 16	156 27
159. Kampong Sambau ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	50 30	38 10
164. St. Michael's Road ..	..	..	..	..	..	..	50	170	..	..	..	40	..	..	..	..	..	..	..	..	..	..	346 55	86 16
166. Craig Road	..	..	..	..	..	..	40	..	..	..	70	..	..	..	..	..	..	..	..	..	..	..	1,420 50	257 13
170. Braddell Road	..	..	..	..	..	..	8	25	..	..	40	160	..	..	..	..	..	..	..	..	..	..	323 80	101 57
171. Bukit Ho Swee ..	..	..	..	..	..	..	..	15	..	..	..	..	..	..	6	..	..	..	..	..	..	..	139 91	19 61
172. Sommerville Ravine ..	10	..	5	..	..	..	..	..	..	..	5	35	..	..	..	..	..	..	..	..	..	..	137 80	36 82
191. Raffles Park	..	..	..	..	..	..	..	..	..	..	15	..	..	..	..	..	..	..	..	..	..	..	17 25	35 51
192. Eng Neo Avenue ..	..	..	..	..	..	..	67	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	74 75	121 16
194. Swiss Club	..	..	..	..	..	..	..	..	12	..	..	..	..	..	..	..	..	..	..	..	..	..	40 25	19 71
195. Swiss Club Lane ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	70	..	..	..	..	120 75	91 35
201. 5th and 6th Avenue ..	..	..	..	..	..	..	30	..	..	..	20	..	..	..	..	..	..	..	..	..	..	..	120 26	55 58
203. Bt. Timah 6th Mile Ravine ..	..	..	..	..	2	..	21	..	10	..	45	89	10	..	..	..	..	..	..	..	..	..	201 15	146 87
204. Holland Road Ravine ..	..	..	..	..	8	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	112 20	20 38
210. Queen Astrid Park ..	45	..	..	..	..	..	40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	386 90	231 87
212. Ooi Tiong Ham Park ..	..	..	10	..	..	..	..	..	..	..	50	125	..	..	..	..	..	..	..	..	..	..	591 33	119 44
213. Ford Avenue	..	..	..	..	..	..	3	..	..	..	15	30	..	..	..	..	..	..	2	..	..	..	40 80	33 72
214. Leedon Park	55	..	8	..	28	..	71	..	..	..	111	332	..	..	..	..	..	..	30	..	..	..	1,044 17	619 68
215. Belmont Road	35	..	22	..	10	..	..	..	..	..	115	194	..	..	..	..	..	..	30	..	..	..	835 15	430 19
220. Mui Keng Terrace ..	..	..	..	..	..	..	25	..	..	..	..	..	..	40	..	..	..	..	..	..	..	..	140 40	86 66
222. Kampong Sultan ..	..	..	..	..	..	..	..	..	..	..	30	..	..	..	..	..	..	..	..	..	..	..	282 82	49 10
223. Buona Vista Road ..	..	..	..	..	..	..	10	..	10	..	..	..	..	..	..	..	..	..	..	..	..	..	270 00	33 46
225. Pepy's Road	..	..	..	..	55	..	35	..	15	..	151	..	..	..	..	..	..	..	..	..	..	..	959 38	478 72

ANNUAL REPORT ON THE CITY ANALYST'S DEPARTMENT FOR THE YEAR 1960

THE BIG VOLUME of work undertaken by the City Analyst's Department in 1959 was maintained during the year 1960 when a total number of 30,831 samples were examined. Compared with the 1959 figures, the decrease in the number of samples was principally from the Water Department (less 1,708 samples) and from Commercial Firms (less 256 samples). The decrease was however balanced by increase in samples from Engineer's Department (+361 samples), Architect and Building Surveyor's Department (+639 samples) and Health Department (+808 samples, comprising 65.9% increase). The high total number of samples done in 1959 would have been exceeded in 1960 if it had not been for staff shortages in the Department.

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

	Samples
Water Department	19,345
Gas Department	28
Electricity Department	2
Engineer's Department—	
Sewerage Section	4,104
Sewerage Section: Extension Works	215
Stores and Workshop	2
Engineer's Section	5
Architect and Building Surveyor's Department	4,172
Health Department	2,034
Administrator's Department	18
Fire Brigade	2
Commercial Firms	904
Total	30,831

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:—

	Sample
Routine Daily Water Samples—	
From treatment works and distribution system	11,263
From camp supplies	1,475
For flourine test	5,472
Monthly samples of raw water	24
Monthly samples from clear water tanks	57
Urine for fluorine test	338
Boiler Water	301
Special Investigations—	
Filter Performance Test	17
Flocculation Test	7
Chlorine Demand Test	15
Carried forward	18,969

	Samples
Brought forward ..	18,969
Nature of Sediment	12
Tap water for check test	12
Sand for Sieving Test	1
Animal and Plant Life in water	5
Sludge, Scraping and Encrustations	8
Corrosion of copper-sheathed wire	1
Chemicals for Specification Tests—	
Hydrated Lime	21
Sulphate of Alumina	29
Sodium Bicarbonate	12
Sodium Silicate	8
Sodium Silicofluoride	2
Preparation of chemical reagents	263
Sterilizing Tablets	2
Total	19,345

The water supply of Singapore is derived partly from Johore and partly from the island itself. The sources of supply are one river, several impounding reservoirs and the underground supply in Bedok. The water undergoes full chemical treatment at five works, two in Johore and three on the island.

The treatment used at Tebrau Works was that employing 'activated silica' in conjunction with small doses of lime and alum. At the other four works at Gunong Pulai Bukit Timah, Woodleigh and Bedok, the conventional lime-alum treatment was used. The excellent chemical quality of the water was maintained throughout the year. The average figures of the daily tests on raw waters and treated waters, and those of the monthly tests on clear water tank samples are given in Tables *A*, *B* and *C*, respectively.

Several experiments were carried out to treat the raw water taken at the dam at Bedok Valley with other coagulants, such as activated silica in conjunction with lime and alum, alum and sodium aluminate, chlorinated copperas and ferric chloride. These experiments showed that for this water none of the above-named coagulants gave as satisfactory a result as the conventional coagulants, alum and lime.

Experiments to flocculate the water taken at Kota Tinggi bridge were successfully carried out using the alum-lime treatment and also by using activated silica as a coagulant aid. The treated water was found to be of satisfactory quality.

The water produced in the four large works continued to receive fluoridation to the level of approximately 0.7 p.p.m. of fluorine throughout the year. Fluoridation of the Singapore water supply has been carried out for almost 4 years and the effect of this addition, whether beneficial or otherwise, on the dental health of school children, is being studied by the Chief Dental Officer, Ministry of Health.

GAS DEPARTMENT

The following samples were analysed:—

	Samples
Tar	7
Spent Oxide	7
Iron Oxide	1
Boiler Water	1
Preparation of chemical reagents	12
Total	28

The big decrease in the number of samples analysed for the Gas Department in 1959 continued with a further decrease in 1960. This is due to the fact that boiler waters are now analysed on the site by a laboratory assistant trained by our Department.

ELECTRICITY DEPARTMENT

The following samples were analysed:—

	Samples
Hydrated Lime	2

Sieving tests were done on the hydrated lime for compliance with specifications.

ENGINEER'S DEPARTMENT

Sewerage Section

The following samples were analysed:—

	Samples
Sewage, sludges, top-waters and effluents from sewage disposal works	2,036
Septic tanks	1,756
River and canal water	312
	4,104

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 average results of the effluents are given in the following table:—

AVERAGE ANALYSIS OF SEWAGE WORKS EFFLUENTS

(in parts per million)

	ALEXANDRA ROAD WORKS			KIM CHUAN ROAD WORKS		
	A, B, E Filters	C, D Filters	Outfall Channel	Phase I	Phase II	Outfall Conduit
Amm. Nitrogen ..	23.0	17.7	21.8	26.3	24.6	25.5
Alb. Nitrogen ..	4.3	3.5	4.3	5.1	3.5	4.1
O.A. in 4 hours ..	15.7	14.4	19.5	25.6	11.6	16.1
B.O.D. ..	28.3	27.0	38.5	57.1	16.6	30.0
Total Solids ..	896	843	529	472	431	475
Suspended Solids	32.5	32.5	72.3	53.5	38.6	49.9
Nitrates ..	absent	absent	absent	absent	absent	absent
Chlorides ..	334	313	303	135	135	136
pH	7.4	7.5	7.4	7.4	7.6	7.5

The quality of the effluent from the Alexandra Road Works in 1960 remained about similar to the quality found in 1957 to 1959. The new Phase II extension of the Kim Chuan Road Sewage Disposal Works, which was

commissioned last year, was working very well in 1960 as shown in the vast improvement in the quality of the effluent. The quality of the effluent from Phase I was similar to that of last year.

The number of samples from private purification plants, which showed 90% increase in 1959, again increased in 1960 by another 546 samples. The results of the effluents 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 average results of the effluents from these plants are as follows:—

	p.p.m.
Free Ammonia	22.8
Albuminoid Ammonia	3.7
Oxygen Absorbed from Permanganate in 4 hours	17.3
Suspended Solids	60.1
Chlorides (as Cl)	40
Nitrates (as N)	2.3

Waters from the following canals and rivers were examined:

Singapore River, Geylang River, Kallang River, Serangoon River, Sungei Whampoa, Katong Canal, Siglap Canal, Stamford Canal and Rochore Canal.

The results indicate that these rivers and canals were increasingly being used as sewers for the disposal of filth and rubbish. In a few instances it was found that the water contained mainly fæcal matter. The attention of the City Health Officer was drawn to this gross pollution, and a survey was carried out. The sources of pollution were traced to certain kampongs in the proximity of these canals and rivers.

Sewerage Section: Extension Works

The construction of the new disposal works at Ulu Pandan is nearing completion and will be commissioned sometime in 1961. The following samples relating to the construction work were analysed:—

	Samples
Soil for pH value	204
Sub-soil Water	2
Water	6
Preparation of chemical reagents	3
Total ..	215

Stores and Workshops

Two samples of soap were analysed for compliance with specifications.

Engineer's Section

Five samples of concrete were received, three of which were for composition and two for water absorption tests.

ARCHITECT AND BUILDING SURVEYOR'S DEPARTMENT

The following samples were analysed:—

	Samples
Swimming Pool Water—	
from Mount Emily Pool	592
from Yan Kit Road Pool	1,111
from Farrer Park Pool	1,188
from River Valley Pool	1,173
Van Kleef Aquarium Water	108
Total ..	4,172

The swimming pools run by the City Council are four in number. 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

2,034 samples were received from the Health Department, showing an increase of 808 samples (65.9% increase) over that of 1959. 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 range and variety of the samples examined are given in the following list:—

	Samples
Food (1,833 samples)—	
Milk and Milk Products	406
Beverages	582
Condiments	89
Cooking Oils and Fats	136
Canned Food	73
Fresh Fruits and Other Foods	547
Drugs (142 samples)—	
B.P. and B.P.C. drugs	77
Patent Medicines and Native Medicines ..	65
Other Samples	59
Total ..	2,034

The number of formal samples received under the Sale of Food and Drugs Ordinance was 870, of which 172 were found to be adulterated, below standard or otherwise defective, and appropriate certificates were issued for these samples. The proportion of unsatisfactory samples was 19.8% as compared with 22.2% for 1959. Details of the adulteration and other irregularities found are given in Table *D*.

Of interest is the continued widespread adulteration of coffee. 291 formal samples of coffee powder and coffee mixture were analysed and approximately 23% of these samples were found to contain less than the required amount of coffee.

Two brands of sesame oil, manufactured in Hong Kong, were found to be adulterated with mineral oil. The mineral oil was confirmed to be light paraffin, which if taken internally will cause purging and will interfere with the absorption of fat-soluble vitamins.

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.

Stricter enforcement of the Labelling Regulations resulted in several requests made to manufacturers to amend their labels so as to comply with the requirements of the Labelling Regulations. The Labelling Regulations are to protect the purchasing public, so that they may not be misled by fanciful and false claims put in the labels as an advertising 'gimmick', and also that they may know exactly the true nature of the product which they are buying.

The City Analyst at the request of the City Health Officer, who had received several complaints in mid-1959 from residents around the Gas Works concerning the noxious and offensive smells from the works, carried out

investigation into the sulphur dioxide content of the atmosphere around Kallang Gas Works. He was assisted in this investigation by two Public Health Inspectors. Certain positive conclusions were reached in the investigation. A report has been submitted to the City Health Officer.

The City Analyst served on the Food and Drugs Sub-Committee of the Medical Advisory Council, which met a few times during the year to finalise the amendments to be made to the Food and Drugs Regulations, 1957.

ADMINISTRATOR'S DEPARTMENT

Sixteen lots of photographic developer solution were prepared for the Administrator's Department. Two samples of 'Carlsberg' beer were tested for adulteration.

FIRE BRIGADE

One sample of methylated spirit and one sample of rubber solvent were received for flash-point determinations.

COMMERCIAL FIRMS

A total of 904 samples were received and reported on. The samples may be classified as follows:—

	Samples
Essential Oils	10
Vegetable Oils	74
Ores	29
Local Produce	7
Food	150
Drugs	37
Chemicals	35
Building Materials	12
Fuels and Petroleum Products	20
Swimming Pool Waters, etc.	512
Miscellaneous	18
Total	904

Swimming pool water and potable water made up 57% of the samples analysed for the public. The swimming pool water were from several social clubs, one seamen's club and three Royal Air Force Stations. Requests for advice on water supply and water treatment were received from Sandakan, North Borneo, and several towns in the Federation of Malaya.

Coal samples were received from Malim Nawar, Perak, for composition and calorific value tests. Two samples of 'Brylcreem' were received from a company in Kuala Lumpur for tests to differentiate between the genuine and the imitation goods.

STAFF

During the year, we lost the services of one clerk, Mr. Yeo Kim San, who resigned in October, one Assistant Analyst, Mr. Loke Fook Seng, who was seconded to the Pasir Panjang Power Station for the whole year and one laboratory assistant, Mr. Wong Yune Say, who was appointed as Overseer, Chemical Treatment, Water Department, in November.

Mr. Lim Chin Kuan, City Analyst, attended the W.H.O. Seminar on Public Health Services held in Manila from 5th to 16th December. He went on 4 months' leave on 25th January, 1961 prior to resigning from the service of the City Council. He has been with the Department for 10 years.
We are sorry to lose him and we wish him all the best in his future career.

As Assistant Analyst and the next most senior officer it was my privilege to act in the absence of the City Analyst. I wish to place on record my appreciation of the willing help and loyal support given by the whole staff, without which the volume of work could not have been accomplished.

CHIA HONG HOE, B.SC., M.SC., D.I.C., A.R.I.C.,
Acting City Analyst.

TABLE *A*

RAW WATER

AVERAGES OF DAILY ANALYSIS FOR YEAR 1960

(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	5.7	3.8	5.0	2.8	2.6
Total Alkalinity (as $CaCO_3$) ..	3.0	6.7	6.5	3.7	3.9
pH Value	5.9	6.6	6.4	6.0	6.1
Colour (Hazen Units) ..	30	19	9	20	17
Iron	.35	.45	.21	.33	.25

TABLE *B*

TREATED WATER

FROM CLEAR WATER TANKS

AVERAGES OF DAILY ANALYSIS FOR YEAR 1960

(Results in Parts Per Million)

	Tebrau	G. Pulai	Wood-leigh	Bukit Timah
Nitrite Nitrogen	a	a	a	a
Carbon Dioxide	0.9	1.2	1.5	1.5
Total Alkalinity (as $CaCO_3$)	13.0	11.3	8.6	9.0
pH Value	7.9	7.9	7.2	7.3
Colour (Hazen Units)	5	5	5	5
Iron	.10	.10	.10	.10
Soluble Alum (as Al)	.45	.56	.68	.64
Residual Chlorine	.67	1.06	.27	.36

TABLE *C*

TREATED WATER

FROM CLEAR WATER TANKS

AVERAGES OF MONTHLY COMPLETE ANALYSIS 1960

(Results in Parts Per Million)

	Tebrau	Gunong Pulai	Wood-leigh	Bukit Timah	Bedok
Ammoniacal Nitrogen ..	0.11	0.30	0.13	0.18	0.66
Albuminoid Nitrogen ..	0.03	0.06	0.04	0.05	0.08
Nitrite Nitrogen	a	a	a	a	t
Nitrate Nitrogen	0.03	0.02	0.09	0.01	0.13
Carbon Dioxide	0.46	1.00	1.70	2.00	13.70
Total Alkalinity (as $CaCO_3$) ..	13.9	11.7	8.4	9.0	83.0
Total Hardness (as $CaCO_3$) ..	21.8	22.0	24.0	22.5	114.0
Carbonate Hardness ..	13.9	11.7	8.4	9.0	81.0
Chlorides (as C1)	6.3	7.5	6.7	7.0	25.6
Iron	0.10	0.10	0.10	0.10	0.19
Soluble Alum (as A1) ..	0.61	0.52	0.68	0.67	0.05
Free Chlorine	0.64	1.00	0.25	0.36	0.44
Oxygen Absorbed from Permanganate in 4 hours ..	0.36	0.61	0.45	0.44	1.09
B.O.D. in 3 days	0.15	0.17	0.17	0.18	0.30
Total Solid Residue ..	47	55	51	46	238
Suspended Solids	1.20	0.25	0.30	0.30	0.87
Colour (Hazen Units) ..	5	5	5	5	5
pH Value	8.3	8.0	7.2	7.3	7.3
Turbidity	1.1	1.2	1.1	1.0	1.2

TABLE *D*

FOOD AND DRUGS SAMPLES ADULTERATED OR OTHERWISE IRREGULAR

No.	Sample	Nature of Irregularity
62	Coffee Mixture	Deficient in coffee.
3	Coffee Powder	Deficient in coffee.
4	Milk	Deficient in fat.
17	Milk	Deficient in solids-not-fat.
1	Milk	Deficient in fat and solids-not-fat.
2	Boiled Milk	Deficient in fat.
8	Boiled Milk	Deficient in solids-not-fat.
11	Boiled Milk	Deficient in fat and solids-not-fat.
2	Blackcurrant Syrup	Deficient in Vitamin C.
1	Almond Syrup	Contained excessive benzoic acid.
2	Pear Syrup	Contained saccharin.
2	Loquat Syrup	Contained saccharin.
1	Syrup	Contained saccharin.
1	Syrup with Vitamin C ..	Deficient in Vitamin C.
1	Rose Hip Syrup	Deficient in Vitamin C.
1	Guava and Grape Juices ..	Deficient in Vitamin C.
1	Orange Crush	Contained saccharin.
1	Ice-cream Soda	Contained saccharin.
2	Butter	Contained boric acid.
8	Noodles	Contained boric acid.
10	Coriander Powder	Contained added rice powder.
1	Turmeric Powder	Contained added rice powder.
2	Chilli Sauce	Contained saccharin.
1	Chilli Catchup	Contained saccharin.
1	Orange Sauce	Contained saccharin.
3	Groundnut Oil	Not genuine groundnut oil.
2	Sesame Oil	Adulterated with mineral oil.
11	Canned Cauliflower	Contained sulphur dioxide.
4	Vitamin B1 Tablets	Deficient in Vitamin B1.
1	Glycerin Borax, B.P. ..	Deficient in borax.
1	Chinese Medicine	Contained excessive arsenic.
1	Chinese Medicine	Ingredients not according to stated formula.
1	Headache Cure (Chinese Powder)	Ingredients not according to stated formula.
1	Headache and Fever Powder ..	Ingredients not according to stated formula.
1	Instant Fever Cure	Ingredients not according to stated formula.

Total number of formal samples received ..	870
Number of unsatisfactory samples	172
Percentage of unsatisfactory samples	19.8

BACTERIOLOGICAL DEPARTMENT

THE FOLLOWING IS the report on the work carried out in this laboratory during the year 1960.

SECTION *A*—PUBLIC HEALTH SPECIMENS

Source	*1959*	*1960*
Medical Officers in charge Staff	9,478	11,044
Medical Officers in charge Outdoor Dispensaries ..	133	376
Maternity and Infant Welfare Clinics and Creches ..	9,296	10,136
Middleton Hospital	17,973	23,554
St. Andrew's Mission Hospital	5	—
Kwong Wai Siu Hospital	—	—
Johore and Tebrau Water Works	305	187
Private Medical Practitioners	2,489	1,985
Rats from Plague Prevention Section	3,841	4,022
Ecto-parasites from Plague Prevention Section ..	6,442	4,538
Total ..	49,962	55,842

SECTION *B*—WATER EXAMINATIONS

Routine from Water Engineer	13,770	12,881
Routine from Council Swimming Pools	4,155	4,908
Miscellaneous sources	778	414
Algæ and other specimens	189	116
Wash Water from City Cleansing Department ..	35	35
Grand Total ..	68,889	74,196

SECTION *A*—PUBLIC HEALTH SPECIMENS

MALARIA

450 blood films were examined for malarial parasites.
1 blood film was positive for P. falciparum.
4 blood films were positive for P. vivax.

TUBERCULOSIS

	Positive	*Negative*	*Total*
Sputum specimens	40	1,518	1,558
Fæces specimens	—	1	1
Milk specimens	—	24	24
Pathological exudates	—	2	2
Total ..	40	1,545	1,585

ENTERIC FEVER

	Positive	*Negative*	*Total*
Agglutination with Salmonella typhi	146	765	911
Agglutination with Salmonella paratyphi *A* ..	10	354	364
Agglutination with Salmonella paratyphi *B* ..	22	342	364
Agglutination with Salmonella paratyphi *C* ..	10	354	364
Carried forward ..	188	1,815	2,003

	Positive	Negative	Total
Brought forward ..	188	1,815	2,003
Blood clot culture—Salmonella typhi isolated ..	71	490	561
Blood clot culture—paratyphi *A*	1	—	1
Blood clot culture—paratyphi *B*	1	—	1
Fæces culture—Salmonella typhi isolated ..	313	2,230	2,543
Fæces culture—paratyphi *B*	3	—	3
Urine culture—Salmonella typhi isolated ..	34	2,114	2,148
Total ..	611	6,649	7,260
Agglutination with Vi antigen			911
		Grand Total	8,171

TROPICAL TYPHUS

A total of 676 specimens of blood were examined for Weil Felix Reaction and all were negative.

DYSENTERIES

	Positive	Negative	Total
Amœbic—Entamœbæ histolytica	21	2,606	2,627
Bacillary—Shigella flexneri	112	2,251	2,404
Shigella shigæ	1		
Shigella sonnei	40		
Total ..	174	4,857	5,031

PLAGUE

No specimens of human origin were received.

4,022 rats were dissected and none showed any signs of plague infection.

4,538 ecto-parasites combed from the rats were examined.

The species and distribution of all rats and ecto-parasites are given in the attached table.

CEREBO-SPINAL FEVER

No specimens were received.

CHOLERA

No specimens were received.

LEPROSY

A total of thirteen (13) skin smears were examined, of which three (3) were positive.

DIPHTHERIA

A total of 16,335 specimens were cultured for examination and C. diphtheriæ was demonstrated in 2,558 specimens.

MISCELLANEOUS EXAMINATIONS

	Positive	Negative	Total
Pathological exudates for General Examination ..	—	—	30
Urine for General Examination	—	—	2,443
Pus and Urine for Gonococci	31	388	419
Blood for Hæmoglobin percentage	—	—	16

	Positive	*Negative*	
Blood for Total red cell, total white cell and differential count	—	—	375
Blood for B.S.R.	—	—	9
Blood for Kahn Reaction	43	3,758	3,801
Cerebro-spinal fluid for Kahn Reaction	—	1	1
Fæces for Occult Blood	—	1	1
Fæces for Intestinal parasites	—	—	10,314
Sun-dried Humus and Sludge	—	—	32
Ice Cream	—	—	475
Milk	—	—	64
Milk and Aerated Water bottles for Sterility test	—	—	37
Tap Water for presence of worms	—	—	10
Preserved vegetables	—	—	6
Cooked food for food-poisoning group	—	—	110
Cheese	—	—	18
Ovaltine	—	—	1
Chilli bean curd (preserved)	—	—	1
Aerated waters	—	—	18

Organisms morphologically resembling Clostridium botulinum were found in mussels, brought in along with other food remnants from a suspected outbreak of botulism in a family in which one child had died and some others had developed respiratory paralysis. Further identification of the organisms was not possible due to the non-availability of Clostridium botulinum antitoxin in Singapore. Botulism does not appear to have been reported from Singapore before this outbreak in September 1960.

SECTION *B*—WATER

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.*
MacRitchie Reservoir Valve Tower	148	31
Peirce Reservoir Valve Tower	299	13
Seletar Reservoir Suction Well	181	61
Pontian Reservoir Valve Tower	190	48
Bukit Timah Reservoir—Clear Water Tank	13	Less than 1
Woodleigh Reservoir—Clear Water Tank	11	Less than 1
Gunong Pulai Reservoir—Clear Water Tank	10	—
Tebrau Reservoir—Clear Water Tank	9	Less than 1
Bedok Clear Water Tank	20	Less than 1
Pontian Camp Supply	14	Less than 1
Pearl's Hill Reservoir Tank 1	9	Less than 1
Pearl's Hill Reservoir Tank 2	8	Less than 1
Fort Canning Service Reservoir	10	—
Taps—Bacteriological Laboratory	11	—
Lorong Lalat Office	40	Less than 1
Havelock Road Office	11	—
Pasir Panjang Office	14	Less than 1
Dunearn Road Office	8	Less than 1
Joo Chiat Office	13	Less than 1
AVERAGE OF SIX TAPS	16	Less than 1
Public Swimming Pools (City Council)		
Mount Emily—Inlet End	7	—
Outlet End	7	Less than 1
Yan Kit—Shallow Pool	7	—
Practice Pool	7	—
Main Pool (Inlet)	7	—
Main Pool (Outlet)	7	—

	Year's average total colonies Per ml. at 37° C in 24 hours	Year's average Presumptive coliform countper 100 m.
Farrer Park—		
Farrer Park—Shallow Pool (Inlet)	7	—
Shallow Pool (Outlet) ..	9	—
Main Pool (Inlet)	8	Less than 1
Main Pool (Outlet)	9	Less than 1
River Valley—Shallow Pool (Inlet)	8	—
Shallow Pool (Outlet) ..	8	—
Main Pool (Inlet)	8	—
Main Pool (Outlet)	9	—
Miscellaneous Samples		
		samples
Singapore Swimming Club	—	208
Tanglin Club	—	102
Chinese Swimming Club	—	51
Other sources	—	53
Total		414

ALGÆ AND OTHER SAMPLES

Algæ	—	116
Sewage Effluent	—	—

WASH WATER FROM CITY CLEANSING DEPARTMENT

A total of thirty-five samples were examined and the results obtained were satisfactory.

STAFF

Miss E. R. McIntyre was transferred to this laboratory on 13th January, 1960, without warning or posting orders, in the place of the clerk Mr. Lim Thuan Ing. On 29th December, 1960, on the eve of his vacation leave and no-pay leave extending over a period of 76 days which was granted in July 1960, Mr. Lim Thuan Ing was transferred back to this sub-department (without any provision for a relief) and Miss E. R. McIntyre posted to Middleton Hospital.

The above as well as memorandum No. HO. 102/A dated 23rd March, 1960 threatening disciplinary action for alleged overspending—when in the opinion of the City Assistant Treasurer, there was no over-expenditure at all —all seem to indicate a hostile attitude towards this sub-department.

The post of City Bacteriologist remained vacant throughout the year. The Assistant Health Officer (Bacteriology) carried out the duties of the City Bacteriologist in addition to his own, which included roster duties at Middleton Hospital.

On 1st April, 1960, the Government Senior Pathologist took over the supervision of the work in this laboratory.

K. KARUNAKARAN, B.A., M.B.B.S.
Assistant Health Officer (Bacteriology)

ANNUAL REPORT OF
CITY MATERNAL INFANT WELFARE DEPARTMENT 1960

DURING 1960, A GREAT deal of work has been accomplished, but a great deal more could have been done if there had been adequate staff to carry it out. The increasing number of births exercised great demands on the resources of the staff, who are not increasing in relation to the size and scope of the work. In fact, there are less Health Visitors now than ever before. The willingness of the Staff to take on more and more is greatly appreciated, but there is a limit to what a gallant band of women can do.

Throughout the year, the number of Doctor's posts filled were only six. One or other Doctor was away in turn throughout the year on vacation leave; there was one Maternity Leave in mid-year—and a good deal of sick leave, mostly from fever and throat infections possibly picked up from their patients. Thus it was only possible to have five Doctors at a time on Duty for most of the year, and therefore two of the Clinics, Kreta Ayer Clinic and Aljunied Road Clinic have had to do without medical cover. It was still not possible to open the Stirling Road—Queenstown Clinic which had been ready since June 1959. By October, with the acquisition of an extra Lady Medical Officer in the Rural Maternity Child Health Service, it was possible to arrange that Aljunied Road would at least have a Doctor on a part time basis, her duties being shared with Kim Chuan Clinic. Attempts to fill two vacant posts drew a blank.

On 30th December, 1960 Dr. Chan resumed duty after about 1½ years absence on No Pay Leave in the United Kingdom where she was successful in obtaining her Diploma of Child Health. The Department has now three Lady Assistant Health Officers with the Diploma of Public Health, and one with the Diploma in Child Health.

NURSING STAFF

None of the vacancies for Nurses were filled during the year. Six Posts of Sisters were still frozen pending ultimate merger between City and Rural when the discrepancies in terms and conditions, and pay scales now existing will be settled. In the meanwhile seven Health Visitors (Staff Nurses) had to act throughout the year as Sisters, as it was essential that these duties be carried out. In addition there were thirteen vacancies for Health Visitors, making a total shortage of twenty Nurses.

Attempts to fill vacancies some of which have existed since 1958 were made twice but drew no response from suitably qualified personnel. The nature of their work requires the Health Visitors to be qualified as general trained Nurses with Class 'A' Certificate in Midwifery.

Two Health Visitors who had undergone the Public Health Nursing training course the previous year, returned to duty after obtaining their Health Visitor Certificates and District Nursing. Four Health Visitors were sent to the new course which started in June. An arrangement was made to provide two substitutes from the Rural Services to help relieve the shortage occasioned by the number proceeding on this study leave, but owing to their own shortage, only one Rural Staff Nurse could be lent. As she was advancing in pregnancy, her use for outdoor work in Health Visiting was limited.

At a Nursing Seminar held from 25th June to 1st July one of the newly qualified Health Visitors from the Public Health Nursing Course, Goh Sock Eng, was one of the main speakers.

Training in Infectious Disease Nursing at Middleton Hospital continued during the year. Originally two nurses at a time were seconded for training, but due to the shortage of Nurses only one was sent at a time.

An examination was held in March for Health Visitors to allow them to cross the Health Visitors Bar in the Health Visitors Scale. They had attended in the past year a course of in-service training, consisting of a weekly course of lectures on Public Health subjects especially related to Maternal Child Health work, and had to sit for a 3 hour written paper, and undergo an oral Exam.

At the opening of the Family Planning Exhibition on November 26th—City Health Visitors formed a guard of honour together with Staff Nurses and Midwives from Rural Maternal Child Health Services and Kandang Kerbau Hospital, which was graciously inspected by Che Puan Noor Aisha. One of the City Health Visitors had the honour of presenting a bouquet to Che Puan, while her Rural counterpart presented the pair of scissors for the ribbon cutting ceremony. City Health Visitors were on duty at the Maternal Child Health section at this Exhibition and gallantly tried to answer all the barrage of questions with which the interested visitors bombarded them.

The hazards of Health Visiting faced by our Staff was seen in the number of accidents that they met with during the course of their duties in sun and rain and storm. Notable among them were cases of monkey bite which happened to one Health Sister within a few weeks after she was bitten by a savage dog in homes she had to visit.

MIDWIVES

For the first 8 months of the year there were only fifteen midwives on our establishment. In August, three new Midwives were appointed, but within a month, two gave notice of resignation as the pressure of work was too much for them. The number of D.A.C. referred from Kandang Kerbau Hospital have been as great as in previous years. We received a number of complaints that the Midwives did not come to bathe their cases till late in the evening, but on investigation it was seen that their long list of cases was usually over twenty in number and at times amounted to thirty, so it was inevitable that they could not put in all their visits in the morning as is liked by patients. Exhausted as they were by that hour they had to be on call for confinement calls if needed at night, as there were too few Midwives for shift duty. The young newly recruited Midwives could not cope with this hard work, particularly as they had been accustomed to living in institutions such as Kandang Kerbau Hospital hostel and the Rural Clinics where there is a resident amah to cook their meals, and housekeep for them, whereas in the City Quarters they have to fend for themselves.

Following the resignation of these two Midwives, two others were eventually appointed to take their places by the end of the year.

In addition, permission was obtained to second two Midwives from Rural Services to assist and relieve the pressure in two of the City areas, and in November, this was implemented. In June, much needed Refresher Courses were started by the W.H.O. Senior Nurse Educator at Kandang Kerbau Hospital for Midwives in both Rural and City Services together with Midwives in Private Practice. The duration of each of these courses was two months, and three such Courses were held during the year, at each of which, one of

the City Midwives attended. While they were found sadly wanting in their theory of Midwifery, due to short-comings of training in the past, the W.H.O. Senior Sister Educator found them on the whole keen to learn and good at their practical work. The importance of the Health Education aspect of Midwifery was brought home to them and they were given classes in preparation of Health Education material.

Midwives Ante Natal sessions which had been commenced in three Clinics at the end of last year was extended to Kim Keat in September.

CLINIC ATTENDANTS

The vacancies for Clinic Amahs occasioned by death and retirement were not filled till November. Three members from Works Brigade, all Malays, were appointed but less than one month afterwards two sent in their resignations as they found the work was not congenial enough.

VACCINATOR

The vacant post of Vaccinator was not filled. No relief was available during vacation or sick leaves.

With the use of the All Purpose Book in the Clinics it was possible to note at once which child had not been vaccinated, and remainders by Home Visits were needed. It was not possible to do as much Home Visiting as was needed to follow up cases who were overdue for vaccination, due to insufficient staff and increasing number of babies.

EXTENSION OF SERVICES

In spite of the staffing difficulties, some expansion of the Services was made.

B.C.G.

Previously B.C.G. for the newborn has been given by Clinic Staff at four of the City Clinics. As from August this was extended to two other City Clinics, by extending the Service to Kim Keat and Alexandra Clinics.

Midwives Ante Natal Sessions

Ante Natal sessions run by the Midwives only was attended to another clinic making a total of four out of seven clinics. In order to relieve the congestion at the usual Doctor Sessions, all new patients were asked to attend at these Midwife Sessions first, in order to get all the preliminary routine examinations completed. At these sessions, all new cases had their preliminary routine investigations completed such as history taking, heights and weights, urine, blood tests, blood pressure, etc. This enabled more speedy handling of the cases for the Doctor's Ante Natal Sessions at which the cases would attend the following week, and also relieved the congestion there. At the same time there was more time for Health Education Talks and Group discussions for the Ante Natal mothers. At first, these sessions were not very well patronised when the patients realised there was no Doctor present, but they are now learning to understand the reason for the separate sessions, and probably appreciate the fact that they do not have to wait so long as before and will be able to get better individual attention when there is not such a crush of patients. It is hoped that in due course, all the Clinics will be able to have these Midwife Sessions when there are more Midwives in the Service to run them.

Family Planning

As long ago as 1949, Family Planning was originally one of the Services offered by the City Clinics. Due to the expansion of the Service and shortage of staff this aspect was left more and more for the Family Planning Association to handle. Now that it is a definite Government policy to foster Family Planning it is again being offered by the Clinic Staff. The simpler methods are being advocated, with the advice to follow up with more sophisticated methods later, to be obtained from F.P.A. sessions. More F.P.A. sessions are now being held in the City Clinics such as Kim Keat.

Family Planning Campaign

Senior Assistant Health Officer, Maternal Infant Welfare Department was appointed Chairman of the Family Planning Campaign Committee. An intensive Campaign was launched in November commencing with courses of lectures in Chinese and English to 'Lay Workers' whose services it is hoped, can be utilised to further this campaign. The Press and Radio were extremely co-operative in giving every publicity to this cause. The Exhibition held at the Victoria Memorial Hall was opened by Che Puan Noor Aisha on November 26th and scheduled to close by December 4th. However, owing to the great interest it aroused, it was extended till December 6th. An average of 10,000 persons visited this Exhibition daily and this number increased to 12,000 at the weekends. The crowds appeared to be extremely interested by all the exhibits, which they studied with great care and attention. The Staff on duty had to answer very searching questions on the subject. The public reaction on the whole appeared to be favourable towards the idea that Families should be planned, and they welcomed the opportunity to learn how this should be done.

POLIO SABIN SURVEY

As from April till June, City Staff assisted in a controlled survey made to obtain blood and stool specimens from young children living in the areas attached to the Institute of Health and Alexandra Clinics, who had received oral Polio vaccine in 1958. Much effort was spent by Health Visiting and in Clinics persuading parents to participate in this Survey. The response was not very brisk at first as parents were reluctant to allow blood to be drawn from their children, but the presence of an experienced Doctor skilled in drawing blood from struggling children was a great advantage in allaying their fears.

TYPHOID ON PULAU BUKOM BESAR

At the first news of this outbreak six City Health Visitors were seconded to Middleton Hospital to help with the nursing of these cases. They were on duty there from 9th September, 1960 to 3rd October, 1960. In addition, one City Sister was seconded to join the Rural Nurses and the Island Maternal Child Health team to give mass inoculations to the Southern Islanders commencing with Pulau Bukom. A total of 21,891 injections were given during the two months of September and October.

DOMICILIARY MIDWIFERY SERVICES

As the popularity of confinement in Hospital increases so is there a progressive decrease in the demand for confinement at home. Private Midwives found their practice dwindling even more and this was reflected also in the drops of about 150 cases delivered by City Midwives. However as there were

only 15 Midwives on the establishment for 10 months of the year (with maternity leave for one of them together with normal vacation leaves to deplete the service) the 1,137 cases delivered by City Midwives were more than they could cope with, particularly when the number of Domiciliary After-care cases referred from Kandang Kerbau Hospital were as heavy as in previous years. The bulk of the City Midwives' work was in giving After-Care attention to cases delivered in Kandang Kerbau Hospital and discharged very early.

Table A

TO SHOW NATURE OF CONFINEMENTS
—CITY AREA IN PAST 5 YEARS

——	1955	1956	1957	1958	1959	1960
Hospital ..	22,238	25,112	29,299	30,075	34,028	36,310
Private Midwives	15,879	14,876	13,261	11,899	10,153	8,307
City Midwives ..	1,210	1,371	1,305	1,411	1,295	1,137

Table B

TO SHOW DOMICILIARY AFTER CARE CASES REFERRED FROM KANDANG KERBAU HOSPITAL TO CITY MIDWIVES

1955	..	..	2,843
1956	..	..	6,009
1957	..	..	12,597
1958	..	..	14,106
1959	..	..	15,207
1960	..	..	15,172

Standardisation of forms, equipment and procedure was achieved with Midwives in Rural services and in Private practice after discussions at meetings convened by S.A.H.O. (M. and I.W.D.) in her capacity as Lady Medical Officer i/c Maternal Child Health Services. The Sister i/c Midwives (Rural) and Supervisor of Midwives (City) were able to get together with the W.H.O. Senior Nurse Midwife Educator, whose valuable advice was much appreciated.

DISTRICT VISITING

Home Visiting had to be sacrificed again on account of the shortages of staff. Although the importance of Home Visiting was by no means overlooked, there was nothing else we could do but cut down on the Home Visiting when staff were needed to cope with the crowds in the clinics.

Table C

HOME VISITING

——	1955	1956	1957	1958	1959	1960
Total visits by Sisters in Puerperium	20,008	19,157	18,762	16,971	14,832	12,470
Visits to Infants in first year ..	93,067	91,758	92,030	76,301	57,344	56,213
Ante Natal visits	6,706	9,346	8,724	7,128	5,326	4,439
Visits to A.P.T. defaulters ..	2,766	5,561	5,696	6,654	3,980	7,202

Where precisely it was routine to pay at least four visits to infants in the first year of life, this had to be curtailed to two or even in some cases to one. There was an increase in the l st visit in the neonatal period, however, and the total number of visits was not far short of 1959 visits.

If the staffing does not improve it may be necessary to follow the example of the Rural Services to send Remainder Chits through the post to advise parents to bring their children for the immunisation programme, but this is a pity as it is very necessary for the Health Visitors to see the mother in her natural surrounding to be able to give her advice personal to her problems.

CLINIC ACTIVITIES

There was an even bigger attendances in the clinics than in previous years for all types of Services, whether for infants, preschool children, sick mothers or Ante Natal mothers. It is heartening to see the confidence of mothers in our Services, but although the percentage of sick requiring treatment is lower this year, there is still a tendency to regard the Maternal Child Health Clinics as Outpatient Clinics specially for Mothers and Children.

Table D

CLINIC ATTENDANCES

	1955	1956	1957	1958	1959	1960
Total Infant attendances ..	141,748	180,873	213,760	217,569	231,993	2.0,550
Percentage sick	63.84%	63.75%	63.01%	69.48%	66.65%	63.77%
Total Preschool attendances ..	5,257	30,298	82,404	64,353	77,427	97,939
Percentage sick	..	49.62%	22.67%	67.34%	74.76%	62.98%
Sick Mothers	16,994	24,296	32,348	41,117	45,687	56,491
Total Ante natal attendances ..	13,964	18,281	19,356	25,343	25,553	26,041
Midwives' Ante Natal session ..	..	..	..	..	..	1,619 (from Sept.)

Treatment is only incidental and is given for minor ailments only, the Clinics performing this function for the convenience of patients who would otherwise have to be referred elsewhere—but treatment is always accompanied by advice on how to prevent recurrences and for future care and follow-up.

In order to help in relieving the pressure in Kandang Kerbau Hospital, the Clinics have been attending to cases referred for courses of injections either Antenatally or Postnatally.

THE IMMUNISATION PROGRAMME

(*a*) B.C.G.—This work is slowly increasing as parents are more aware of the dangers of T.B. than those of Diphtheria. Unfortunately in the last few months of the year, a good number of adenitis and even abscesses were seen after B.C.G. This has been brought to the attention of A.D.M.S. (Hospital) and severe cases were referred to the Pædiatric Unit for treatment.

(*b*) There was a drop in primary vaccination. The post of Relief Vaccinator was not filled so that when one or other Vaccinator was on Vacation Leave, make-shift arrangements had to be made to cover the duties which were not satisfactory. Home Visits by Vaccinator to remind parents when vaccination was overdue, could not be sufficiently made. There are still a good number of children who have escaped vaccination whose parents require to be repeatedly visited and reminded.

(*c*) Anti Diphtheria Immunisation. During the year there was a switch over to using Triple Antigen for all Primary Immunisation of infants instead of using Plain A.P.T., or A.P.T. plus Whooping Cough. With more children being followed up in the Clinics through their Pre-School years there was an increased number of Booster doses given.

DENTAL CLINIC

It was not possible to obtain the extension of Dental Services to other Clinics than Prinsep Street Clinic. Provisions which had been made in the year's Estimates for three such Dental extensions were deleted.

The Dental Officer at Prinsep Street Clinic has as much as one officer can deal with, as cases from Kim Keat and Aljunied and even other clinics are being referred to him there. There is a great need for an extension of this service for Ante natal mothers, and pre-school children.

LIAISON WITH OTHER DEPARTMENTS

(*a*) The staffing of the four Creches which were planned and opened originally by the Maternal Infant Welfare Department in 1958 continued to be supervised by Staff Nurses from the Maternal Infant Welfare Department although taken under the control of the Social Welfare Department in November 1959. Senior Sister Betty Tan continued to attend to the indents for requirements.

(*b*) The Public Health Nurse Training Course. Two Doctors and Senior Sister Tan from Maternal Infant Welfare Department were invited to be lecturers at this Course which commenced in June. S.A.H.O. gave two lectures on the History of the Maternal Child Health Services and the Organization and Administration of the Singapore Services, followed later by two lectures and scientific film on Family Planning.

Dr. N. Tan gave nine lectures on development and management of the infant, and one on the Social and Cultural Factors affecting the Health of the People. Senior Sister Tan lectured on Clinic Management. She had also acted as one of the examiners in the previous course.

The students at this course attended at Institute of Health and other City Clinics for observation and experience of the practical aspects of the work.

(*c*) Midwives Board. S.A.H.O. continued to serve on the Board, and Dr. Nalla Tan was appointed to serve on the Exams Committee. Both S.A.H.O. and Dr. Nalla Tan served as examiners during the year.

(*d*) Students from the Department of Social Studies, University of Malaya visited the Institute of Health on 21st June, 1960 and were shown all aspects of the work.

(*e*) Medical Students doing their Public Health Course were given an opportunity to observe the work of City Health Sisters to whom they were attached, for one day on 24th June, 1960. Pædiatric students continued to attend on Saturday at the Institute of Health to obtain experience in dealing with the normal, well child. On 30th December, Dr. Danaraj brought the D.P.H. students to Prinsep Street Clinic to observe the working of a typical Maternal Child Health Clinic. They were then conducted to Horne Road Creche.

(*f*) The School Cardiac Clinic was held for a few sessions in the Institute of Health lecture room on Tuesdays but the noise from the babies in the Clinic obscured cardiac auscultation, hence it was moved to a quieter section on the top floor of the adjoining wing.

(*g*) Eight Pædiatric Nurse trainees attended at the Institute of Health and Kreta Ayer Clinic to observe the work on 14th May, 1960.

VISITORS

Many distinguished visitors honoured the Department by calling on S.A.H.O. to inspect our clinics and observe the work there.

In February, the Minister of Health accompanied by top officials of his Ministry toured the City Clinics on 2nd February, 3rd February, 5th February. This was followed by a meeting in the Conference Room of the Ministry on 5th February to discuss amalgamation between City and Rural Services.

On 18th February, two W.H.O. officials, Drs. Frolich and Huggins visited Prinsep Street Clinic and Institute of Health. This was followed later by discussions with A.D.M.S. (Health) on the needs for a full immunisation programme in this country.

On 13th April, a party of Assemblymen visited Institute of Health.

In May, a party consisted of a Vietnamese Doctor and three Midwives visited City and Rural Clinics to observe the Midwifery Services, in all its aspects including the delivery and aftercare.

In August, delegates to the Public Health Conference visited the Institute of Health.

On 7th September, Dr. Karunaratne, Director of Health Services in Ceylon, called on S.A.H.O. at the Institute of Health. He was later taken by Supervisor of Midwives to accompany the D.A.C. Midwife on her rounds to see the Domiciliary After Care Service.

On 25th October, Professor I. G. W. Hill of the St. Andrew's University called on S.A.H.O. at the Institute of Health for discussions on the Maternal Child Health Services.

On 17th November, Professor Martha Elliot, Adviser on Maternal and Child Health matters to W.H.O. and formerly Professor of Pædiatrics at Harvard University, called at the Institute of Health together with Dr. Alexander, Regional Adviser on Maternal Child Health to W.H.O., and Miss Orbell, W.H.O. observer in Nursing

On 9th December, Dr. Wright, Chief Health Officer, Papua called at the Institute of Health to discuss the development of Maternal Child Health work with S.A.H.O.

On 17th December, Dr. Hwang, delegate of Taiwan, visited the Institute of Health and was later conducted on a visit to Prinsep Street Clinic.

Dr. Moody of Ghana Medical Services also visited Prinsep Street Clinic.

MERGER

Phase I of the long awaited Merger between Rural and City Maternal Child Health Services took effect as from 1st April, 1960. The Acting Lady Medical Officer-in-Charge was then able to be in control again of the City Clinics, and combined the work of the Senior Assistant Health Officer (Maternal Infant Welfare Department) which post she formerly held, together with that of Lady Medical Officer-in-Charge Rural Services.

The day to day work continued more or less as before, but with integration it was possible to try gradually to standardise the work to achieve some uniformity, as well as to pool the resources of staff to assist shortages where needed. Thus in October with the appointment of Dr. A. Wong to Rural Services, her duties were arranged so that Aljunied Road (City) which had had no Doctor for over one year, was able at least to have a Doctor again for three days of the week, sharing her with Kim Chuan Clinic (Rural) while Kim Chuan which had to share one clerk with Lim Ah Pin, Yio Chu Kang and Ponggol was lent the services of a recorder from Aljunied Road Clinic. Two Rural Midwives were seconded to assist City D.A.C. Services as from December 1960.

In December, further step in integration was made by putting the three very ancient cars hired by the Maternal Child Health Services, City from the Transport Centre under the control of Lady Medical Officer plus for a good measure a landrover as a spare vehicle in case of breakdown. These cars were parked at the Institute of Health at night.

Combined Staff meetings of personnel from both Rural and City Services were commenced as from July.

The administrative offices of the Maternal Child Health Services moved from Maxwell Road to the Institute of Health on 1st June. Accommodation was made available for Public Health Matron and her staff. With the return to her former office in the Institute of Health, S.A.H.O. in her dual role of S.A.H.O. (City) and L.M.O. (Rural) was thus able to have her Senior Nursing personnel for both Rural and City in the same office for ready consultation, as Senior Sister Tan's office is in the same place.

This is the last report to be put up for the City Maternal Infant Welfare Department, as future reports will be incorporated in the Report on Island wide Maternal Child Health Services. The City Services has seen a good deal of changes and development from the days in 1910 when it first began with the Singapore Municipality appointing one English Nurse to do some Home Visiting to advise mothers on hygiene and mothercraft.

Now that integration of the two sections of the Maternal Child Health Services is an established fact, it is possible to bring a unified service to the People. The next year or so will probably see a good deal of changes and reorganisation. The co-operation of the Staff will be needed more than ever as without it, achievement of a good service cannot be implemented. Their spirit of service in the face of pressure of work and difficult working conditions has to be understood to be appreciated. Co-operation and understanding from the public is also required in order that their work can succeed in achieving the desired effect, and publicity regarding the aims and intentions of the Maternal Child Health Services is very essential to bring about this co-operation. It is a matter of teamwork, not only among all levels of members of Staff, but also between Staff and Public.

Dr. MAGGIE LIM,
Lady Medical Officer-in-Charge,
Maternal and Child Health Services.

ANNUAL REPORT OF MATERNAL AND CHILD WELFARE DEPARTMENT 1960

	1959	*1960*
I. *Total number of confinements in City Area* ..	48,851	49,288
Nature of confinements:		
In Hospital	34,028	36,310
By Private Doctors	2,986	3,264
By Private Midwives	10,153	8,307
By City Council Midwives	1,295	1,137
With no skilled attention	389	270
Of these confinements:		
Number of mothers visited by District Sisters within 10 days after confinement	13,876	12,112
Subsequent visits to sick mothers	5,843	6,905
Sick mothers treated in their homes by Lady Assistant Health Officers	6,041	5,791
Maternal deaths in puerperium	8	8
Mothers removed and untraced	956	358
Total number of Births in City Area		
Number of twins	398	416
Number of triplets	5	5
Number of quadruplets	—	—
Still Births	766	748
Babies died	286	517
Number of newborn babies seen by District Sisters	13,692	11,958
Babies born in Hospital	33,555	35,617
Babies untraced	960	874
II. *Free Midwifery Services from the Clinics*		
Free confinements conducted by the City Council Midwives	1,295	1,137
Number of cases referred from Kandang Kerbau Hospital for post-natal domiciliary aftercare by City Council Midwives	15,207	15,172
Abnormal cases referred to Kandang Kerbau Hospital	35	32
Number of self attended deliveries followed up by City Council Midwives	82	84
Total visits paid by City Council Midwives to patients' homes	47,113	49,006
III. *Visits paid by Health Visitors to homes* ..	57,344	56,213
1st visits following Birth Report	28,437	29,080
Subsequent visits	28,907	27,133
Percentage of total births visited by Health Visitors	57.64%	59.00%
Total number of visits of Sisters and Health Visitors to homes	87,325	87,229
IV. *Clinic Activities*		
A. INFANTS		
New infants 1st attendances at Clinics ..	38,414	40,606
Subsequent attendances of infants at Clinics	193,579	209,944
Total attendances ..	231,993	250,550
Of these, attendances of Sick Babies were ..	154,628	159,788
i.e. in percentage	66.65%	63.77%

	1959	1960
B. PRE-SCHOOL CHILDREN:—1st visits	22,463	28,743
Subsequent visits ..	54,964	69,196
Total visits ..	77,427	97,939
Of these, attendances of Sick Pre-School Children were	57,882	61,684
i.e. in percentage	74.76%	62.98%
C. SICK MOTHERS		
Number of sick mothers treated:—		
In Clinics	39,646	50,700
On District	6,041	5,791
Total ..	45,687	56,491
D. ANTE NATAL CONSULTATIONS IN CLINICS		
Ante natal mothers first attendances ..	7,116	6,887
Subsequent attendances	18,437	19,154
Total ..	25,553	26,041
MIDWIVES ANTE NATAL SESSIONS (SINCE SEPTEMBER)		
1st attendances	—	269
Subsequent attendances ..	—	1,350
Total ..	—	1,619
Ante natal home visiting by Health Visitors ..	5,326	4,439
Kahn blood tests taken	2,505	3,316
Number positive	59	25
i.e. in percentage	2.35%	0.75%
E. VACCINATION OF INFANTS AGAINST SMALL-POX		
Clinics	24,993	23,983
District	4,097	4,221
Total ..	29,090	28,204
F. IMMUNISATION AGAINST DIPHTHERIA		
(*a*) *Under 1 year old*		
1st injections	8,669	850
2nd injections (Number who completed course)	7,310	1,481
Total injections ..	15,979	2,331
(*b*) *Over 1 year*		
1st injections	7,336	4,963
2nd injections (Number who completed course)	6,685	4,773
Total injections ..	14,021	9,736
(*c*) *T.A.F. injections* (over 10 years)		
1st injections	460	759
2nd injections	314	649
3rd injections	242	538
Total ..	1,016	1,946

	1959	1960
(*d*) *Contact Cases*		
1st injections	672	—
2nd injections	428	—
Total ..	1,100	1,245
(*e*) *Booster Doses*	2,412	6,366
G. IMMUNISATION AGAINST DIPHTHERIA AND WHOOPING COUGH		*Tetanus Toxoid*
1st injections	1,289	3,613
2nd injections	1,249	2,791
3rd injections (Number who completed course)	1,182	—
Total injections ..	3,720	6,404
Febrile reactions	1,008	—
H. TRIPLE ANTIGEN		
1st injections	5,054	20,163
2nd injections	3,905	16,757
3rd injections (Total completed course) ..	3,070	13,919
Total injections ..	12,029	50,839
Visits to homes to follow up cases ..	3,980	7,202
Febrile reaction	4,499	8,979
I. B.C.G. VACCINATION		
Number of babies under 1 month vaccinated	5,936	6,192
Number of babies returned for Mantoux test	3,917	118
J. FREE MILK POWDER		
Total number of babies given free milk ..	11,127	13,686
Number of nursing mothers given free milk ..	490	555
Number of re-issues	59,656	64,382
Total number of lb. of Powdered Milk used ..	48,252	53,178
V. *Supervision of Midwives in Private Practice by Supervisor of Midwives*		
(*a*) Number of inspections of Private Midwives bags	1,170	1,014
(*b*) District visits to check on work of Private Midwives	1,842	1,398
(*c*) Investigation of Puerperal Fever cases reported	116	80
(*d*) Investigation of Tetanus Neonatorum cases reported	4	2
(*e*) Investigation of G. C. Eyes	—	10
VI. *Medical examination of City Council Female Staff*		
(*a*) For fitness to join service, confirmation in service and to join Provident Fund ..	126 } 639	45 } 514
(*b*) For treatment of ailments	513 }	469 }
VII. *Dental Clinic*		
Ante natal mothers	564	634
Post natal mothers	—	12
Pre-School children	87	33
Emergency cases	—	19
Revisits	—	3,715
Total number of attendances ..	3,668	4,413

MIDDLETON HOSPITAL

I HAVE THE HONOUR to submit the Annual Report of the Middleton Hospital for the year 1960.

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

Table I

Diseases	Remaining 31–12–59	Admitted	Discharged	Transferred	Died	Remaining 31–12–60
Amœbic Dysentery ..	8	249	250	1	1	5
Amœbic Dysentery and Bac. Dysentery	..	3	2	..	1	..
Ankylostomiasis	..	3	3	..	..	..
Ascariasis	2	10	10	..	1	1
Bacillary Dysentery ..	6	70	75	..	1	..
Broncho Pneumonia ..	..	10	9	..	1	..
Chickenpox	33	1,453	1,459	..	..	27
Chickenpox with Encephalitis ..	..	2	..	..	2	..
Clinical Dysentery	5	161	160	1	3	2
Diphtheria	40	642	608	..	32	42
Diphtheria carrier	17	601	610	..	..	8
Erysipelas	..	3	3	..	..	..
Encephalitis	..	9	8	..	1	..
Gastro Enteritis	1	12	9	1	3	..
Herpes Zoster	..	5	5	..	..	..
Influenza	1	73	73	..	..	1
Inguinal Hernia	..	1	..	1	..	..
Intestinal Colic	..	1	..	1	..	..
Japanese B. Encephalitis ..	..	1	..	..	..	1
Measles	6	178	178	5	..	1
Measles with Broncho-pneumonia	..	64	61	..	3	..
Measles with Encephalitis ..	..	1	..	..	1	..
Measles with gastro-enteritis ..	..	4	3	..	1	..
Measles with T.B. Meningitis ..	..	2	2	..	..	..
Mumps	..	55	53	..	1	1
Mumps with encephalitis ..	..	1	1	..	..	..
Para typhoid A	..	1	1	..	..	..
Para typhoid B	..	2	1	..	..	1
Pneumonia	..	3	2	1	..	..
Poliomyelitis (Paralytic) ..	49	192	161	..	6	74
Poliomyelitis (non-Paralytic) ..	..	1	1	..	..	..
Post Poliomyelitis	3	8	4	..	..	7
Pulmonary Tuberculosis ..	..	5	3	2	..	..
Purulent Meningitis ..	..	1	..	..	1	..
Rubella	..	16	15	..	..	1
Salmonella Enteritis ..	..	3	3	..	..	..
Transverse Myelitis ..	..	2	1	1	..	..
Typhoid Fever	16	174	173	4	2	11
Whooping cough	2	39	41	..	..	..
Whooping cough with Broncho Pneumonia	..	8	1	..	7	..
Other Diseases/Carriers ..	9	855	844	6	8	6
Total ..	198	4,924	4,833	24	76	189

During the year there were 4,924 admissions with 76 deaths, a mortality rate of 1.54 per cent. The number of admissions was the highest ever recorded and showed a marked increase over the number of admissions (3,451) in 1959.

DANGEROUS INFECTIOUS DISEASES

There were no cases of small-pox, plague and cholera during the year.

DIPHTHERIA

Table II

DIPHTHERIA ADMISSIONS AND DEATHS FOR THE LAST 10 YEARS

Year	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Admissions ..	370	427	332	345	460	552	712	548	519	642
Deaths ..	91	80	47	34	41	47	58	34	23	32
Mortality rate	24.59	18.73	14.15	9.86	8.91	8.51	8.14	6.20	4.43	4.98

Table III

MONTHLY DIPHTHERIA ADMISSIONS AND DEATHS FOR 1960

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Admissions ..	61	52	42	45	53	58	70	45	48	41	60	67	642
Deaths ..	2	4	3	3	4	2	4	1	..	3	2	4	32

During the year the number of diphtheria admissions was maintained at a high level. 642 cases were admitted, the second highest number of cases for a year on record. 32 cases died giving a mortality rate of 4.98 per cent. 48 cases required tracheotomy for respiratory obstruction of which 17 died from complications.

CARRIERS

601 contacts were admitted as 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 ..	55	45	36	39	44	51	59	42	43	35	50	57	556
Rural ..	6	7	6	6	9	7	11	3	5	6	10	10	86
Total ..	61	52	42	45	53	58	70	45	48	41	60	67	642

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	38	22	60	3	1	4
1 year	28	16	44	2	2	4
2 years	43	29	72	6	3	9
3 years	48	46	94	3	4	7
4 years	24	29	53	1	..	1
5 years	31	25	56	2	1	3
6—10 years	75	89	164	2	1	3
11—15 years	13	46	59	..	..	..
16—20 years	4	9	13	..	..	..
21+	7	20	27	..	1	1
Total ..	311	331	642	19	13	32

Table VI

DIPHTHERIA ADMISSIONS AND DEATHS BY ETHNIC GROUP

Nationality	ADMISSIONS		Total	DEATHS		Total
	M.	F.		M.	F.	
Europeans	..	2	2	..	..	..
Eurasians	2	1	3	..	..	..
Chinese	272	304	576	18	13	31
Indians	13	11	24	..	..	..
Malays/Javanese	24	13	37	1	..	1
Others	..	..	..	..	..	..
Total ..	311	331	642	19	13	32

Table VII

DIPHTHERIA:—TYPE OF CASES AND DEATHS

Type	Admissions	Deaths
Laryngeal	63	20
Pharyngeal	148	11
Faucial	281	1
Aural	26	..
Nasal	118	..
Cutaneous	4	..
Buccal	1	..
Stomal	1	..
Total ..	642	32

Table VIII

DIPHTHERIA: ADMISSIONS, DEATHS AND TRACHEOTOMY OPERATIONS

Total Admissions	642
Total Deaths	32
Case mortality rate	4.98%
Number of Tracheotomies done	48
Number of deaths after Tracheotomies ..	17

POLIOMYELITIS

Table IX

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

Year	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Admissions ..	78	50	41	71	19	29	52	404	66	201
Deaths ..	8	8	5	2	2	..	..	12	3	6

201 cases of poliomyelitis were admitted during the year with 6 deaths, a mortality rate of 3 per cent. This is the highest figure recorded or a non-epidemic period. The number of poliomyelitis admissions remained at a high level from May till the end of the year with a peak August (37 cases) and September (33 cases). Most of the cases occurred in children aged 3 years and below.

POLIOVIRUS

Type 1 poliovirus remained dominant throughout the year and was responsible for the increased incidence of cases in the 2nd half of the year.

One of the fatal cases was a young American woman who developed poliomyelitis one month after arrival in Malaya. She developed extensive paralysis and required the use of an iron lung but subsequently succumbed with diabetes mellitus as a complication.

Serological examinations showed that she had no antibodies to all the three types of poliovirus at the onset of the illness but she subsequently developed antibodies to type 1 poliovirus. She had been advised to have poliomyelitis immunization before leaving America but refused. Her case has been described in some detail as an illustration of the danger to an unimmunised person who travels from an area with little virus to an area where the virus is abundant.

Table X

POLIOMYELITIS ADMISSIONS AND DEATHS BY MONTH

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Admissions ..	7	11	4	9	13	21	19	37	33	18	16	13	201
Deaths ..	..	..	..	..	..	..	1	2	..	..	3	..	6

Table XI

REGIONAL DISTRIBUTION OF POLIOMYELITIS CASES BY MONTH

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Urban ..	6	5	4	7	10	11	15	24	21	9	9	7	128
Rural ..	1	6	..	2	3	10	4	13	12	9	7	6	73
Total ..	7	11	4	9	13	21	19	37	33	18	16	13	201

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 ..	..	..	..	..	21	15	6	1	1	1	..	..	28	17
1 year ..	..	..	..	..	17	13	4	3	2	1	..	..	23	17
2 years ..	..	..	..	..	30	15	7	4	1	2	..	..	38	21
3 years ..	..	..	..	..	15	10	1	2	1	..	..	..	17	12
4 years ..	..	..	..	..	7	2	..	..	1	..	..	..	8	2
5 years ..	..	..	..	..	2	2	..	..	.	..	..	..	2	2
6–10 years ..	..	..	..	..	4	5	..	1	1	..	..	1	5	7
11–15 years ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16–20 years ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20 + ..	..	1	..	..	..	1	..	..	..	..	..	..	..	2
Total ..	..	1	..	..	96	63	18	11	7	4	..	1	121	80

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	..	..	..	..	..	..	..	..
Eurasians	..	..	..	..	..	..	..	..
Chinese	17	10	32	9(1)	14	17	63	36(1)
Indians	2	1	5	..	6	..	13	1
Malays	9	12	8(1)	10	9	6	26(1)	28
Javanese	.	1	..	..	3	1	3	2
Others	1	..	1	..	..	..	2	..
Total ..	29	24	46	19	32	24	107	67

Table XIV

TYPHOID FEVER—ADMISSIONS AND DEATHS BY MONTH

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Admissions ..	12	17	7	4	12	10	14	9	58	10	10	11	174
Deaths ..	..	1	..	..	..	..	..	..	..	..	..	1	2

174 cases of typhoid fever were admitted during the year, the highest figure recorded since the 2nd World War.

There were two deaths, a mortality rate of 1.15 per cent. One case died of acute toxæmia with cardiac failure and the other of hepatitis with acute liver failure as a complication.

The large number of admissions was due in part to an outbreak of typhoid fever which broke out without warning on the Pulau Bukom islands in September.

PULAU BUKOM TYPHOID OUTBREAK

During the year an explosive outbreak of typhoid fever occurred on Pulau Bukom Besar and the adjacent small islands. In all sixty-one cases of fever were admitted to the hospital of which fifty-three cases were confirmed as typhoid fever.

The outbreak started in September when fifty-five cases of fever were admitted to the hospital of which forty-nine cases were confirmed as typhoid fever. In October, another four cases of fever were admitted of which two cases were proved to be typhoid. These two cases were admitted in a critical condition but recovered after a stormy illness. In November another two cases of typhoid fever were admitted with typhoid fever. There were no deaths.

At the same time, ninety-four hawkers and food handlers from Pulau Bukom were admitted and screened for the carrier state. The results were negative and the source of the outbreak remained unascertained.

PULAU BUKOM TYPHOID CASES BY ETHNIC, SEX AND AGE GROUP

Age	0–5		6–10		11–20		21–30		31+		Total	
Sex	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Chinese	..	..	1	2	4	2	..	..	..	2	5	6
Malays	1	3	6	6	4	12	4	..	1	1	16	22
Javanese	..	..	..	..	..	..	..	..	1	..	1	..
Boyanese	..	..	1	..	..	..	..	..	..	..	1	..
Indonesian ..	..	..	..	..	..	1	..	..	..	..	..	1
Indians	..	..	..	..	1	..	..	..	..	..	1	..
Total ..	1	3	8	8	9	15	4	..	2	3	24	29

TYPHOID CARRIERS

During the year, a total of 446 persons from ice-cream manufacturers, dairy farms, public water works and Pulau Bukom were investigated for the typhoid carrier state.

CHICKENPOX

1,453 cases of Chickenpox were admitted during the year.

Table XV

CHICKENPOX ADMISSIONS BY AGE, SEX AND ETHNIC GROUPS

Age	0–10		11–19		20 +		Total		Total Admissions
Sex	M	F	M	F	M	F	M	F	
Eurasians	2	3	3	5	9	6	14	14	28
Europeans	..	1	..	1	..	..	..	2	2
Chinese	72	60	63	24	77	44	212	128	340
Indians	75	59	80	49	370	131	525	239	764
Malays	52	28	38	20	88	44	178	92	270
Javanese	3	7	..	..	2	2	5	9	14
Others	2	11	5	6	6	5	13	22	35
Total ..	206	169	189	105	552	232	947	506	1,453

Table XVI

CHICKENPOX CASES, REGIONAL DISTRIBUTION BY MONTH

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Urban	122	124	187	170	136	78	100	96	28	101	80	100	1,322
Rural..	16	15	13	12	14	7	10	9	1	8	9	17	131
Total ..	138	139	200	182	150	85	110	105	29	109	89	117	1,453

Table XVII

DYSENTERY

Type	Admissions	Deaths
1. Amœbic Dysentery	249	1
2. Amœbic and Bac. Dysentery	3	1
3. Bac. Dysentery (*a*) Flexner	40	
(*b*) Sonne	23	70
(*c*) Shiga	7	
4. Clinical Dysentery	161	..
Total ..	483	2

DYSENTERY CARRIERS

Eight cases of Bacillary Dysentery Carrier (Flexner) were admitted for the year. These cases were detected at the Naval Base Hospital in the course of routine examination of applicants for the job of domestic servants.

Table XVIII

ADMISSIONS OF THE MORE IMPORTANT DISEASES FOR THE LAST TEN YEARS

Diseases	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Amœbic Dysentery	105	22	134	122	136	126	197	156	112	249
Bacillary Dysentery	18	9	25	18	17	26	74	60	36	70
Chickenpox	610	450	836	1,313	1,769	1,488	1,039	472	987	1,453
Clinical Dysentery	40	..	16	34	35	63	150	92	68	161
Cerebro-Spinal Meningitis	4	2	4	2	..	..	..	4	..	..
Diphtheria	370	427	332	345	460	552	712	547	519	642
Erysipelas	4	3	..	3	..	2	3	1	..	3
Measles	204	142	117	182	200	301	153	357	146	178
Mumps	..	15	9	35	54	52	14	43	47	55
Pneumonia	..	..	..	..	..	..	..	1	4	3
Plague	..	..	..	..	..	..	..	..	..	..
Poliomyelitis	78	50	41	70	19	37	52	405	66	201
Rubella	11	9	..	1	..	86	36	7	9	16
Scarlet Fever	79	..	..	..	..	..	1	..	..	..
Small-pox	..	..	..	..	..	..	..	..	10	..
Tropical Typhus	7	92	4	7	..	1	..	1	..	..
Typhoid Fever	91	117	91	125	114	76	118	127	160	174
Whooping Cough	5	3	..	10	5	85	30	38	15	39
Cholera	..	..	..	..	..	..	..	..	..	..
Other Diseases Carriers and Observations	591	455	440	647	503	936	1,083	1,368	1,272	1,680
Total	2,217	1,796	2,049	2,914	3,312	3,831	3,662	3,679	3,451	4,924

INFECTIOUS MONONUCLEOSIS

A British Seaman who had recently arrived from Australia was referred to the hospital by the Company Doctor as a suspected case of Diphtheria. He had enlarged neck glands and patches in the throat. A diagnosis of glandular fever was made and this was subsequently confirmed by accessory investigations. He made an uneventful recovery.

MEASLES

Table XIX

OTHER DISEASES

Diseases	Remaining 31–12–59	Admitted	Discharged	Transferred	Died	Remaining 31–12–60
Abscess	..	5	5	..	..	..
Amœbic Dysentery with Hepatitis	..	2	1	..	1	..
Amœbic Hepatitis	..	1	1	..	..	..
Anxiety Neurosis	..	1	1	..	..	..
Aseptic Meningitis	..	1	1	..	..	..
Asthmatic Bronchitis	..	4	4	..	..	..
Arthritis	..	4	3	1	..	..
Bac. Dysentery Carrier	..	8	8	..	..	..
Bell's Palsy	..	4	3	..	..	1
Burns	..	1	1	..	..	..
Bronchitis acute	..	7	7	..	..	..
Cervical Spondylitis	..	1	1	..	..	..
Cerebral Hæmorrhage	..	1	..	..	1	..
Cervical Adenitis	..	2	2	..	..	..
Cholecystitis acute	..	2	2	..	..	..
Carried forward	..	44	40	1	2	1

Table XIX—*continued*

OTHER DISEASES—*continued*

Diseases	Remaining 31–12–59	Admitted	Discharged	Transferred	Died	Remaining 31–12–60
Brought forward ..	..	44	40	1	2	1
Charcot's Spine	..	1	1	..	..	..
Colitis	1	5	6	..	..	..
Contusion	..	2	2	..	..	..
Coronary Thrombosis ..	..	1	..	1	..	..
Carcinoma rectum	..	4	3	..	1	..
Coryza acute	..	5	5	..	..	..
Dengue	..	1	1	..	..	..
Dermatitis	..	4	4	..	..	..
Drug Allergy	..	3	3	..	..	..
Eczema	..	1	1	..	..	..
Exfoliative Dermatitis ..	..	1	..	..	1	..
Fracture Humerus	..	1	1	..	..	..
Furunculosis	..	4	4	..	..	..
Frambœsia	..	1	1	..	..	..
Glossitis acute	..	1	1	..	..	..
Gastro-enteritis with obstructive Jaundice	..	1	..	..	1	..
Herphangina	..	8	8	..	..	..
Hydropneumothorax ..	1	..	..	1	..	..
Hæmorrhoides	..	5	5	..	..	..
Impetigo	..	8	8	..	..	..
Infectious Mononucleosis ..	..	1	1	..	..	..
Infective Hepatitis	..	6	6	..	..	..
Infective Polyneuritis ..	1	4	5	..	..	..
Laryngo-tracheo-bronchitis ..	..	8	7	..	1	..
Lobar Pneumonia	..	1	1	..	..	..
Leukæmia	..	2	1	1	..	..
Lambliasis	..	1	1	..	..	..
Laryngitis acute	..	13	10	1	..	2
Measles; Mental Deficiency ..	..	2	2	..	..	..
Myositis, acute	..	5	5	..	..	..
Nephrotic Syndrome ..	..	1	1	..	..	..
Nasopharyngitis acute ..	..	7	7	..	..	..
Nephritis, acute	..	2	2	..	..	..
N.A.D.	..	18	18	..	..	..
Otitis Media	1	1	2	..	..	..
Osteomyelitis	..	1	1	..	..	..
Observation	2	45	46	..	..	1
Pharyngitis	..	5	5	..	..	..
Pompholyx	..	1	..	..	..	1
Papular Urticaria	..	1	1	..	..	..
P.U.O.	..	1	1	..	..	..
Pyelonephritis	..	3	3	..	..	..
Pulmonary Embolism C'Pox ..	..	1	..	..	1	..
Rheumatism acute	..	2	2	..	..	..
Rheumatoid Arthritis ..	..	2	2	..	..	..
Rhinitis, acute	..	3	3	..	..	..
Respiratory disease, acute ..	..	1	1	..	..	..
Septic Foot	..	1	1	..	..	..
Sinusitis	..	1	1	..	..	..
Stomatitis acute	..	3	3	..	..	..
Sciaticca	..	1	1	..	..	..
Slipped Lumbo Sacral Disc ..	..	1	1	..	..	..
Septicæmia, acute	..	1	1	..	..	..
Carried forward ..	6	247	236	5	7	5

Table XIX—*continued*

OTHER DISEASES—*continued*

Diseases	Remaining 31–12–59	Admitted	Discharged	Transferred	Died	Remaining 31–12–60
Brought forward ..	6	247	236	5	7	5
Tetanus	..	1	..	1	..	..
Thyrotoxicosis with Cardiac Failure	..	1	..	..	1	..
Thalassemia	..	2	2	..	..	..
Thrush	..	8	8	..	..	..
Tonsillitis	2	144	146	..	..	..
Typhoid carrier	..	5	4	..	..	1
Typhoid carrier	1	446	447	..	..	..
Urticaria	..	1	1	..	..	..
Total ..	9	855	844	6	8	6

MEASLES

238 cases of measles were admitted of which 64 cases had Broncho Pneumonia as a complication with 3 deaths. 1 case died of encephalitis, a complication. 4 cases had gastro-enteritis with 1 death.

Table XX

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

Ethnic Group	REMAINING 1959		ADMITTED 1960		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	..	..	13	174	13	174	1
Eurasians	4	10	38	304	42	314	..
Chinese	131	9,374	2,940	40,285	3,071	49,659	58
Indians and Pakistanis ..	47	1,320	1,216	11,236	1,263	12,556	11
Malays	12	375	586	6,323	598	6,698	4
Javanese	1	9	66	514	67	523	1
Others	3	237	65	458	68	695	1
Total ..	198	11,325	4,924	59,294	5,122	70,619	76

Table XXI

	Remaining 1959	Admitted 1960	Transferred to other hospital	Died	Remaining 1960	Deaths Percentage	Average daily number of patients
Male ..	119	3,021	13	42	101	1.33%	..
Female ..	79	1,903	11	34	88	1.71%	192
Total ..	198	4,924	24	76	189	1.48%	192

Maximum Capacity of the Hospital = 250 beds.

AMBULANCES

A total of 2,344 cases of infectious diseases were removed by the Hospital Ambulances during the year 1960.

STAFF

Resignations

There were five resignations during the year.

1. Staff Nurse Oh Chwee Ean, with effect from 29-9-60.
2. Nursing Assistant J. Pereira, with effect from 25-3-60.
3. Senior Attendant, Chan Ah Moi, with effect from 1-10-60
4. Junior Attendant, Yeo Aik Poh, with effect from 16-1-60.
5. Junior Attendant, Liaw Peck Choo, with effect from 21-11-60.

Termination of Service

Three officers had their services terminated.

1. Mr. Yeo Bah Chee, Temporary Physiotherapist with effect from 1-4-60.
2. Junior Attendant, Samat bin Abdullah, with effect from 28-4-60.
3. Junior Attendant, Joremi bin Arip, with effect from 4-11-60.

Transfer of Staff

Miss Edith Rose McIntyre, clerical officer, was transferred to Middleton Hospital from the City Laboratory, with effect from 29th December, 1960 to fill up the existing vacancy.

ACKNOWLEDGEMENT

I wish to thank the Lady Medical Officer in charge of the Maternal and Child Health Services, for sending four Health Visitors, and the Matron, Tan Tock Seng Hospital for sending six Assistant Nurses to this Hospital on 9th September, 1960 to assist with the Typhoid Outbreak in Pulau Bukom and the adjacent small Islands.

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

In conclusion I wish to thank the Staff for their co-operation, loyalty and excellent work during the year.

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

CITY ABATTOIRS

I HAVE THE HONOUR to submit my report for the year ending 31st December, 1960.

During the year 529,094 animals were slaughtered in the City Abattoirs: 435,124 were swine, 6,219 oxen, 3,474 buffaloes, 16 horses, 81,984 sheep and 2,277 goats.

257 swine, 28 oxen, 1 buffalo, 549 sheep and 11 goats died in the pens.

Twenty-three swine died in the depot.

Eighty-six swine, twelve oxen, six buffaloes and eleven sheep 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, 1960 ..	435,408	6,224	3,505	16	82,659	2,289
Slaughtered 1960	435,124	6,219	3,474	16	81,984	2,277
Died in pens	257	28	1	..	549	11
Died in depot	23	..	..	..	..	..
Carcases condemned ..	86	12	6	..	11	..
Diseased organs, etc. condemned and destroyed in lbs. ..	26,576	8,879	10,268	..	18,439	80

TOTAL RECEIPTS FOR THE YEAR 1960

	$	c.
Fees for slaughter at Cattle section ..	29,289	00
Fees for slaughter at Sheep section ..	84,938	00
Fees for slaughter at Pig section ..	870,816	00
Fees for storage at French Road Depot ..	6,130	35
Receipts as pen rents (all slaughterhouses)	38,291	80
Receipts for sale of blood and Pig's bristles	120	00
Fees for inspection of wild boar carcases ..	300	00
Total Receipts for the year 1960	1,029,885	15
Less refund of slaughter fees	1,151	00
Total Net Receipts for the year 1960 ..	1,028,734	15
Total Net Receipts for the year 1959 ..	1,033,833	25

Special slaughtering licences issued during the year 1960:
2 oxen @ $15 each, 23 sheep and 3 goats @ $5 each 160 00

	Swine	Oxen	Buffaloes	Horses	Sheep	Goats
Number slaughtered ..	435,124	6,219	3,474	16	81,984	2,277
Died in pens	257	28	1	..	549	11
Died in depot	23	..	..	..	..	..
Carcases condemned ..	86	12	6	..	11	..
Diseased organs, etc. condemned and destroyed in lbs. ..	26,576	8,879	10,268	..	18,439	80

CASES OF PARTIAL CONDEMNATION

	Swine	Oxen	Buffaloes	Horses	Sheep	Goats
Abscesses	16,508	10	2	..	13	..
Bruising/Fracture	2,465	53	4	..	104	1
Caseous Lymphadenitis ..	..	..	..	..	10,625	..
Cirrhosis	119	..	..	..	29	5
Congestion	17,283	30	8	..	10,787	12
Cysts	22	25	..	..	76	1
Fascioliasis	..	1,783	1,861	..	..	34
Fatty Infiltration	148	1	..	..	369	3
Hydronephrosis	220	..	..	..	4	..
Inflammation	217	13	..	..	43	..
Maggots	..	..	..	..	35	..
Mastitis (Mammitis) ..	..	35	..	..	..	..
Melanosis	1	..	..	..	13	2
Metritis	..	6	..	..	..	..
Necrosis	19	..	..	..	..	..
Nephritis	176	..	..	..	18	..
Onchocerciasis	..	35	..	..	..	..
Parasites	193	..	..	..	..	..
Pericarditis	2	..	..	..	5	..
Pleurisy	753	2	2	..	101	..
Pneumonia	1,004	6	6	..	95	..
Pregnancy	39	137	28	..	7	2
Sarcosporidiosis	..	..	1,683	..	..	..
Strongylosis	..	..	..	..	1,339	..
Tuberculosis	..	29	..	..	..	..
Telangiectasis	..	20	..	..	..	..

CASES OF TOTAL CONDEMNATION FOR THE YEAR 1960

——	Swine	Oxen	Buffaloes	Sheep
Bruising (Generalised) ..	1	..	..	..
Cysticercosis	30	..	..	..
Dropsy with Emaciation ..	7	3	1	..
Extreme Emaciation with Mammitis	..	1	..	..
Extreme Emaciation with T.B. ..	2	..	..	..
Jaundice	8	1	..	2
Moribund	2	..	..	..
Multiple Abscesses	3	..	..	..
Multiple Abscesses with Extreme Emaciation and Dropsy ..	1	..	..	..
Pleurisy and T.B. with Emaciation	..	1	..	..
Pneumonia with Dropsy ..	1	..	..	..
Pyrexia	21	1	2	9
Pyrexia with Necrosis ..	..	2	..	..
Sarcosporidiosis (Generalised) ..	..	..	3	..
Septicæmia	5	..	..	..
Splashing (Generalised) ..	1	..	..	..
Septic Peritonitis	1	..	..	..
Swine Erysipelas	2	..	..	..
Tuberculosis (Generalised) ..	..	3	..	..
Uræmia	1	..	..	..
Total ..	86	12	6	11

ANIMALS SLAUGHTERED MONTHLY IN THE CITY ABATTOIRS DURING THE YEAR 1960

——	Swine	Oxen	Buffaloes	Horses	Sheep	Goats
January ..	38,289	475	303	2	7,393	245
February ..	35,603	404	383	5	7,126	166
March ..	36,539	455	564	1	8,061	185
April ..	36,242	612	228	3	6,413	203
May ..	37,399	480	381	..	6,797	175
June ..	34,814	706	130	1	7,230	163
July ..	35,262	630	91	3	5,683	195
August ..	35,745	628	103	..	6,324	131
September ..	35,567	420	316	1	6,901	203
October ..	36,433	531	254	..	7,161	199
November ..	35,115	410	357	..	5,921	138
December ..	38,116	468	364	..	6,974	274
Total slaughtering during 1960 ..	435,124	6,219	3,474	16	81,984	2,277
Total slaughtering during 1959 ..	436,454	5,868	3,379	8	81,717	3,293

(1) The drainage at the cattle section was connected to the public sewer during the year.

(2) The roof of the cattle abattoir was completely renewed and the building renovated.

(3) New sheep pens were constructed at the sheep abattoir as the number of pens for storing sheep was insufficient.

(4) The City Veterinary Surgeon Mr. J. C. Drake was Malayanised and succeeded by Mr. Cho Chak Nam who resigned shortly afterwards.

M. G. BYRNE,
Acting Superintendent of Abattoirs.

PUBLIC HEALTH INSPECTORS' SECTION

STAFF

The staff as at 31st December, 1960 comprised one Chief Public Health Inspector, two Acting Divisional Public Health Inspectors, one Acting Chief Food and Drugs Inspector, two Acting Food and Drugs Inspectors, twenty-seven qualified Public Health Inspectors, and eight Probationary Public Health Inspectors.

Mr. J. Ferguson, Senior Public Health Inspector, was seconded to act as Superintendent, City Cleansing Department, as from 4th May, 1960.

RESIGNATIONS

Mr. H. R. Perry, Public Health Inspector, resigned from City Council service on 1st August, 1960.

SANITARY WORK

During the year there were 11,704 man-working days, 946 days Vacation Leave were granted and 142 days Sick Leave taken.

2,722 days were spent on Meat Inspection at the City Abattoirs, 1,248 days in the Food and Drugs Section and the remaining 7,734 days were utilised as follows:—

Kampong Inspections

953 man-working hours were spent during which 8,364 huts were inspected in kampongs in connection with Kampong Sanitation.

House Inspection

In connection with environmental sanitation 98 man-working hours were spent in inspecting 674 houses.

Investigation of Complaints

A total of 1,957 complaints were received from the general public during the year involving 64,533 visits.

Complaints	No. of Complaints	Primary Visits	Revisits	Total visits
Mosquitoes	1,006	11,502	48,005	64,533
Flies	120	1,761		
Others	831	3,265		

Mosquito breeding was found in 4,044 premises. Fly breeding was found in 572 premises.

Infectious Diseases

The following cases of Infectious Disease were investigated and dealt with involving 4,664 visits:—

Poliomyelitis ..	119	Typhus	1
Diphtheria	555	Typhoid	98
Chickenpox	1,800	Para-typhoid ..	3
Erysipelas	3	Leprosy	119

4,935 throat swabs were taken from diphtheria contacts where necessary.

185 cases of Infectious Disease were removed to Middleton Hospital by the Disinfecting Officer.

1,535 premises were disinfected.

Ninety-three premises in which cases of Poliomyelitis occurred and their vicinities were dealt with by Barrier Spraying.

MEAT INSPECTION

Seven Public Health Inspectors were sent monthly to the City Abattoirs to assist in the inspection of meat. A total of 2,722 man-working days were spent.

FOOD AND DRUGS

904 samples were taken by the Public Health Inspectors for Chemical analysis and bacteriological examination. For details please see Appendix *I*, Table *A*.

A total of 1,886 samples of food, drugs and other specimens were taken by the Food and Drugs Inspectors for Chemical analysis, bacteriological examination and breaches of the Sale of Food and Drugs Ordinance (Cap. 148) and the Food and Drugs Regulations, 1957. Of these 1,435 samples were taken in the City Area. Details of the nature of samples are shown in Appendix *I*, Table *B*.

Routine inspection of premises in connection with food and drugs was carried out by the Food and Drugs Inspectors involving 13,524 visits. 144,235 lb. of unsound food and 2,555 packages of drugs were surrendered and destroyed.

OFFENCES AND PROSECUTIONS

During the year 210 summonses were applied for for all types of infringements of the Ordinances and By-laws. There were 164 prosecutions with 161 convictions.

Twelve summons were not served, one case was acquitted and two cases were discharged.

Total fines amounted to $13,869.00.

INSPECTION OF PREMISES

Inspections carried out in other classes of premises not included in the above, involved a total of 54,851 visits as follows:—

Sauce Factories	160
Oil Mills	120
Saw Mills	78
Smoke Observations	13
Places of Entertainment	520
Markets	234
Coffee Grinding Mills	65
Carried forward ..	1,190

	Brought forward ..	1,190
Goldsmiths		34
Printing Presses		654
Licensed Premises		36,383
Unlicensed Premises		1,238
Public Houses		606
Hotels		527
Serving Notices		848
Inspecting Notices		2,304
Cautioning Cases		85
Other Premises		10,982
	Total ..	54,851

In connection with the visits to:—

(*a*) Places of Entertainment;

(*b*) Printing Presses;

(*c*) Public Houses;

(*d*) Hotels.

These inspections were made with a view to putting up recommendations with regard to the licensing, registration or renewal of licences by other Licensing Authorities.

NOTICES

A total of 990 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	173	847	1,020	766	20	234
Limewash	11	127	138	129	3	6
Nuisance	22	16	38	15	1	22
Abatement Order ..	2	–	2	–	–	2
Prohibition Order ..	1	–	1	–	–	1
Total ..	209	990	1,199	910	24	265

REPORTS TO OTHER DEPARTMENTS

City Cleansing Department	122
City Building Department	57
City Sewerage Department	87
City Fire Brigade	57
Other Departments	309
Total ..	632

PLAGUE PREVENTION SECTION

Total number of rats caught in the City Area	3,046
Number of Fleas combed from rats ..	4,085
Number of Mites combed from rats ..	77

No plague infected rats were found.

CEMETERY SECTION

Burial in Public Cemeteries	5,393
Burial in Private Cemeteries	738
Total ..	6,131
Cremations	227
Re-burial of exhumed remains	7
Ash Burials	4

For number of Burials by Races see Table *C*.

GENERAL

During the year the health situation of the City had been maintained at a reasonable level and there had been no epidemic outbreaks of disease.

The Public Health Inspectorate gave lectures and practical demonstrations in Public Health Work to students taking the D.P.H. Course, University of Malaya medical students and Public Health Nurses.

In order to improve the standard of ice-cream manufacture in the various ice-cream factories in the City Area a Public Health Inspector was detailed to carry out the full time duties in connection with the preparation, storage, distribution and sale of ice-cream. The primary concern of the Public Health Inspector is to advise the licensees and workers of the various ice-cream factories on the proper methods of producing a safe ice-cream fit for human consumption. He is also responsible for the health education of the workers engaged in ice-cream production and distribution. Check samples of ice-cream and popsicles were taken for the purpose of ascertaining whether the pasteurisation of ice-cream mix and the sterilisation of utensils and equipment, used in the process of manufacture, have been carried out in accordance with the procedure laid down in the Food and Drugs Regulations, 1957.

Action was also taken against hawkers selling ice-cream which was not manufactured under licence from the Licensing Authority. Pamphlets entitled 'DON'T SELL UNLICENSED ICE-CREAM' were distributed to unlicensed ice-cream hawkers.

During the year a total of 198 employees were sent to the Middleton Hospital for medical examination for typhoid carriers.

FOOD AND DRUGS SECTION

(*a*) *Food Poisoning*

The number of reports on food poisoning increased during the year.

54 cases of food poisoning with 568 persons known to be affected, were investigated. Of these, 48 cases were reported by the General Hospital, 1 reported by the Public and 5 discovered through independent investigation by the Food and Drugs Inspectors. Of the 54 cases, 8 were later confirmed to be *NOT* food poisoning.

Eight cases involved three food establishments, the causes of which were found to be contamination of food due to cuts and wounds on handlers, careless handling of food and feeding utensils, and improper storage of food. Action taken included warning to the catering establishments and suitable advice given to those handling food. Food handlers found with cuts, wounds and sores were stopped from handling food until cured.

Arrangements made with the General Hospital for the reporting of outbreak of food poisoning by telephone (confirmed later in writing) enabled the Food and Drugs Inspectorate to institute immediate action any time in the

day or night. In this way, food remnants, if any, were recovered for investigation. The assistance given by the Hospital authorities and the various departments in the examination of specimens and samples is much appreciated.

(*b*) *Food Contamination*

Two cases of contamination of food were reported.

In one case, a consignment of rice was inspected by the Food and Drugs Inspectors and found to be contaminated with diesel oil. The whole consignment was condemned.

The other involved arsenic contamination in which a lighter carried amongst other goods drums of sodium arsenite, chests of tea, cases of dried mushrooms, condensed milk, polythene bags intended for packing food, and toys for children. On investigation it was found that drums of sodium arsenite had broken loose in the lighter and subsequent loading and unloading in the lighter had caused contamination of the cases containing food and other goods. Three chests of tea with the casings damaged and stained with arsenic were condemned and destroyed. The rest was transferred into new containers under supervision of Food and Drugs Inspectors. The lighter was subjected to a repeated process of half submerged in sea water and pumping out until the result of analysis of washings was found satisfactory, and the lighter repainted with Rangoon Oil before again being put into use.

An investigation of margarine was carried out during the year following a report in the local press that an outbreak of skin rash has occurred in persons consuming oleo-margarine manufactured in Holland. Samples of local margarine were found to be satisfactory and none of the margarine of the type under suspicion had been exported to Singapore.

DRUGS

During the year a report by the Chief Chemist on a sample of Chinese Medicine called 'PING GOH CHIN' was received. On investigation it was found that a nine year old child was affected with temporary blindness after having been given doses of this medicine. Food and Drugs Inspector traced the manufacturer of this drug and result of analysis showed that it contained 97% aspirin as against the formula on the label which declared Phenacetinum 37% Caffeinæ Citras 10% and Acidum Acetyl Salicylicum 53%.

In view of this, court proceeding was taken and conviction was obtained against the manufacturer. The entire stock of the drug was forfeited and destroyed. Stocks of this drug found in local medicine shops were surrendered and destroyed.

TING SIEW SAU,
Chief Public Health Inspector,
Health Department.

22*nd February*, 1961.

APPENDIX I

Table *A*

SAMPLES TAKEN FOR CHEMICAL EXAMINATION

Milk	228
Boiled Milk	30
Carbonated and Non-Carbonated Drink ..	124
Others	14
Total ..	396

SAMPLES TAKEN FOR BACTERIOLOGICAL EXAMINATION

Ice-Cream	263
Popsicles	199
Milk	14
Others	32
Total ..	508

Table *B*

SUMMARY OF SAMPLES TAKEN BY THE FOOD AND DRUGS INSPECTORATE DURING 1960

1. Samples taken for Chemical Examination

FOOD

	City Area	*Rural Area*	*Total*
Beverages (Hot)			
Cocoa ..	1	—	
Coffee Extract ..	4	—	
Coffee Mixture ..	155	148	
Coffee Powder ..	6	5	
	166	153	319
Carbonated and Non Carbonated Drinks			
Aerated Waters ..	4	1	
Non Carbonated Drinks ..	5	1	
Syrups and Cordials	45	22	
	54	24	78
Cereals and Cereal Products			
Vermicelli ..	24	6	
Wheat and Wheat Flour ..	6	6	
Other Cereal and Bean Products ..	24	7	
	54	19	73
Colouring, Flavouring, and Preserving Agents			
Colouring Agents ..	13	2	
Flavouring Agents	9	—	
	22	2	24

	City Area	*Rural Area*	*Total*
Edible Fats and Oils			
Coconut Oil ..	13	2	
Cooking Oil ..	26	7	
Cooking Product (Fat) ..	10	1	
(1 for labelling only)			
Gingelly Oil ..	26	23	
Groundnut Oil ..	15	1	
Lard	2	—	
Margarine ..	12	—	
	104	34	138
Fish, Shellfish and Products			
Canned Fish ..	3	—	3
Fruit and Vegetable Products			
Canned Fruits ..	2	1	
Canned Vegetables	27	2	
Dried/Preserved Fruits ..	15	2	
Dried/Preserved Vegetables ..	10	1	
Fresh Fruits ..	99	42	
Vegetable Extracts	—	1	
Other Vegetable Products ..	1	—	
	154	49	203

Table B—*continued*

	City Area	Rural Area	Total
Intoxicating Liquor			
Beer	9		
Stout	5	1	
	14	1	15
Meat and Meat Products			
Ham and Bacon ..	4	4	
Sausages ..	2	1	
Other Meat Products	10	3	
	16	8	24
Milk and Milk Products			
Butter	24	1	
Cheese ..	22	—	
Cream ..	1	—	
Full Cream Milk Powder ..	14	—	
Ghee	1	—	
Infant Food ..	3	—	
Milk	7	1	
Skimmed Milk Powder	60	—	
Sweetened Condensed Milk ..	8	4	
Unsweetened Condensed Milk ..	1	—	
Other Milk Products	2	—	
	143	6	149
Sauces and Vinegars			
Artificial Vinegars	11	4	
Chilly Sauce ..	—	4	
Malt Vinegar ..	3	—	
Rice Vinegar ..	6	—	
Tomato Sauce ..	1	—	
Other Sauces ..	5	1	
	26	9	35
Spices and Condiments			
Chilly Powder ..	2	1	
Coriander Powder	11	6	
Curry Powder ..	1	—	
Pepper ..	1	—	
Turmeric ..	2	1	
Other Spices ..	8	—	
Pickles ..	1	1	
	26	9	35
Miscellaneous			
Cakes	1	—	
Chocolates ..	2	2	
Confectionery ..	4	—	
Egg Jam ..	10	3	
Peanut Butter ..	13	2	
Sweets ..	11	—	
Others (1 for label)	5	—	
	46	7	53
City Area ..	828		
Rural Area ..	321		
Total c/f ..	1,149		
DRUGS			
B.P. or B.P.C. Drugs	42	23	
Chinese Drugs ..	29	15	
Indian Drugs ..	1	—	
Proprietary Drugs	13	2	
Vitamins ..	19	8	
Others (Insecticide)	—	1	
	104	49	153
2. Samples taken for Bacteriological Examination			
Canned Meat ..	1	—	
Cereals, Beans, etc.	2	1	
Preserved Vegetables	6	—	
Milk	5	—	
Cheese ..	17	—	
Egg Kaya ..	9	2	
Biscuits ..	2	—	
	42	3	45
3. Samples taken re Food Poisoning			
For C. Analyst ..	47	10	
For C. Bacteriologist	71	49	
For Govt. Chemist	4	10	
For Govt. Bacteriologist ..	19	5	
For Dept. of Pharmacology ..	—	1	
For Dept. of Fisheries ..	—	2	
For Botanic Gardens	—	1	
	141	78	219
4. Samples taken re Food Contamination			
For C.A. ..	320	—	320

Total samples taken in City Area ..	1,435
Total samples taken in Rural Area ..	451
Grand Total ..	1,886

Table *C*

1960	Burials and Cremations made in City Cemeteries and licensed burial grounds in City Area	Exhumations
Europeans	43	2
Eurasians	73	..
Chinese	4,007 and 1 ashes 6 exhumed remains (13)	14
Malays	1,317	..
Indians	629 and 1 exhumed remains (212)	1
Others	62 and 3 ashes (2)	..
Total ..	6,131 and 4 ashes 7 exhumed remains (227)	

Figure in brackets denotes cremation.

ANNUAL REPORT OF THE CITY COUNCIL DISPENSARIES FOR THE YEAR 1960

FREE MEDICAL ATTENTION is given to all staff and open vote employees of the City Council and Housing Board by the three Staff Dispensaries. Dependants of City Council employees are not eligible for medical attention at these dispensaries. City Council employees total roughly 13,000 comprised of about 4,000 staff and 9,100 daily rated workers. In addition, we cater to 800 employees of Housing and Development Board and some of the staff of several government ministries. Employees are free to seek treatment from Private Practitioners in which case their medical certificates are accepted by the Council subject to endorsement by the Medical Officers i/c Staff.

The Senior Medical Officer i/c Staff is also performing the duties of Visiting Medical Officer to the three dispensaries at Johore maintained by the Water Department. Two visits are made to Johore every month in this capacity.

During the year, a total of 139,830 cases attended at the three dispensaries of which 83,063 were new cases.

STAFF

The approved strength of medical officers for the three staff dispensaries is eight. At present there are only four medical officers leaving four vacant posts. With the appointment of two more Hospital Assistants during 1961, the position of Hospital Assistants will be eased. Though approval has been obtained to fill up two vacant posts of dispensary attendants, the posts have not yet been filled.

The Main Dispensary which was situated at the City Hall Building has been shifted to Rochore House from 19th December, 1960. The new premises is not centrally situated nor is the accommodation adequate for our needs.

Dr. A. C. S. RAJAN,
Medical Officer i/c Staff,
Main Dispensary.

* MONTHLY PAID STAFF AND DAILY RATED EMPLOYEES OF CITY COUNCIL AND HOUSING BOARD

City Council:	
All monthly paid staff	4,000
All daily rated employees	9,100
Total ..	13,100
Housing Board:	
All monthly paid staff	280
All daily rated employees	520
Total ..	800

Summary	Staff	Daily rated employees	Total
1. New cases attended at dispensaries including accidents while on duty	16,211	66,852	83,063
2. Total attendances including first visits ..	25,158	114,672	139,830
3. Examination for Physical Fitness	729	743	1,472
4. Visits paid to homes by M.O. i/c Staff	81	77	158
5. Cases treated by Private Practitioners	2,549	17,907	20,456
6. Days sick leave granted (excluding leave under Workmen's Compensation Ordinance) including leave on account of Tuberculosis by:—			
(*a*) M.O. i/c Staff	14,598	82,266	96,864
(*b*) Private Practitioners	5,153	29,507	34,660
(*c*) Hospitals	7,739	36,990	44,729
Total ..	27,490	148,763	176,253
7. Leave granted under Workmen's Compensation Ordinance by M.O. i/c Staff and General Hospital	435	17,910	18,345
8. Days leave granted for Tuberculosis	2,152	14,375	16,527
9. Average number of days sick leave (excluding leave under Workmen's Compensation Ordinance) including Tuberculosis leave granted per person employed in 1960	6.42	15.06	12.67

* Approximate figures supplied by A.S. Staff, Labour Officer and Housing Board.

NUMBER OF CASES OF NEW ILLNESS SEEN INCLUDING ACCIDENTS (W.C.F.) AT THE THREE STAFF DISPENSARIES DURING 1960

Month		Main Dispensary	Lorong Lalat Dispensary	Alexandra Road Dispensary	Total	
January	Staff	921	187	73	1,181	7,151
	Open Vote	863	3,792	1,315	5,970	
February	Staff	985	189	95	1,269	7,395
	Open Vote	868	3,789	1,469	6,126	
March	Staff	1,033	198	101	1,332	7,274
	Open Vote	817	3,592	1,533	5,942	
April	Staff	965	193	85	1,243	6,670
	Open Vote	698	3,368	1,361	5,427	
May	Staff	1,128	203	102	1,433	7,145
	Open Vote	717	3,527	1,468	5,712	
June	Staff	1,011	199	109	1,319	6,903
	Open Vote	777	3,365	1,442	5,584	
July	Staff	1,101	186	129	1,416	7,038
	Open Vote	763	3,383	1,476	5,622	
August	Staff	1,171	197	113	1,481	7,163
	Open Vote	797	3,421	1,464	5,682	
September	Staff	1,167	188	126	1,481	7,164
	Open Vote	833	3,238	1,612	5,683	
October	Staff	1,166	140	105	1,411	5,989
	Open Vote	762	2,223	1,593	4,578	
November	Staff	1,092	193	126	1,411	6,627
	Open Vote	793	2,815	1,608	5,216	
December	Staff	914	192	128	1,234	6,544
	Open Vote	660	3,040	1,610	5,310	
Total	Staff	12,654	2,265	1,292	16,211	83,063
	Open Vote	9,348	39,553	17,951	66,852	

NUMBER OF CONSULTATIONS GIVEN INCLUDING FIRST VISITS AND DRESSINGS AT THE THREE STAFF DISPENSARIES DURING 1960

Month		Main Dispensary	Lorong Lalat Dispensary	Alexandra Road Dispensary	Total	
January	Staff	1,411	281	157	1,849	12,228
	Open Vote	1,472	6,408	2,499	10,379	
February	Staff	1,526	292	191	2,009	12,280
	Open Vote	1,364	6,220	2,687	10,271	
March	Staff	1,610	317	201	2,128	12,366
	Open Vote	1,288	6,142	2,808	10,238	
April	Staff	1,552	311	157	2,020	10,804
	Open Vote	1,099	5,289	2,396	8,784	
May	Staff	1,935	330	200	2,465	11,879
	Open Vote	1,243	5,564	2,607	9,414	
June	Staff	1,618	331	182	2,131	11,209
	Open Vote	1,253	5,316	2,509	9,078	
July	Staff	1,577	312	192	2,081	11,513
	Open Vote	1,224	5,530	2,678	9,432	
August	Staff	1,670	325	179	2,174	11,824
	Open Vote	1,312	5,902	2,436	9,650	
September	Staff	1,742	292	198	2,232	12,395
	Open Vote	1,375	6,270	2,518	10,163	
October	Staff	1,690	140	179	2,009	10,335
	Open Vote	1,228	4,728	2,370	8,326	
November	Staff	1,723	260	189	2,172	11,847
	Open Vote	1,354	5,832	2,489	9,675	
December	Staff	1,386	312	190	1,888	11,150
	Open Vote	1,114	5,697	2,451	9,262	
Total	Staff	19,440	3,503	2,215	25,158	139,830
	Open Vote	15,326	68,898	30,448	114,672	

DISEASES TREATED AT THE THREE STAFF DISPENSARIES DURING THE YEAR 1960

Disease	*Cases*
Short Fevers	3,813
Diseases of the Nervous System ..	424
Diseases of the Respiratory System ..	22,543
Diseases of the Cardiovascular System ..	368
Diseases of the Digestive System ..	6,913
Diseases of the Urogenital System ..	730
Diseases of the Eye	3,179
Diseases of the Ear, Nose, Throat and Mouth	3,847
Diseases due to deficiency	2,553
Diseases of the Skin	6,953
Dental Diseases	1,994
Tuberculosis	30
Venereal Diseases	260
Diabetes	1,251
Accidents and Injuries (W.O.D.) ..	4,295
Accidents and Injuries (Off Duty) ..	7,378
Eruptive Fevers	196
Diseases of Female	203
Other minor Ailments	16,133
Total ..	83,063

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

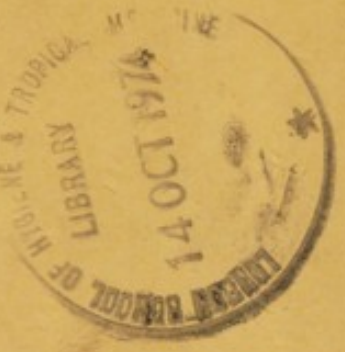
Month	Departments C.A.B.S.	Assessor's	City Cleansing	City Engineers	Electricity	Fire Brigade	Gas	Health	Markets and Hawkers	Government Department	Secretariat	Housing and Dev. Board	Treasurer's	Vehicles	Veterinary Surgeons	Water	Total
January ..	241	17	2,145	1,681	934	132	213	526	152	39	28	350	165	34	31	463	7,151
February ..	255	24	2,246	1,726	970	149	202	490	161	39	38	388	163	29	31	484	7,395
March	211	18	2,175	1,716	885	162	183	490	164	59	27	424	192	28	47	493	7,274
April	224	22	1,980	1,479	872	139	199	460	148	68	36	348	170	34	37	454	6,670
May	246	18	1,995	1,639	922	160	182	490	163	74	41	430	182	36	47	520	7,145
June	230	18	2,104	1,505	796	150	209	494	181	59	33	402	166	42	33	481	6,903
July	256	17	1,961	1,658	875	184	201	432	177	66	46	433	174	40	31	487	7,038
August ..	247	16	2,043	1,613	953	191	189	440	143	61	55	415	205	67	32	493	7,163
September ..	233	14	2,025	1,645	908	184	198	458	170	89	44	417	194	67	32	486	7,164
October ..	179	26	1,724	1,370	796	176	104	370	107	88	39	398	161	76	4	371	5,989
November ..	208	22	1,968	1,477	841	187	139	419	124	98	40	401	189	56	17	441	6,627
December ..	255	12	1,836	1,531	843	143	161	407	149	78	24	451	139	64	25	456	6,544
Total ..	2,755	224	24,202	19,040	10,595	1,957	2,180	5,476	1,839	818	451	4,857	2,100	573	367	5,629	83,063

PLAGUE PREVENTION

THE FOLLOWING IS A RETURN OF RATS CAUGHT FOR THE YEAR, 1960

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 ..	805	1,670	18	11	87	192	107	42	114	3,046	244	42	4,085	..	4,085	77	12	313	1.34	..
Govt. Health ..	9	39	14	31	47	93	158	124	..	515	30	84	209	..	209	22	..	..	0.41	..
S.H.B. ..	38	55	62	96	28	16	..	..	..	295	9	..	124	..	124	21	1	..	0.42	..
Port Health ..	1	5	43	85	15	12	4	1	..	166	8	166	..	..	..	..	..	..	..	Fumigated H.C.N.
Total ..	853	1,769	137	223	177	313	269	167	114	4,022	291	292	4,418	..	4,418	120	13	313	..	..
Grand Total ..	2,622		360		490		436		114	4,022	291	292	4,418	..	4,418	120	326		..	..
Pregnant Rats..		229		13		27		22			291									

All the Rats were dissected and none were found infected with Plague.
123 live rats were sent to the Dept. of Parasitology, University of Malaya, Singapore.
82 live rats were sent to D.A.D.A.H. Headquarters, Singapore Base District.
1 live rat was sent to the Department of Zoology, University of Malaya, Singapore.
These rats are not included in the above totals.



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