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Contributors

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1968
VICTORIA



FORTY-SIXTH REPORT

OF THE

COMMISSION OF PUBLIC HEALTH

FOR THE

YEAR ENDED 30TH JUNE, 1968

PRESENTED TO BOTH HOUSES OF PARLIAMENT PURSUANT TO SECTION 23 (3)
OF THE HEALTH ACT 1958.

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FORTY-SIXTH REPORT OF THE COMMISSION OF PUBLIC HEALTH 1967-68

To the Honorable Vance Oakley Dickie, M.L.C.

SIR,

We have the honour to submit, in accordance with section 23 (3) of the *Health Act* 1958, our report for the year ended 30th June, 1968.

The detailed activities of the Commission in the wide field of public health in Victoria are presented in the appropriate sections which follow.

It is realized, however, that the emphasis and attention paid to differing areas of public health are changing in an evolutionary manner as the broader aspects of health in our developing society become apparent. An ageing population and the tendency towards employment of both partners of a marriage have introduced problems in the care of the aged and in child minding facilities. Rapid urban and industrial development and encroachment on erstwhile rural areas have brought about a sequence of events in the field of health which have been referred to the Commission for arbitration and solution.

The Commission regards the results achieved in the control of infectious disease as being satisfactory. The wisdom of continuing the policy of basic Salk immunization against poliomyelitis has been fully justified and Sabin vaccine will be adopted when Salk supplies become unavailable. Routine and urgent notifications and close collaboration with Fairfield Infectious Diseases Hospital have resulted in the prompt control of serious communicable diseases. The need to maintain adequate numbers of immunized individuals in the community has been stressed constantly and these numbers appear to have been reached. Infective hepatitis has been widespread and, in the absence of an immunizing agent, efforts have been directed to education in personal hygiene and safe water and milk supplies.

Food processing, packing and handling methods have been undergoing rapid changes and in this highly competitive field enthusiasm has often outstripped wisdom. The constant vigilance of health authorities and the guidance of the Commission have prevented any untoward happenings.

The Commission again wishes to record appreciation of the co-operation rendered by municipal councils in carrying out their many statutory obligations under the Health Act.

DROUGHT.

The severe drought throughout the greater part of the State threatened to introduce problems of community health, the nature of which was being anticipated. Water restrictions, bores in country areas and the timely onset of drought-breaking rains averted many potential health hazards. Some country towns ran out of normal sources of water supply and bores met the needs. Occasionally, several bores had to be sunk before water suitable for drinking purposes was obtained. Boiling and filtering domestic water through muslin was advised in many areas where only turbid water with high bacterial counts was available. Fortunately, all sewerage systems had enough water to function. The curtailment of processing in primary industries such as cheese and butter factories lessened any threats from associated trade wastes. It was considered that there were no trends in disease attributable to the drought.

CANCER EDUCATION.

Medical officers of the General Health Branch again assisted the Anti-Cancer Council in its public education programme which during 1967 was directed towards the early diagnosis in women of cancer of the cervix uteri and cancer of the breast.

Talks to secondary school children on the subject "Smoking and Health" were continued in an endeavour to discourage cigarette smoking. A demonstration kit consisting of resource material, illustrated posters and a list of visual aids was made available to teachers to enable their participation in this educational campaign. Smoking machines which artificially smoke cigarettes and draw the smoke through a filter and bubbling apparatus have been made available on loan by the Anti-Cancer Council to schools.

DISASTER PLANNING.

Except for the drought the State was fortunately free of major disasters which would involve officers of the Department.

The standing orders for Displan were consolidated and re-issued so as to again emphasize the responsibility of the Commission and its officers in disaster planning.

In February, 1968, for the second time in recent years, extensive bush fires ravaged the Dandenongs. However, what little public health measures were necessary were ably carried out by the municipalities concerned and only minimal supervision was required by departmental officers.

EPIDEMIOLOGICAL AND INFECTIOUS DISEASES REPORT.

TUBERCULOSIS.

Introduction.

Case Rates.

For each of the last five years as the following table indicates, there has been a decline in the numbers and rates of new cases of tuberculosis notified, whilst the numbers of persons who have developed reactivated disease have remained remarkably steady.

Year.	New Cases.		Reactivated Cases.
	Number.	Rate per 100,000 Population.	
1963	888	28.80	*
1964	820	25.93	72
1965	790	24.50	84
1966	649	19.98	78
1967	599	18.13	80

* Not recorded.

This continued decline gives some satisfaction, for the case finding programme has continued at much the same tempo during 1967, e.g., 641,974 persons were X-rayed by the Division of Mass X-ray Surveys, 82,678 persons were tuberculin tested by the B.C.G. Division, and 73,042 persons were examined at the State chest clinics. This represents a considerable proportion of the total population of Victoria, which at present is 3,303,631.

Mass X-ray Surveys.

The first Victorian compulsory chest X-ray survey of adults 21 years and over was commenced in October, 1963, and completed in August, 1967. During the survey there were 2,094,798 persons examined, yielding 974 cases of active tuberculosis and 7,421 apparently inactive cases—rates of .45 and 3.54 per 1,000 respectively.

The checking has demonstrated that the individual in the community appears fully aware of the value of a constructive health measure and is willing to give his support to compulsory methods of implementing these measures.

The yield of active cases from the first compulsory survey was at a rate of one case in every 2,150 persons X-rayed and compares most favourably with the figure of one case in every 3,500 persons X-rayed under the voluntary system.

There was a striking preponderance of males amongst the active cases—720 (73.9 per cent.) compared with 254 females (26.1 per cent.). 74.8 per cent. were bacteriologically proven. That three out of every four persons discovered at survey were excreting tubercle bacilli underlines the risk of spread of tuberculosis by the undiagnosed person.

As expected, active case rates increased as the age groups of persons examined increased. There were three age groups of people with fairly uniform rates of active tuberculosis discovered, namely, ages 20 to 34 years (1 : 4,163), 35 to 49 years (1 : 2,250), and 50 years and over (1 : 1,491).

Undoubtedly, the efforts taken to control tuberculosis over the years have also had some influence and the relatively low rates being seen in the younger adults today reflect the influence of modern methods of tuberculosis treatment and control.

Migrants.

Taking advantage of the results of the 1966 census figures, an analysis of tuberculosis notification rates amongst those born outside Australia has been made. The census was in June, 1966, so that an average annual figure for the years 1965-6-7 has been taken and rates determined against the census figures. The results show a notification rate of 1:5,180 for Australian born, and 1:3,300 for those born elsewhere. The rate is greatest during the first year of residence in Australia—1:1,900 compared with 1:3,400 for later years.

The figures for migrants born in eight European countries who constitute 17.4 per cent. of the Victorian population are set out below. (In all 21.14 per cent. of the Victorian population were born outside Australia.)

Yugoslavia	1:1,540	U.K. and Ireland ..	1:3,630
Poland	1:2,470	Germany	1:6,210
Greece	1:2,910	Malta	1:6,610
Italy	1:2,950	Holland	1:10,500

People migrating to Australia from some countries do carry a greater risk of developing active tuberculosis than Australian born, and it is important that this increased risk be recognized and that these folk be encouraged to take part in the tuberculosis control programme within the State, especially within the first year or so of residence in the country.

Notifications.

There were 599 new cases of tuberculosis notified during the year—a rate of 18.13 per 100,000. Of these 495 (83 per cent.) were pulmonary disease and 104 (17 per cent.) were extra-pulmonary. Sixty-five per cent. were bacteriologically proven. There were 394 males (66 per cent.) and 205 females (34 per cent.).

Age Groups.

Seventy per cent. of all new cases were 35 years of age or over and for pulmonary cases 57.5 per cent. were males over 35 years and 48 per cent. were persons over 50 years of age. Nine per cent. were children under 15 years.

Migrants.

Thirty-two per cent. of the year's notifications came from persons born outside Australia, i.e., 192 cases (50 British and 142 non-British). Twenty persons were diagnosed within one year of arrival. Of the 104 extra-pulmonary forms, 51 came from migrants.

Extra-Pulmonary Tuberculosis.

There were 22 cases of tuberculosis of lymph glands, most common in children, and some of these were caused by anonymous-type mycobacteria. Tuberculosis of the renal and genital organs remains relatively common—53 cases. There were 18 cases of bone and joint tuberculosis and 3 cases of meningitis.

Source of Notification.

Mass X-ray surveys continue to be particularly rewarding and contributed 230 cases, 46.5 per cent. of the total pulmonary cases. However, a large number of notifications came from private medical practitioners—128 cases (21.4 per cent.), and general hospitals 123 cases (20.6 per cent.). This emphasizes the important role of the private doctor and general hospital in tuberculosis control and it is anticipated that as tuberculosis declines further this role will play an even greater part.

State clinics were directly responsible for locating 81 cases (13.5 per cent.) and most of these were the result of examination of contacts of new cases. Seven cases were found in mental hospitals where routine chest X-rays prove of value. Only two cases not previously known were reported from death certificates.

Reactivation.

Reactivated tuberculosis was reported in 104 persons who had been notified previously, and almost half of these had had stable lesions for fifteen years or longer prior to relapse. Only about 10 per cent. of those who show relapse have previously had satisfactory courses of anti-tuberculosis drugs.

It is apparent that there can be no end point for medical supervision for those who have had tuberculosis and the only hope in this regard comes from the low-reactivation rate for those who have had satisfactory long-term chemotherapy. However, the periods of observation for this group are still short compared with their life-long opportunity to relapse.

Case Register.

The Active Case Register at 31st December, 1967 had listed 2,924 cases of whom 2,602 were pulmonary and 322 were extra-pulmonary.

"Chronic Positive Cases."

A record is maintained for patients who are known to have had active disease and excreting tubercle bacilli for twelve months or longer. At the 31st December, 49 names were recorded.

Deaths.

The figure supplied by the Commonwealth Bureau of Census and Statistics is not yet available. However, of the deaths reported during the year, only 35 persons had active tuberculosis at death or within six months. Most of the deaths were due to causes other than tuberculosis. The average age at death was 65.8 years and there were only two deaths recorded under 30 years of age.

Tuberculosis Allowances.

At 31st December, there were 235 persons being paid tuberculosis allowances—183 men and 52 women. There were 189 (80 per cent.) in receipt of the allowance for less than a year, 25 (11 per cent.) between one and two years, and 21 (9 per cent.) over two years. For those who receive the allowance for less than one year (80 per cent.), the average duration of payments is 5.8 months.

Mass X-ray Surveys.

During the year 22 State electorates were visited and 641,974 miniature X-rays were taken. Two hundred and thirty-five* active cases were found, a rate of .36 per 1,000. There were 190 cases of cancer of the lung discovered, a rate of .3 per 1,000 X-rays.

In addition to the above, there were 1,755 cases of apparently inactive tuberculosis and 2,859 persons with non-tuberculous abnormalities.

Pentridge Gaol.

A 70 m.m. X-ray unit previously located at the Queen Victoria Hospital was installed at Pentridge Gaol, to take routine X-rays of those admitted. Since commencing operation in July, there have been six active cases of tuberculosis discovered.

Tuberculin Testing and B.C.G. Vaccination.

Tuberculin testing continues in schools with pupils above Grade 6, i.e., eleven years old and above. B.C.G. vaccination is offered to negative reactors. The present programme permits visiting all areas of the State each three years. Consent rates for pupils are over 90 per cent. In all 72,636 pupils were examined, yielding a natural positive reactor rate of 4 per cent.—28,116 pupils had been vaccinated in earlier years and of these 80.8 per cent. gave positive tuberculin reactions.

In addition, surveys were carried out in teachers' colleges, National Service training camps, some other groups and eight contact surveys in institutions. In all 82,678 persons were examined, and 41,735 B.C.G. vaccinations performed.

Bacteriology.

Good bacteriological support is essential in tuberculosis control and again appreciation is expressed for the efficient co-operation received from the staff of the Tuberculosis Laboratory at the Fairfield Infectious Diseases Hospital.

During the year this laboratory carried out :—

17,898 direct smear examinations

18,927 cultural examinations

613 animal inoculations

2,505 sensitivity tests.

Isolations of tubercle bacilli were detected from 477 patients of which 348 were new cases, 47 were "carry-over" cases from the end of 1966, 38 were reactivated cases and 44 were from persons with chronically active tuberculosis.

Primary drug resistant organisms were located from 6 patients—3 were migrants. There were no isolations of bovine-type mycobacteria.

* This figure must not be confused with the figure of 230 cases stated under Source of Notification as there is often considerable delay in establishing diagnosis and notification is then actually made in the succeeding year.

Treatment.

The routines of treatment established in recent years have been followed. It is still the policy in Victoria to recommend initial treatment in sanatoria. Of the 599 new cases notified during the year, 90 per cent. spent some time with institutional treatment. The average length of stay in sanatoria was just under four and a half months and unless a rapid culture method is evolved, the length of stay will change little if non-infectivity is considered desirable prior to discharge.

During the year, reactivated and chronic cases have been treated with the newer drugs "Ethambutol" and "Capreomycin", and although results have been encouraging it is too early to give a complete assessment.

In line with the results of treatment in recent years, almost 100 per cent. of new cases are expected to be rendered non-infectious. Chemoprophylaxis with Isoniazid and/or P.A.S. continues to be used against the development of active tuberculosis in certain groups of infected persons, especially children.

Surgical treatment for pulmonary tuberculosis is at a minimum, and was only employed for twelve patients.

Hospitals, Sanatoria and Chalets.

The demand for beds for institutional care is gradually diminishing. This is chiefly due to the better results achieved in a shorter period and not to a diminishing notification rate. Some of the chalets in rural areas have had very low bed occupancies in the intervals between mass X-ray surveys.

Bureaux and Clinics.

A steady increase in activities of the clinics has resulted in 73,042 attendances being recorded for the year. Efforts are continually being made to avoid loss of supervision of those known to have suffered from tuberculosis in the past or who are suspected of having had past infection. With the diminishing numbers of new active cases, it has been possible to devote greater time in this field and in examining a wider range of contacts.

The Northern Suburbs Chest Clinic has almost reached saturation point with the present staffing. Approximately 15,000 examinations were carried out during the year and 70 active cases of tuberculosis were reported.

The Prahran Chest Clinic is still operating under considerable difficulties in temporary accommodation but a start on a new clinic can be anticipated during 1968. More than 8,500 attendances of patients were recorded during the year.

The tension and work at the Central Chest Clinic has slackened to a degree with the complete transfer of patients from certain areas to the Clinic at Coburg. There were over 34,000 attendances for the year.

The country bureaux at Ballarat, Bendigo, and Geelong continue satisfactorily; also the special clinics developed in recent years at Traralgon, Yallourn, Wonthaggi, Swan Hill and Robinvale and conducted by our departmental tuberculosis officers.

Visiting Sisters.

One of the major strengths of the Victorian tuberculosis service lies in the liaison work between patients and medical officers by the visiting sisters. All rural and metropolitan areas of the State are covered by this service. During the year the visiting nurses carried out 24,870 home visits and the logs of the motor vehicles used by the visiting sisters in the country show that 163,157 miles were covered in the performance of their duties.

Rehabilitation and Social Service.

There has been a significant increase in requests for assistance during the year resulting in 508 persons receiving aid, compared with 350 in 1966. In cash, this aid amounted to \$5,406 in food orders, Christmas food orders \$762, Samaritan Fund \$371, and \$406 for "Grants-in-aid", a total of \$6,945. In addition, the Victorian Tuberculosis Association sponsored 72 children from families associated with tuberculosis for the Lord Mayor's Camp. The assistance provided by the Association and by Mr. A.L.C. Birch, in meeting these requests, is gratefully acknowledged.

The Social Worker has analysed the causal factors associated with requests for help. These can be grouped into categories—

- (1) Unrealistic hire-purchase commitments,
- (2) Lack of immediate cash resources,
- (3) Poor work histories and unemployment,
- (4) Delay in Social Service Benefits payments,
- (5) Poor family management.

These are frequently inter-related and, in addition, alcoholism or excessive drinking is often a significant factor in each category.

Of those seeking help, 70 per cent. presented with financial and associated problems; 18 per cent. with marital and family difficulties and 12 per cent. with drinking problems. Often associated with these groups were problems of poor housing, unemployment and general inability to manage on present incomes, be they pensions, basic wage or in some cases even both parents earning.

Housing.

The Housing Commission has continued to assist families referred to them and this assistance is gratefully acknowledged.

SUMMARY OF TUBERCULOSIS STATISTICS—VICTORIA 1967.

(Population 3,303,631.)

Year.	Notification of New Cases.		Deaths.		Tuberculosis Allowances Paid at 31st December.	Mass X-ray Surveys.		School Tuberculin Survey (11 years and over).		No. of Beds Available at Sanatoria and Chalets.	Average Stay in Sanatoria (days).
	Number.	Rate per 100,000.	Number.	Rate per 100,000.		Number X-rayed.	Possible Active Tuberculosis.	No. Mantoux Tested (1 : 1,000 O.T.).	% +ve Reactors at Age 14.		
1948	677	32.37	641	30.65	1,368 (State Scheme)	150,000	..	..	..	735	252
1951	1,030	44.20	407	17.88	2,039	277,938	767	20,524	18.0	1,134	326
1954	1,046	46.59	245	9.99	1,453	463,210	621	17,869	10.3	1,172	285
1956	885	33.98	194	7.37	1,121	388,765	413	20,946	6.8	1,050	164
1957	813	30.40	145	5.37	793	437,796	194	29,161	8.1	782	144
1958	776	28.32	145	5.23	582	413,932	184	44,269	7.4	744	140
1959	862	30.32	153	5.38	496	416,721	213	39,297	5.9	744	135
1960	863	29.50	138	4.70	444	380,598	194	40,400	6.9	744	141
1961	698	23.32	127	4.35	406	405,913	190	47,145	4.7	744	155
1962	781	25.65	101	3.35	411	456,559	185	47,338	3.9	744	160
1963	888	28.80	109	3.55	390	478,861	255	48,680	3.3	744	165
1964	820	25.93	121	3.84	290	428,306	286	75,897	4.1	729	138
1965	790	24.50	106	3.29	292	596,994	288	78,945	4.1	715	139
1966	649	19.98	128	3.94	223	662,576	252	90,643	4.0	705	132
1967	599	18.13	..	..	235	641,974	235	72,636	5.5	705	135

POLIOMYELITIS.

Incidence.

No confirmed case occurred during the year. There has been one case only since March, 1964. This occurred early in February, 1967, in an unimmunized patient.

Salk Vaccine.

Salk Vaccine was again used exclusively and supplies from the Commonwealth Serum Laboratories have been adequate. Weekly average distribution to municipalities was 6,500 doses and total issues for the twelve months were 334,761.

As the production of Salk vaccine by the Commonwealth Serum Laboratories has been abandoned, all vaccine has been imported by the Commonwealth from either Glaxo Laboratories, U.K., or Connaught Laboratories, Canada.

Based on figures supplied annually by municipalities and including the latest figures available (to 30th June, 1967) the estimated percentage in each age group immunized is as follows:—

Age Group.	Estimated percentage age group immunized (at least 3 Salk).			
	%			
15 months to 4 years	51
5 years to 14 years	85
15 years to 44 years	55
15 months to 44 years inclusive	63

The number of adults seeking vaccination is still very small; this year only 4,500 completed a course of three injections. Most infants, however, do receive the vaccine and the proportion of the population immunized consequently rises each year.

After-care of Patients suffering from Poliomyelitis and Allied Diseases.

One thousand six hundred and eleven patients were still under treatment at the end of the year.

At 144 clinics in various centres in the Metropolitan area, 1,200 consultations were held and 1,650 consultations were held at 38 country clinics.

There were 313 admissions to the Lady Dugan Home and 1,003 out-patient consultations were held. In addition, regular out-patient clinics were held again at the Physiotherapy Section, Ward 9, Fairfield Hospital.

Splints were supplied as required to patients suffering from poliomyelitis and multiple sclerosis. Patients in receipt of social service benefits receive full assistance with the cost of these splints without further means test.

IMMUNIZATION MATERIAL ISSUED TO MUNICIPALITIES 1966-67 AND 1967-68.

Material.	Number of Doses.	
	1966-67.	1967-68.
Salk Vaccine	354,487	334,761
Triple Antigen	248,727	264,849
Combined Diphtheria-Tetanus Prophylactic	95,251	110,206
Purified Tetanus Toxoid (A.P.A.)	44,870	55,377
Smallpox Vaccine	24,140	30,153
Purified Diphtheria Toxoid (Diluted)	8,564	18,190
Schick Test Toxin	2,200	2,250
Diphtheria Prophylactic (P.T.A.P.)	1,420*	370*
Tetanus Toxoid (B.P.)	4,338	500

* Number of c.c.'s issued.

INFECTIOUS HEPATITIS.

Notifications of infectious (infective) hepatitis were 2,991 an increase of 854 over the previous year.

A pattern is emerging which in the light of previous experience with this disease should result in an increasing incidence over the next 3 to 4 years culminating in a peak before a period of remission.

Reference to the table reveals that two epidemic peaks have occurred in 1955 and 1963 with 3,776 and 3,833 notifications respectively since the introduction of notification in 1952.

INFECTIOUS HEPATITIS—NOTIFICATIONS, VICTORIA.

Year.	Notifications.
1952	112 (First year of notification)
1953	491
1954	1,235
1955*	3,776*
1956	3,056
1957	1,384
1958	1,074
1959	1,452
1960	2,385
1961	3,515
1962	3,463
1963*	3,833*
1964	2,697
1965	1,987
1966	2,137
1967	2,989
Total	35,586

* Epidemic peaks

Hepatitis is one of the most serious disease problems in the community and on present indications the situation is unlikely to change radically until the causal virus is propagated in the laboratory and an effective prophylactic vaccine is evolved. Until this goal is achieved the only form of artificial immunity presently available is by the inoculation of gamma globulin serum. This confers a good measure of protection against clinical attacks of the disease lasting for a period of approximately six weeks in situations such as household contacts of a case and in residential institutions, &c.

DIPHTHERIA.

Diphtheria accounted for eighteen notifications (including both cases and carriers) following a year (1966) when not one case was recorded.

Included in these notifications were two episodes in widely separated country areas which is an uncommon situation these days when the more populous areas of the State are the source of cases. One clinical case in a country area was 48 years old; in another rural area four other members of a household in addition to the patient were harbouring the diphtheria organisms.

It is unfortunate that years of low incidence of this disease tend to engender complacency in respect of the maintenance of immunization. This was strikingly exemplified in 1963 when 181 notifications were received reflecting a declining level of artificial immunity. Whenever adequate immunization is allowed to lapse, particularly in the populous areas, there often follows a resurgence of diphtheria.

BRUCELLOSIS.

Of the 34 notifications of brucellosis, six of these were of no local epidemiological significance having acquired their infections before migrating to Australia.

Occupational contact with the infecting organism, *Br. abortus* in cattle, accounted for 18 male patients, 10 of whom were dairy farmers. The remainder comprised 4 abattoir workers, 2 veterinarians, a meat inspector and a herd tester.

Six patients had consumed raw milk and a further three lived on dairy farms and could have become infected from indirect contact with animal products or from drinking milk.

One further patient was infected in New South Wales, probably on a farm where she was staying.

TETANUS.

Ten cases of tetanus were notified of which two died. Four patients were over the age of 50 years, the youngest was nineteen years.

The classical penetrating wound of the foot by a rusty nail accounted for one case only; other injuries included a motor car accident, mild crush injury of the toe, lacerated finger, superficial scratches of the hand, a minor cut from paring corns and two gardening episodes with resultant lacerations of the limbs from stakes.

The majority of these patients had either not been immunized or were incompletely protected through failure to have booster inoculations.

Tetanus is a preventable disease and this has been the subject of repeated warnings by the Commission on the necessity for prophylactic injections of tetanus toxoid in adults whose occupations or recreational pursuits carry a risk of soil-contaminated injuries.

TYPHOID FEVER.

The sixteen notifications include four cases of the milder paratyphoid fever and some carriers detected on routine investigation.

Three patients acquired their infections abroad and a further five were contacts of carriers among migrants.

WHOOPING COUGH.

The figures for whooping cough (71) represent the lowest on record since this disease became notifiable in 1952. Notifications during 1964, 1965 and 1966 were 663, 761 and 158 respectively.

The reported number of cases in the first six months of 1968 indicate that the incidence is on the increase, which is a familiar pattern in this disease with peaks usually every third year.

MALARIA.

All of the 27 patients with malaria had been infected outside the mainland, usually in New Guinea.

Many of these attacks could have been averted if "curative" treatment lasting fourteen days had been initiated immediately following on the cessation of suppressive anti-malarial drugs after arrival in Australia.

GASTROENTERITIS.

The causal organisms responsible for the majority of patients admitted to hospital with presumed infective gastroenteritis still remain undetected.

While *Salmonella* and *Shigella* bacteria account for a certain number of cases, the overall isolation rate from patients would be less than 20 per cent. The aetiological role of viruses in this condition has been established in only a small number of outbreaks throughout the world.

In 1967, Melbourne, and to a lesser extent areas of the rest of the State, experienced another epidemic of "winter diarrhoea". Similar episodes were reported from other States and overseas. In all instances no causal agents were incriminated. The period of the year when these outbreaks occur has focussed attention to the possible role of respiratory viruses; however, to date, there is evidence only of association and not causation.

RESPIRATORY INFECTIONS.

Over a period of five months from June to October, 1967, the following viruses were isolated from patients admitted to Fairfield Hospital with respiratory illnesses, namely Respiratory Syncytial Virus (RSV) 121; Parainfluenza 53 and Adenovirus 68. The predominating types were as follows—Parainfluenza Types 3 and 29; Adenovirus Types 7 and 2. No isolations of Influenza virus were made.

In the three months April to June, 1968, parainfluenza viruses (mainly Type 1) have been the commonest isolates followed by Adenovirus (Type 7 predominantly) and RSV in that order.

Parainfluenza viruses are responsible for croup and bronchitis in young children and Respiratory Syncytial Virus for bronchiolitis in babies, sometimes associated with pneumonia. These viruses also cause upper respiratory tract infections of the "common cold" form and bronchitis in older children and adults.

Influenza A2 (Asian) became apparent in Melbourne towards the end of June, 1968, and has contributed considerably to the overall epidemic of respiratory illness. To date the current virus does not appear to be causing an unusually severe form of illness and it does not differ markedly in immunological properties from other Type A2 strains experienced in the past eleven years.

VENEREAL DISEASE.

During the year, 3,002 males and 1,253 females making a total of 4,255 patients attended the Government Clinic for examination. This includes 234 males and 188 females who were investigated by blood tests only in conformity with visa requirements of the U.S.A. and other countries.

The following table shows the comparative number of patients attending this clinic and the venereal disease figures for the past four years:—

Year.	Total Patients.	Gonorrhoea.			Syphilis.		
		Male.	Female.	Total.	Male.	Female.	Total.
1964	3,080	702	207	909	27	2	29
1965	3,418	862	221	1,083	51	3	54
1966	4,205	832	379	1,211	22	3	25
1967	4,255	776	378	1,154	40	7	47

There were also 2 cases of chancroid one male and one female, for the year.

The total number of cases from syphilis and gonorrhoea from all sources in Victoria for the year are as shown below:—

Notifications of V.D. for the Whole of the State.

Source.			Gonorrhoea.			Syphilis.		
			Male.	Female.	Total.	Male.	Female.	Total.
Government Clinic .. ..	..	..	776	378	1,154	40	7	47
Others—								
Metropolitan .. ..	..	..	448	80	528	24	31	55
Country .. ..	..	..	83	7	90	4	..	4
Totals .. ..	..	..	1,307	465	1,772	68	38	106
1964-65 .. ..	..	..	1,058	291	1,349	52	15	67
1965-66 .. ..	..	..	1,290	341	1,631	66	15	81
1966-67 .. ..	..	..	1,344	477	1,821	47	9	56

A study of these figures allowing for further increase in the population shows a slight fall in the incidence of gonorrhoea for the year and a moderate increase in the case of syphilis.

The following table is a breakdown of syphilis for 1967-68 into sex and stage of disease :—

Syphilis.

Sex.					Stage.					
					Congenital.	Primary.	Secondary.	Latent.	Tertiary.	Total.
Male	..	..	..	..	1	26	33	3	4	67
Female	..	..	..	..	4	3	8	24	..	39
Totals	..	..	..	..	5	29	41	27	4	106

Points of public health interest that arise from these notifications of syphilis are—

- (1) Most cases in females are diagnosed from blood tests in the latent stage. This is due mainly to the paucity of symptoms in the primary and secondary stages.
- (2) The detection of five cases of congenital syphilis indicates the need for even stricter screening of ante-natal patients.
- (3) Apart from the four tertiary cases, all these patients could be regarded as being infectious in varying degrees.
- (4) Approximately 12 per cent. of the male cases acquired their disease as a result of homosexual practices.

Cytology Service.

This has been extended to include all prisoners examined at Fairlea Women's Prison.

Examination of Prisoners—Pentridge Gaol.

During a three months survey, 418 new prisoners were examined and of these 4 were found to be suffering from gonorrhoea and 3 from syphilis (2 latent and 1 secondary).

Fairlea Prison.

Regular weekly visits are made to this prison and during the year 147 prisoners were examined, and of these 51 were found to be suffering from gonorrhoea and 2 from syphilis (1 primary and 1 secondary).

EXOTIC DISEASES HOSPITAL, FAIRFIELD.

The number of in-patients suffering from Hansen's disease (leprosy) has dropped from an average of eight over the past few years to four in the latter part of this year. Three patients of Southern European origin were discharged during the year and one Italian female died from an illness other than Hansen's disease.

Ten former patients are receiving drug treatment and routine examinations as out-patients.

The standard of medical and nursing care is of a high order and facilities are available for occupational and recreational pursuits.

Additions to the existing building have been completed and will facilitate the complete isolation and adequate handling of other exotic diseases such as smallpox, should such contingency arise.

MICROBIOLOGICAL DIAGNOSTIC UNIT.

The number of examinations carried out by the Unit during this year has been compared with those for the two previous years in the appended table. At first glance it would seem that there has been a significant decrease in the total numbers over this year. Though minor changes in numbers have been recorded in most of the areas covered by the services, the principal reason for the apparent decrease is related to section 4 (ii) which records the number of drug sensitivity tests which have been undertaken. In past years the figures reported for these tests have been based on a calculation involving the number of tests required to establish a full record of sensitivity of a particular organism; however, as certain modifications to the techniques involved in these tests have been made, it has seemed more reasonable to record figures which indicate the number of organisms submitted to these tests, rather than the number of tests themselves. It must be pointed out that, depending on the nature of the organisms, the number of antibiotics and other drugs used for these tests might range from 6 to 12 or more.

Enteric Organisms.

Though always numerically small, infections with *Salmonella typhi* remain a public health and diagnostic problem. The unit has in this year examined 142 cultures by phage typing; of these, however, only ten were isolated from cases or carriers in Victoria. In three of the four incidents

examined the organism was isolated from single cases of the disease but the carriers involved were not detected (in two of these it is possible that the infection was acquired overseas). In a fifth incident, involving two young children, phage typing seemed to establish that the children's grandfather was the source of the infection.

In collaboration with the Department's medical officers a systematic investigation of most known typhoid carriers in the State was undertaken to determine whether they were still excreting the organism. As has been found elsewhere, only a small percentage of the total examined could be presumed to be continual excretors of the organism.

Salmonella serotyping contributes significantly to the work load of the enteric unit. Of the strains isolated from human Salmonellosis cases in Victoria 170 (74 per cent.) were identified as *Sal. typhimurium*. *Sal. newport* was the next most common of the human serotypes. A wide range of serotypes were, however, isolated or identified from animal sources, particularly those animals brought for slaughter.

Four hundred and forty-two *Shigella* stains were also identified; 287 of these were isolated from cases in Victoria, the largest number (181) from the Kew Children's Cottages. In this situation *Sh. flexner* type 3A appears most commonly while several new types (5 and 6) were isolated for the first time. *Sh. sonnei* remains the most common shigella species in the general community; typing of the strains of this organism by the "colicine" method has been done routinely but unfortunately over 50 per cent. of the isolates were untypable. Its value in epidemiological studies is therefore limited at the present time.

A number of small outbreaks, particularly in children's institutions, of diarrhoea caused by the enteropathogenic strains of *E. coli* have also been investigated during the year.

Brucellosis.

Of the 870 serum specimens examined for this disease, 162 gave evidence of *Brucella* infection; 64 of them were deemed to be new cases and were substantiated by appropriate changes in titre in paired serum samples. Experiments conducted in the unit during the year have led to the development of new techniques for the serological investigation of this disease; they obviate the need for the "modified" Coombs reaction and may also distinguish between antibodies present in cases which are clinically recognized as acute or chronic.

Diphtheria.

The isolation of 30 strains of *C. diphtheriae* this year again stresses that this disease remains endemic in the Victorian community. Though a number of strains were found to be avirulent, outbreaks in central and northern districts of Victoria yielded virulent strains belonging to the Mitis serological type D6387. Organisms of this type have not been isolated in Victoria for many years.

Gonorrhoea.

Approximately 3,000 specimens were examined by cultural methods for the presence of *N. gonorrhoeae*; the bulk of these were received from the Government Venereal Diseases Clinic. Among these were 256 positive isolations. Drug sensitivity tests are now carried out routinely on all cultures isolated and occasional strains were found to be relatively resistant to penicillin and streptomycin.

Food Microbiology.

In conjunction with officers of the Health Department, a number of food samples were investigated bacteriologically as a means of assessment of the safety of manufacturing procedures involved in processing of various foodstuffs. Among the most significant studies were those concerned with preparation of plastic packed and canned pet foods in which kangaroo meat is used extensively. The raw materials were found to be highly contaminated with enteric and other organisms and in some instances *Salmonella* species were isolated. While the canning procedure effectively eliminates potentially pathogenic micro-organisms, the results obtained on plastic packed pet foods suggest they may not be adequately treated to reduce microbial contamination. The possibility that such materials may prove a public health problem has still to be evaluated in detail.

Other Organisms.

The continued isolation of dermatophytes in significant numbers from specimens submitted to the unit suggest that fungal infections remain prevalent in the community. Among the more unusual infections two cases of meningitis caused by organisms identified as *Listeria monocytogenes* were investigated. Recent reports in overseas literature have confirmed that this organism may act as one of the less common pathogens capable of causing this disease. At the request of the Government Pathologist, a number of specimens isolated from babies who were victims of "cot-death" were examined; as might be anticipated no significant pattern amongst the organisms isolated at necropsy was found.

MICROBIOLOGICAL DIAGNOSTIC UNIT.
ANNUAL EXAMINATIONS.
A Comparison of Numbers for the Years, 1965-68.

Examination.	1965-66.	1966-67.	1967-68.
1. Upper Respiratory Tract Infections—			
(a) Diphtheria (cultures)	2,451	2,651	2,838
(b) β Haemolytic Streptococci—			
(i) Cultures	3,357	3,636	3,230
(ii) Groupings	712	584	232
(iii) Anti-Streptolysin Titre Tests	1,073	987	664
(c) Vincent's Organisms	6	24	7
2. Enteric Infections (Salmonella and Shigella)—			
(i) Cultures	2,946	4,982	3,766
(ii) Identifications	735	1,008	1,248
(iii) Widal Agglutinations	529	236	224
3. Serological Investigations—			
(a) Brucella	1,128	856	871
(b) Glandular Fever	154	104	91
(c) Leptospirosis	123	286	245
(d) Typhus Fever	167	32	24
(e) Miscellaneous	14	22	21
4. General Bacteriological Examinations including endogenous infections, food poisoning out-breaks, microbiological examination of food, milk, &c.—			
(i) Cultures	831	935	1,093
(ii) Drug Sensitivities	6,184	4,860	2,104
5. <i>N. gonorrhoeae</i> and Related Infections—			
(a) <i>N. gonorrhoeae</i> —			
(i) Smear	591	1,140	908
(ii) Culture	2,725	3,284	3,287
(b) <i>Trichomonas</i> and <i>Monilia</i>	31	169	14
6. Medical Mycology (Microscopy and Cultures)	106	93	82
7. Water Examinations	336	242	345
Totals	24,199	26,131	21,294

CHEMICAL LABORATORY.

During the year, 2,067 samples were examined and members of the staff answered over 800 inquiries from companies and private individuals concerned with various aspects of food standards, labelling and handling.

Two collaborative studies—on wholemeal bread and vanilla essence—have been undertaken in conjunction with other States as a result of the annual meeting of food analysts held in Adelaide during July, when the two senior officers were in attendance.

While the types of samples tested encompassed a wide range, including waters, effluents and pharmaceuticals, approximately three-quarters consisted of food samples submitted by municipal inspectors under the Health Act. Of this number 7 per cent. failed to meet legal requirements, a slight increase over the 6 per cent. of contraventions detected in the two previous years.

A summary of important aspects of the year's work is given hereunder.

Meat and Meat Products.

—	Number Examined.	Number not Complying.	Percentage not Complying in—		
			1965-6.	1966-7.	1967-8.
Meat—					
Fresh	322	10	4	4	3
Chopped	201	21	10	6	10
Manufactured	62	2	5	0	3
Canned	4	3	0	50	75
Sausages and Sausage Meat	311	37	14	13	12
Tripe	17	4	13	0	24
Meat Pies	30	11	4	37	37

The contraventions for fresh and chopped meat all involved addition of sulphur dioxide, a prohibited preservative, and there has been a noticeable increase in the proportion of chopped meat adulteration over the figures for the previous twelve months. In addition, ten of the sausage and sausage meat samples, in which this additive is allowed, contained more than the permitted maximum.

Dairy Products (1966-67 figures in parentheses).

	Number examined.	Number not complying.
Milk—		
Fresh	252 (333)	6 (4)
Powdered	2 (1)	0 (0)
Evaporated	1 (0)	0 (0)
Cream	20 (24)	1 (2)
Butter	27 (53)	0 (0)
Cheese	18 (27)	1 (4)
Ice-cream	8 (17)	2 (7)
Milk Ice	0 (1)	0 (1)

Five of the milk samples contained added water, the highest being 16 per cent. All other contraventions were for deficiency in the butterfat content.

Pesticides.

The range of products examined for residues has been widened to cover foods other than fruits and vegetables, including some imported items. Altogether 316 determinations have been completed on 176 samples.

It has not been possible to detect organophosphorus compounds when present at low levels due to lack of the necessary equipment. This position will now be rectified by the recent acquisition of a suitable gas chromatograph with a phosphorus detector. This apparatus will also enable a start to be made on the planned total diet study.

Results are tabulated below.

Nature of Sample.	Number.	Analyses Carried Out.*	Summary of Results.
Apples	20	20 for O.C. 20 for O.P. 20 for As. 20 for Carb.	5 not detected, 15 positive None detected 5 not detected, 15 positive 7 positive, 13 not detected
Asparagus	6	6 for O.C.	1 positive, 5 not detected
Broccoli	6	6 for O.C.	None detected
Brussels Sprouts	3	3 for O.C.	All positive
Butter	12	12 for O.C.	8 positive, 4 not detected
Cauliflower	4	4 for O.C.	None detected
Celery	8	8 for Cu.	All positive
Cheese	6	6 for O.C.	5 not detected, 1 positive
Cherries	13	13 for O.C. 13 for As. 13 for O.P.	11 not detected, 2 positive 3 positive, 10 not detected None detected
Coffee	6	6 for O.C.	None detected
Dried Fruits—			
Mixed Peel	2	2 for O.C.	None detected
Raisins	4	4 for O.C.	2 positive, 2 not detected
Sultanas	4	4 for O.C.	3 positive, 1 not detected
Currants	4	4 for O.C.	3 positive, 1 not detected
Fish—			
Scallops	4	4 for O.C.	None detected
Fish	1	1 for O.C.	None detected
Frozen Fish	4	4 for O.C.	None detected
Frozen Foods	21	21 for O.C.	5 positive, 16 not detected
(Vegetables)	7	7 for O.P.	7 not detected
Grapes	10	10 for O.C. 10 for O.P.	4 positive, 6 not detected None detected
Margarine	6	6 for O.C.	None detected
Strawberries	12	12 for O.C. 12 for O.P. 12 for Carb.	4 positive, 8 not detected None detected None detected
Tea	6	6 for O.C.	6 positive
Tomatoes	10	10 for O.C. 10 for O.P. 10 for Carb.	6 positive, 4 not detected None detected None detected
Water	3	3 for O.C. 3 for O.P.	None detected None detected

* Legend: O.P. .. Organophosphorus compounds
O.C. .. Organochlorine compounds
As. .. Arsenic
Carb. .. Carbaryl
Cu. .. Copper

Residues on fresh fruit and vegetables were all below statutory limits. No tolerances are set at present for the other foods listed, but one of the butter samples contained a level of DDT higher than the generally-accepted maximum for this product. Further investigation indicated that it was an isolated case.

A frog and the samples of water were examined in connexion with alleged contamination of a rural water supply.

An imported "mosquito coil" was the subject of a prolonged investigation. It was found to comply with the Household Insecticides Regulations but to be incorrectly labelled.

During the year 10,339 samples were taken by Victorian municipalities. The majority were examined by private analysts and the remainder by the staff of the Health Laboratory.

Foreign Matter in Foods.

Contamination of foodstuffs with a variety of extraneous articles and substances continues to occur. The following instances were brought to notice during the year :—

Food.	Contaminating Material.
Beer	Solidified drying oil (2 samples)
Bread	Bristle
"	Carbonaceous matter
"	Cardboard
"	Glass (2 samples)
Chicken (frozen)	Faecal and vegetable matter
Cream	Hypochlorite
Lactose	Stainless steel turnings
Milk	Cement and sand
"	Detergent
"	Spider
"	Vegetable fibres
Soft drink	Soot and vegetable matter

Preservatives and Colourings.

In addition to the meat samples mentioned above, sulphur dioxide was also detected in vinegar. Ponceau SX, a dye removed from the permitted list in March, 1967, was present in strawberry jam and two confectionery samples, probably old stock.

Waters and Effluents.

A number of samples of trade wastes from certain factories involved in wool scouring, paper manufacture, milk processing and butter making were analysed in the laboratory. In one instance, the report indicated the possibility of a contravention of the Stream Pollution Regulations but the Commission did not institute proceedings as samples taken from the stream below the point of discharge of this particular trade waste revealed a satisfactory stream.

A batch of water samples from Ocean Island was analysed for fluoride content in connexion with a study being undertaken by the Dental Hospital.

A number of waters from various sources were examined for suitability as alternative supplies during the drought last summer.

Cooking Utensils.

An extensive investigation of non-stick cooking utensils was completed in August, 1967, and appropriate recommendations made. The coating used—polytetrafluoroethylene or PTFE—can be attached to the metal surface by two processes, one of which employs a chromate compound. It has been established that chromium can be extracted from utensils coated in this way only after overheating or severe damage to the surface. At temperatures considerably higher than those used for cooking (up to 250°C.) the PTFE is volatilized very slowly. The proportion of chromium found in the coatings examined varied from 400 to 2,500 p.p.m.

Blue colouring was found to be transferable from a saucepan lid to food cooked in contact with the "anodized" surface, apparently due to faulty manufacture.

Aflatoxin in Peanut Products.

A sample of peanut lyproprotein, believed to be imported, was found to contain a small proportion of aflatoxin, an extremely poisonous substance occurring in certain moulds. This is the first occasion on which aflatoxin has been detected, and it is considered that good practices in the Australian peanut industry have ensured its absence from the local product.

Miscellaneous.

Only one of 25 samples of bread and flour submitted under the Bread Industry Act failed to meet requirements. This was a wholemeal bread deficient in crude fibre.

Two samples of soft drink consisted merely of carbonated water, apparently due to a fault in the equipment used to add the flavouring syrup.

Other contraventions detected were excess tin in a badly-damaged can of pineapple, farinaceous substance in icing sugar, and whisky deficient in alcohol.

Several plastic toys contained significant amounts of lead compounds, and a box of crayons containing lead was not labelled in accordance with the Poisons Act.

Urine connected with an accidental poisoning contained 10 p.p.m. of arsenic.

A chemical being used as urea by a public hospital was found to consist of thiourea. Other pharmaceuticals tested, including biocitrin tablets, cod liver oil emulsion and paraffin oil, complied with the Regulations.

FOOD STANDARDS COMMITTEE.

At its meetings during the past year the major business under discussion by the Food Standards Committee was a number of proposed draft standards recommended by the National Health and Medical Research Council, on the advice of the Commonwealth Food Standards Committee, designed for uniform adoption throughout the various States.

During the year 41 amendments to the Food and Drug Standards Regulations 1966 were promulgated. Included in these amendments were new regulations in respect of the following :—

- Foreign Articles and Substances in Food or Food Packages ;
- Yoghurt ;
- Non-Dairy Coffee Whitener ;
- Eye Drops or Eye Lotions ;
- Toilet Soap.

PROPRIETARY MEDICINES ADVISORY COMMITTEE.

During the past twelve months 593 applications for registration of preparations as proprietary medicines have been received by the Department. This brings the number of applications received since the inception of the scheme to 16,702, and the number which have been accepted for registration to 13,779.

One supplementary register was published during the year containing a total of 800 products, and 241 deletions were made from the register for the same period.

During the past year 38 meetings were held by the Committee.

A constant watch has been kept on newspapers and magazines published in Victoria for breaches of the Health Act by advertisers of proprietary medicines, and appropriate action has been taken in detected cases of offending advertisements.

The Advisory Committee also began a review of registrations of more than ten years standing.

POISONS DIVISION.

Legislation introduced during the year consisted of the *Poisons (Amendment) Act 1967* and the *Drugs of Addiction and Restricted Substances Regulations 1967* (No. 2).

The first of these amended the *Poisons Act 1962* in the following ways :—

- (i) It clearly established that in the terms of the Principal Act, a licence could relate to only one premises and each premises required a separate and distinct licence ;
- (ii) It altered the conditions under which Schedule Seven items (Special Poisons) could be sold ;
- (iii) It made it an offence, carrying heavy penalties, to traffic in or manufacture hallucinogenic drugs without the appropriate authorization ;
- (iv) It gave authorized members of the Police Force the power to search vehicles, boats and persons for poisons reasonably suspected of being concealed and the power to seize such poisons.

The *Drugs of Addiction and Restricted Substances Regulations 1967* (No. 2), were made to amend the principal regulations following a change in the scheduling of morphine ethers. They also gave veterinary surgeons the authority to order repeats of restricted substances and eliminated an anomaly concerning the need to forward certain prescriptions for restricted substances to the Chief Health Officer.

A number of amendments to the Poisons Schedules were proclaimed on the recommendation of the Poisons Advisory Committee after consideration of recommendations from the National Health and Medical Research Council and other available evidence.

During the twelve months covered by this report, the following activities of more than usual interest were investigated :—

(i) *The detection of opium poppy (papaver somniferum) cultivation within the State.*

These cultivations ranged in size from a few plants in a suburban or country household garden to some hundreds of plants on country farms. In all cases the plants were seized and destroyed.

In most cases the plants were being grown by new Australians who were used to growing poppy seeds in their own countries for use in continental cakes and bread. As far as the Division knows, the original seeds used to sow the plants came from legitimate sources and no evidence was found that the plants were being grown for purposes of drug addiction.

To publicize the fact that it is an offence, under the Health Act, to cultivate opium poppies without a special permit from the Governor in Council, the Department put suitably worded advertisements in a number of foreign language newspapers circulating in the State.

(ii) *The organization of recalls of contaminated pharmaceutical products.*

The Division has been deeply concerned during the year by the number of manufacturing "accidents" that have resulted in contaminated preparations finding their way into the pharmaceutical distribution network.

In all known cases these contaminations appeared to have been due to what might broadly be described as "bad housekeeping" at the company manufacturing level.

Recalls of these contaminated products have been organized with all speed, in many instances in co-operation with the Commonwealth Health Department, which has acted as a liaison office between all States.

In an effort to prevent contamination before it happens, officers of the Division have worked with officers of the National Biological Standards Laboratories, to prepare reports on action needed to eliminate the causes.

(iii) *The distribution of hallucinogenic drugs within the State.*

Throughout the year the Division has been solely responsible for the distribution of hallucinogenic drugs within the State under the terms of the Poisons (Hallucinogenic Drugs) Regulations 1967. The effectiveness of this method of distribution is shown by the fact that there has been no known case of abuse connected with the hallucinogenic drugs distributed by the Division.

(iv) *Fires at chemical plants.*

In the twelve months under review, there have been two fires at chemical plants in the Melbourne suburbs. Divisional officers have been called upon to supervise the safe disposal of the chemical residues which remain when the fire is extinguished.

(v) *Robberies at pharmacies and wholesale drug warehouses.*

There have been a growing number of robberies at pharmacies during the last twelve months and, in many instances, drugs of addiction and/or restricted substances have been stolen. In many cases drugs of addiction have been the specific target of the thieves who have ignored money and other valuable goods on the premises.

Licensing Activities.

The Division has continued to administer the licensing system laid down in the Act, the number of licences currently renewed being as follows :—

Licences to manufacture drugs of addiction	..	..	..	13
Licences to manufacture other poisons	..	..	..	195
Licences to sell drugs of addiction by wholesale	..	..	..	20
Licences to sell other poisons by wholesale	..	..	..	310
Industrial permits	..	..	..	1,547
General Dealers licences	..	..	..	316
Poisons Licences	..	..	..	4,795

POISONS INFORMATION CENTRE.

During the year 2,825 enquiries were received at the Centre, an average of 11.4 calls per day. These were slightly in excess of the total for the previous year.

The record of 284 calls set in October, 1966, was equalled in August, 1967, but was then exceeded in October with 293 calls. Obviously this was due to a greater number of working days in each of these months as the average number of daily calls was less than when the previous record was set.

Only 613 enquiries were recorded from doctors in the Melbourne area compared with 724 during the previous year. On the other hand, however, there was an increase in the number of enquiries from doctors both interstate and in other localities outside Melbourne, nursing sisters, pharmacies and others associated with the medical profession. There was also a 6.6 per cent. increase in enquiries from the general public.

It is interesting to note that the overall number of calls from professional sources continues to decrease and it would seem that this is caused by the practice of some doctors in advising parents to contact the Centre direct.

COMMUNITY WELFARE SERVICES.

The vast number of enquiries which have been received during the year regarding community welfare services indicates the ever-growing awareness that these services are essential if the well-being of the community is to be served and the health of the nation preserved. Enquiries come from all sections of the community and from Government and semi-Government departments.

As from the 1st July, 1967, the maximum maintenance subsidy for elderly citizens clubs was increased from \$1,600 to \$2,000 per annum. Most councils conducting clubs have applied for the increased amount and as a result the clubs have been able to improve or extend services.

There has been a further expansion in the number of home help services at present functioning and also in the number of people assisted.

There appears to be a steady increase in the number of cases requiring assistance beyond the normal time permitted. This has meant a lot of extra work as full details of all these cases must be obtained and medical practitioners and medical officers of health contacted to discuss the cases in detail. One case which has been of interest to the general public is the special mothercraft and home help assistance arranged for the Jones quadruplets born in July, 1967.

The development of the two subsidized schemes, Elderly Citizens Clubs and Home Help Service, can be summarized as follows :—

ELDERLY CITIZENS CLUBS.

New clubs granted subsidies	15
Total number of clubs now subsidized	162
Clubrooms opened during year	9

Membership—

	1966-67.	1967-68.
Metropolitan or near-metropolitan members	16,074	18,008
Country members	9,212	9,740

Meal services—

Clubs providing hot meals	66	76
Average number of meals provided weekly—		
at clubs	5,034	5,198
on wheels	5,940	7,309
Clubs serving meals at clubrooms	33	34
Clubs providing meals-on-wheels	58	68

Chiropody services—

Clubs conducting chiropody services	47	55
Average number of treatments given monthly	1,147	1,391

Handicraft classes—

Clubs conducting handicraft classes	23	30
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Details of the subsidies granted are as follows :—

Total number of councils now granted subsidies—107 for 162 clubs—

Capital and maintenance	113
Capital only	31
Maintenance only	18
\$	
Government expenditure during the twelve months period	222,000
Capital expenditure	100,000
Maintenance expenditure	122,000
Balance of maintenance claims at end of year	7,251
Capital commitments at end of year	134,124

HOME HELP SERVICE.

New approvals for councils to conduct services	8
Service re-commenced	1
Councils granted special subsidies for private transport	11
Increased subsidies granted for private transport	6

Details regarding the subsidized home help service are as follows :—

	1966-67.	1967-68.
Total number of councils granted subsidies	157	165
Number of services operating	133	136
Total number of householders assisted during first six months of financial year	9,693	10,265

These were as follows :—

Mothers	5,135	5,259
Elderly	3,592	3,899
Others	966	1,107
Cases for whom no assistance was available	124	120
Home helps engaged	1,568	1,611
Full time	325	311
Part time	582	545
Hourly	661	755

Total number of councils granted special subsidies in respect of transport costs	88	99
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The total cost to the Government for the home help services for the twelve months period was \$708,200.

INDUSTRIAL HYGIENE DIVISION.

Medical Examinations.

During the year medical examination and investigation of the medical and occupational histories were carried out on 88 patients.

The results may be classified as follows :—

Diagnosis.	Established.	Suspected.
Pneumoconiosis	32	4
Wood Asthma (Western red cedar)	8	1
Industrial deafness	2	..
Mercury poisoning	1	..
Excess lead absorption	9	1
Toxic fumes	6	..
Miscellaneous	24	..
Totals	82	6

Further sub-classification was as follows :—

A. Cases of pneumoconiosis—

Asbestosis	5
Silicosis	20
Mixed pneumoconiosis	6
Graphosis	1
— 32	

B. Miscellaneous Group—

Asthma, Emphysema, Bronchitis	..	..	8
Carcinoma of lung	..	..	1
Anxiety state	..	..	5
Gastroenteritis	..	..	1
Lower motor neurone disease	..	..	1
Hamman Rich syndrome	..	..	1
Uncertain	..	..	7
			— 24

Scientific Activities.

The scientific staff has continued to meet the increasing demands from industry for scientific assessment and correction of various industrial hazards.

Special attention was focused on the potential dust hazard in the brick-making industry, and a survey of brick factories is nearing completion. Excessive dust counts and high silica contents point to the necessity for stricter dust control measures in this industry. Investigations are being continued into the ozone hazard from aluminium gas-shielded arc welding and into the problem of metal-fume fever in non-ferrous foundries.

A survey of the atmospheres of city car parks with respect to possible carbon monoxide hazard was undertaken; this failed to reveal any car park where inadequate ventilation was provided.

Assessment of noise-levels in relation to industrial deafness was undertaken in twenty factories and appropriate recommendations made.

Investigations into the uses of the hydrocarbon detector have continued and accurate calibration techniques have been developed. A convenient and reliable method for sampling gas mixtures in the field has been perfected.

In addition to the routine haematological tests on lead workers, a survey on the incidence of raised stippled cell counts in factory employees with no known lead exposure is being carried out.

Possible amendments to the Lead Workers (Medical Examination) Regulations and the Entry into Confined Spaces Regulations have been considered at length.

The Department is represented by officers of the Division on several committees of the Australian Standards Association, attempting to develop standards in relation to industrial noise, flame-proofing of clothing, respiratory protective devices, &c.

Lead.

During the year 4,500 reports were received under the Lead Workers (Medical Examinations) Regulations. Eighteen workers were certified as "suffering from lead poisoning" by the examining medical officer. One hundred and twenty-nine workers attended the Division Laboratories for additional tests to evaluate their lead exposure.

Total numbers of tests performed were :—

Stippled cell counts	..	..	..	..	1,926
Urinary coproporphyrins	..	..	..	..	260
Urinary leads	..	..	..	..	142
Haemoglobin determinations	..	..	..	..	40
Reticulocyte counts..	..	..	..	..	16
Blood leads	..	..	..	..	9

The decrease in the number of blood smears examined by the Division for stippled cells follows the Lead Workers (Medical Examination) Amendment Regulations 1966, in which a urinary coproporphyrin determination is allowed as an alternative to a stippled cell count. In a number of factories, the urinary coproporphyrin determinations are being carried out by the factory staff with supervisory assistance from this Division.

Lead-in-air concentration has been measured in six instances.

Radiation.

The number of licences issued to various sections of the community with respect to the possession and use of irradiating apparatus and radio-active substances under the Irradiating Apparatus and Radio-Active Substances Regulations for the year was as follows :—

Medical	305
Dental	285
Industrial	164
Educational and Research	68
Government Bodies	55
Chiropractors	52
	<hr/>
	929

The Commonwealth X-ray and Radium Laboratories now regularly provide the Division with film badge reports from some 206 installations where people are exposed to ionizing radiation.

The film badge reports indicate that the general level of radiation dose received by these people is well below permissible levels.

The use of radio-active substances in medicine, research and industry continues to gradually increase. In industry, the use of Krypton 85 in the measurements of gas flow-rates in pipelines has become an important application of radioisotope technique. The demand for gamma and X-ray radiography continues to rise, particularly for the large construction works associated with the new oil and natural gas discoveries.

The National Health and Medical Research Council Code of Practice for the Safe Handling of Sealed Sources used in Industrial Radiography is expected to be published shortly and this should contribute to a greater understanding of safe working practices in this important field.

Solvents.

Inspections of factories using benzene have shown conditions to be satisfactory. The use of benzene in various industrial formulations has dropped significantly. No cases of benzene poisoning were notified or discovered during the year.

Four bulk samples of industrial solvents were analysed for benzene content and in all cases the results were negative.

At the request of a shipowner, an evaluation of the benzene hazard aboard a tanker carrying benzene was made.

Excessive atmospheric concentrations of other solvents were found in four factories and in each case the concentrations were reduced below the recommended maximum atmospheric concentrations for industrial exposures by means of improved mechanical exhaust ventilation.

The following list gives the total number of atmospheric determinations carried out for various solvent vapours during the year :—

Acetone	4	Perchloroethylene	4
Benzene	10	Solvent mixtures	12
Butylacetate	2	Toluene	5
Carbon disulphide	2	Trichloroethylene	14
Ethylacetate	6	Xylene	2
MEK	2		

X-rays for Pneumoconiosis.

Eighty-five chest X-rays were arranged by the Division, using large films (17 x 14 inches) to search for pneumoconiosis. The diagnoses on radiological grounds were grouped as follows :—

Silicosis	4
Asbestosis	4
Combined pneumoconiosis	1
No pneumoconiosis	68
Other diseases	8
	<hr/>
	85

Dust.

Forty-four counts were carried out on samples collected with the Greenburg-Smith impinger and the thermal precipitator. Analysis for free silica concentration was made on 28 samples.

Severe dust hazards were found in several factories and control measures are being implemented.

Mercury.

Twenty-four people were tested for the possibility of increased mercury absorption involving 30 determinations of mercury in urine.

Two laboratories and two factories were tested for mercury vapour in air using the Beckmann mercury vapour detector. The two factories were found to have mercury vapour concentrations in the air in excess of the maximum allowable concentration.

The first of these is engaged in jewellery manufacture. The major source of air contamination was found to be mercury-cadmium alloy casting in centrifugal casting machines. These were fitted with local exhaust ventilation but the design of the canopies was such that escape of mercury vapour during casting was considerable. Alterations were made to these canopies resulting in a marked reduction in mercury vapour concentration in the air and also reduction in the urinary mercury concentration of the casting machine operator.

The second factory is engaged in thermometer manufacture. One case of mercurialism was detected and several other cases of raised mercury absorption not associated with symptoms of mercurialism were investigated. Several of these showed evidence of blooming of the anterior capsule of the lens of the eye—"mercurialentis"—when viewed with a slit lamp. In this factory high air levels were found in several sections and investigations are still being carried out to pinpoint the specific sources of mercury vapour and eliminate them. The general improvement in hygiene has already succeeded in reducing the air levels to some degree.

Pesticides.

Organo-Phosphorus Compounds.

The estimation of blood cholinesterase levels in 56 people involved 74 analytical determinations. No cases of "organic phosphate" poisoning were detected.

Arsenic.

Four people were tested for suspected arsenical poisoning. This involved seven analytical determinations, four on urine and three on hair.

No cases of poisoning were detected.

Methyl Chloride.

In 1964 the Poisons (Methyl Chloride) Regulations were issued and these require cellars which have refrigeration units containing methyl chloride to be mechanically ventilated. Such units are located almost exclusively in hotels.

When first inspected by officers of the Division, of 589 hotels in the metropolitan area 349 had methyl chloride units located in cellars and none was ventilated mechanically.

A review made at the end of this year disclosed that 335 of these units had been converted to freon units and the remaining fourteen were being mechanically ventilated.

Other Atmospheric Contaminants.

The following list gives the total number of analyses of atmospheric samples for gases and vapours other than solvent vapours :—

Ammonia	..	..	..	..	..	..	..	4
Carbon monoxide	..	..	..	..	..	..	..	7
Hydrogen cyanide	..	..	..	..	..	..	..	4
Methylene diphenyl diisocyanate	..	..	..	..	..	..	..	7
Nitrogen dioxide	..	..	..	..	..	..	..	7
Ozone	..	..	..	..	..	..	..	22
Toluene diisocyanate	..	..	..	..	..	..	..	4
Vanadium	..	..	..	..	..	..	..	3

Survey on Use of Carbon Tetrachloride.

Carbon tetrachloride has had considerable use in industry ; but its danger is now being more widely appreciated and its use is declining.

During the year a survey was made to ensure that its use was declining and to encourage the substitution of less dangerous materials where possible.

It was determined that the total use of carbon tetrachloride had dropped from 77 tons in 1966 to 44 tons in 1968. The 44 tons used in 1968 were made up as follows :—

	Tons.
Fire-extinguishing agent	16
Agricultural formulations	7
Grain fumigant	3
Industrial solvent	2
General chemical	16

The category that would cause the most concern is the last which would include all sales by chemical laboratory suppliers. Very little information is available on how carbon tetrachloride in this category is eventually used ; but it is likely that the demand could be met by adequate and much less toxic substitutes.

ENGINEERING DIVISION.

Sewerage.

The treatment plants for three more sewerage systems, namely, Chelsea, Frankston and Orbost, were brought into operation during the year. The Chelsea area includes the whole of the City of Chelsea from Aspendale to Carrum, and the treatment of sewage from both the Chelsea and Frankston areas is being carried out on one site, the process being one of sedimentation, filtration and absorption on irrigation pastures in the summer, and a further treatment in ponds in the winter before an effluent is discharged to Eel Race Canal. The treatment process at Orbost is by ponding and subsequent irrigation.

Sewerage schemes were commenced for Alexandra, Beechworth, Donald, Jeparit, Lilydale, Mansfield and Rochester, and the additional Sewerage Authorities constituted were Anglesea, Apollo Bay, Birchip, Dromana-Rosebud and Torquay, the works for which should be carried out in the near future.

Fifty-three inspections of provincial sewage treatment plants were carried out, samples of effluent being submitted to the State Laboratories for analysis. The plants were found to be operating satisfactorily ; a number are in the process of enlargement due to the population growth or industrial development.

Septic Tank Installations.

The number of septic tank plans examined in connexion with municipal council proposals or public buildings were 200 and mass septic tank schemes were examined for the townships of Guildford, Campbells Creek, Rosedale, Dunkeld and Glenthompson. The total number of septic tank inspections was 120.

Offensive Trades and Garbage Depots.

The number of plans examined for additions to existing abattoirs totalled 16 and there were three proposals for new abattoirs, whilst the number of new municipal garbage depots considered by the Commission was 68. Forty inspections were made of all proposed offensive trades and garbage depots.

Stream Pollution and Drainage.

There were three new proposals during the year for liquid trade waste disposal to a stream pursuant to Section 82 of the Health Act, and seven inspections were made in connexion with stream pollution and 26 in connexion with drainage complaints.

Public Buildings.

Approvals of plans and specifications of public buildings totalled 1,014, including new buildings 441 and additions and alterations 573 as shown in the following table.

Class of Building.	New.	Alterations or Additions.	Total.
Theatres	4	1	5
Picture theatres	4	11	15
Dance halls .. .. .	..	..	..
Public halls, churches and Sunday schools	104	181	285
Day schools	11	130	141
Pre-schools and infant welfare centres	27	41	68
University buildings	9	11	20
Mentally Retarded institutions	2	5	7
Elderly Citizens clubs	11	9	20
Entertainment parks, travelling shows	57	13	70
Other public buildings	148	136	284
Hotels as public buildings	31	15	46
Child minding centres	33	20	53
Total public buildings	441	573	1,014

Day inspections of public buildings numbered 7,220 and there were 560 inspections made during their public occupation at night. Certificates of Safety issued for amusement park structures totalled 272.

Swimming Pools.

The number of inspections made of swimming pools was 47, these being in connexion mostly with municipal pools having the full treatment process of recirculation and chlorination.

Water Supply.

One hundred and seven samples of water were collected for bacteriological analysis and 86 inspections were made in connexion with water supply plants with chlorination equipment.

AIR POLLUTION CONTROL.

A survey of the concentrations of carbon monoxide present in car parks and the streets of the City of Melbourne revealed that these concentrations were considerably below those injurious to health; nor is there any evidence that the concentrations of sulphur dioxide as measured in the metropolitan area present any hazard to human health.

Monitoring of air pollutants encompassing dustfall (deposit gauges), smoke density and sulphur dioxide concentration, was continued in the metropolitan area, the Geelong district and Latrobe Valley. Sulphur dioxide measurements are conducted on a 24-hour basis in the metropolitan area only. Some of these instruments are now being converted to fully automatic operation and they will then only require servicing once a week.

At Traralgon the Gippsland Cement Works completed the installation of additional fabric filter control equipment required by the Commission during the previous year. The outlet was tested by departmental officers and the dust concentration found to be in compliance with the regulations standard. Plans were approved for further plant modifications including two chimneys and an electro-static precipitator and this work is now in the course of construction.

A new large kiln came into operation at the Fyansford Cement Works, Geelong. Like all other kilns at these works, this kiln is provided with an electro-static precipitator. The outlet from the new kiln was tested by departmental officers and the dust concentration was found to be well below the guaranteed limit.

Complaints, investigations and site inspections prior to installation of new plant numbered 253. There were 72 inspections of completed plants. Thirteen stack tests were carried out. Field instrument maintenance required 49 visits. In addition, a large number of conferences were held with management, mainly concerned with proposals for new industrial plant and control equipment.

Examination of plans and specifications prior to installation of industrial plant led to 126 approvals being issued pursuant to the Clean Air Regulations 1965. Some details are given in the following table which shows the wide variety of plant and equipment involved:—

Boiler plant (38)	..	..	..	Heavy fuel oil ..	..	..	24
				Light fuel oil ..	..	..	13
				Solid fuel ..	..	..	1
Odour control units (6)	..	..	..	Wire enamelling ..	..	..	1
				Meat rendering ..	..	..	2
				Fish meal ..	..	..	1
				Resin plant ..	..	..	1
				Potato chips ..	..	..	1
Milk spray drying (6)	..	..	..	Complete plants ..	..	..	6
Oil heaters (2)	..	..	..	Heat transfer units ..	..	..	2
Incinerators (10)	..	..	..	Industrial units ..	..	..	10
Spraybooths (34)	..	..	..	Some including baking ovens ..	..	..	34
Driers (4)	..	..	..	Gypsum ..	..	..	1
				Gluten ..	..	..	1
				Electrode ..	..	..	1
				Animal blood ..	..	..	1
Various (4)	..	..	..	Dust extraction system ..	..	..	1
				Exhaust system ..	..	..	1
				Pickling tank installation ..	..	..	1
				Cooling tower ..	..	..	1
Oil refineries (1)	..	..	..	Major extension ..	..	..	1
Extractive industries (1)	..	..	..	Quarry project ..	..	..	1
Ceramic Works (2)	..	..	..	Tunnel kilns ..	..	..	2
Chemical Works (6)	..	..	..	Sulphuric acid plant ..	..	..	1
				Superphosphate dens ..	..	..	2
				Dichlorophenol plant ..	..	..	1
				Resin formulation plant ..	..	..	1
				Gypsum plaster mill ..	..	..	1
Metallurgical Works (11)	..	..	..	Lead blast furnace ..	..	..	1
				Cupola installations ..	..	..	2
				Swarf driers ..	..	..	2
				Foundry equipment ..	..	..	5
				Zinc melting furnace ..	..	..	1
Cement Works (1)	..	..	..	Electro-static precipitator ..	..	..	1

GENERAL ITEMS.

Rodent Control.

Rodent control on waterfront areas has been effectively carried out by Harbour Trust personnel with advice and assistance from departmental officers. In addition, inspections have been made of shops, factories, garbage depots and various food establishments, and where necessary, appropriate directions given to the occupier.

Continued vigilance was shown towards ships arriving from Vietnam to ensure that adequate rodent control measures were taken on these vessels. From tests carried out it was found that there was no epidemiological significance associated with reports of rat infestation in Victoria.

Numerous inspections were made with Melbourne City Council health inspectors in order to obtain a uniform approach to destruction of rats prior to demolition of vacant city buildings.

During the year, a conference was held with representatives of various authorities in order to ensure co-ordination of action in relation to rat infestation within the City of Melbourne and environs.

Fly Control.

During the past year there were no anti-fly campaigns conducted by either the Department of Health or the Municipal Association, and efforts were directed to a consolidation of the work done on health education of the public.

Complaints associated with fly nuisance were few in number, and were mainly concerned with the long existing problem of nuisance and fly breeding in poultry farms employing the battery cage system of culture.

On the whole it can be said that house-fly control is continuing at a high level particularly in Melbourne and its suburbs.

There is still no practical solution to the bush-fly problem, although complaints associated with this pest were slight this summer, possibly because of the severe drought conditions.

Free Travel for Pensioners and Persons of Similar Limited Means.

During the last financial year there was a small rise in the number of applications compared with the large increase in the year 1966-67. The overall total was 19,678 which was 130 more than the previous year.

Of these 19,678 applications, 19,326 were issued with free travel vouchers to attend a public hospital for treatment. The remaining 352 applicants were rejected as they failed to qualify as "persons of similar limited means to a pensioner" or were not attending approved institutions.

The grant allotted to the Hospital Travel Section was \$89,600 and the expenditure involved in the year 1967-68 was \$85,143. This was a rise of \$1,147 despite the relatively small increase in the number of eligible applicants.

The increase in expenditure can be attributed largely to two factors. Firstly, there was a slight rise in train fares early in the financial year and secondly, and by far the most influential factor was the increased number of applicants attending on a daily basis at the Royal Talbot Centre and the Parkville Psychiatric Unit.

It is interesting to note that since the financial year 1962-63, the number of eligible applicants has increased by 3,500, involving an expenditure rise of over \$25,000.

LEGISLATION.

During the year the *Health (Amendment) Act 1968* (No. 7685) was given Royal Assent. This Act includes :—

- (a) Power to enable the employment under supervision of persons not registered as gas-fitters in the conversion of appliances for the use of natural gas.
- (b) An amendment to Section 93 to enable councils to make by-laws in respect to the removal of garbage as well as night-soil.
- (c) The extension to private hospitals of the provisions of the Act generally applicable to public buildings in respect to inspection and the enforcing of requirements.
- (d) Provision enabling authorized officers of the Commission to question persons suspected of conducting the business of child minding and requiring any such person to answer fully and truthfully every question put to him.
- (e) Power for a council to determine the fees for registration, renewal, &c., of premises registrable under the Act by resolution of the council. Previously it was necessary for a council to prescribe these fees in a by-law.

Regulations.

As well as the regulations referred to elsewhere in this report the following regulations were approved :—

Diseases Notification (Amendment) Regulations 1967.

These regulations require medical practitioners giving notice of cases of eclampsia, leukaemia and scurvy to provide more complete details, and increase the fee payable for each such notification to 30 cents.

Infectious Diseases (Notification Fee) Regulations 1967.

These regulations increase the fee payable to a medical practitioner for the notification of a notifiable infectious disease to 30 cents.

Night-soil and Sewage (Contamination of Land) Regulations 1967.

These regulations repealed the Night-soil and Sewage Purification Regulations 1936 and, as well as prescribing the standards of purification for night-soil and sewage, require the branding of cattle reared or grazed on sewerage authority land used to deposit night-soil and sewage, detail the conditions for the removal, transport and slaughter of such cattle and prohibit the feeding of cattle with fodder grown on land used for spreading or depositing night-soil and sewage. These regulations were subsequently amended to prescribe the letters to be used by the Corryong and Warragul Sewerage Authorities in the branding of cattle.

Analyses (Health Act) Regulations 1967.

These regulations repealed the Analyses Regulations 1929 and prescribe a form of certificate of analysis more in keeping with present day requirements.

Plumbers and Gasfitters Regulations 1967.

These regulations consolidated the previous regulations, include descriptive titles of plumbers and gasfitters and simplify the various procedures in the examination and registration of applicants.

Benzene Regulations 1968.

These regulations consolidated the 1966 regulations, and simplify the labelling requirements for products containing benzene in excess of certain amounts.

Cinematograph Operators (Training) Regulations 1968.

These regulations amend the Principal Regulations and enable the Board of Examiners to accept overseas qualifications considered to be at least the equivalent of Victorian qualifications.

Household Insecticides (Amendment) Regulations 1968.

These regulations as well as amending the schedules contained in the Principal Regulations now contain a list of the active constituents permitted in repellents.

Septic Tank (Amendment) Regulations 1968.

These regulations prohibit a septic tank including effluent disposal lines from being within 40 feet of a source of water supply.

Public Building (Junior Projectors) Regulations 1968.

These regulations require a CO₂ (instead of carbon tetrachloride) fire extinguisher to be kept in an accessible position close to a projector using non-inflammable film not more than 16 mm. wide.



Mr. A. K. Lines.

Mr. Lines retired from the Commission after having been a member since 1958.

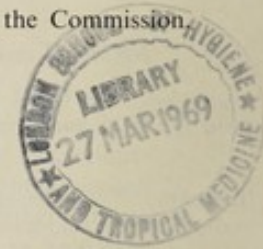
Mr. Lines brought a wealth of experience to the deliberations of the Commission and possessed a keen sense of humour.

The Commission places on record its appreciation of his services to public health.

Respectfully submitted,

R. J. FARNBACH
H. McLORINAN
S. W. WILLIAMS
J. E. DALEY
T. R. FLOOD
A. S. THOMSON
A. C. PITTARD

Members of the Commission



A. T. GARDNER, Secretary,
Melbourne, 10th September, 1968.