

**Report of the Commission of Public Health to the Minister of Public Health /
Department of Public Health, Victoria.**

Contributors

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1971
VICTORIA

FORTY-NINTH REPORT
OF THE
COMMISSION OF PUBLIC HEALTH

FOR THE
YEAR ENDED 30TH JUNE, 1971



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

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COMMISSION OF PUBLIC HEALTH

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FORTY-NINTH REPORT OF THE COMMISSION OF PUBLIC HEALTH 1970-71

To the Honorable John Frederick Rossiter, M.L.A.

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, 1971.

Once again the Commission has pleasure in reporting that generally a satisfactory position exists in regard to preventive measures undertaken by the Department of Health and local authorities on behalf of the health of the community.

The statement "History repeats itself" is well illustrated in the field of public health. Originally there was a movement to prevent infectious disease by cleaning up the immediate environment of the community and the Sanitary Revolution of the last century alleviated some of the consequences of the Industrial Revolution. However, improved water supply, sewerage disposal and similar measures were found to be insufficient and with the spread of the germ theory of disease, the fight against infectious disease has been switched more and more to vaccination and chemical prophylaxis.

A small number of the once common infectious diseases such as typhoid fever and diphtheria, continue to appear in the list of notifications. Infectious hepatitis is still a prevalent disease in the community. However, recent progress in the field of virology gives rise to some hopes that the isolation of the causal virus may soon be a reality thus paving the way for the development of a prophylactic vaccine.

The number of cases of imported malaria is increasing reflecting the increased mobility of Australian tourists and the wide area from which this country draws its migrants. Although the possibility of establishing the disease in Victoria is remote, the northern parts of the Australian continent have no such guarantee.

A live virus rubella vaccine programme aimed at immunizing girls aged between 12 and 14 years was launched early in 1971 with the co-operation of municipal councils. The vaccine has also been made available as a free issue to medical practitioners for administration to females in the child-bearing age group. The ultimate target is the prevention of serious defects in the developing foetus due to rubella acquired in the early stages of pregnancy.

At the same time it must be recognized that man's environment is no longer innocuous. Following the London smog disaster of 1952, interest in air pollution has grown and this Commission takes satisfaction in the fact that the level of air pollution in the State of Victoria is being satisfactorily controlled in the face of considerable industrial development and this is due to the policy of attacking air pollution at its source. Despite statements to the contrary, the Commission considers that the Clean Air Act has been effective and is resulting in satisfactory control of air pollutants emitted by industry. Fortunately, the State has not been presented with major problems by overseas standards in the field of water pollution largely due to the concentration of industry close to sewer reticulation. It is accepted that to some extent on occasions some streams are polluted but this is in the main part due to a failure to provide reticulated sewerage systems to all dwellings. The work of extension of sewer reticulation is progressing but the problem of pollution of the streams in the built up area cannot be satisfactorily resolved until this work has been completed.

ROAD ACCIDENTS.

The Commission welcomed the establishment of the Consultative Council on Road Accident Mortality and the appointment of its Chairman to the Council.

The Council was established to investigate and report on the causes of and circumstances surrounding each road death in Victoria and on the remedial measures which can be taken to reduce injury or death as a result of road traffic accidents.

To facilitate the work of the Council, Regulations known as the Road Trauma Regulations 1971 came into force on the 1st June, 1971.

EPIDEMIOLOGICAL AND INFECTIOUS DISEASES REPORT.

TUBERCULOSIS.

Introduction.

In recent months the first two Directors of Tuberculosis for Victoria, Dr. J. Bell Ferguson and Dr. E. V. Keogh, have died. Their guidance and planning in tuberculosis control in Victoria covered the years between 1927 and 1955 and their influence certainly continues. The contrast in the situation over these years is remarkable.

The Health Bulletin, Commission of Public Health, No. 12, 1927, records that in 1926 there were 924 reported deaths from pulmonary tuberculosis, the average age given was 43.7 years for males and 36.1 for females. The population of Victoria then was 1,712,000 which signifies a death rate from pulmonary tuberculosis of 54 per 100,000. It was also reported that during 1925-26, 782 persons (adults and children) were admitted to 10 Victorian hospitals suffering from non-pulmonary tuberculosis. In 1927, 84 cases of tuberculous meningitis were reported—rate of 4.8 per 100,000.

During 1970 with a population estimated at 3,480,000 there were 421 new cases of tuberculosis notified including both pulmonary and non-pulmonary forms—a rate of 12.1 per 100,000—and records of notified deaths show the average age was 69.3 years and only 24 persons had active tuberculosis at death or within six months.

The present community owes much to the original Directors, Drs. Bell Ferguson and Keogh, for their part in the tuberculosis control programmes which have contributed to the improved situation.

General Trends.

The decline in morbidity from tuberculosis in our community during recent years is illustrated in the table below:—

Year.	Active Cases.				
	New.	Rate per 100,000.	Reactivated.	Chronic.	Total.
1964	820	25.93	72	86	978
1965	790	24.50	84	66	940
1966	649	19.98	78	59	786
1967	599	18.13	80	49	728
1968	535	15.94	57	38	630
1969	497	14.50	44	38	579
1970	421	12.09	61	33	515

This year the pattern of new cases reported has continued along the lines of recent years—older age groups, persons born outside Australia and alcoholics or heavy drinkers providing the higher rates of active tuberculosis. Often, greater difficulties in management are experienced in these groups due to associated medical problems, difficulties in communication or lack of co-operation; but, despite this, the control of their tuberculosis is almost always successful.

Mass X-ray Surveys.

The second Victorian compulsory chest X-ray survey for adults aged 21 years and over was completed during the year. The first survey was carried out during 1963-67 and the second followed immediately. An analysis of these two surveys is presented in Tables "A" and "B".

During the second survey, 2,032,692 persons were examined yielding 504 active cases of tuberculosis, a rate of 0.25 per 1,000. Although the numbers of persons X-rayed were approximately equal in both surveys, the number of active cases discovered is only a little over half that in the first survey, 987 cases, a rate of 0.47 per 1,000.

Since 1964 there has been a decrease each year in the rate of active tuberculosis cases discovered by Mass X-ray Surveys from 0.66 per 1,000 in 1964; to 0.18 in 1970. However, the proportion of cases of cancer of the lung has remained relatively unchanged through this period—0.24 per 1,000 in 1964 to 0.29 in 1970.

Attendance during the actual survey was 82.2 per cent. of the eligible population, but after roll checking and follow-up 98.1 per cent. was achieved—first survey 82.8 per cent. and 98.2 per cent. respectively. Alteration of electoral boundaries prevents detailed comparison of localities but more than half of the electorates were checked in each survey, 45 in the first and 38 at present finalized in the second. A few people failed to attend without providing adequate reasons and three persons in the first survey and five persons in the second survey were prosecuted and fined.

It can be seen that for a "total" survey to be obtained roll checking and follow-up of those who did not attend is essential but it does create a great amount of extra work.

The pattern of the second survey is similar to the first. Active cases found were predominantly male, 374 (74.2 per cent.) and only 130 (25.8 per cent.) were females; 76.8 per cent. were excreting tuberculosis bacilli i.e., they were potentially or actually a risk of tuberculosis to others. The highest rates occurred amongst people aged 50 years and over.

It is pleasing to see that of the active cases discovered almost half were in an early stage (46.6 per cent.) compared with 35.5 per cent. in the first survey.

The marked diminution in cases found in the second survey is very encouraging and probably reflects the advantages from carrying out a thorough community survey, which can only be obtained with the support from appropriate legislation. However, not even such legislation is likely to be successful without the support of the community and the technical application being carried out efficiently. Full credit must be given to the staff of the Mass X-ray Surveys Division for their work.

Institutions.

During 1970 building programmes have allowed the release of more beds for other purposes. In recent years over 700 beds previously used for treating tuberculosis have now been released.

The completion of a hospital block at Heatherton Sanatorium enabled patients being treated at Gresswell Sanatorium (164 beds) to be transferred to Heatherton. Gresswell is now a rehabilitation hostel for alcoholics and drug dependants. At Sale, a new chest unit was completed. This was financed by the Commonwealth Government under the Commonwealth-State Tuberculosis Arrangement. The block contains out-patient clinic facilities and a chalet with 10 beds. The old chalet at Sale, an ex R.A.A.F. hospital unit containing 40 beds has been released and also a ward for 20 patients at Mont Park Mental Hospital.

Towards the end of the year work commenced on a new clinic at Geelong which is expected to be in operation during 1971.

Overseas Study Tour and Interstate Conference.

The Commonwealth Health Department arranged for the Commonwealth Director of Tuberculosis and two State Directors, including the Victorian Director, to be delegates to the 7th Conference of the Eastern Region of the International Union Against Tuberculosis held in Taipei, Taiwan, in November, 1970. Opportunity was also given the delegates to visit tuberculosis services in Thailand, Malaysia, Singapore and Hong Kong.

The Fourth National Tuberculosis Conference was held at Hobart and Victoria received invitations from the Commonwealth to send its Director, 4 Medical Officers and Mr. Les Swaby, Bacteriologist in charge of the Tuberculosis Laboratory, Fairfield Hospital. Two (2) of the members presented papers.

Notifications.

During 1970 there were 421 new cases of tuberculosis notified, a rate of 12.09 per cent. per 100,000. Of these 347 (82 per cent.) were pulmonary cases and 74 (18 per cent.) were extra-pulmonary. 75 per cent of all cases were bacteriologically proven, 75.8 per cent. of the pulmonary and 68.9 per cent. of the extra-pulmonary. There were 290 males (69 per cent.) and 131 females (31 per cent.).

Bovine type myco-bacteria were isolated from a Dutch meat worker with tuberculous wrist. Anonymous myco-bacteria were isolated from 2 children with lymph gland involvement.

Age Groups.

The age distribution is similar to the pattern in recent years. However, during 1970 there was appreciably less pulmonary tuberculosis notified in persons 50 years of age and over; 186 compared with 261 in 1969. The figure for children under 15 years remains unaltered at 10 per cent.

25.9 per cent. of all new cases were 60 years and over.

70.1 per cent. of all new cases were 35 years and over.

55.0 per cent. of all new pulmonary cases were males 35 years and over.

43.5 per cent. of all new pulmonary cases were 50 years and over.

Migrants.

37.3 per cent. of the year's notifications were from persons born outside Australia, i.e., 157 cases. The 1966 census figure is 21.14 per cent. of the Victorian population. 35 persons were British and 122 non-British. 26 persons (17 per cent.) were reported within one year of arrival (25 non-British). Of the 74 extra-pulmonary cases reported 41 were born outside Australia and 6 were British, and of 16 with pleural effusion 9 were non-British migrants.

Extra-Pulmonary Tuberculosis.

There were 74 cases reported. Tuberculosis of the renal and genital organs continues to be the most common—40 cases. There were 6 cases of bone and joint tuberculosis and 1 case of meningitis. Tuberculosis of lymph glands is still fairly common and usually occurs in children; 21 cases were reported.

Source of Notification.

Mass X-ray surveys were responsible for 107 cases (30.8 per cent. of the pulmonary forms). Hospitals were credited with 114 cases (27.1 per cent. of the total) and private medical practitioners were responsible for 95 (22.6 per cent.). State Clinics reported 72 cases (17.1 per cent.) mainly the result of examination of contacts of new cases. There were eight (8) notifications from death certificates.

The routine survey of inmates on entry to Pentridge has revealed 4 reactivated cases during the year, all bacteriologically positive. In the 3½ years of operation 17 cases have been located from 9,125 persons examined—a rate of 1 active case for every 506 X-rays taken. Five new cases were found at routine examination on admission to mental hospitals and 2 during the course of school tuberculin testing.

More than half of those notified with active tuberculosis during the year developed symptoms and sought medical aid, either at a public hospital or their doctor. It is most important, that medical personnel in clinical practice should remain aware of the possibility of tuberculosis amongst their patients and if community X-ray surveys become less frequent, this responsibility will increase.

Reactivation.

There were 61 persons previously notified and whose tuberculosis again became active after at least three years stability. Fifty-four (88.5 per cent.) were bacteriologically proven at relapse. Pulmonary relapses occurred in 53 cases and extra-pulmonary in 8. More than half the cases (35) had been stable for 15 years or longer, and 14 had previously received chemotherapy in courses regarded as "satisfactory" on present standards.

In addition, there were 16 cases whose lesions again became active after periods of stability from 1 to 3 years, and records suggested that "adequate" chemotherapy had usually been given.

It is suspected that records of "satisfactory chemotherapy" may not in fact be accurate accounts of the patients' drug taking!

Case Register.

On 31st December, 1970, the Case Register for active cases had listed 2,334 cases, of whom 2,022 had pulmonary and 312 had extra-pulmonary disease. 1,300 patients were receiving chemotherapy. 791 names were removed from the Register during the year.

The Case Register continues to be an important adjunct to tuberculosis control, especially aiding supervision of persons changing their places of living, and those who carry a higher risk of relapse, or risk to others if they relapse (e.g. kindergarten workers, school teachers, etc.). Special lists of names of such people are kept to enable a closer supervision.

Appreciation is again acknowledged for the co-operation of the staffs of the Bacteriological Laboratory at the Fairfield Hospital and the Repatriation Department and of many private medical practitioners who supply us with information in this important work.

"Chronic Positive" Cases.

A record is maintained of patients who are known to have had active disease with positive bacteriological examinations for twelve months or longer. At 31st December, 1970, there were 33 "chronic positive" cases, including Repatriation cases, 5 less than at December, 1969. Two persons are excreting anonymous-type myco-bacteria. Ten new names were added to the list during the year.

Deaths.

The official figure supplied by the Commonwealth Bureau of Statistics for deaths is 48, a rate of 1.37 per 100,000. Records of those having died during the year included only 24 persons who had had evidence of active tuberculosis at death or within the previous six months. The average age at death was 69.3 years.

Tuberculosis Allowances.

The Tuberculosis Allowance is a special allowance payable through the Commonwealth Social Service Department and is primarily intended to encourage and enable those with active and infectious or potentially infectious tuberculosis to cease work and accept treatment.

At 31st December, 1970, there were 113 persons being paid the Tuberculosis Allowance, compared with 160 at the end of 1969. Of these persons, 90 were men and 23 were women; 59 were receiving in-patient care and 54 were out-patients. There were 101 (89.4 per cent.) in receipt of the Allowance for less than one year, 4 between one and two years, and 8 over two years. The average duration of payment of the Allowance was 6.1 months for those receiving it for less than a year, and of the 277 cancelled during the year 158 returned to work, 74 transferred to other Social Service Benefits, 5 were for disciplinary reasons and the others for various reasons.

A system of warrantee-ship has been undertaken by the Social Worker, whereby certain patients known to be unable to cope with their daily responsibilities—accommodation, food, clothing, etc., have their affairs managed for them, on a weekly or more frequent basis. Alcoholism, though not the only cause of this problem, is very commonly associated. This has resulted in less demand for charitable aid, and also allowed more effective treatment of their tuberculosis to be continued. The aim, of course, would be rehabilitation, but this is less frequently achieved.

Mass X-Ray Surveys.

During 1970 there were 671,914 miniature films taken, of which 597,919 were taken on survey, 71,408 at fixed centres and 2,587 at Pentridge. Despite the work load, the regular flow of examinees on survey has generally proceeded smoothly and technical faults have been very low—a rate of 1.4 per 1,000 films taken. The recall rate from 70 m.m. films for large films was 10.3 per 1,000.

During the year 23 electorates were surveyed and 119 active cases found, a rate of 0.18 per 1,000. There were 194 cases of cancer of the lung—a rate of 0.29 per 1,000, and 58 cases of sarcoid—a rate of 0.04 per 1,000. In addition, 1,037 inactive cases of tuberculosis were discovered and are being kept under medical supervision.

Doctor Referrals.

Doctors referred 1,348 persons to the Division of X-ray Surveys for X-ray examination and of these 376 showed pulmonary abnormalities and 9 were found to have active tuberculosis. This emphasizes the importance of searching for tuberculosis in this select group of referred persons despite the large annual coverage of the population by Mass X-ray Surveys.

Tuberculin Testing—B.C.G. Vaccination.

Commonwealth Serum Laboratory Old Tuberculin was used throughout the year apart from a small trial using the new batch of C.S.L. P.P.D.

Tuberculin testing has continued in schools with pupils above Grade 6, i.e., 12 years old and above. B.C.G. vaccination is offered to the negative reactors. The present programme permits visiting all areas of the State every three years and consent rates for pupils are generally over 90 per cent. In all 81,405 pupils were examined over the year, yielding a positive reactor rate of 2.3 per cent. 25,382 pupils had been vaccinated in earlier years and of these 77.2 per cent. gave positive tuberculin reactions.

Rates for school children.

Age 12 years 14,357 tested	..	1.9 per cent. natural reactors : 1969	1.9 per cent.
Age 13 years 16,653 tested	..	1.9 per cent. natural reactors : 1969	2.1 per cent.
Age 14 years 15,550 tested	..	2.1 per cent. natural reactors : 1969	2.6 per cent.

Post B.C.G. re-examinations.

All ages and groups—

(3/12 to 12 years after vaccination) 4,073 tested—82 per cent. +ve : 1969 84 per cent.

Contacts and others—

(3/12 after vaccination) .. 1,961 tested—86 per cent. +ve : 1969 90 per cent.

Surveys have also been made of various other groups, including contact surveys in schools—in all 89,021 persons were examined and 57,632 vaccinations performed during the year.

Four National Service intakes included 4,078 personnel aged 20 and 21 years and yielded a natural reactor rate of 6.6 per cent. The Victorian trainee rate was 7.1 per cent. natural reactors, 74 per cent had previously been B.C.G. vaccinated, and of these 61 per cent. gave positive tuberculin reactions.

Bacteriology.

Reliable bacteriological support is essential in tuberculosis detection and control.

During the year the Fairfield Hospital Tuberculosis Laboratory's work resulted in:—

16,878 direct smear examinations,

17,643 cultural examinations,

492 animal inoculations,

3,253 sensitivity tests.

Tubercle bacilli were detected from 350 patients of whom 243 were new cases, 49 were "carry over" cases from the end of 1969, 33 were from reactivated cases, and 25 were from persons with chronically active tuberculosis.

Primary Resistance.

There were 5 cases of primary resistance detected, 4 were from migrants. In the past 7 years there have been 63 cases of primary resistance detected and 34 of these persons were born outside of Australia.

SUMMARY OF TUBERCULOSIS STATISTICS—VICTORIA 1970.

Population 3,480,800. (Estimate 31st December, 1970).

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 Sanatorium (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) 2,039	150,000	..	..	..	735	252
1951	1,030	44.20	407	17.88	..	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	93	2.82	235	641,974	235	72,636	5.5	705	135
1968	535	15.94	68	2.03	189	663,707	211	90,116	2.5	686	137
1969	497	14.53	61	1.78	160	672,925	185	89,541	2.6	672	124
1970	421	*12.09	48	*1.37	113	671,914	119	81,405	2.1	496	117

TABLE "A".

COMPULSORY MASS X-RAY SURVEYS—VICTORIA.

Second Survey, 1967-1970.						First Survey, 1963-1967.	
Total X-rayed	..	..	..	..	2,032,692	2,094,798	
Total active cases	..	..	..	..	504	987	
Rate	..	..	..	..	25 per 1,000	47 per 1,000	
Stage of disease: Minimal	..	..	..	..	46.4 per cent.	34.5 per cent.	
Moderate	..	..	..	..	38.7 per cent.	47.0 per cent.	
Advanced	..	..	..	..	14.9 per cent.	18.5 per cent.	
Bacteriologically proven	..	..	..	..	76.8 per cent.	74.9 per cent.	
Sex: Male	..	..	..	..	374—74.2 per cent.	733—74.3 per cent.	
Female	..	..	..	..	130—25.8 per cent.	254—25.7 per cent.	
Age groups: Under 35 years	..	..	..	..	96	149	
Rate—13 per 1,000	..	..	..	..	..	Rate—215 per 1,000	..
35-49 years	..	..	..	..	129	..	295
Rate—22 per 1,000	..	..	..	..	..	Rate—46 per 1,000	..
50 years and over	..	..	..	..	279	..	543
Rate—40 per 1,000	..	..	..	..	..	Rate—72 per 1,000	..

COMPULSORY MASS X-RAY SURVEYS—VICTORIA.

Age Groups Years.	Number X-rayed.	Active Cases.	Rate per 1,000.	Active Cases.	Rate per 1,000.
Under 20	133,608	10	.075	23	.22
20-24	226,579	32	.14	37	.20
25-29	198,250	26	.13	37	.18
30-34	192,923	28	.145	52	.27
35-39	187,748	36	.19	85	.43
40-44	205,581	43	.21	102	.46
45-49	190,666	50	.26	108	.48
50-54	166,452	55	.33	104	.57
55-59	150,580	63	.42	116	.68
60-64	122,996	53	.43	99	.72
65-69	108,365	45	.415	83	.70
70 and over	148,944	63	.42	141	.94
Total	2,032,692	504	.25	987	.47

COMPULSORY CHEST X-RAY SURVEYS - VICTORIA ACTIVE TUBERCULOSIS RATES / AGE GROUPS

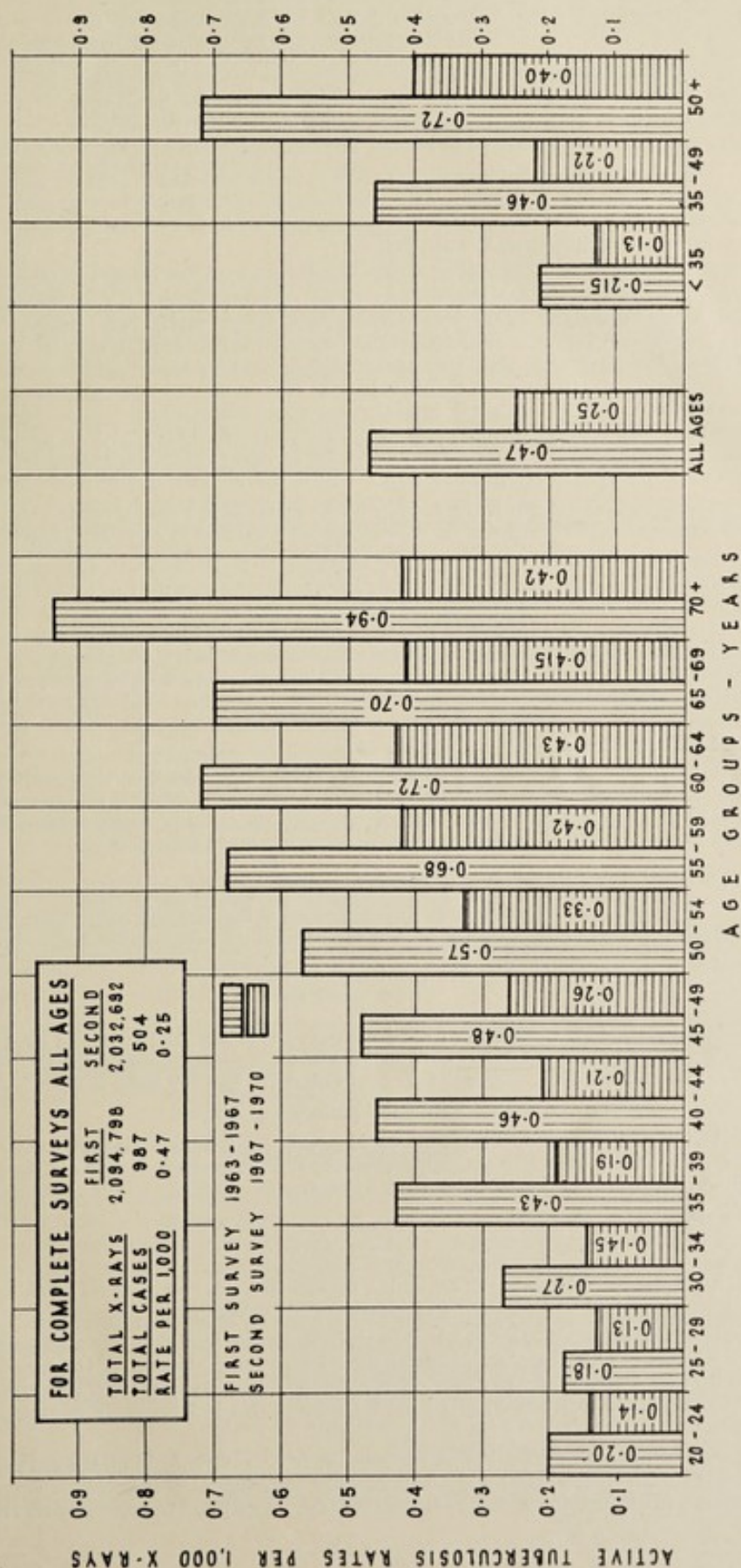


TABLE "B"

Treatment.

The year has brought to attention many patients who have been extremely ill with grossly advanced disease when first seen. They were predominantly middle aged and elderly men with socio-economic problems in which alcoholism frequently has played a major part. In others, the new or reactivated tuberculosis has been associated with another disease and this associated disease (or factors in its management) appears to have lowered the previous immunity and permitted the tuberculosis to become rampant. Associated diseases noted have been diabetes, chronic peptic ulcer, metabolic diseases, reticulosis and neoplasms; management has involved deep X-ray therapy, corticosteroids and cyto-toxic agents used without accompanying anti-tuberculosis chemotherapy.

Ten patients underwent resection of kidney and six of these included the ureter. They were first seen at a late stage of renal tuberculosis with re-constructive surgery not possible. One-fifth of the renal cases referred to the Austin Hospital during the year have had ureteric obstructive disease with severe destructive kidney disease when first seen.

Institutional care is still required for many patients who are sick, some of the elderly and certainly most of the alcoholic group and those with reactivated disease, especially if they have previously been suspected of being unco-operative. Unfortunately, it commonly follows that satisfactory post-sanatorium accommodation and treatment are difficult to arrange in this same group. In addition, about a quarter of the patients suffer significant reactions to one or more anti-tuberculosis drugs and require modification of their treatment. This commonly occurs in the early stages of treatment. Migrants who do not speak English, present problems which frequently can be handled in institutions where others can speak their language. Ninety-one per cent. of new patients had some institutional treatment. The average stay in Heatherton Sanatorium was 3½ months, the country chalets 12 weeks and the Austin Hospital 39 days. This is shorter than in previous years.

Supervised out-patient treatment has been successful in a few of the less co-operative patients but powers under the Health Act have been necessary to obtain co-operation from 4 patients.

Further experience with the use of ethambutol and rifampicin suggest that they are very useful anti-tuberculosis agents, well tolerated by patients and with few toxic side-effects observed. Much of this experience has been gained from our co-operation in two trials involving rifampicin—the Australia-wide survey conducted by the Commonwealth Health Department in treating patients with chronic active tuberculosis and atypical mycobacterial disease, and the other in conjunction with the Repatriation Department with Commonwealth approval—a comparison of initial treatments of tuberculous patients.

Bureaux and Clinics.

For the first time, this year has seen a small decline in attendances at clinics. The total attendances recorded were 74,467 compared with 74,479 during 1969. With broader control methods there had previously been a steady increase over the years, but it probably appears that a more stable position has been reached, probably directly due to improved treatment.

Housing.

The Housing Commission has continued to assist families referred to them and this assistance is gratefully acknowledged. During the year fifteen families were referred and seven accommodated.

INFECTIOUS HEPATITIS.

Notifications for 1970 totalled 2,401 which is an increase of 37 over the total for 1969. As the figures for the first 6 months of 1971 are well below those for the same period in 1970, it would seem that 1970 was a peak year. The previous peaks occurred in 1955 and 1963.

No overall distinctive epidemiological pattern was evident.

The recent separation of Infectious Hepatitis from Serum Hepatitis cases by means of a routine test for the Australia antigen, represents a refinement in diagnostic technique which has already proved fruitful in uncovering cases where transmission has been by the use of contaminated syringes.

TYPHOID FEVER.

Eight cases of Typhoid Fever and 2 of Paratyphoid Fever, were officially notified. The cases represent an interesting variety of sources of the infection.

The 2 Paratyphoid cases occurred in recently arrived migrants, one a 13-year-old girl and the other a 43-year-old man, became ill during their journey to Australia. A 16-year-old girl contracted Typhoid Fever while on her return trip from abroad and a 36-year-old chief steward from a cargo ship was diagnosed and treated at Fairfield Hospital. He had probably become infected when in California.

Following the confirmation of Typhoid Fever in a 19-year-old male ward assistant in a State Mental Hospital, a serological and bacteriological screening of the inmates was undertaken by the Department in conjunction with the Mental Health Authority and Microbiological Diagnostic Unit of

the Melbourne University. The investigation detected 4 carriers, 3 of whom had the identical Phage type (E.1) as the original case. This led in turn to the isolation and effective treatment of the carriers while at the same time Typhoid immunization of all patients and staff was given as a protective measure. A sequel to this investigation was the accidental inoculation of an 18-year-old laboratory worker who was assisting in the bacteriological work at the time.

The remaining 2 cases both had a B.2 Phage type infection not commonly found in Australia. A 19-year-old male acquired his infection either from his father or grandmother who were both found to be carriers on routine investigation of the household contacts. Being a migrant family it is likely that the original infection occurred overseas. The final case was a 42-year-old ex-professional fisherman in whom no definite source could be traced.

DIPHTHERIA.

The early part of the year saw an outbreak of Diphtheria among children at a State Institution which led to the admission to hospital of 20 cases and 39 carriers. Fortunately the immunization state of the children although not good was adequate to protect against severe illness and only mild cases occurred, the worst complication being a mild paralysis of the palate in one child.

The episode emphasizes the need to maintain a high immunization status among the inmates of closed institutions.

Recently the Commonwealth made available for use in public immunization campaigns an Adult Diphtheria Tetanus Vaccine (A.D.T.) which will replace the Combined Diphtheria Tetanus Vaccine (C.D.T.) for the immunization of children of 8 years of age and over.

The giving of school booster Diphtheria toxoid injections by the Municipal Councils, though not yet universally practised, is now, due to the continuing publicity given to these campaigns, generally regarded by the public as necessary for complete immunity to the disease.

RESPIRATORY VIRUS INFECTIONS.

Each winter several viruses contribute to the annual epidemics of respiratory disease which manifests itself as bronchitis, bronchiolitis, croup, pneumonia and influenza. The principal respiratory viruses responsible for the admission of patients to hospital in 1970 were Myxovirus influenzae A2 (Hong Kong), Myxovirus Parainfluenzae, the Respiratory Syncytial (R.S.V.) and rhinoviruses.

By far the most dominant of the viruses was the A2 Hong Kong Influenza strain the spread of which was reflected by the increased numbers of patients with pneumonia, an increased mortality in elderly people with pre-existing disease, some increase in infants with croup and a greater number of patients with clinically recognizable severe influenza. As in previous epidemics, headache associated with fever was the common feature of the onset of the disease.

The influenzal epidemic could be regarded as moderately severe by comparison with that of 1957, and similar in extent to the last of the A2 epidemics in 1968. Overall, adults appear to have experienced the most severe symptoms. The epidemic first became apparent in June and reached its peak during July. It had subsided by the end of August. Fairfield Hospital admissions for the month of July were Bronchitis 47, Croup 54, Pneumonia 167, Bronchiolitis 45, Influenza 29. The Hong Kong A2 Virus was isolated in a proportion of these cases.

The other viruses causing more severe epidemic respiratory disease were the R.S.V. which annually causes epidemic bronchiolitis amongst infants and to a lesser extent parainfluenza virus. A few strains of rhinovirus and adenovirus suggest that these contributed less severe respiratory disease in the form of "colds" and bronchitis.

ENTEROVIRUS INFECTION.

Early in 1970 there was an epidemic of ECHO Virus type 9 infections which usually affected younger children causing a moderate febrile illness with a rash. However, a proportion of these infections occurring particularly in older children and adults were more severe, resulting in meningitis. Altogether more than 200 cases of viral meningitis were admitted to Fairfield Hospital during that summer period.

By May, the incidence of viral meningitis which reflects an enterovirus epidemic had subsided to the usual low interval level between summer outbreaks of the disease.

The 1970-71 summer epidemic of virus meningitis began in December. At the time ECHO Virus types 25 and 6 and members of the Cocksackie B group appeared to be the main ones involved but no main epidemic strain had emerged by that time.

By February of this year it was established that the principal circulating viruses were Cocksackie Types B1, B2 and B3 and though overall the epidemic was not as large as in previous years, there were cases without meningitis but with rather severe fever, malaise and muscle pain.

GASTRO-ENTERITIS.

The increase in the number of notified cases of Salmonellosis probably reflects the increasing awareness of medical practitioners that it is now a notifiable disease. Bacterial enteric infections chiefly of the *Salmonella typhimurium* and various *Shigella* types, occurred both sporadically, particularly in the warmer months of the year, and as institutional outbreaks among children.

The winter months saw the usual increase of non-bacterial gastro-enteric infections among infants, many of whom required emergency hospitalization and rehydration.

TETANUS.

Though the incidence of Tetanus remains low, nevertheless, its high fatality rate and the fact that it is preventable make it noteworthy.

Out of the 6 cases notified (4 males and 2 females) there was one death, and another person was severely affected. Four of the cases were aged over 60 years. Five of the 6 cases occurred in persons who had not been immunized. The case in the immunized person was mild. All of the initiating lesions were minor; two of these injuries occurred whilst the persons were gardening.

Unimmunized persons who are keen gardeners are especially vulnerable and should be made aware of the necessity of undergoing a course of immunization.

HYDATID DISEASE.

Nine cases were notified in persons (6 males and 3 females) ranging in age from 5 to 60 years. Four came from the Western District and were associated with sheep farming. An 18 year old male from Essendon found to have 3 cysts in the lungs possibly contracted the disease from allowing his dogs to eat raw offal.

Three of the younger cases, a 5 year old Yugoslav girl, a 16 year old boy from Madras, India, and a 23 year old woman from Tasmania, probably contracted the illness outside of Victoria. The other case was a 60 year old sheep farmer from Omeo who was found at post-mortem to have a cyst of the liver.

A continued effort to break the chain of infection is being maintained by the Department. This consists mainly in the establishment of Meat Areas, the enforcement of Regulations relating to abattoirs, and health education programmes in schools.

OCCUPATIONAL INFECTIOUS ILLNESS.

These diseases are Brucellosis (106 cases), Q fever (1 case), Leptospirosis (1 case), Hydatidosis and one case of Rat bite fever reported from Fairfield Hospital. The notification figures, particularly in the milder diseases give an indication only of the incidence of the infections.

Brucellosis continues to loom large, the figure being slightly less than that for the previous year (113). All but about 20 of the cases came from the Eastern Health Area and most were associated with the dairying and meat industry. Progress continues to be made towards achieving eradication of this disease in animals and it is anticipated that following intensive Strain 19 vaccination, a test and slaughter programme will be ultimately introduced into this country. From a health viewpoint this should be encouraged.

The case of Leptospirosis (pomona) was a 61-year-old farmer who had some contact with cows and whose skin was frequently subject to abrasions.

The Q fever occurred in a 38-year-old abattoir worker, while the patient with Rat bite fever had been infected in the course of his occupation. This condition is rare and likely to be observed as an occupational disease in people involved in the breeding of rats for scientific purposes.

IMPORTED DISEASE.

The past year has seen an upsurge in the incidence of imported disease due largely to increased air travel. Imported disease calls for early recognition to facilitate early treatment and isolation of contacts. Illnesses can also be brought into the country by Australians travelling overseas and not taking adequate health precautions, e.g. Malarial Prophylaxis.

The main imported disease was Malaria (47 cases) which represents a 100 per cent. increase on the previous year's figure. Other diseases represented were Typhoid fever (2 cases), Paratyphoid fever (2 cases), Helminthiasis (3 cases), Anchylostomiasis (1 case), Brucellosis (4 cases), Amoebiasis (2 cases), Hydatid disease (2 cases) and a case of Hansen's Disease.

All the Malaria cases notified were Vivax infections with the exception of 3 Falciparum cases. Of the cases reported, 33 had acquired their infection in New Guinea, 9 (mainly service personnel) in South East Asia, 3 in Ceylon and one each in Nigeria and India. Though some of the cases had undertaken the prescribed prophylaxis, none had availed himself of the 14 day "curative" course of Chloroquine and Primaquine, a now widely promulgated standard procedure which must be taken under medical supervision on permanently leaving the malarious area.

POLIOMYELITIS AND ALLIED DISEASES.

Incidence of Poliomyelitis.

As in the previous year, only one case of poliomyelitis was reported. This occurred in January 1971 in a 34 year old man from Beechworth. He had received no immunization against poliomyelitis.

During the past 5 years only 3 cases of paralytic poliomyelitis have been reported.

Distribution of Sabin Vaccine.

During the year 963,090 doses were issued. To date 4,072,000 doses have been distributed throughout Victoria. Sabin is now the sole vaccine used.

After-care treatment.

The Department continues to provide orthopaedic supervision and physiotherapy services to poliomyelitis patients who are still requiring this help. In addition, splints are supplied when necessary, and only those in more favourable financial circumstances are expected to contribute towards their cost.

Patients who have been diagnosed as suffering from multiple sclerosis or acute infective polyneuritis are afforded similar aid.

An additional 78 patients have sought help in the past twelve months. Of these, 32 patients had previously suffered an attack of paralytic poliomyelitis. Some of these were migrants and others came from other States of Australia.

In addition to providing after-care treatment to poliomyelitis patients, the physiotherapy staff of the Division continued its work in the Metropolitan Mental Institutions.

Some assistance was also given at the Allambie Reception Centre and at Ante-Natal Clinics, conducted by the Maternal and Child Welfare Branch.

IMMUNIZATION MATERIAL ISSUED TO MUNICIPALITIES 1970-71.
(with figures for 1969-70 for comparison).

Material,	Number of Doses.	
	1970-71.	1969-70.
Measles Vaccine	137,320	77,170
Rubella Vaccine	96,110	..
Sabin Vaccine	963,090	1,624,590
Salk Vaccine	..	2,107
Triple Antigen	324,289	294,010
A.D.T.	5,680	..
Combined Diphtheria-Tetanus Prophylactic	102,089	110,185
Purified Tetanus Toxoid (A.P.A.)	52,032	50,262
Smallpox Vaccine	23,501	23,416
Schick Test Toxin	881	3,406
Diphtheria Prophylactic (P.T.A.P.)	1,141	1,072

GOVERNMENT CLINIC.

All statistical information presented in this report has been prepared on a calendar year basis.

The following table indicates the number of new patients attending the Government Clinic for each of the past five years.

TABLE I.
GOVERNMENT CLINIC.

Year.	Patients.			Gonorrhoea.			Syphilis.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1970	3,329	1,546	4,875	952	721	1,673	38	4	42
1969	3,016	1,167	4,183	796	372	1,168	70	8	78
1968	3,015	1,201	4,216	734	335	1,069	40	5	45
1967	3,124	1,244	4,368	824	381	1,205	33	4	37
1966	2,699	919	3,618	814	314	1,128	29	3	32

It can be seen that there has been a continued increase over the years of patients attending the clinic for examination, especially in the female section.

This increase in attendance by female patients and the higher percentage of gonorrhoea detected in them, is attributed mainly to the improvement in contact tracing technique, whereby all partners of male patients suffering from a venereal disease, are directed to attend at the clinic or some other medical practice for investigation.

Also in a large proportion of these positive cases, it has been found that the women are completely symptomfree, which is a further reason for instigating their compulsory examination and treatment.

Table II combines the notification figures for both gonorrhoea and syphilis for the whole of the State, with a separate breakdown for the Government Clinic and for the rest of Victoria. Comparative figures over a five-year-period are also included.

TABLE II.

Source.	Gonorrhoea.			Syphilis.		
	Male.	Female.	Total.	Male.	Female.	Total.
Government Clinic	952	721	1,673	38	4	42
Others— Metropolitan and Country	348	47	395	21	10	31
Total	1,300	768	2,068	59	14	73
1969	1,175	450	1,625	97	54	151
1968	1,189	424	1,613	65	19	84
1967	1,361	485	1,846	59	33	92
1966	1,265	413	1,678	47	6	53

Perusal of these figures, whilst allowing for the yearly growth in population, indicates a continued increase in the incidence of gonorrhoea for the State, with a fairly static and low figure for syphilis.

Gonorrhoea has shown a world wide upward trend in recent years, and in some countries is of epidemic proportions. Although the figures in Victoria are increasing fairly steadily, when taken on world standards, they are still comparatively low.

Syphilis also is on the upgrade in most countries, and again Victoria is fortunate to have so little of this dangerous disease.

The comparatively high figure of 151 cases in 1969 was explained previously as the result of a short explosive outbreak, precipitated by infection of a large number of men from a small group of prostitutes. The outbreak subsided promptly after detection and treatment of these women and their contacts.

TABLE III.

Primary.		Secondary.		Latent.		Tertiary.		Congenital.		Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
15	..	26	10	16	4	1	..	1	..	73

This table is a breakdown into sex and stage of disease of all notified cases of syphilis for 1970, and the percentage of infectious syphilis (primary and secondary) remains approximately the same as previous years.

The reporting of one male case of congenital syphilis is an improvement on the previous year's total of three cases.

The problem of the "reservoir" of venereal diseases amongst homosexuals, particularly with syphilis, is still a matter of concern, and expected to worsen as it has done in most other countries.

A private laboratory has reported four cases of the rare venereal disease lympho-granuloma venereum, one case in a male and the other three in females.

An occasional case is seen at this clinic but it is unlikely that this disease will ever be a cause for worry in Victoria. In this instance, the source of the infection for the male was in Vietnam, and thence to the females.

Fairlea Women's Prison.—Regular visits to this prison were made during the year and a total of 311 females examined. One hundred and twenty-nine were diagnosed as suffering from gonorrhoea and one with secondary syphilis.

Following the resignation of the prison nurse there has been a temporary upset in the routine examination of prisoners, but this should be quickly rectified once the vacancy is filled.

Clinical Trial.—The investigation into the relative efficiency of three different drugs in the treatment of male gonorrhoea, which was carried out jointly by Dr. H. Baytch and Dr. D. Rankin of this Department, has now been completed and the findings are being evaluated.

The following procedures concerning management of patients attending the Government Clinic, have now been either initiated or expanded as the result of the knowledge and experience gained by Dr. K. Brennan during his recent overseas study tour.

A. A special laboratory section, exclusively geared for serodiagnosis of syphilis and gonorrhoea, has been set up at Fairfield Infectious Diseases Hospital to process material from the Government Clinic and other medical practices. This replaces the service previously supplied by the Red Cross Blood Transfusion Service and the pathology section of the Alfred Hospital.

The results to date from this new arrangement have been excellent, and the prompt receipt of a full range of tests on each sera, has accelerated both the treatment of patients and the detection of infected contacts.

B. The Microbiological Diagnostic Unit of the Public Health Laboratory has co-operated fully in preparing and testing improved culture media and techniques for isolation of gonococci, and the percentage of positive cultures from patients has risen appreciably, particularly with the asymptomatic females.

C. Contact tracing methods have been expanded and the provisions of the Venereal Diseases Act requiring contacts to present for examination, are being enforced.

This should result in a favourable long term improvement in the level of control. As mentioned in previous reports, world authorities on venereal diseases stress that stringent contact tracing methods hold out the greatest hope at present for halting the upsurge of these public health menaces.

D. Smear testing of patients for carcinoma of the cervix is still performed on all new female patients irrespective of age, and a high percentage of abnormalities continues to be detected, including pre-clinical cases of carcinoma in situ which can be simply treated and have an excellent prognosis.

E. The "one shot" technique for treating cases of gonorrhoea, employing one million units of procaine penicillin by injection preceded by the oral administration of 1 Gm of Benemid to delay excretion of the anti-biotic, is being used more frequently at this Clinic on selected patients and could become standard treatment for uncomplicated gonorrhoea.

EXOTIC DISEASES UNIT, FAIRFIELD.

The number of in-patients suffering from Hansen's Disease (leprosy) now stands at three. A male Maltese patient was discharged and two Ceylonese children (male and female) were admitted during the year. These were the only admissions since 1966.

All former patients living in Victoria, ten in number, received regular supplies of drugs and a routine examination twice in the year as out-patients.

The usual high standard of medical, nursing and occupational care was maintained at the hospital, the education of the children being provided through the Education Department Correspondence School with assistance from one of the occupational therapists from Fairfield Hospital.

All buildings have been kept in a satisfactory state of repair and the Unit is maintained in readiness for acceptance of any persons found to be suffering from other exotic diseases requiring complete isolation facilities.

MICROBIOLOGICAL DIAGNOSTIC UNIT.

Enteric Organisms.

Six cases of typhoid occurred during the year. One of these was the second occurring among staff of a mental hospital within 18 months. Both were phage type E1. As a result, multiple specimens from all staff and chronic patients in the hospital were examined and five carriers were detected, four being men and one a woman. The isolate from one case was untypable but all the others were type E1. While handling the large number of specimens which the survey entailed, a laboratory technician in the unit caught typhoid but fortunately suffered an uncomplicated illness. The phage type excreted was E1. Two other cases of typhoid were found to be excreting phage type B2. No clear epidemiological contact was found between these two cases.

In all, in our capacity as regional enteric phage typing centre 238 strains of *Salmonella typhi* were phage typed during the year. Most of these were from the Philippines and Tonga.

Sixteen cultures of *Salmonella-paratyphi* B were also phage typed. Two of these, both Taunton, were isolated from cases in Victoria.

The 669 cultures of other species of *Salmonellas* handled yielded 32 different serotypes. *Salmonella cubana* was isolated for the first time in Victoria. *Salmonella bovismorbificans* constituted 6 per cent. of strains, *Salmonella newport* 2 per cent. and outbreaks were associated with *Salmonella chester* and *Salmonella anatum*.

As in past years *Salmonella typhimurium* made up the bulk of strains. The phage typing scheme previously mentioned was commenced late in the year and the outbreak of food-poisoning associated with a small catering firm over the Christmas season of 1969 was retrospectively shown to include two different phage types.

The bulk of Victorian strains of *Shigella* spp. were isolated from institutions for mentally handicapped children. The colicine typing method showed that strains of *Shigella sonnei* from the Children's Cottages, Kew, were different to those isolated at St. Nicholas' Hospital.

Sporadic outbreaks at Allambie Reception Centre and a Babies' Hospital contributed to the 118 strains of enteropathogenic *Escherichia coli* identified.

Brucellosis.

It had been noted in previous reports that serological results indicative of brucellosis had been reported from many patients in South Western Gippsland region. During the year it transpired that most of the specimens labelled "serum" forwarded from one centre had been collected and separated with anticoagulant which gave a false positive reading with the agglutination test. Many patients, consequently, had been wrongly notified. Subsequent tests with correct specimens of serum have assisted in the clinical reassessment of many patients.

Diphtheriae.

Following a clinical case at an institution for mentally handicapped children in January, strains of *Corynebacterium diphtheriae* were isolated from 37 patients. These were virulent and serotype 6387. A single strain from a metropolitan hospital was the same serotype but non-virulent. Cultures for identification and serotyping were received from Adelaide and from the Northern Territory.

Gonorrhoea.

Following the tendency of previous years the number of smears submitted for diagnosis declined and the number of swabs increased substantially.

Leptospirosis.

Two cases of Leptospirosis were detected during the year. The agglutination/lysis test showed that the causative organism was *Leptospira pomona* in both cases.

Water Microbiology.

In addition to the surveillance of swimming bath and reticulation water samples, work done included surveys of the Leigh River. These showed that the faecal organisms introduced at the outflow of the sewerage disposal scheme near Ballarat were fairly rapidly cleared downstream. *Salmonella typhimurium* was isolated near the sewerage scheme outflow. Samples from the Gippsland Lakes were also examined.

Food Microbiology.

Over sixty samples of food were examined in connection with complaints of outbreaks of food poisoning. The Ports and Harbours Division of the Public Works Department arranged for mussels from piers to be examined. *Salmonella* spp. were isolated from one sample.

Surveys of cooked and fresh chickens, shellfish and frozen food continued. In general, these provided satisfactory results.

General.

The work carried out during the year was greatly increased by the search for typhoid carriers and the need for this delayed the setting up of the *Salmonella typhimurium* phage typing scheme. This has already yielded interesting results concerning types found in humans and in domestic stock and meat in Australia.

A series of tests on immunization techniques was carried out in collaboration with officers of the Health Department. A research student started working on the improvement of the isolation of *Neisseria gonorrhoeae* from clinical samples and worthwhile results have been achieved.

In the list of examinations the item of parasitological examination has been included for the first time in view of the expansion of this activity. The techniques are somewhat laborious if adequate standards are to be maintained. Outbreaks of Giardiasis in Babies' Homes have been responsible for many of the specimens examined.

The pressure of work during the year increased so much that the periodical newsletter has, regretfully, been abandoned for the present although it is hoped that it may be revived later.

MICROBIOLOGICAL DIAGNOSTIC UNIT.

ANNUAL EXAMINATIONS.

A Comparison of Numbers for Calendar Years, 1969 and 1970.

Examination.	1969.	1970.
1. Upper Respiratory Tract Infections—		
(a) Diphtheriae—		
(i) Cultures	3,953	3,153
(ii) Isolations and identifications	31	61
(b) Haemolytic Streptococci—		
(i) Cultures	3,953	3,153
(ii) Groupings	286	326
(iii) Anti-Streptolysin titre tests	444	464
(c) Vincent's organisms	..	..
2. Enteric Infections (Salmonella and Shigella)—		
(i) Cultures	3,629	7,564
(ii) Identifications	1,672	1,878
(iii) Widal agglutinations	642	1,281
3. Serological Investigations—		
(a) Brucella	1,634	1,547
(b) Glandular Fever	53	37
(c) Leptospirosis	182	301
(d) Typhus Fever	19	25
(e) Rubella H.I.	325	968
4. General Bacteriological Examinations including endogenous infections, food poisoning outbreaks, microbiological examination of food, milk, &c.—		
(i) Cultures	1,151	1,169
(ii) Drug sensitivities	1,657	1,368
5. <i>N. gonorrhoeae</i> and related infections—		
(a) <i>N. gonorrhoeae</i> —		
(i) Smears	728	587
(ii) Cultures	3,867	4,513
(b) Trichomonas and Monilia	3	28
6. Medical Mycology (Microscopy and Cultures)	86	80
7. Water Examinations	348	449
8. Parasitological examinations	..	46
Totals	24,663	28,998

CHEMICAL LABORATORY.

General.

There has been a sizeable increase in the work carried out by the laboratory this year. The number of samples alone rose by 23 per cent. over the previous twelve months, the total of 2,433 being the highest on record.

Chemical analysis, however, represents only part of the responsibilities of the division. Senior officers are occupied with committee work, which includes membership of the Food Standards, Food Analysis and Pesticide and Agricultural Chemicals Committees of the National Health and Medical Research Council, the Victorian Food Standards Committee and the Sampling and Testing sub-committee of the Permanent Heads Committee on Water Pollution. The Assistant Senior Chemist also presented a paper entitled "Collection and Transportation of Samples for Analysis" to the Health Inspectors' Refresher Course, and staff chemists have on a number of occasions been summoned to court when expert evidence on analytical matters has been required.

The usual wide range of questions connected with chemistry and food science was handled.

The heavy work load has necessitated curtailment of investigations in some areas. Purchase of new instrumental equipment has vastly augmented scientific capability and precision, but has not significantly reduced the analytical man-hours required.

The Food Technologist and Senior Chemist, Mr. R. C. Stanhope, participated in the 3rd International Congress of Food Science and Technology held at Washington D.C., U.S.A. during August, having had a paper accepted for presentation during this quadrennial event. While overseas he spent a total period of six weeks on duty in the United States and Great Britain. In addition to attendance at three other conferences concerned with pollution, chemistry and food science, Mr. Stanhope visited a number of institutions and government departments related to his duties. The experience gained and the contacts made were invaluable in helping to keep him abreast of the wide range of subjects connected with his official functions.

Mr. N. Greene, Chemist, completed the Diploma of Food Technology at the Royal Melbourne Institute of Technology during the year. He obtained top marks in Food Technology Part III.

A resume of other aspects of the year's work is given below.

Meat and Meat Products.

This group as usual included the bulk of contraventions, mainly for illegal or excessive use of preservatives.

The proportion of meat pies containing less than the requisite 25 per cent. meat rose to almost 40 per cent. of those sampled and 19 of the sausage and sausage meat samples submitted did not meet the 75 per cent. standard for this component.

Comparisons with the previous two years are tabulated hereunder.

Type.	Number Examined.	Number not Complying.	Percentage not Complying in—		
			1970-71.	1969-70.	1968-69.
Meat—					
Fresh	296	4	1	3	2
Chopped	246	34	14	13	8
Corned	5	0	0	0	0
Manufactured	93	1	1	3	0
Canned	0	0	0	100	0
Sausages and Sausage Meat	259	35	14	13	11
Tripe	10	2	20	33	0
Meat Pies	41	16	39	29	23

Dairy Products (1969-70 figures in brackets).

Type.	Number examined.	Number not complying.
Milk—fresh	285 (150)	5(2)
Milk—Flavoured	4 (0)	0(0)
Skim Milk Powder	2 (2)	0(0)
Butter	25 (23)	1(0)
Cream—Fresh	3 (13)	0(0)
Cream—Thickened	5 (5)	0(0)
Cream—Reduced	2 (2)	0(0)
Cheese	41 (31)	1(0)
Ice Cream	5 (5)	0(0)
Yoghurt	3 (7)	0(5)

Adulteration of milk continues to occur, the highest level of added water detected being 28 per cent. The butter and cheese at fault both contained excess moisture.

Fruit Products.

An unusually large number of fruit-derived foods were found to be adulterated or sub-standard.

Four fruit-juices—two orange and two lemon—were found deficient in Vitamin C. In three instances the level was less than one mg. per fluid ounce, well below the regularity minima of 10 mg. for lemon and 11.5 mg. for orange juice. Excess preservative was found in pineapple juice and orange juice cordial.

A prohibited dyestuff, citrus red 2, was identified on the skins of oranges imported into Victoria, and an orange juice contained added colour.

Use of benzoic acid as a preservative in tomato sauce has been prohibited since April 1st, 1971. Two contraventions, probably old stock, were discovered.

Pesticides.

SUMMARY OF ANALYSES MADE.

Nature of Sample.	Number.	Analyses carried out.*	No. of samples in which pesticides were detected.
Cheese (Italian)	8	8 for O.C.	7
Dried Fruit	9	9 for O.C.	7
Eggs—White	6	6 for Mercury	5
Egg Yolk	6	6 for O.C.	1
Egg Yolk	6	6 for Mercury	6
Fish—Fresh	12	6 for O.C.	6
Flour	12	12 for O.C.	9
Peaches	10	12 for O.P.	12
Grapes	20	10 for O.C.	3
Margarine	12	20 for O.C.	17
Strawberries	12	12 for O.C.	7
Tea	6	12 for O.C.	6
Tomatoes	43	12 for Carbaryl	0
Celery	1	6 for O.C.	6
Water	5	43 for O.C.	35
Wine	1	22 for Carbaryl	0
Human Blood	3	1 for Copper	1
Human Milk	51	5 for Arsenic	5
		1 for Arsenic	1
		1 for 2,4,5-T	0
		3 for O.C.	3
		51 for O.C.	51
Total	217	288	

* Legend : O.C. Organochlorine compounds.

O.P. Organophosphorus compounds.

Although 77 per cent. of the food samples tested contained detectable residues, the levels found were very low and well below statutory or recommended limits. No evidence of high residues in Italian cheese was revealed, following allegations by a local manufacturer.

A more comprehensive second survey of organochlorine residues in human milk has been undertaken. The results once again were comparable with those obtained in overseas investigations.

High levels of arsenic were reported in soil used for vegetable growing in a mental institution. Examination of hair clippings from residents showed that no abnormal body uptake had resulted.

An insecticide being used in army barracks proved to be a mixture of sodium fluoride and starch.

Water and Trade Wastes.

The growing concern over pollution was reflected in the number of waters and trade effluents submitted, the total of 153 samples being over twice that received during 1969–70. The guidance limits set by the Health Commission require analysis for a wide variety of substances, including various heavy metals, cyanide, oil and detergent. One contravention of the Stream Pollution Regulations was reported.

Contaminating Substances in Food.

A variety of foreign substances was identified in food, resulting from complaints to the Department. Since these samples are normally received in opened packages, their origin must usually remain in doubt. Senior officers have also been called upon in several instances to advise on the acceptability of large shipments of food which have been exposed to contamination due to spillages or improper storage.

Extraneous materials identified are tabulated below. A noteworthy feature is the absence of evidence of fouling by insects and vermin.

Food.	Contaminant.
Biscuit	Fragment of rock
Biscuit	Iron particles
Bread	Paper
Milk	Plant material
Milk	Vegetable fibres, mould spores
Milk	Mould
Orange Juice	Mould
Soft Drink	Fibrous matter
Soft Drink	Solidified drying oil
Soft Drink	Arsenic (*12 parts per million)
Sugar (2 samples)	Iron particles
Tea	Mineral Oil

* Not hazardous, but indicative of minor contamination.

Mercury in the Environment.

Following publication in the popular media of overseas reports alleging contamination of fish, particularly tuna, a wide variety of marine products has been examined for mercury content. These have included fresh, frozen and canned items, both local and imported. The overall average concentration was less than 0.1 part per million and no result was in excess of 0.5 part per million. These figures, coupled with those obtained during recent years on other foods which may be exposed to contamination with mercury-containing pesticides, indicate that no hazard exists in Victoria in this regard, but continued surveillance will be maintained.

It should be emphasized that mercury is distributed widely in nature at a low concentration and there is ample evidence from the amounts found in fossil fuels that this situation dates back to pre-history. The concentrations reported above are consistent with natural levels.

The laboratory organized an inter-laboratory collaborative study of methods in use for determination of low levels of mercury.

Non-Excisable Alcoholic Drinks.

Release of a beverage named "Shandy" on the Victorian market resulted in the analysis of a number of brewed soft drinks for alcoholic content. All were found to contain less than the statutory limit of 2 per cent. proof spirit (approximately 1.2 per cent. alcohol).

An amendment to the Food and Drug Standards Regulations was subsequently made, on the recommendation of the Food Standards Committee, restricting use of the term "Shandy" to drinks containing over 1.2 per cent. alcohol.

Miscellaneous.

A variety of substances has been examined for their possible bearing on public health. These have included footwear, bleach detergent, urine, components of toys and imported confectionery.

Five bread samples submitted under the Bread Industry Act complied with the relevant standards.

An unusual contravention detected was addition of artificial colouring to vinegar.

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.

A special meeting of the Committee was also held to discuss "Shandy" Soft Drinks which were being marketed in Victoria. These were drinks with a low alcoholic content of less than 2 per cent. proof spirit which were freely available to both children and adults from milk bars and supermarkets. As a result of this meeting "Shandy" has now been defined in the Regulations as a mixture of beer and lemonade or of beer and ginger ale containing more than 2 per cent. proof spirit.

During the year a set of 35 Amendments to the Food and Drug Standards Regulations 1966 was promulgated. As well as the Regulation for Shandy, included in these Amendments were new Regulations in respect of the following:—

Liquid Egg.

Determination of Iodine Value, Peroxide Value and Crismer Value in Edible Fats and Oils.

Determination of Cocoa Paste in Chocolate, Chocolate Products, Cocoa, and Cocoa Products.

PROPRIETARY MEDICINES ADVISORY COMMITTEE.

A total of 406 applications for registration of preparations as proprietary medicines have been received by the Department in the past twelve months. This brings the number of applications received since the inception of the scheme to 18,367; of these, a total of 15,155 have been accepted for registration by the Proprietary Medicines Advisory Committee.

During the past year 36 meetings of the Committee were held to examine new applications for registration.

The Committee also met 10 times during the year to review registrations of more than 10 years standing, 550 of this type of registration have now been examined.

One supplementary register was published during the year containing a total of 450 products, 344 deletions were made from the register for the same period.

A constant watch has again been maintained 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.

POISONS DIVISION.

Legislation.

Legislation introduced during the year comprised the following:—

Drugs of Addiction and Restricted Substances Regulations 1971 (No. 1).

These Regulations amended the Drugs of Addiction and Restricted Substances Regulations 1966 in the following ways:

1. They ratified legally a scheme introduced in January, 1970 whereby manufacturers and wholesalers of drugs of addiction were asked to submit weekly coded returns of licit movements of drugs of addiction in place of the quarterly returns required by the regulations. Under the scheme, which was introduced with the co-operation of the Commonwealth authorities and the pharmaceutical industry, coded weekly returns submitted to the Department are checked and forwarded to the Commonwealth Health Department, Canberra, for computer processing.

2. They made it mandatory for pharmaceutical chemists, hospitals and animal hospitals to store drugs of addiction in their possession in a steel drug cupboard constructed to meet stated minimum specifications and securely bolted to a wall or floor.

The regulations were aimed at preventing, or at least substantially reducing, the number of thefts of drugs of addiction by providing security for them of a much higher order than that provided by the wooden or light weight steel cupboards in general use.

Special Poisons (Levodopa) Regulations, 1971.

These Regulations restricted the prescribing of the anti-Parkinsonian drug, Levodopa, to medical practitioners who are members of the Australian Association of Neurologists and other medical practitioners with acceptable training and experience in the treatment of Parkinson's disease. Prescriptions for Levodopa written by warranted medical practitioners are required to be cancelled and forwarded to the Department after they have been dispensed.

Poisons (Licensing) Regulations, 1971.

These Regulations amended the Poisons Regulations 1963 to increase from 1st March, 1971, the annual fee payable for licences issued under the Poisons Act.

The fees for manufacturing, or selling by wholesale, drugs of addiction and manufacturing, or selling by wholesale, other poisons were increased to \$100, the maximum allowable by the Act. The fee for an Industrial Permit was increased to \$10; the fee for a Poisons Licence to \$5.

Special Poisons (Ovulatory Stimulant) Regulations, 1971.

These Regulations added the Mercy Maternity Hospital to the list of public hospitals whose pharmacist-in-charge is permitted to hold ovulatory stimulants on behalf of medical practitioners, employed at these hospitals, who held a warrant from the Chief Health Officer to possess and use these drugs.

Schedules to the Poisons Act.

A number of amendments to the Schedules to the Act were made during the year. These amendments were made on the recommendation of the Poisons Advisory Committee and were mainly based on changes to the Uniform Poison Schedules recommended by the National Health and Medical Research Council.

Notable among the amendments was the rescheduling of Carbromal, Bromvalerone and Urethanes and Ureides from Schedule Three to Schedule Four. This group of drugs was previously used as the active ingredients of sedative preparations available without a doctor's prescription. The change in scheduling made them available only on a doctor's prescription.

Commonwealth-State Drug Control Program.

The Department has continued to carry out jointly with the Commonwealth and the other States, the drug control program devised by the National Standing Control Committee on Drugs of Dependence. Developments have taken place in the following areas:—

(1) Movement of Licit Drugs of Addiction.

The scheme introduced last year whereby weekly computerized returns of all transactions in drugs of addiction were required to be submitted by wholesalers and importers in all States, has been expanded to include a number of amphetamine substances now drugs of addiction.

Analysis of these returns by the Commonwealth Department of Health's computer has made it possible for the Division to obtain specialized information whenever it is needed on the movements of these drugs in Victoria.

(2) *Drug Education.*

Pharmaceutical Officers of the Division continued to co-operate with the Department's Health Education Unit in carrying out this State's part of the drug education program being undertaken by all States in an effort to offset the growing problem of drug abuse.

Talks have been given to a wide variety of community bodies, including church and community service groups, professional groups, mothers' clubs and school committees; and a film prepared under the guidance of the National Health and Medical Research Council's Health Education Sub-Committee has been shown.

Control of Therapeutic Goods.

The National Therapeutic Goods Committee established under the powers of the Commonwealth Therapeutic Goods Act (passed in August, 1970) held its first meeting during the year. Two officers of the Department have been appointed members of this Committee which will continue the work of the old National Therapeutic Goods Working Party in co-ordinating State-Commonwealth legislation and administration relating to therapeutic goods and implementation by manufacturers of the Code of Good Manufacturing Practice.

Officers of the Poisons Division accompanied by officers of the Commonwealth Department of Health carried out during the year a number of inspections of drug manufacturing and wholesaling premises to see that the Code of Good Manufacturing Practice was being observed.

In the case of some manufacturers, it was found necessary to issue recommendations to improve conditions existing at the time of the inspections.

Manufacturers are now submitting to both our Department and the Commonwealth plans for new establishments at an advanced stage of planning; and this is enabling expert advice to be given where features of the plan are not in accord with the requirements of the Code of Good Manufacturing Practice.

Drug Recalls.

Again, this year, a number of recalls of drugs were carried out. These were necessary because of faulty labelling or packaging of drugs, or, in some cases, because of contamination of contents or failure of drugs to meet required standards.

The drug recall system agreed on between the Committee and the States has functioned efficiently in dealing with these incidents.

Control of Psychotropic Drugs.

A number of joint Commonwealth-State meetings, attended by officers of the Department, were held during the year to consider all aspects of the proposed United Nations Convention on Psychotropic Drugs. The Convention arises from an earlier document known as the Psychotropic Drug Protocol and it is envisaged that its principles will be followed by all States in the controlling of psychotropic drugs.

It is thought that Victoria will face few problems in implementing the Convention because existing poisons legislation already covers most aspects of the proposed system of control.

Drug Security.

Officers of the Division co-operated with officers of the Hospitals and Charities Commission and the Victoria Police Crime Prevention and Drug Squads during the year to advise hospitals, warehouses and pharmacies on aspects of drug security.

Following thefts of drugs from two metropolitan hospitals, teams representing all the above Departments visited all major public hospitals and a number of the larger private hospitals to emphasize the need for increased security for drugs of addiction stocks and to advise on methods for achieving this greater security.

Pharmacy breakings increased sharply during the year and in January 1971, regulations were introduced to require the installation of steel drug cupboards in all pharmacies, hospitals and animal hospitals.

To reduce stocks of drugs of addiction and restricted substances that might find their way into illicit channels the Department, with the co-operation of the Pharmacy Board of Victoria and the Pharmaceutical Society of Victoria, introduced a scheme whereby, during the months of February and March, 1971, pharmaceutical chemists in practice were allowed to destroy on their own premises any excess, unwanted or obsolete drugs of addiction. Pharmacists were required to destroy the drugs in the presence of another pharmacist or another responsible adult person and subsequently forward to the Department an accurate list of the drugs destroyed and a Statutory Declaration setting out the circumstances surrounding the destruction and the persons involved.

The scheme was an outstanding success and some 1,800 Declarations accompanied by lists of drugs were received. It is believed that the majority of pharmacists have reduced their stocks of drugs of addiction to a practical working level.

Drugs of Addiction Permits.

The Drugs of Addiction and Restricted Substances Regulations require a medical practitioner to apply to the Chief Health Officer for a permit where he considers it necessary to administer or prescribe a drug of addiction for a patient for a period in excess of eight weeks or has, in fact, been administering or prescribing a drug of addiction for this period.

This obligation was brought to the attention of all medical practitioners last year when an information booklet outlining the requirements of the regulations was sent to them; and, as a result, a marked increase was experienced in the number of permits sought.

Applications for permits increased even more sharply this year. A total of 176 permits was issued to doctors for the treatment of 131 patients. Permits for 113 of these patients (i.e. approximately 86 per cent.) were first issued in 1970-71.

The further stimulus to the permit system stemmed directly from inspection of pharmacy records which was able to be carried out on a routine basis for the first time this year by the Division's pharmacists.

Control of Amphetamines.

The Division continued during the year the administration of the regulations passed in April, 1970 that imposed severe restrictions on the prescribing by medical practitioners of the drugs amphetamine, dexamphetamine and methylamphetamine.

Permits from the Chief Health Officer were granted to medical practitioners for the treatment of 211 patients suffering from medical conditions other than the two provided for in the regulations, narcolepsy and hyperkinesia in brain damaged children. Early in the year, permits were issued for a maximum period of two months. This period was extended first to three and later to six months as the conditions for which amphetamines genuinely needed to be prescribed became clear. A total of 474 permits, which included repeat permits for some patients, was issued during the year.

In spite of these figures, it became increasingly apparent in the second half of the year that the prescribing of amphetamines was diminishing; only two applications to initiate treatment with these drugs were received in this period.

It is not yet possible to make an overall assessment of the effectiveness of the regulations. Other amphetamine drugs, including methylphenidate and phenmetrazine, are still available on ordinary medical prescription and it is possible that patients formerly taking the restricted amphetamines are now being prescribed these drugs.

Levodopa Regulations.

Levodopa, a drug that has caused a dramatic improvement in the condition of a great many sufferers from Parkinson's disease overseas, was introduced to the Australian market during the year.

As mentioned in the section dealing with legislation, regulations were introduced almost immediately (8th January, 1971) to restrict its prescribing to neurologists and other medical practitioners with acceptable training and experience in the treatment of Parkinson's disease. At the same time, the drug was proclaimed as a Schedule Seven poison.

The restrictions were introduced on the recommendation of the National Health and Medical Research Council and the Poisons Advisory Committee because, although Levodopa promises to bring relief to a large number of people suffering from Parkinson's disease, its administration, particularly at the beginning of the treatment, may cause serious side effects. Until the correct dosage for a particular patient is established, skilful and careful supervision is necessary and neurologists are considered best equipped to supply this supervision.

To the 30th June, 1971, the Chief Health Officer granted 95 warrants to prescribe Levodopa to medical practitioners, most of whom were neurologists or consultant physicians. Care has been taken to see that appropriately qualified doctors in all of the major country areas have been warranted so that general practitioners in these areas can refer their Parkinson's disease patients to them for assessment and stabilization.

Licensing Activities.

Administration of the licensing system established by the Poisons Act continued during the year. The number of licences and permits currently renewed are as follows:—

Licence to Manufacture Drugs of Addiction	..	..	..	14
Licence to Manufacture other Poisons	..	..	..	203
Licence to Sell Drugs of Addiction by Wholesale	..	..	..	20
Licence to Sell other Poisons by Wholesale	..	..	..	317
Industrial Permits	..	..	..	1,350
General Dealers Licences	..	..	..	286
Poisons Licences	..	..	..	4,841

In addition, there are currently 296 holders of Hospital Authorities to possess drugs of addiction and restricted substances and 281 holders of Educational, Advisory or Research Permits.

POISONS INFORMATION CENTRE.

During the year 4,104 inquiries were received at the Poisons Information Centre. This is 6.4 per cent. more than the total recorded in the previous year.

The 4,104 inquiries came at an average of 16.4 per day. Once again a new all-time record for the busiest month was set; in October the average number of calls per day was 18.4, well in excess of the previous record of 17.6 set in July 1969.

Inquiries from doctors in the Melbourne area totalled 762, compared with 660 in 1969 and 690 in 1968. A further 14 inquiries came from interstate doctors (9 in 1969 and 7 in 1968) while the number from doctors in other localities outside Melbourne was 276 (230 in 1969 and 174 in 1968).

More inquiries were recorded from doctors' receptionists and from pharmacists during the year whereas the numbers from nursing sisters and from others associated with the medical profession decreased. Overall the total number of these professional calls remained almost constant at 577 compared with 578 in the previous year. In 1968 the comparable total was 474 calls.

Combining the figure of 1,052 calls from doctors personally with the 577 from others associated with the medical profession gives a total of 1,629 professional calls which is 10.2 per cent. greater than the corresponding figure of 1,477 in 1969. There was another substantial but rather more moderate increase in the number from the general public, this total being 2,475 (4 per cent more than in 1969). As a result the professional calls amounted to 39.7 per cent. of the total for the year, a marginal improvement on the proportion of 38.1 per cent. found in 1969 but still well below the figure of 51.3 per cent. reported for 1965.

The following table illustrates the wide range of calls attended to by the Centre.

STATISTICS OF INQUIRIES RECEIVED AT POISONS INFORMATION CENTRE, 1970.

						Total for Year
1.	Salicylates, "Baby"	..	..	..	..	15
	Salicylates, Regular	..	..	..	..	59
	Barbiturates and other "sleeping" medications	..	..	..	..	95
	Laxatives	..	..	..	..	45
	Cough Medicines	..	..	..	..	102
	Other Internal and Parenteral medications	..	..	..	..	779
	Sub-Total	..	..	..	..	1,095
2.	Camphorated oil	..	..	..	..	18
	Mercurochrome	..	..	..	..	27
	Potassium permanganate	..	..	..	..	2
	Other External and Tropical medications	..	..	..	..	289
	Hair Preparations	..	..	..	..	71
	Nail Preparations	..	..	..	..	42
	Perfumes	..	..	..	..	85
	Other Cosmetics	..	..	..	..	92
	Sub-Total	..	..	..	..	626
3.	Bleaches	..	..	..	..	57
	Furniture Polish	..	..	..	..	57
	Other disinfectants. Clean and polish agents, deodorants	..	..	..	..	671
	Sub-Total	..	..	..	..	785
4.	Kerosine	..	..	..	..	44
	Turpentine	..	..	..	..	56
	Other solvents and petroleum distillates	..	..	..	..	113
	Sub-Total	..	..	..	..	213
5.	Rodenticides	..	..	..	..	60
	Fly Spray	..	..	..	..	35
	Naphthalene	..	..	..	..	32
	Other insecticides and related materials	..	..	..	..	174
	Weed killers	..	..	..	..	52
	Other pesticides	..	..	..	..	72
	Sub-Total	..	..	..	..	425

(continued)

							Total for Year
6. Plants	..	..	..	..	..	..	206
7. Bites and Stings and their causes	..	..	..	..	..	..	120
8. Adhesives	..	..	..	..	..	..	33
Arts and Crafts products	..	..	..	..	..	..	41
Automotive products	..	..	..	..	..	..	8
Candles	..	..	..	..	..	..	1
Chalks	..	..	..	..	..	..	4
Decorations	..	..	..	..	..	..	6
Dyes	..	..	..	..	..	..	16
Fertilizers	..	..	..	..	..	..	15
Fluxes	..	..	..	..	..	..	2
Inks	..	..	..	..	..	..	22
Matches	..	..	..	..	..	..	21
Novelty Items	..	..	..	..	..	..	3
Paints and Allied substances	..	..	..	..	..	..	56
Pet care	..	..	..	..	..	..	12
Photographic products	..	..	..	..	..	..	4
Pigments	..	..	..	..	..	..	4
Possible causes of symptoms	..	..	..	..	..	..	10
Rust control	..	..	..	..	..	..	1
Other Miscellaneous topics	..	..	..	..	..	..	375
Sub-Total	..	..	..	..	..	..	634
Grand-Total	..	..	..	..	..	..	4,104

COMMUNITY WELFARE SERVICES.

The amount of work in this section has increased greatly and recently an additional officer was appointed.

The expansion of existing services and the establishment of new ones have been limited by the amount of money allocated by Treasury. If the aims of the Government in providing these services are to be realized, namely that of keeping people healthy in order that hospital and institutional care will not be needed, it will be essential to make additional finance available.

Last year as the Department's representative, Miss B. Yeoman attended the 6th Annual Conference of the Australian Association of Gerontology in Sydney from 17th to 20th September. Both Miss Yeoman and Mrs. Kean attended the local meetings organized by the Victorian Branch of the Association of which Miss Yeoman is a Vice President. In addition they joined the newly formed Victorian branch of the Australian Public Health Association, which has its objects to protect and to promote public health. Miss Yeoman, as a committee member, has taken an active part in the proceedings of this first important year. She has served again on the executive committee of the Victorian Council on the Ageing as the co-opted representative of this Department and has been able to give this Council her advice and help.

Home Help Service.

The Home Help Service, which provides assistance in the home to young mothers who through sickness or confinement cannot attend to their families' needs and to the aged and infirm, is not yet meeting the full needs of the community, although during the last year it is pleasing to note that there were fewer eligible cases who could not be assisted. There has been a steady increase in the number of elderly persons seeking, and given, assistance.

The home help service when granted to young families provides assistance with the day to day cleaning, washing and shopping, and the care of young children. In assisting the chronically ill and the aged persons, in addition to the day to day cleaning certain types of spring cleaning are also undertaken and frequently the home help is called upon to perform other small tasks which help these persons to remain in their own homes, much longer than would otherwise be possible. Eligibility for home help is a medical certificate and householders are required to contribute an amount assessed according to their ability to pay.

Details regarding the subsidized Home Help Services are as follows:—

Total number of Councils granted subsidies	..	..	..	175
Number of services operating	..	..	..	151
Total number of Councils granted subsidies in respect of transport costs	..	..	..	112
Total cost to the Government for the Home Help Service for the 1970-1971 financial year	..	..	..	\$798,000
Total number of householders assisted during the 12 months period 1st January to 31st December 1970	..	..	..	19,962
These were as follows:—				
Mothers	..	..	..	9,888
Elderly	..	..	..	7,399
Others	..	..	..	2,675
Cases for whom no assistance was available	..	..	..	546
Home Helps engaged during the above period	..	..	..	1,828
Full time	..	..	..	233
Part time	..	..	..	584
Hourly	..	..	..	1,011

Elderly Citizens Clubs.

Elderly Citizens Clubs continue to be a valuable health service. Through the subsidized clubs alone over 35,000 elderly persons receive some benefit. More than 30,000 are kept active and interested by participation in social activities whilst others benefit from hot meals and chiropody.

During the last 12 months much assistance has been given to Municipal Councils throughout the State to assist in the setting up of Elderly Citizens Clubs and allied services. In some instances public meetings have been attended or the inaugural meeting of an elderly citizens club or a welfare committee. All the new clubs are meeting in temporary premises.

Every encouragement is given to clubs to remain financially independent when they meet only once a week for social activities, however, a few of these clubs will need some assistance to meet the rent of rooms, or for heating and lighting. Possibly a few will also require help to obtain furniture and games equipment. Where clubs provide hot meals or chiropody, a subsidy is immediately sought. Some new clubs have been set up for the specific purpose of organizing one of these services.

All applications from Councils for subsidies for new clubs have had to be deferred this year due to the limited finance available. Also the financial position of Councils has been responsible for few applications for grants. The Capital Grant of \$10,000 payable on a \$2 for \$1 basis does not meet two-thirds of today's cost of building clubrooms. Indeed, it is difficult to build for less than \$25,000 and \$30,000 would appear to be nearer the cost of most clubs built during the last year. Thus a large amount of local finance must be found, which in some municipalities is greatly delaying building plans.

During the last year six new clubrooms were opened and maintenance subsidies have been approved to assist Councils with their operating costs.

Although no subsidies have been approved for new clubs, many clubs already in receipt of subsidies have been granted additional ones. Also the existing clubs have extended the available services so that a far greater number of elderly persons are receiving assistance, for example 2,000 additional meals are served each week, approximately half to the elderly visiting clubrooms and half to the housebound.

A chiropody service is provided at many clubs and over 1,800 persons receive foot care every month. Chiropodists in earlier years gave their services either in an honorary capacity or for a very reduced charge. In more recent times many chiropodists, encouraged by the Australian Association of Chiropody (Vic.), are requesting the normal fee charged to patients receiving treatment privately in a clinic or at home.

The conditions introduced and made operative from the 1st October, 1970, were that chiropody could only be included as maintenance item of an Elderly Citizens Club when the service is carried out at the Clubrooms and on the condition that payment to the chiropodist does not exceed public patient rates on a sessional basis and the club provides all the dressings, drugs and disposable towels.

To maintain the balance of services and facilities available a further condition was introduced limiting the amount claimable for any one item (with the exclusion of hot meal services) to not more than 25 per cent. of the maximum maintenance subsidy available.

Details of the Clubs are as follows :—

New Clubs granted subsidies	Nil
Total number of clubs now subsidized	182
Clubrooms opened during year	6
Membership	30,460

Hot Meal Services

Number of clubs providing hot meals	98
Average number of meals provided weekly at club	7,203
Average number of meals provided weekly through meals-on-wheels	11,816
Clubs serving meals at clubrooms	44
Clubs including meals-on-wheels as a service	89

Handicraft Classes

Number of clubs conducting handicraft classes	34
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Chiropody

Number of clubs conducting service	73
Average number of persons treated monthly	1,855

Details of the subsidies granted are as follows:—

Total number of Councils now granted subsidies—126 for 192 clubs.	
Capital and maintenance	151
Capital only	18
Maintenance only	23
Government Expenditure during the 12 months period	\$330,237
Capital expenditure	\$120,000
Maintenance expenditure	\$210,237
Capital commitments at end of year	\$93,473
Capital Grants deferred	\$40,380

INDUSTRIAL HYGIENE DIVISION.

Incidence of Diseases of Occupation.

One hundred and twelve individual case histories were medically reviewed and assessed for diseases of occupation, and the final diagnoses were as follows:—

Pneumoconiosis	51
Other occupational disease	8
Non occupational disease	49

In addition a further 4 cases were investigated for possible sequelae following the inhalation of a proteolytic enzyme papain. Two of the four had suffered acute severe asthma at the outset but had soon recovered. Using ventilation function tests it will be necessary to follow up these cases for several years.

Further subclassification of the major groups showed the following—

A. <i>Pneumoconiosis</i>	51
Silicosis	47
Asbestosis	3
Talcosis	1
B. <i>Other Occupational Diseases</i>	8
Lead poisoning	1
Industrial deafness	1
Allergy to organic dusts	2
Raynaud's Syndrome	2
Formaldehyde irritation	1
Mild Solvent narcosis	1
C. <i>Non Occupational Disease</i>	
Routine exam and/or investigation	22
Emphysema, chronic bronchitis	7
Anxiety reaction	6
Blood dyscrasia	2
Diffuse fibrosing alveolitis	2
Hypertension	2
Asthma	2
Sarcoid	1
Pneumonitis	1
Giant urticaria	1
Tuberculosis	1
Gastroenteritis	1
Carcinoma of lung	1

Chest X-ray Surveys.

Chest X-ray Surveys continued as in previous years and were directed particularly to the diagnosis of cases of asbestosis and silicosis.

There is gradual acceptance, throughout the dusty industries, of the principle of industry itself promoting its own large film surveys amongst those employees considered to be at possible risk—but additionally, emphasis is also shifting towards prevention by better technology, rather than early diagnosis.

Scientific Activities.

The staff has maintained the waterfront advisory service with respect to occupational health. Some 35 inspections of ships were made. Gas-free certificates of previously fumigated ships were issued on two occasions.

Special attention has been focused on the potential hazard associated with microwave ovens, now being used extensively in the community. Following investigations the Department has accepted an interim protection standard with respect to the emission of radiation from microwave ovens.

Noise level measurements in relation to noise-induced deafness were undertaken in some 40 factories and appropriate recommendations made. The Division has instituted an initial screening audiometric service and some employees from various factories have been tested. A significant number have demonstrated audiograms typical of noise-induced deafness.

Members of the staff attended and contributed to a number of conferences and meetings on various aspects of occupational health.

Asbestos.

Twenty asbestos fibre-in-air counts were taken from 14 factories handling asbestos. Of these, 6 counts were in excess of the recommended level and the companies concerned were asked to rectify this.

Dust.

Seventeen gravimetric dust samples were taken from 16 factories, 2 proved to be in excess of the recommended maximum.

Lead.

During the year 4,600 reports were received under the Lead Workers' (Medical Examination) Regulations. Sixteen men were certified as "suffering from lead poisoning" by the examining medical officer.

Two hundred and nine men attended the laboratory for tests to evaluate their lead exposure. Of these, 102 men were found to have evidence of excessive lead absorption.

A survey of pottery commercially available in Melbourne was carried out. Sixty-seven pieces of pottery were checked for the amount of lead leached from their glazed surfaces by cold 4 per cent. acetic acid in 24 hours. Thirty-nine per cent. of the items tested showed lead release of greater than 7 p.p.m. and of these 12 per cent. released more than 100 p.p.m. of lead. These results were much the same as those obtained in a similar Canadian survey.

During the year 2 cases of lead poisoning due to non-occupational causes were investigated. One case was considered to be due to drinking wine made in a bath. A leachability test on the bath using cold 4 per cent. acetic acid for 40 hours gave a level of 18,000 p.p.m. In the other case of lead poisoning no cause, either occupational or non-occupational, could be found.

A third case occurred in which a woman was found to have biochemical evidence of excessive lead absorption, but with no clinical symptoms of lead poisoning. In this case also, no source of absorption was found and the biochemical findings returned to normal levels in a few weeks.

Tests performed were—

Stippled cell counts	..	..	..	..	..	2,090
Urinary coproporphyrin	..	..	..	..	..	351
Urinary lead determinations	..	..	..	..	..	250
Blood lead determinations	..	..	..	..	..	7
Haemoglobin estimations	..	..	..	..	..	116
Full blood counts	..	..	..	..	..	34
Lead-in-air determinations	..	..	..	..	..	37
Lead-in-paint determinations	..	..	..	..	..	8
Lead leached from pottery, baths, etc.	..	..	..	..	..	69

General Chemicals.

A total number of some 70 atmospheric determinations for solvent vapours were carried out.

The solvents included benzene, carbon tetrachloride, methyl ethyl ketone, methyl isobutyl ketone, perchloroethylene, styrene monomer, toluol, trichloroethylene, xylol and other solvent mixtures.

Sixty-three atmospheric determinations were carried out for contaminants other than solvents.

These contaminants included chromic acid, carbon monoxide nitrobenzene, nitrous fumes, oil mist and welding fumes. Recommendations were made to 7 factories to reduce the excessive atmospheric concentration of the contaminant in the working environment by means of local exhaust ventilation.

Recommendations were also made to 2 factories to eliminate carbon tetrachloride and use, in its place, the much less toxic 1,1,1 trichloroethane.

A survey of the use of acrylamide in industry revealed that two factories needed to improve the handling of the chemical.

Investigations regarding welding fumes associated with various types of electrodes and fluxes were undertaken.

Pesticides.

Organo-phosphorus compounds.

The estimation of blood cholinesterase levels in 178 people involved 204 analytical determinations.

Cholinesterase levels were closely watched during the initial stages of operation of a new organo-phosphorus formulating plant. Levels indicating excessive exposure were found in several operators and frequent monitoring was instituted until the teething troubles were overcome.

Methyl Bromide.

Following surveys conducted by this Division, a revised "Code of Practice for the Fumigation of Dried Fruit under Gas-proof Sheets with Methyl Bromide" is now being considered by the Occupational Health Committee of the National Health and Medical Research Council.

A method for the determination of small amounts of bromide in blood was investigated, to provide a practical means of assessing safety procedures observed by pest control operators doing methyl bromide fumigation.

Nineteen blood bromide determinations were carried out on persons exposed to methylbromide and three on exposed persons. One pest control operator showed excessive exposure to MeBr.

Arsenic.

Eleven people were tested for suspected arsenic poisoning. This involved 13 analytical determinations, 11 on urine and 2 on hair. No cases of Arsenic poisoning were detected.

Mercury.

Twenty-five people were tested for increased mercury absorption. Three factories and seven laboratories were monitored for mercury vapour.

A new method for mercury determinations in biological specimens was investigated and found to be much simpler and more sensitive than the dithizone procedure previously employed. It can also be used for organic mercury determinations and can to some extent differentiate between the different types of organic mercurials.

Effluent from the three Chlorine plants in Victoria was tested by the new method to ascertain the degree of mercury contamination of the environment from this source.

Radiation.

The numbers 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 are as follows :—

Medical	..	..	..	..	..	..	..	181
Dental	..	..	..	..	..	..	..	305
Industrial	..	..	..	..	..	..	..	173
Educational and Research	..	..	..	..	..	..	..	62
Government Bodies	..	..	..	..	..	..	..	52
Chiropractors	..	..	..	..	..	..	..	84
Hospitals	..	..	..	..	..	..	..	105
Clinical Groups	..	..	..	..	..	..	..	44
Total								1,006

The use of radio-active substances in medicine, research and industry continues to gradually increase.

The Commonwealth X-ray and Radium Laboratories now regularly provide the Division with film badge reports from some 210 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. Two incidents involving notifiable doses of radiation in the industrial radiography field were investigated. Both incidents involved cable-operated remote control equipment and arose from failure of the source to return to the shielded position and failure of the radiographers to observe standard safety practices. Users of this equipment have been reminded that they must adhere strictly to the National Health and Medical Research Council Code of Practice.

A further large irradiation facility designed specifically for the sterilization of medical supplies has been built at Dandenong. The total Cobalt activity is one million curies. Radiation surveys have indicated that the concrete shielding is satisfactory. Safety interlocks have been incorporated in the plant to prevent entry into the irradiation room whilst the source is in the exposed position.

Extensive assistance has been given to the first phase of the National Health and Medical Research Council Survey on the Genetic and Mean Bone Marrow Dose to the Australian population. This has involved distribution and checking of a large number of questionnaire forms related to diagnostic and therapy centres. The second phase of the Survey, in which dosimetry tests are to be undertaken at certain centres, is expected to commence in the New Year.

Proposed amendments to the Irradiating Apparatus and Radio-Active Substances Regulations 1959 have been drafted and it is expected that these amendments will be introduced into the legislation next year. These amendments are designed to specify certain requirements in more detail and should allow the Commission of Public Health to exercise more control over the radiation field in general.

ENGINEERING DIVISION.

Sewerage.

New sewerage systems were completed and brought into operation during the year at Birchip and Drouin, where the lagoon system of treatment has been adopted in both cases.

Construction was commenced on systems at Anglesea, Dromana-Rosebud, Nathalia, Numurkah and Ocean Grove.

Additional Sewerage Authorities were constituted for the towns of Cobden, Hastings, Heywood and Lakes Entrance, and new schemes were proposed for Serviceton and Yinnar. There are now 104 Sewerage Authorities constituted in Victoria under the Sewerage Districts Act.

Eighty-five inspections were made during the year of town sewage treatment plants and samples taken for analysis at the Health Laboratories. The Authorities were advised of the test results and comment was made on the operation and effectiveness of treatment at these plants.

Plans were examined for 12 proposed new schemes and for extensions to existing treatment works.

Lectures were given by Division staff at a Sewage Treatment Plant Operators' Course at Springvale, sponsored by the Australian Water and Wastewater Association, and public meetings were attended to discuss proposed schemes at Cowes, Inverloch and Apollo Bay.

No applications were received for the establishment of night soil depots, indicating the general trend towards the adoption of full sewage treatment.

Septic Tank Installation.

Plans were examined and approved for 239 new septic tank systems. In addition, plans for mass septic tank schemes at Lake Bolac, Neerim South, Neerim Junction, Noojee and Nayook were examined and approved, together with proposals for extensions to existing schemes at Penshurst and Dunkeld.

A total of 194 systems were inspected.

Offensive Trades and Garbage Depots.

Plans were examined and approved for 17 new and extensions to existing abattoirs and cattle saleyards. Inspections were made of 8 garbage depots.

Sanitary land-fill disposal continues to be the accepted method for dealing with household garbage and certain types of industrial wastes in Victoria.

Stream Pollution Control and Drainage.

Approximately 100 applications were received for approval to discharge trade wastes to streams and water-courses and 56 inspections were carried out in this connection. Twenty-one approvals were issued after consultation with other authorities concerned.

Public Buildings.

Approvals of plans and specifications of public buildings totalled 1,066 as shown in the following table:—

Class of Building.	Sketch plans for approval in principle.	Working drawings for approval.	Electrical Installation.	Mechanical ventilation Installation.	Totals.
Institutions	..	1	..	..	1
Public Buildings	25	522	291	52	890
Tertiary Education Buildings	3	36	11	6	56
Schools	7	179	181	31	398
Pre-schools and Infant Welfare Centres	54	118	54	1	227
Amusement structures/tents	..	6	35	..	41
Child Minding Centres	2	41	37	1	81
Mentally Retarded Centres	7	12	11	1	31
Elderly Citizens Clubs	9	20	30	2	61
Exhibitions/seating plans	3	21	..	..	24
Totals	110	956	650	94	1,810

1,066

Day inspections of public buildings numbered 6,605 and 39 inspections were made during public occupation at night.

Thirty-five new Certificates of Safety were issued for amusement park structures and 265 were renewed, while 22 certificates were transferred during the year.

Twenty new Child Minding Centres were registered, registration was renewed for 249 others and 6 were transferred.

Swimming Pools.

Some 33 inspections of public swimming pools were made, with the emphasis on ensuring satisfactory disinfection of existing unconventional pools, for which provisional exemption from the Swimming Pools (Water Purification) Regulations had been given.

Satisfactory progress is being made in the conversion of these to modern pools of standard design which can be operated in compliance with the Regulations.

Officers of the Division again took part in two instruction courses for swimming pool operators. The Australian Water and Wastewater Association and the Swimming Pool Superintendents' Association each conducted a course at Springvale.

Water Supply.

A total of 107 water samples were taken for the purpose of bacteriological analysis. Supplies were sampled for the small country town reticulated supplies, as well as regular sampling of the Metropolitan supply.

Investigations were carried out on 23 town supplies to examine treatment, assess quality, or survey catchments.

Water Pollution.

In addition to the control of stream pollution of natural watercourses from sewage effluents and trade wastes, inspections are made, as required, where known or suspected pollution of other water resources is occurring.

A series of tests on water quality was made during the year on Lakes Colac and Colangulac in the Western District to determine the extent and effect of pollution loading from drainage run-off, trade wastes and a treated sewage effluent.

A survey was also undertaken of the Murray River and several tributary streams from Lake Hume to Yarrawonga to determine the sources of polluted drainage and the overall effect on water quality in relation to town water supplies pumped from the River. This survey was conducted in collaboration with the New South Wales Health Department and indicated that town water supplies drawn from the Murray River should be chlorinated.

General.

Divisional Staff attended the Australian Water and Wastewater Fourth Federal Convention at Manly, N.S.W. in October, where eminent overseas authorities spoke of their problems of wastes disposal and methods of controls to prevent degradation of the environment.

Other speakers dealt with the Australian scene in this connection.

Symposia and meetings, with talks by experts in this field, were also attended by staff.

AIR POLLUTION CONTROL.

Monitoring of dustfall by means of deposit gauges, and smoke density and sulphur dioxide concentration in the ambient atmosphere was continued with only minor changes in location and number. A detailed report of air pollution measurements by the Clean Air Section accompanied the submission to the Commission at its meeting on 8th July, 1971.

Complaint investigations and site inspections prior to installation of new plant numbered 555. There were 185 inspections of completed plants and visits relating to field work in connection with air pollution measurements.

The examination of plans and specifications of new plant and equipment pursuant to the Clean Air Regulations 1965 remains the focal point of the control programme operating within the Department.

The breakdown of the plants approved was as follows:—

Surface Coating Units (39)	..	..	Pretreatment Units	..	..	1
			Spray Booths	..	..	35
			Stoving Ovens	..	..	2
			Paint Dipping Unit	..	..	1
Incinerators (10)	..	..	Public	..	..	1
			General, Industrial	..	..	7
			Woodwaste	..	..	2
General Combustion Units (130)						
Boiler Plants, Oil Heaters, Industrial						
Space Heaters, Bakers Ovens	..	..	Heavy Fuel Oil (Middle East)	..	..	38
			High Pour Point Oil (Bass Strait)	..	..	5
			Industrial Diesel Fuel	..	..	58
			Automotive Distillate	..	..	13
			Natural Gas	..	..	14
			Solid Fuel	..	..	2
Internal Combustion Units (2)	..	..	Standby I.C. Electric Alternator Sets	..	..	2
Odour and Dust Control (22)	..	..	Direct Fired Afterburners	..	..	6
			Wet Scrubbers	..	..	5
			Dust Collectors	..	..	11
Metallurgical Works (3)	..	..	Galvanizing Plant	..	..	1
			Cupola	..	..	1
			Acid Recovery Plant	..	..	1
Petroleum Plants (1)	..	..	Factory Extensions	..	..	1
Chemical Plants (6)	..	..	Factory Extensions	..	..	6
Ceramic Works (5)	..	..	Kilns	..	..	2
			Driers	..	..	2
			Glazing Unit	..	..	1
Food Industry (2)	..	..	Meat Smoke House	..	..	1
			Spray Drier	..	..	1
Paper Industry (2)	..	..	Factory Extensions	..	..	2
Miscellaneous (17)	..	..	Textile Industry; Stenter Exhaust	..	..	2
			Printing Industry; Ink Fume Exhaust	..	..	2
			Nonclassified scavenger exhausts (e.g. cyanide treatment bath etc.)	..	..	13

i.e. 239 Plants were approved during the year compared with 112 in 1969. This brings the total number of plants approved since the introduction of the Clean Air Regulations in 1961 to 1,103.

Acidic Smut Emissions.

In the 1969-70 Annual Report it was recorded that five Hoffman type kilns were causing this type of problem as at the 30th June, 1970. Two of those kilns have been converted to natural gas firing, and not a single complaint relating to fallout from them was received by the Department during the 12 month period. A third kiln which was giving rise to acid smut emissions has been fitted with a large burner in the base of the stack, and the temperature raised to ensure that the surface temperature within the chimney exceeds the acid dew point of the exhaust gases. Complaints relating to this installation ceased immediately, following the efficient operation of the new burner. The Company

operating the kiln plans to convert to natural gas firing when gas reticulation is extended to their works. Acid smut emissions are still occurring from two kilns in the northern suburbs of Melbourne. One will be completely converted to utilize indigenous heavy fuel oil (low sulphur) by the 7th August, 1971. Consideration is being given in the case of the other kiln to firing with *grus* (ground up briquettes) an authorized fuel prescribed in the 1971 Clean Air Regulations which came into force on the 1st May, 1971. The decision of the Company on its plans to overcome the acid smut emission problems are imminent.

Steel Making.

In the previous Report of the Commission mention was made of a potentially low cost collection system which could be applied to control emissions from the decarburizing process during the manufacture of steel. Although the oxy-fuel lancing in lieu of the pure oxygen did limit the efficiency of the collector required to eliminate the red visible emissions, the Company carrying out the work elected to install a baghouse. The baghouse is scheduled to be completed in the latter half of 1971.

Sawmills.

During the year the sawmill industry became active in its attempt to resist the Commission's requirements that a substantially smoke free and fly ash free woodwaste incinerator should be provided at sawmills. The Rees or Teepee type burner was the type of unit which the industry pressed to be allowed to install. Following the examination of various sawmilling installations over a wide area of the State, the Commission required the installation of either a McCashney or multiple chamber incinerator fitted with a storage hopper and automatic feeding equipment at a number of sawmills to control the problem of smoke and ash emissions.

Hot Dip Galvanizing.

For a period of years the Australian Zinc Development Association has maintained that the fume arising from the hot dip galvanizing process could not be controlled by the use of a baghouse. It has now become increasingly clear that a baghouse with specific design parameters can in fact control the emissions. Pilot work is now being carried out to confirm the design parameters and it is anticipated that this will ultimately lead to full scale plants which will be applicable to all existing works in the State.

Cold Blast Cupolas.

Isokinetic sampling carried out during the year on a modified cold blast cupola clearly indicates that the "shaw" pattern wet arrestor is not capable of controlling the emissions to the point where they conform with the limits laid down in the 1965 Clean Air Regulations. Adequate control of emissions from these units could be achieved by the use of a baghouse which on its own would not be prohibitive in cost. However, the need to precede the baghouse with a direct flame after-burner and radiation or other type cooler would lead to a solution which would be beyond the financial capacity of most of the small cupola proprietors operating in this field. Work has therefore been progressing on attempts to minimize the emissions arriving at the "shaw" pattern wet arrestor with a view to enabling such a unit to control the emissions to meet the limits set down in the Regulations.

The avenues under active investigation are the—

1. control of blast velocities,
2. afterburning of the exhaust gases above the charging opening, and
3. introduction of natural gas adjacent to the tuyere.

GENERAL ITEMS.

Prison Medical Service.

The medical services provided in the prisons remains the responsibility of the General Health Branch. At Pentridge Gaol the psychiatric services are provided by the Mental Health Authority. The medical service at Pentridge in the latter part of 1970 was carried out by a temporary medical officer. For the first six months of this year, the services were maintained by medical officers of the General Health Branch.

At MacLeod Prison (French Island) the local medical practitioner was unable to attend the prison farm on a sessional basis and it has been necessary for the medical services to be carried out by medical officers of the General Health Branch visiting from Melbourne. A similar situation occurred at Langi Kal Kal near Beaufort but this difficulty has since been overcome by the addition of a partner to the local medical practice thereby enabling visits on a monthly basis.

Health Education Centre Establishment.

The Health Education Centre of this Department was established in December 1970. Prior to this time Health Education was carried out by each branch of the Department individually. The establishment of the Centre now enables the Department to carry out Health Education on a co-ordinated basis. The Centre provides speakers, supporting visual aids, and other ancillary services, including seating accommodation for the use of small groups if they wish to view films etc. When a speaker comes from another branch of the Department, the Centre provides any assistance required.

Staffing.

The present staff of the Health Education Centre comprises an Administrative Director, and on the medical side a Chief Health Education Officer, Senior Health Education Officer and a Health Education Officer.

Scope.

The scope of activity of the Centre embraces all aspects of public health, although at the present time there is much emphasis on drug education and the community. Acting with the advice, and general guidance of the Commonwealth Government, every State in the Commonwealth has now embarked on public education programmes about the use and abuse of drugs in the community.

For many years departmental officers have given, on request, talks on the subject of drugs and other issues of social importance.

From March 1st, 1970, some nine months before the establishment of the Health Education Centre, until December 31st, 1970, education talks to prevent drug abuse were given; 80 to adult groups and 70 to youth groups including schools. As far as schools were concerned most of the talks given were at secondary level; only three were given to primary schools. There were 35 school requests in all, but most schools required from two to six talks, since groups are limited to 40 or 50. Of these 35 requests, seven came from the students themselves. Talks are only given to schools when the interest in the subject is already present and teachers or students request a speaker.

Talks to other youth groups comprise Church-based youth clubs and scouts chiefly. The adult groups addressed comprise mothers' clubs, Church and Service organizations and professional groups. There is indication that the popularity of these talks is increasing as approximately 225 groups of all kinds have requested talks in the financial year 1970-71.

A selection of the films which are available on the subject of drug abuse are used in the education programme, but these are not screened unless a suitably qualified speaker is present.

In accordance with Commonwealth policy members of Service groups are now being trained to speak to their own members. Interest has been shown in Melbourne and in a number of country centres in this "self help programme", and the training facilities available at the Health Education Centre are shortly to be used for training Service groups within the Melbourne Metropolitan area. The most advanced of these "self help" groups is the Geelong Drug Information Service which was set up spontaneously by local citizens. This group is already supplying speakers for talks in the greater Geelong area.

Officers from the Health Education Centre have provided training for speakers who are attached to this group and the Centre assists this group with the loan of films and the provision of literature.

Recently a number of television commercials, produced by the Commonwealth Department of Health, have appeared on television. These indicate that information about the use and abuse of drugs may be obtained on writing to the Health Education Centre. Suitable literature is sent in answer to enquiries.

The Commonwealth Programme is currently sponsoring a training course in the field of Health Education. Victoria has two representatives at this course, one of whom is Health Education Officer with the Centre.

Projected Activities.

The Centre is developing its library of health education films and now has a number of 16 mm. sound movie projectors and 35 mm. slide projectors available for use.

Action is being taken to obtain the service of a qualified librarian to establish a library which may be used by the Department in general.

A number of books on drug abuse have been ordered and delivery of these is awaited.

An in-service training programme for Departmental staff engaged in drug education was held at the State Film Centre, Melbourne in May 1971, to provide background information for officers who may be asked to speak on the subject.

Planning.

The financial year 1970-71 has been a period of development of the Health Education Centre inasmuch as programmes needed to be prepared, equipment purchased and office accommodation secured. It is envisaged that the financial year 1971-72 will be a period of consolidation and expansion of activities, particularly in the field of public education about drugs and the training of various groups within the community on the "self help" basis.

Considerable use is being made already of the Centre's facilities by other branches of the Department and liaison has been made with corresponding branches of State Health Departments in other States and with voluntary organizations in the field of Health Education, such as the Alcoholism Foundation of Victoria and the Anti-Cancer Council of Victoria. The help of the Centre has been sought by various community organizations about the conduct of seminars in the field of drug education, and officers of the Centre have commitments well into the second half of 1971 to help such community groups particularly in country areas which wish to conduct these seminars and discussions.

Cancer Education.

In accordance with Departmental policy, assistance was given to the Anti-Cancer Council of Victoria by providing medical speakers when requested, for its public education programme about cancer. Such requests are now channelled through the Health Education Centre.

The following talks were given during the calendar year 1970 on behalf of the Anti-Cancer Council.

Women's Groups (Cancer of Cervix uteri and breast)	..	..	11
Cancer (General)	..	..	4
Schools (Smoking)	..	..	4
Youth Groups (Smoking) other than schools	..	..	4
Total	..	..	23

Rodent Control.

Rodent control over the past 12 months once again included assistance and advice to the Melbourne Harbour Trust personnel engaged in rodent control throughout the Harbour Trust lands and waterfront areas.

Rat Infestation on the Wharves.

Rat infestation on the waterfront area at present appears to be at a low level due to regular servicing of areas susceptible to infestation and continual supervision by the Harbour Trust staff. Periodically small infestations occur in inaccessible areas and in buildings which are altered structurally or demolished.

Liaison with the Commonwealth Quarantine Department has also been very satisfactory and all notifications of rat infestation are investigated and remedial action is taken.

Rat Infestation in the State.

Several inspections were carried out at State Prisons and various public institutions throughout the State, and advice on suitable eradication measures was given to the personnel in charge.

Many householders were also advised on various aspects of rodent and pest control.

Following a request from the Melbourne Metropolitan Board of Works an inspection of the Board's Sewage Farm at Werribee was carried out in order to evaluate present rodent control measures and to provide advice as to the improvement of the methods in use.

Pest Control.

A number of Kindergartens, Pre-School Centres, State Schools and High Schools were inspected after receiving reports of sightings of Red-Back Spiders. Following these inspections reports and recommendations for control were submitted to the District Health Staff.

Numerous inquiries were also received following the publicity in the press on the deadly Sydney Funnel Web Spider. Many field inspections failed to reveal the true species.

Items of Special Interest.

Following an inquiry on lice and mites at a private residence, an investigation was carried out and it was found that the persons concerned were allergic to a cold water soap powder containing enzymes.

Following a discussion on the fumigation of aircraft with the Chief Medical Officer of Trans Australia Airlines an inspection of an aircraft was undertaken. During this inspection it was found that the material being used by a firm carrying out the fumigation work was toxic and corrosive to the electrical wiring and metal structure of the aircraft. The Chief Medical Officer was immediately notified of this so that remedial steps could be taken.

During December 1970, a series of lectures on the safe use and application of pesticides were given to Regional Conferences of Health Inspectors at Civic Centres in the metropolitan and country areas.

Liaison with Commonwealth and State Departments and Municipal Councils has continued at a satisfactory level.

Liquor Inspection.

Premises inspected:—

Hotels	..	..	348
Licensed Grocers	..	..	46
Sporting Arenas (Visits)	..	..	27
Bottling Establishments (Visits)	..	..	36
			457

Of the 348 hotels visited seven did not have a denaturing substance in the drip-trays, as required by the Cleanliness (Foods, Drugs and Substances) Regulations. A warning was given to the licensee in each case and follow up inspections were made.

Eight licensed grocers visited were selling wine with labels that did not comply with the labelling requirements of the Food and Drugs Standards Regulations. Sale of wine was interrupted until correct labels were placed on the bottles.

Two licensed grocers bottling wine on their premises were not complying with the Cleanliness (Foods, Drugs and Substances) Regulations. This activity was permanently discontinued and arrangements made for bottling to be carried out at other premises.

Of the sporting arenas visited, one was found to have a bottle of spirit which did not comply with the Regulations and steps were taken for this item which was old stock to be destroyed. Cleanliness was of the required standard at these arenas.

One small bottling establishment was found to be bottling Scotch Whisky at a strength less than that allowed under the Regulations. All of this Whisky was recalled and re-bottled to comply with the Regulations. An investigation as to the reason for this incident disclosed that the employee concerned had used the wrong hydrometer scales book.

Opened bottles of spirits tested at the above premises were as follows:—

Scotch Whisky	987
Australian Whisky	738
Imported Gin	207
Australian Gin	364
Imported Brandy	48
Australian Brandy	617
Imported Rum	321
Australian Rum	241
Schnapps	22
Total	3,545

Of this total of 3,545 bottles the following were found to be adulterated.

Scotch Whisky	15
Australian Whisky	3
Imported Gin	7
Australian Gin	3
Australian Brandy	5
Imported Rum	1
Australian Rum	3
Total	37

Six hotels were visited for the purpose of sampling of beer and all these samples gave satisfactory results.

Following a complaint, a survey of the facilities for the washing of glasses was carried out at ten hotels in the St. Kilda area. All employed satisfactory means for glass washing and complied with the Regulations.

A prosecution taken under the Goods Act for adulteration of whisky was successful as were two for adulterated brandy taken under the Goods Act. In addition, a hotel keeper was successfully prosecuted for failing to have a denaturing substance in the drip-trays on his premises.

Free Travel for Pensioners and Persons of Similar Limited Means.

During the year there was again a large increase in the number of applicants for free travel compared with that of the previous year. The overall total was 29,322, an increase of 4,434.

All but 300 of the applicants were provided with free rail vouchers and/or tram tickets, to attend a public hospital for treatment. The remainder were rejected as the applicants either failed to qualify as "persons of similar limited means to a pensioner", were not attending approved institutions or their mode of transport was other than State owned.

The expenditure on Free Travel for the year was \$105,811, an increase of \$8,283 over the previous year. This increase can be attributed to several factors, the main one being an increase in the number of applicants due to the relaxing of the "means test" for pensioners.

It is interesting to note that in 1968, of the total number of applicants 64 per cent. were pensioners. This has now risen to 80 per cent. Since 1966-7 the number of applicants for free travel has increased by over 10,000 and the expenditure by over \$22,000.

Regulations.

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

Public Building (Amusement Park Structures, Travelling Shows, etc.) Amendment Regulations 1970.

These Regulations clarify the responsibilities of Council inspecting officers when completing and signing inspection certificates for amusement park structures, travelling shows, etc.

Animal Food (Amendment) Regulations 1970.

These Regulations deferred the coming into operation of the Principal Regulations to 1st April, 1971. Subsequently, this deferral was extended to 1st August, 1971, and later to 1st December, 1971.

Public Building (Amendment) Regulations 1970.

These Regulations raise to \$3 the minimum fee that may be charged by the Commission for the examination of plans and specifications of a public building which does not exceed 500 square feet in area.

Diseases Notification (Amendment) Regulations 1970.

These Regulations remove eclampsia from the list of diseases or abnormal bodily conditions which require to be notified to the Commission.

Meat Supervision (Amendment) Regulations 1970.

These Regulations increased the charges that may be levied by the Commission for the rental to municipal councils of meat brands.

Proprietary Medicines (Amendment) Regulations 1970.

These Regulations increased the fees that require to be paid for the registration of a proprietary medicine.

Swimming Pools (Water Purification) Amendment Regulations 1970.

These Regulations deferred to 1st April, 1971, the application of the Principal Regulations in respect of a number of country swimming pools.

Night-soil and Sewage (Contamination of Land) Amendment Regulations 1971.

These Regulations provide for the allocation to the Frankston Sewerage Authority of letters for the branding of cattle. A later amendment allocated letters for use by the Stawell Sewerage Authority.

Public Building (Amendment) Regulations 1971.

These Regulations provide for persons not less than 20 years of age to operate stage switchboards in public buildings.

Clean Air (Amendment) Regulations 1971.

As well as providing for additional interpretations these Regulations introduced limitations upon the use of any fuel in the fireplace of an industrial plant which results in the emission of sulphur to the atmosphere at a rate greater than that prescribed.

Food Premises (Amendment) Regulations 1971.

These Regulations prescribe the manner in which the name of the proprietor shall be placed on food premises or vehicles which form part of the business.

RETIREMENT OF THE CHAIRMAN.

Dr. R. J. Farnbach retired in January, 1971, after 25 years' meritorious service with the Department of Health.

Dr. Farnbach was appointed Chairman of the Commission in August, 1966, and appreciation is recorded of the expert manner in which Dr. Farnbach performed his duties over the years.

Respectfully submitted,

W. J. STEVENSON	}	Members of the Commission.
T. R. FLOOD		
A. S. THOMSON		
A. C. PITTARD		
J. E. DALEY		
G. G. STILLWELL		
S. W. WILLIAMS		

A. T. GARDNER, Secretary,
Melbourne, 21st September, 1971.



