Annual report on the health and medical services of the state of Queensland.

1955.

QUEENSLAND.

ANNUAL REPORT

OF THE

HEALTH AND MEDICAL SERVICES

OF THE

STATE OF QUEENSLAND

FOR THE

YEAR 1954-55.

PRESENTED TO PARLIAMENT BY COMMAND.

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ANNUAL REPORT OF THE DIRECTOR-GENERAL OF HEALTH AND MEDICAL SERVICES, 1954-55.

The Honourable the Minister for Health and Home Affairs.

SIR,—I have the honour to submit for your information the annual report of the Health and Medical Services Branch of the Department of Health and Home Affairs during the year ended 30th June, 1955.

ABRAHAM FRYBERG,
M.B., B.S. (Melb.), D.P.H., D.T.M. (Syd.),
Director-General of Health and Medical Services.

STAFF.

Dr. D. W. Johnson, Deputy Director-General of Health and Medical Services, returned to duty, having studied, under a World Health Fellowship, public health and epidemiology, visiting Britain, the Continent, Canada and the United States.

State Social Service Fellowship holders have undertaken post-graduate work. Dr. Neville E. Parker, who was attached to the Mental Hygiene Service, was given leave to attend the Melbourne University to sit for the Diploma of Psychological Medicine, in which he passed early this year. He is at present attached to the Psychiatric Clinic, Brisbane. Dr. Maxwell E. J. Brightman, who was medical superintendent of the Bowen Hospital, was given leave to proceed overseas to study for the Fellowship of the Royal College of Surgeons, and Dr. R. L. Doherty, who has been in charge of the Field Station of the Queensland Institute of Medical Research at Innisfail, was awarded a Rotary Scholarship and will visit the United States and study for the Master of Public Health at Harvard University. Dr. J. M. Morris has been granted time off to attend lectures in the course for the degree of Bachelor of Laws, as he is interested in the medico-legal aspects of medicine.

Dr. B. G. Burton-Bradley, Medical Officer, Brisbane Mental Hospital, is on special leave studying for the Diploma of Psychological Medicine.

It is with regret I record the passing of Mr. G. T. Riddell, who died on 17th March, 1955, after 37 years' service with the Department. At his death Mr. Riddell held the position of Secretary to the Director of Mental Hygiene. He was succeeded by Mr. S. T. G. Beedham.

Dr. M. J. J. O'Reilly, Deputy Director of the Laboratory of Micro-Biology and Pathology, has been awarded a World Health Organisation Fellowship for 1955, and will proceed to study public health problems in the leading public health laboratories of America and England. He will pay particular attention to neo-natal mortality.

INTRODUCTORY REMARKS.

Vital Statistics.

The infantile mortality rate for 1954 was 22·3, the lowest rate ever recorded in Queensland, and a decrease of 2·6 since 1953. In the metropolitan area the infantile mortality rate was only 18·9.

While this decline is gratifying there is obviously still room for improvement. Of 695 babies who died during the year prematurity was the sole or principal cause of death in 188 (or 27 per cent.). This cause was responsible for 145 deaths in 1953. If deaths from prematurity in 1954 could have been held to the 1953 figure the infantile mortality rate of 1954 would have been 20·9. Prematurity ranks high as a sole cause and as a contributory cause of death in the first month of life, and in recent years active efforts have been made to ensure the survival of more premature infants. Maternity hospitals have been supplied with additional equipment, and the majority of nurses in charge of maternity hospitals have the maternal and child welfare training certificate.

Over 80 per cent. of the babies who die in the first year of life die before they are a month old. It is the most precarious period of our existence. In an effort to reduce the number of deaths in this neo-natal period a Committee consisting of Drs. G. Shedden Adam, L. W. Gall, K. Wilson (obstetricians); David Jackson, Felix Arden, A. E. Paterson, and H. C. Murphy (paediatricians); Dr. M. J. J. O'Reilly of the Laboratory of Microbiology and Pathology; Mr. S. E. Solomon (Government Statistician); and the Director-General have met regularly, to investigate the cause of death of these babies. A full history is obtained from the attending doctor and discussion then takes place to ascertain whether the death is inevitable or preventable. The number of histories studied is as yet too small to reach any definite conclusions, but it would appear at this stage that most deaths are inevitable.

Attention is again directed to the importance of accidents as a cause of death. They are now the chief cause of death in children, and many of them are entirely preventable.

Communicable Diseases.

There were no major epidemics during the year, but poliomyelitis caused a minor epidemic which appears to have disappeared at the onset of winter. A further decline in diphtheria has occurred, whilst notifications of tuberculosis, in spite of active case finding surveys, have fallen for the second year in succession. This can only mean that the campaign against tuberculosis is beginning to show results.

Queensland is a healthy State in which to grow up and live. However, there is a tendency for certain Local Authorities to be content to take advantage of declining mortality and the absence of epidemics by refraining from the installation of amenities such as pure water supplies and disposal of nightsoil by sewerage. I take this opportunity to point out to them that good health does not mean only the absence of disease. Good health means the ability to lead a full and useful life, and amenities such as sewerage and pure water are important factors in better living. Towns with these facilities have a decided advantage over towns without them—they are better to live in and fewer people want to leave them.

The report of the evaluation of the field trials in the United States with Salk vaccine was made public in April, 1955. This was followed by an hysterical demand for its immediate use. Unfortunately a number of children died of poliomyelitis following vaccination by a vaccine which was alleged to contain living virus. Since then there has been controversy between the supporters of Salk vaccine and its opponents. It has been stated by eminent research workers that if sufficient formalin is added to kill the virus it would lose its power to cause the formation of antibodies. If antibodies were formed it meant living virus was present, but while in most cases the amount was insufficient to cause paralysis, it did so in a small percentage of inoculations. This is understandable as in most epidemics for every one hundred persons infected with poliomyelitis virus only one develops paralysis, most of the remainder showing no symptoms of poliomyelitis whatever. There is opposition to the use of Salk vaccine in England, Germany, and Sweden. Queensland adopted a cautious attitude to the vaccine from the beginning, and its use will only be recommended when its safety and potency are assured. I stated approximately four years ago that the likely answer to the riddle of poliomyelitis as a public health measure is the discovery of a modified living vaccine, and the present state of our knowledge of Salk vaccine has not altered that opinion. If, however, the Salk vaccine is accepted as safe and potent, it might be the immediate answer providing the immunity conferred is reasonably lasting.

As a result of the work carried out by the Queensland Institute of Medical Research and the Laboratory of Microbiology and Pathology the diagnosis of the fevers of North Queensland can be established in nearly 97 per cent. of patients. This is most important to the workers of North Queensland because of its relation to Workers' Compensation. Now that the problem is known the next stage in the research programme to be carried out is the establishment of the hosts of infection and the method of transmission in detail.

There were no patients notified as suffering from primary malaria contracted on the mainland. Concern is felt that persons returning from New Guinea are not educated to continue to take suppressive drugs. It must be remembered that anopheline mosquitoes, which are good "carriers" of malaria, are found in Cairns, and these infected persons could be the cause of primary cases in that city. I have invited attention in previous reports to the state of the drains made by the Army in 1943. The Army left them in an unfinished condition, and all representations to the Commonwealth to assist in the expensive task of converting them to permanent structures have failed. As they are they are a potential breeding ground for mosquitoes, and it is only the good work being carried out that prevents mosquito breeding in them. The necessity for the completion of the drainage has been voiced publicly by Sir Neil Fairley, the world-famous malariologist, who was adviser to the Australian Armed Forces during the war. It is the same old story of preventive medicine being forgotten in time of peace, but if war takes place and Cairns becomes the jumping-off place again for troops proceeding to and from the Islands, as it must, these drains will be remembered if not immediately then after the first epidemic of malaria takes place.

Publicity has been given in the press to an epidemic of scarlet fever at Ipswich. This is a disease spread from the throat, mainly by "healthy" carriers, and nowadays is mild if treated. The patient should not be admitted to hospital unless there is some good reason because of the danger of cross-infection which might cause a relapse. The best advice that can be given the community is to consult a doctor if sick.

Hansen's Disease.

The number of white patients has declined from 23 to 20 and of aboriginal patients from 65 to 36. The decreases are entirely due to the effects of modern therapy, and nothing in the long history of Hansen's disease has been more dramatic. The figures would have been more impresive if seven white patients had not been diagnosed and admitted during the year. Of these only one was a readmission, and this patient had not availed himself of free drugs during the period of supervision following discharge. The six other patients were new cases, showing that Hansen's disease can spread in Queensland, and a further justification for the policy of segregation. If all patients now infectious were allowed to mingle freely with the population there would surely be an increase in cases.

It is worth recording that the patients themselves now come forward freely for treatment, feeling quite confident that they can anticipate early discharge and that both they and their dependants will be well cared for during treatment.

A new rail car for the transport of patients with Hansen's disease was commissioned during the year. This is a well-equipped vehicle, quite inconspicuous, and the iron bars across the windows—a feature of the old car—have been eliminated. Instead of a police escort the patient will be escorted during his journey by an attendant or nurse in street clothing. No one regretted the passing of the old rail car—it was an end of the unenlightened past.

Section of Food and Drugs.

Sales of pasteurised milk continue to increase as more pasteurisation plants are set up in country towns. Whenever pasteurised milk is available the public buy it, and gradually the warm milk vendor is being forced by declining sales to sell his output to a milk factory. A high percentage of positive Mantoux reactors at a suburban school is thought by some to be due to unsafe warm milk consumed by children.

An interesting development during the year was the sale of bottled milk in the western towns of Cunnamulla and Charleville. The milk is sent by rail from Toowoomba. The sale of liquid milk in these centres will be encouraged because hitherto children grew up without tasting fresh cows' milk.

Control of drugs and poisons is an important function of a Health Department, and the chemical and drug industries ensure that a constant stream of new products reaches the market. Control is becoming more difficult and more technical and will require more attention every year.

The National Health and Medical Research Council is making a praiseworthy attempt to introduce uniform control of drugs and poisons throughout Australia. Several conferences have been held and tentative schedules prepared, but uniformity and agreement are still distant.

Environmental Sanitation.

The shortage of qualified health inspectors continues, particularly in some shires in the western areas where conditions of living are considered to be unfavourable. Some shires in these areas, including Cloncurry Shire, in which Mount Isa is situated, have had no inspector for several years. Experience has shown that an inspector makes both the Local Authority and the public more health conscious. Sanitary conditions inevitably deteriorate when there is no health inspector.

This State has been well ahead of most civilised countries in controlling the hazard of lead poisoning, particularly in children. Legislation restricting the use of lead paints has been implemented for more than 25 years, and has been so effective that clinical lead poisoning is now quite rare in children. Other countries are now realising that lead poisoning can be prevented.

Division of Tuberculosis.

Significant advances during the year include the opening of the Brisbane Chest Hospital and the Thoracic Annexe at Cairns. The Thoracic Annexe at Townsville is almost ready for occupation. These three buildings have increased accommodation for patients with tuberculosis by 266 beds. A Chest Physician has taken up appointment at Thursday Island and patients there now have the same standard of treatment as is available elsewhere.

The position with regard to control of tuberculosis in the Torres Straits area is not so satisfactory because as yet no suitable boat is available to undertake survey work.

The Mobile Unit has visited 16 towns during the year. The response has varied a little from town to town, but, generally speaking, only about 50 per cent. of the population (over 13 years of age) have availed themselves of free X-ray examination. It is possible that some people are not being X-rayed because of indifference, others because they fear they have tuberculosis. The latter attitude is short-sighted, because early diagnosis to-day practically guarantees early cure.

Because of increased work it has been decided to appoint an Assistant Director of Tuberculosis.

Division of Industrial Medicine.

A new weedicide, containing penta-chlorphenol or penta-chlorphenate, which was considered everywhere to be relatively innocuous to man, was here recently suspected of causing sickness and even death in persons using these compounds without taking precautions. Wide publicity of the possible dangers and new labelling requirements drawn up after consulting all interested parties should do something to ensure that these compounds are used with care.

Control measures against Weil's disease in the canefields of North Queensland have been reviewed and their value assessed. It is obvious that additional control measures are required for complete elimination of this disease, but practical and effective measures are difficult to devise.

Consideration is now being given to carrying out a fact-finding survey of the circumstances believed to be responsible for accidents both in industry and in the home. The survey may indicate some causes that can be controlled.

Division of School Health Services.

During the year 87,000 school children were medically examined and 3,800 were found to

have defects worthy of medical attention—or about 4 per cent. of the number examined. It is probable that many of these defects would not have been detected but for the medical examination at school.

About 91 per cent. of children in Brisbane and 87 per cent. in the country have received basic immunisation against diphtheria before they attend school. However, the percentage of children (40 per cent. and 18 per cent. respectively) who have received "booster" doses of toxoid is not so satisfactory, and Local Authorities are urged to give more attention to keeping immunity high throughout school life.

Routine Mantoux testing of children in the final grade of primary schools has continued in Brisbane. Results to date indicate that about 25 per cent. of these children are Mantoux positive. This rather high figure may be due in part to consumption of raw milk before pasteurised milk became freely available in Brisbane.

A feature of School Health Services in this State is the dental attention given to school children in areas remote from ordinary dental facilities.

Mental Hygiene.

This year has witnessed some changes. The mental hospital at Charters Towers is now open, with accommodation for 100 patients, but the completion of two wards will provide accommodation for an additional 115 patients. The completion of works under construction, such as the farm colony at Wacol, the female unit at Ipswich, and accommodation of senile patients at country hospitals, will ensure that there is very little overcrowding in our mental institutions.

The publication of the Stoller Report on Mental Hospitals in Australia created widespread public interest. Dr. Stoller visited Queensland for five days in July, 1954, his visit being cut short because he was unexpectedly required to proceed overseas. His report was not released until nine months later. The two main criticisms were overcrowding and understaffing. The report stated that the overcrowding at the Brisbane Mental Hospital was 909 when in fact it was 717, and this should be relieved by the building programme which was announced long before the report was made public. The shortage of staff as stated was also incorrect and long before the report was published approval had been given for increased staff. Not everyone is attracted to nursing in mental hospitals, and this will continue with a resultant shortage of staff as long as the public fails to appreciate that mental disease differs from heart disease in that it is the brain and not the heart which is affected, and there is no more stigma attached to a patient suffering from a mental condition than there is to a patient suffering from heart failure.

In his report Dr. Stoller has emphasised prevention of mental sickness and the very real shortage of highly qualified staff. In order to encourage medical officers to increase their knowledge of psychiatric diseases the State Government gives those who are studying for the Diploma of Psychological Medicine an allowance when attending a University outside the State. It is to be regretted that the Commonwealth did not attempt to help the States to provide and train specialist personnel to relieve the shortage of specialists. The Commonwealth Government has offered the States a subsidy on the costs of constructing additional accommodation in mental hospitals, but relief of overcrowding will not cure mental sickness. It is pleasing to note that three fellowship holders requested to be appointed to the Mental Hygiene Service.

In August, 1954, members of the Hospital Employees' Union staged a series of rolling stoppages of 24 hours' duration. They resumed work when ordered by the Industrial Court.

Laboratory of Micro-Biology and Pathology.

The work of the laboratory has continued to expand at such a rate that new accommodation was imperative. It has now been decided to house the laboratory in a new building to be constructed in George street. This will give the laboratory approximately 15,000 square feet of space and will make it possible to extend facilities for pathological tests to country hospitals.

In conjunction with the Queensland Institute of Medical Research, work on the diagnosis of fevers in North Queensland has been continued. No fewer than 90 cultures of leptospirae were submitted for classification, and the number of strains against which sera were tested increased from 11 to 13 due to the discovery of two additional types of leptospira in North Queensland. This work of the laboratory in classification and diagnosis has received praise throughout the world. It is not extravagant to say that Queensland has probably done more research in this disease than any other country in the world. A recent finding of great significance is that leptospirae will persist in soil for some weeks—a fact which enhances difficulty of control in the canefields.

Vital Statistics.

Population.—The estimated population of Queensland at 31st December, 1954, was 1,322,886, an increase of 24,343 (or 1·9 per cent.) for the year.

In the seven years that have elapsed since the 1947 Census, the population of Queensland has increased from 1,106,415 to 1,322,886 (or 19·6 per cent.). Although the population in the metropolitan area is increasing at a greater rate than in the country the disproportionate growth of the capital city is not nearly so marked as in other States, particularly Victoria and South Australia.

The population density per square mile is 1·97 persons for the whole of Queensland, 1,311 persons in the Greater Brisbane area, and 1·22 persons for the rest of the State—38·1 per cent. of the population of the State reside in the Metropolitan area.

Births.—During 1954 births registered in Queensland totalled 31,176, an increase of 394 from the previous year, which was the highest number on record. The crude birth rate was 23·7, compared with 23·9 in 1953. The births comprise 15,880 males and 15,296 females, giving a masculinity rate of 103·8, which is slightly below the normal rate of about 105.

TABLE I.

CRUDE BIRTH RATE (PER 1,000 POPULATION).

——	1949.	1950.	1951.	1952.	1953.	1954.
Commonwealth of Australia	22·9	23·3	23·0	23·3	22·9	22·5
Queensland	**24·0**	**24·4**	**24·2**	**24·6**	**23·9**	**23·7**
New South Wales	22·2	22·4	22·0	22·2	22·1	21·3
Victoria	21·9	22·6	22·2	22·9	22·4	22·3
South Australia	23·6	24·4	23·8	23·7	23·4	22·9
Western Australia	25·4	25·5	25·5	25·7	25·5	24·9
Tasmania	26·3	26·0	25·5	26·5	25·3	25·0
New Zealand	24·9	24·6	24·4	24·8	24·1	24·7
United Kingdom	17·0	16·1	15·9	15·7	15·9	15·6
United States of America	24·0	23·4	24·3	24·6	24·7	24·9
Canada	26·9	26·5	27·1	27·4	27·9	28·5

The natural increase (excess of births over deaths) was 19,832, being equal to an increase of 1·5 per cent. of the population.

Deaths.—For the year 1954 deaths from all causes totalled 11,344, giving a crude death rate (deaths per 1,000 mean population) of 8·6, compared with 8·5 in the previous year, and still below the crude death rate of the Commonwealth of Australia. Table II compares the crude death rates of Queensland, other States, and certain overseas countries since 1910.

TABLE II.

CRUDE DEATH RATE (PER 1,000 POPULATION).

——	1949.	1950.	1951.	1952.	1953.	1954.
Commonwealth of Australia	9·5	9·6	9·7	9·4	9·1	9·1
Queensland	**8·8**	**8·7**	**9·1**	**8·9**	**8·5**	**8·6**
New South Wales	9·5	9·7	9·7	9·6	9·4	9·5
Victoria	10·3	10·1	10·3	10·0	9·5	9·2
South Australia	9·4	9·5	9·8	9·3	9·0	9·0
Western Australia	9·0	9·1	9·1	8·7	8·2	8·4
Tasmania	8·8	8·8	8·9	8·6	8·3	8·7
New Zealand	9·1	9·3	9·6	9·3	8·8	9·0
United Kingdom	11·7	11·7	12·6	11·4	11·4	11·4
United States of America	9·7	9·6	9·7	9·6	9·6	9·2
Canada	9·2	9·0	9·0	8·6	8·6	8·1

The causes of death to residents of Queensland during 1954 are shown in Table III.

TABLE III.

SHOWING CAUSES OF DEATH OF RESIDENTS OF QUEENSLAND, 1954.

Causes of Death.	Males.	Females.	Total.
Tuberculosis of Respiratory System	109	23	132
Tuberculosis, other	7	1	8
Diphtheria	3	1	4
Whooping Cough	2	1	3
Tetanus	12	2	14
Acute Poliomyelitis	4	1	5
Measles	3	4	7
Other Infectious and Parasitic Diseases	53	25	78
Malignant Neoplasms	839	719	1,558
Neoplasms, Benign and Unspecified	29	30	59
Hay Fever and Asthma	59	26	85
Diabetes Mellitus	47	88	135
Other Allergic, Endocrine System, Metabolic, and Nutritional Diseases	16	30	46
Pernicious and other Hyperchromic Anaemias	11	13	24
Other Diseases of the Blood and Blood-forming Organs	21	30	51
Mental, Psychoneurotic and Personality Disorders	41	30	71
Vascular Lesions affecting the Central Nervous System	634	787	1,421
Other Diseases of the Nervous System and Sense Organs	93	68	161
Diseases of the Heart	1,943	1,174	3,117
Hypertensive Disease	332	297	629
Other Diseases of the Circulatory System	127	118	245
Influenza	46	28	74
Lobar Pneumonia	76	35	111
Bronchopneumonia	96	60	156
Other and Unspecified Pneumonia	47	32	79
Bronchitis	86	31	117
Other Diseases of Respiratory System	112	69	181
Diseases of Stomach and Duodenum	78	36	114
Appendicitis	18	14	32
Diseases of Liver, Gallbladder and Pancreas	79	48	127
Other Diseases of Digestive System	83	69	152
Nephritis and Nephrosis	145	130	275
Diseases of Male Genital Organs	114	..	114
Other Diseases of Genito-Urinary System	44	41	85
Deliveries and Complications of Pregnancy, Childbirth, and Puerperium	..	30	30
Diseases of the Skin and Cellular Tissue	12	7	19
Diseases of the Bones and Organs of Movement	29	22	51
Congenital Malformations	83	79	162
Intra-cranial and Spinal Injury at Birth	45	26	71
Other Birth Injury	20	17	37
Post-Natal Asphyxia and Atelectasis	39	28	67
Infections of Newborn	14	10	24
Immaturity Unqualified	110	75	185
Other Diseases Peculiar to Early Infancy	40	29	69
Senility without mention of Psychosis	74	94	168
Symptoms Referable to Systems or Organs	14	5	19
Ill-defined and Unknown Causes	28	9	37
Motor Vehicle Traffic Accidents	209	50	259
Accidental Falls	103	88	191
Accidental Drowning and Submersion	58	4	62
Other Accidents	209	43	252
Suicide and Self-Inflicted Injury	109	41	150
Homicide and Injury Purposely Inflicted by Other Persons	16	5	21
Total from all Causes	6,621	4,723	11,344

Diseases of the heart, hypertension, and vascular lesions affecting the nervous system, which are largely due to degenerative changes in the blood vessels, caused 5,167 deaths, or 45·5 per cent. of all deaths during the year.

Deaths from tuberculosis (all forms) fell from 162 in 1953 to 140 last year. The death rate from tuberculosis is three times as high in males as in females. Possibly the more sheltered and sedentary life of females is responsible, or women may take more care of themselves. Deaths from tetanus are now commencing to fall, and this decline is due to the widespread recognition that active immunisation will prevent tetanus. Deaths from diphtheria have never been lower—this may engender a false sense of security, but it is well to realise that deaths will only remain at their present level if every child is offered and receives active immunisation.

Deaths from motor vehicle traffic accidents remained steady at 259, compared with 257 in 1953. Accidental deaths of all kinds decreased from 796, or 7·2 per cent. of all deaths in 1953, to 764, or 6·7 per cent. of all deaths in 1954.

Marriages.—Registration of marriages during the year totalled 10,027, compared with 9,859 in 1953. The marriage rate was 7·6 per thousand mean population, compared with 7·7 in 1953. Marriages of minors during the year totalled 4,157 of whom 751 were males and 3,406 females.

Infantile Mortality.—The infantile mortality rate of Queensland, other States and certain overseas countries is shown in Table IV, while Table V is a composite one showing the birth rates, infantile mortality, and reproduction rates of Queensland compared with the Commonwealth of Australia.

TABLE IV.

INFANT MORTALITY RATES (DEATHS UNDER ONE YEAR PER 1,000 LIVE BIRTHS).

	1949.	1950.	1951.	1952.	1953.	1954.
Commonwealth of Australia	25·3	24·5	25·2	23·5	23·3	22·5
Queensland	**24·7**	**24·8**	**25·7**	**24·9**	**25·0**	**22·3**
New South Wales	27·3	27·1	26·3	24·5	24·6	25·3
Victoria	21·9	20·1	22·6	22·3	21·2	19·3
South Australia	27·7	24·0	24·5	23·1	20·7	21·3
Western Australia	26·4	27·1	28·7	25·4	23·8	22·5
Tasmania	23·9	23·8	26·6	21·7	22·9	23·9
New Zealand	23·7	23·0	22·8	21·8	20·1	20·0
United Kingdom	34·1	31·4	31·1	28·1	27·5	26·0
United States of America	31·3	29·2	28·4	28·5	27·9	27·0
Canada	42·9	41·3	38·4	38·0	35·9	n

n Not available.

TABLE V.

BIRTH, INFANT MORTALITY, MATERNAL MORTALITY, AND REPRODUCTION RATES, QUEENSLAND AND AUSTRALIA.

	Crude Birth Rate.		Infant Mortality Rate.		Maternal Mortality Rate. (1)		Gross Reproduction Rate. (2)		Net Reproduction Rate. (3)	
	Queensland.	Australia.	Queensland.	Australia.	Queensland.	Australia.	Queensland.	Australia.	Queensland.	Australia.
1946	24·8	23·7	29·3	29·0	2·26	1·85	1·55	1·46	1·42	1·33
1947	25·6	24·1	30·8	28·5	1·62	1·87	1·64	1·49	1·54	1·36
1948	24·7	23·1	28·0	27·8	1·47	1·40	1·59	1·45	1·50	1·33
1949	24·0	22·9	24·7	25·3	1·44	1·21	1·56	1·46	1·47	1·33
1950	24·4	23·3	24·8	24·5	1·45	1·09	1·60	1·49	1·51	1·42
1951	24·2	23·0	25·7	25·2	1·18	1·05	1·62	1·49	1·53	1·21
1952	24·6	23·3	24·9	23·8	1·03	0·94	1·66	1·55	1·57	1·47
1953	23·9	22·9	25·0	23·3	0·71	0·62	1·63	1·56	1·54	1·48
1954	23·7	22·5	22·3	22·5	0·96	n	n	n	n	n

n Not available.

(1) *Maternal Mortality Rate.*—Deaths from puerperal causes per 1,000 live births.

(2) *Gross Reproduction Rate.*—Represents the number of female children born on the average to women living right through the child-bearing years if the conditions on which the rate is based continue.

(3) *Net Reproduction Rate.*—Is the gross reproduction rate corrected for deaths of females from birth to the end of the child-bearing period. It is a more accurate index than the gross reproduction rate. Unless it exceeds unity the population is not replacing itself.

The infantile mortality rate decreased from 25·0 in 1953 to 22·3 in 1954. This was the lowest rate ever recorded in Queensland.

The net reproduction rate is higher than the Australian average, whilst the maternal mortality rate declined from 4·15 in 1901 to 0·96 in 1954.

If the crude death rate had remained at the level prevailing in 1900 almost 4,200 additional deaths would have occurred in Queensland during 1954. In addition, the expectation of life has been increased by 15 years during that period.

DIVISION OF PUBLIC HEALTH SUPERVISION.

Deputy Director-General of Health and Medical Services: D. W. Johnson, M.B., B.S. (Syd.), D.T.M. & H. (Syd.).

Acting Chief Inspector of Food and Drugs: W. H. Kelly.

Chief Sanitary Inspector: W. D. Pryor.

Secretary to Director-General of Health and Medical Services: T. O'Shea, M.R.San.I.

Welfare Officer: Mrs. V. Wills.

Inspectors in Charge of District Offices:

Cairns: B. M. Keeffe
Toowoomba: C. J. Murray
Rockhampton: R. Woodley
Mackay: R. A. Burke
Townsville: H. P. Lowes

SECTION OF COMMUNICABLE DISEASE CONTROL.

Tables VI. and VII. show the incidence of notifiable diseases in the metropolitan and extra-metropolitan areas of Queensland for the fiscal year 1954-55. Table VIII. gives the same information for the year 1954.

TABLE VI.

Communicable Diseases (exclusive of Venereal Diseases) 1st July, 1954, to 30th June, 1955. Metropolitan Area (Population at 1st July, 1954—502,353).

Diseases.	Months.												Total 1954–1955.
	1954.						1955.						
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May.	June.	
Anchylostomiasis	..	..	..	..	..	..	..	..	..	..	2	1	3
Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..
Bilharziasis	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..
Coastal Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoea (Infantile)	16	26	32	101	37	32	11	4	17	13	3	14	306
Diphtheria	5	3	3	1	..	1	3	..	..	2	7	2	27
Dysentery, Amoebic	..	..	..	..	..	..	..	..	..	1	..	..	1
Dysentery, Bacillary	2	9	16	7	18	21	36	13	15	14	7	15	173
Encephalitis Lethargica	..	..	..	..	..	..	..	..	..	..	..	..	..
Erythema Nodosa	1	..	..	..	..	..	..	..	1	..	..	..	2
Filariasis	..	..	..	..	..	..	..	..	..	..	..	..	..
Lead Poisoning	..	..	1	..	3	..	..	..	..	..	..	..	4
Leprosy	..	..	..	..	..	..	..	..	..	..	..	..	..
Leptospirosis (Weil's Disease, Paraweil's Disease, Seven-day Fever)	2	2	..	1	1	..	1	3	..	..	3	2	15
Malaria	5	2	7	3	3	1	2	2	..	3	2	..	30
Meningitis, Cerebro-spinal	2	2	4	2	2	1	..	3	5	3	1	1	26
Mossman Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague, Bubonic or Oriental	..	..	..	..	..	..	..	..	..	..	..	..	..
Plueral Effusion	..	1	..	..	..	..	..	..	..	..	..	..	1
Poliomyelitis, Acute Anterior	1	1	3	3	5	10	12	12	5	7	7	..	66
Puerperal Fever	..	2	..	..	..	..	..	..	..	..	..	..	2
Puerperal Pyrexia	1	1	1	..	..	3	..	..	..	1	1	..	8
Q. Fever	3	1	..	1	3	4	3	..	2	..	..	..	17
Relapsing Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Rheumatic Fever	6	7	6	10	15	6	7	6	14	7	5	10	99
Rubella	..	1	..	..	..	1	1	..	..	..	..	..	3
Sarina Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever or Scarlatina	43	15	23	22	6	9	4	7	5	5	6	13	158
Smallpox (including Amaas or Alastrim)	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis (all forms)	25	29	23	21	28	19	27	15	37	22	20	31	297
Tetanus	1	1	2	..	2	..	..	..	1	1	..	..	8
Typhoid Fever (including Paratyphoid Fevers)	..	..	..	..	..	..	1	..	..	..	1	..	2
Typhus Fever (Scrub, Tick, Murine)	..	..	..	1	..	..	..	..	1	..	2	2	6
Undulant (Malta) Fever	..	..	1	..	..	..	..	..	..	..	..	..	1
Yellow Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	113	103	122	173	123	108	108	65	103	79	67	91	1,255

TABLE VII.

COMMUNICABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES) 1ST JULY, 1954, TO 30TH JUNE, 1955.
EXTRA-METROPOLITAN AREA (POPULATION AT 1ST JULY, 1954—816,040).

Diseases.	Months.												Total 1954-1955.
	1954.						1955.						
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May.	June.	
Anchylostomiasis ..	1	..	3	3	..	1	1	1	12	55	24	27	128
Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..
Bilharziasis	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..
Coastal Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoea (Infantile)	4	1	1	3	21	3	4	9	1	2	3	2	54
Diphtheria	7	7	2	6	4	1	..	1	..	1	..	3	32
Dysentery, Amoebic	..	..	1	..	..	..	2	1	..	..	..	..	4
Dysentery, Bacillary	11	..	..	..	4	3	6	1	6	6	2	1	40
Encephalitis Lethargica	..	..	..	..	..	2	..	1	..	..	..	..	3
Erythema Nodosa ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Filariasis	..	..	1	..	..	..	..	..	..	..	..	..	1
Lead Poisoning ..	4	5	..	..	6	..	3	1	1	1	1	..	22
Leprosy	1	1	..	1	..	1	..	..	..	..	..	1	5
Leptospirosis (Weil's Disease, Paraweil's Disease, Seven-day Fever)	..	17	12	..	6	3	1	8	12	2	21	15	97
Malaria	..	..	1	..	..	..	..	..	..	..	..	..	1
Meningitis Cerebro-spinal	4	4	7	2	2	5	6	1	2	2	1	5	41
Mossman Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague, Bubonic or Oriental	..	..	..	..	..	..	..	..	..	..	..	..	..
Pleural Effusion ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poliomyelitis, Acute Anterior	2	2	5	16	11	25	25	25	38	16	13	4	182
Puerperal Fever ..	..	1	..	..	..	..	2	1	1	..	..	..	5
Puerperal Pyrexia ..	..	..	..	1	1	2	5	1	2	..	1	..	13
Q. Fever	..	2	..	..	..	..	1	..	..	..	..	2	5
Relapsing Fever ..	..	..	..	..	..	..	..	..	..	..	2	..	2
Rheumatic Fever ..	7	6	5	5	15	11	12	..	7	8	7	5	88
Rubella	..	..	1	..	..	..	..	..	..	2	..	2	5
Sarina Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever or Scarlatina ..	15	9	7	7	2	19	8	14	16	9	17	89	212
Smallpox (including Amaas or Alastrim)	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis (all forms)	25	32	31	38	45	36	43	40	31	40	24	43	428
Tetanus	3	..	..	2	1	..	1	3	3	1	2	1	17
Typhoid Fever (including Paratyphoid Fevers) ..	1	1	1	..	..	..	..	..	1	..	..	1	5
Typhus Fever—													
Scrub	1	4	2	2	2	3	1	..	3	2	5	4	29
Tick	..	..	..	1	..	..	..	..	..	..	..	..	1
Murine	..	..	..	4	1	..	4	1	1	4	1	3	19
Undulant (Malta) Fever	..	1	..	..	..	..	..	..	..	1	1	..	3
Yellow Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals ..	86	93	80	91	121	115	125	109	137	152	125	208	1,442

TABLE VIII.

NOTIFIED INCIDENCE OF COMMUNICABLE DISEASES IN QUEENSLAND (EXCLUSIVE OF VENEREAL DISEASES), SECTION 29 OF "THE HEALTH ACTS, 1937 TO 1949," DURING THE CALENDAR YEAR 1954.

Diseases.	Cases Reported on Prescribed Form.			
	Metropolis.	Outside Areas.	Total Whole State, 1954.	Total Whole State, 1953.
Anchylostomiasis	4	12	16	85
Anthrax	..	..	..	1
Bilharziasis	..	..	..	..
Coastal Fever	..	..	..	..
Cholera	..	..	..	..
Diphtheria	26	56	82	187
Diarrhoea (Infantile)	393	68	461	424
Dysentery, Amoebic	..	1	1	5
Dysentery, Bacillary	97	28	125	54
Encephalitis Lethargica	..	5	5	1
Erythema Nodosa	1	..	1	..
Filariasis	..	1	1	..
Lead Poisoning	9	18	27	11
Leprosy	..	6	6	13
Leptospirosis (including Weil's Disease, Paraweil's Disease, Seven-day Fever)	10	69	79	109
Malaria	22	3	25	11
Meningitis, Cerebro-spinal	21	31	52	33
Mossman Fever	..	..	..	..
Plague, Bubonic or Oriental	..	..	..	..
Pleural Effusion	1	3	4	2
Poliomyelitis, Acute anterior	46	88	134	198
Puerperal Fever	4	4	8	3
Puerperal Pyrexia	6	12	18	46
Q. Fever	20	4	24	26
Relapsing Fever	..	..	..	..
Rheumatic Fever	64	64	128	..
Rubella	3	3	6	21
Sarina Fever	..	..	..	..
Scarlet Fever or Scarlatina	172	102	274	299
Smallpox (including Amaas or Alastrim)	..	..	..	..
Tetanus	12	15	27	37
Tuberculosis (all forms)	326	391	717	904
Typhoid Fever (including Paratyphoid Fevers)	3	5	8	36
Typhus Fever (including Rural and Urban forms and Japanese River Fevers)	3	31	34	39
Undulant (Malta) Fever	1	4	5	1
Yellow Fever	..	..	..	..
Totals	1,244	1,024	2,268	2,546

TABLE IX.

SHOWING NUMBER OF DEATHS AND DEATH RATE (PER 100,000 MEAN POPULATION) FROM DIPHTHERIA. QUEENSLAND, 1915 TO 1954.

Year.	Deaths.	Death Rate.	Year.	Deaths.	Death Rate.
1915	76	11·1	1935	45	4·7
1916	76	11·2	1936	47	4·8
1917	82	12·1	1937	39	3·9
1918	71	10·3	1938	40	4·0
1919	98	13·5	1939	39	3·8
1920	133	17·8	1940	24	2·3
1921	112	14·6	1941	29	2·8
1922	60	7·6	1942	19	1·8
1923	37	4·6	1943	49	4·7
1924	51	6·3	1944	26	2·4
1925	46	5·5	1945	17	1·6
1926	54	6·3	1946	20	1·8
1927	85	9·8	1947	13	1·2
1928	84	9·5	1948	5	0·4
1929	80	8·9	1949	18	1·6
1930	58	6·4	1950	8	0·7
1931	70	7·5	1951	12	1·0
1932	51	5·5	1952	7	0·6
1933	55	5·8	1953	12	0·9
1934	41	4·3	1954	4	0·3

With the exception of poliomyelitis, there were no major outbreaks of any notifiable communicable disease during the year. This is a healthy State both for adults and for children. Living standards are high, nutrition is good, and hygienic conditions are constantly improving. Formerly the incidence of typhoid fever was held to be a reliable index of community hygiene. To-day carriers of typhoid bacilli are so uncommon that the presence or absence of typhoid fever is no longer reliable. A better index is the incidence of intestinal diseases such as infantile diarrhoea and bacillary dysentery. Although these diseases do occur in localised outbreaks pathogenic intestinal organisms are widely distributed, and notifications of these diseases have shown little decline over the last four years. Many local authorities are conscious of the need for safe public water supplies and for water carriage of sewage and are proceeding with schemes to make these necessary amenities available to their ratepayers. It is regretted that other local authorities seem content to allow citizens to continue to drink potentially unsafe water and to dispose of night-soil in less desirable ways than by sewerage.

Anchylostomiasis.—Practically all of the notified cases of hookworm infestation were aboriginals. The incidence of hookworm infestation among the white population is low and reinfestation is uncommon.

Diphtheria.—The downward trend of diphtheria continues not only in this State but in Australia and throughout the Western world. Notifications of diphtheria have reached a record low level, and it is important to remember that some of the patients notified did not in fact develop diphtheria—they were notified when the disease was suspected. It is interesting to speculate on the reasons for the decline in diphtheria. This disease first visited Australia in 1858 and the first recorded outbreak in this State occurred in 1860. Thirty years later Turner was to write: "By far the worst scourge of childhood in this city (Brisbane) is diphtheria, from which 50 deaths were recorded in the first six months of this year (1890)." In that year there were 232 deaths from diphtheria. Until 1928 diphtheria accounted for between 37 and 133 deaths every year, and notifications of the disease reached 2,882 in 1918. However, diphtheria was declining before the introduction of active immunisation. This is seen in Table IX, which shows the number of deaths from diphtheria and the mortality rate per 100,000 mean population since 1924 in Queensland.

The decline was due to the usual causes—more people were becoming immune to the disease than were susceptible, and the diphtheria organism was having difficulty in surviving. The widespread application of mass immunisation over the period 1925 to 1935 certainly hastened the decline very appreciably. Whereas once it was simple to culture diphtheria organisms from the throats of healthy people it is now difficult. The organism is dying out in the community. This is partly due to active immunisation—the chief reservoir in children has been controlled.

The decline in the incidence of diphtheria is indeed gratifying but it has created new problems. Twenty-five years ago, when a child received active immunisation we could reasonably be sure that that child would be exposed to diphtheria organisms at some time in the next few years and that repeated exposure would ensure that his immunity was kept at a high level. To-day very little natural infection is going on and a child can go through life without contacting the diphtheria organism. Reinforcing (or "booster") doses of toxoid, therefore, must take the place of natural infection in order

to maintain immunity. Since 1950 many children have received reinforcing doses of toxoid by the time they reach the end of the first school year. Most immunologists also recommend that a second "booster" be given at the age of about ten years, which should confer immunity until the end of the primary education school course and perhaps enable some immunity to be maintained until adulthood. So far there is little evidence of significant age shift of the disease from children to adults, but the possibility is there. The immunity conferred by active immunity in childhood has disappearead or is at a low level by the time a child becomes an adult, and recent American studies have shown that a majority of the adult population studied is susceptible to diphtheria. With the reservoir of infection controlled, however, it is unlikely that diphtheria in adults will become common. If and when it does so occur there is an efficient control weapon available in diphtheria toxoid.

Poliomyelitis.—The incidence of poliomyelitis was definitely greater than normal, and a total of 248 cases was notified. An epidemic of minor proportions which commenced at Bundaberg in October, 1954, involved most of the State in succeeding months, though it did not approach the severe outbreak in 1950-52, which contributed 1,173 cases of the disease. By courtesy of Dr. N. F. Stanley, of the Institute of Epidemiology, Sydney, examinations of sera and faeces were made in ten patients, and the prevailing type of virus in Brisbane and Toowoomba was Type I (Brunhilde).

Of the 248 patients notified about 40 per cent. were over 14 years of age. This is about the same proportion as in previous years. Between the ages of 15 and 30 years more females are attacked than males. This is because most women in this age group are married and have young children. Children usually introduce the virus to a household, and the mother, having greater contact with children than the father, is more liable to develop clinical disease. In all other age groups there is a preponderance of males.

In recent years there has been increased notification of non-paralytic poliomyelitis. In 1951-52 non-paralytic poliomyelitis comprised 16 per cent. of notifications; last year 21 per cent. of patients notified were non-paralytic (see Table XI.). Lumbar puncture is being performed more often, and if the cerebro-spinal fluid shows characteristic changes yet there is no muscular weakness the patient is notified. This trend is encouraging for it means that quarantine measures can be applied to contacts of non-paralytic patients, thereby helping to reduce the speed of spread. Diagnosis of non-paralytic poliomyelitis can be most difficult, and exact diagnosis in every patient will only be possible when a routine laboratory test, such as the complement fixation test, has been developed.

A feature of the present outbreak was the occurrence of eight cases of poliomyelitis, all bulbar or paralytic, at the aboriginal settlement at Cherbourg. All the patients developed the disease over a period of about ten days, and all were under the age of five years. No other clinical cases occurred. This occurrence of cases under the age of five years reproduced the age pattern of poliomyelitis in the white population 50 years ago, when 90 per cent. of victims were in this age group. In the past the aboriginal population has contributed few cases of clinical poliomyelitis during an epidemic. Its occurrence, in clinical form, in aboriginal children is an indication that these children were not infected in infancy and that until poliomyelitis visited the settlement in February, 1955, the children affected had had no recent contact with virus. As the standard of hygiene in aboriginal settlements improves, more cases of clinical disease can be expected until the age distribution of cases approximates that of the white population.

Gamma Globulin.—During the year the Commonwealth Government made available gamma globulin for prophylaxis of poliomyelitis. The National Health and Medical Research Council drew up a list of priorities, and the Director-General of Health in each State allocated the gamma globulin available according to the agreed priorities. There was little demand for gamma globulin from general practitioners. After the published results of the 1953 trial in America a widespread impression remained that gamma globulin was of little use in preventing poliomyelitis in contacts, yet Hammons' revaluation of gamma globulin indicates that this product is of definite value in prophylaxis, provided it can be given early in the incubation period, and this opinion is shared by those who have used gamma globulin widely. When two cases of clinical poliomyelitis occurred at a large boys' boarding school in Queensland it was felt that gamma globulin should be given to the other boarders, most of whom came from country districts, in order to protect them. About 250 boys were therefore given an injection of gamma globulin, dosage being varied according to body weight. No further cases of poliomyelitis occurred at this particular school, but it should not necessarily be inferred that gamma globulin prevented other cases. Perhaps the virus did not spread further in this particular school or perhaps the boys infected with virus already had some basic immunity.

Poliomyelitis Vaccine.—The report of the 1954 trials with Salk vaccine, conducted in America by the National Foundation for Infantile Paralysis, created world-wide interest and a public clamour for immediate supplies of the vaccine. Certainly on the strength of the report there were sound reasons for use of this vaccine, which was stated to be without harmful effect and which was demonstrated to protect against paralytic poliomyelitis with much the same efficacy as pertussis vaccine protects against whooping cough.

TABLE X.

SHOWING AGE AND SEX DISTRIBUTION OF PATIENTS WITH POLIOMYELITIS FOR YEAR 1954–55, AND SINCE 1ST OCTOBER, 1950, QUEENSLAND.

Age Group.	1954–55.						1st October, 1950 to 30th June, 1955.					
	Number.			Percentage.			Number.			Percentage.		
	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.
0– 1 years	1	2	3	0·8	1·7	1·2	35	20	55	3·6	2·6	3·2
1– 4 years	25	20	45	18·8	17·4	18·1	176	123	299	18·0	16·3	17·3
5– 9 years	43	23	66	32·3	20·0	26·6	234	174	408	24·0	23·0	23·6
10–14 years	20	13	33	15·0	11·3	13·3	149	114	263	15·3	15·1	15·2
15–19 years	15	19	34	11·3	16·5	13·7	144	90	234	14·8	11·9	13·5
20–24 years	8	14	22	6·0	12·2	8·9	97	89	186	9·9	11·8	10·7
25–29 years	4	18	22	3·0	15·7	8·9	59	81	140	6·0	10·7	8·1
30–34 years	5	5	10	3·7	4·3	4·0	39	38	77	4·0	5·0	4·4
35–39 years	3	..	3	2·3	..	1·2	16	16	32	1·6	2·1	1·8
40–44 years	7	1	8	5·3	0·9	3·2	11	3	14	1·1	0·4	0·8
45–49 years	1	..	1	0·8	..	0·4	11	3	14	1·1	0·4	0·8
50–54 years	..	..	..	..	..	..	2	3	5	0·2	0·4	0·3
55 years and over ..	1	..	1	0·8	..	0·4	3	1	4	0·3	0·1	0·2
All Ages	133	115	248	100·0	100·0	100·0	976	755	1,731	100·0	100·0	100·0

M.—Males. F.—Females. P.—Persons.

The National Health and Medical Research Council, also on the strength of the Report, recommended that Salk vaccine should be imported and used in Australia. It was decided to offer vaccination to children who attended school for the first time in 1954, to pregnant women, and to nurses and physiotherapists. No supplies of Salk vaccine have yet been received, but preparations have been made to use the vaccine as soon as it arrives.

The unfortunate history of the Salk vaccine in America subsequent to its release there has considerably lessened public demand in Australia. Safety tests for Salk vaccine have been rigidly revised in America, and it can be anticipated that any supplies reaching Australia will be perfectly safe. It will be necessary to determine, however, if the vaccine is potent.

The Salk vaccine contains highly virulent strains of virus which are inactivated by treatment with formalin. The process of inactivation is a delicate one. It appears desirable that work should proceed on vaccines made from living virus which is incapable of causing paralytic poliomyelitis in inoculated children. Such vaccines are in course of development in America, and ultimately they will probably replace vaccines of the Salk type.

TABLE XI.

SHOWING INCIDENCE OF PARALYTIC AND NON-PARALYTIC POLIOMYELITIS FOR THE FIVE FISCAL YEARS 1950–51 TO 1954–55.

Year.	Paralytic.	Non-Paralytic.	Ratio— Paralytic Non-Paralytic.
1950–51	675	141	4·8 : 1
1951–52	307	50	6·1 : 1
1952–53	211	31	6·8 : 1
1953–54	52	16	3·2 : 1
1954–55	196	52	3·8 : 1

TABLE XII.

SHOWING NUMBER OF DEATHS AND DEATH RATES (PER 100 ACCEPTED CASES) FROM POLIOMYELITIS, BY AGE GROUPS, FOR 1954–55, AND SINCE 1ST OCTOBER, 1950.

——	1954–55.			1st October, 1950 to 30th June, 1954.		
	Deaths.	Cases.	Death Rate.	Deaths.	Cases.	Death Rate.
0– 4 years	1	47	2·1	12	306	3·9
5– 9 years	1	65	1·5	18	342	5·3
10–14 years	..	36	Nil	16	230	7·0
15–19 years	..	33	Nil	20	200	10·0
20–24 years	..	22	Nil	21	164	12·8
25–29 years	2	22	9·1	20	118	16·9
30–34 years	..	10	Nil	12	67	17·9
35–39 years	..	3	Nil	7	29	24·1
40 years and over	..	10	Nil	6	27	22·2
All Ages	4	248	1·6	132	1,483	8·9

Leptospirosis.—The report of the Division of Industrial Medicine gives details of cases of leptospirosis notified during the year, but it may be said here that the joint activities of the Queensland Institute for Medical Research and of this Department's laboratories has resulted in increasing awareness of this disease and the result has been an increase in the numbers of specimens submitted for diagnosis. Additional types of leptospirae mentioned in the report of the Laboratory of Microbiology and Pathology now enable a greater number of positive results to be obtained. The elucidation of the fevers of North Queensland has shown that leptospirosis is the chief cause of fever and that the disease is not confined to occupational groups such as cane-cutters. People in urban areas can be exposed to infection as can people whose occupation was formely considered not likely to produce infection. In the sugar-cane-growing districts where leptospirosis is endemic measures hitherto used for control are of doubtful value. The burning of sugar-cane before cutting was once considered efficacious, and cane-burning was mandatory when an order under the Health Acts was issued against certain low-lying cane-fields where repeated infections were known to occur. However, case finding techniques have demonstrated that the burning of cane does little to prevent infection—if the field is wet the cane can still be burned and yet workers can be infected if they go in to cut the burnt cane. Leptospirae survive in the wet soil for quite long periods, and while the ground is moist the possibility of infection is present.

In the light of our present knowledge, what control measures can logically be advocated? Of first importance is the wearing of boots by cane-cutters. It is fairly obvious that most men are infected through the skin of the legs. If water or wet soil does not contact the skin the risk of infection could be practically eliminated. Unfortunately, cane-cutting is hard physical labour performed under trying conditions of temperature and humidity, and cane-cutters refuse to wear protective footwear. They prefer to cut in bare feet or in sandshoes which do not give significant protection.

Control of rats is advisable from the points of view of both health and economy. Rats can cause great damage to the softer types of sugar-cane, and it is known that considerable numbers of rats are carriers of pathogenic leptospirae. Yet the role of the rat is not so important in spreading infection as was once believed. Rats, like man, are infected from the soil, and the soil should be regarded as the chief and most dangerous reservoir of infection. Attention must now be paid to the condition of the soil. The answer could be adequate drainage. The dangerous fields are the low-lying ones subject to periodic inundation which retain moisture for long periods. Agricultural drains, properly designed and installed, should reduce the moisture content of the soil.

However, installation of drainage is a costly procedure, and will not be undertaken by the cane farmer from the point of view of health. Further research in conjunction with the Bureau of Sugar Experimental Stations is indicated. This would enable trial areas to be drained and the yields of cane compared with that from control areas. If the increased yield makes drainage worth while there is no doubt that the progressive sugar industry will use artificial drainage in certain fields.

Malaria.—During the year 31 cases of malaria were notified. All except four patients contracted the infection outside Australia. The four cases who were infected in this State contracted the disease in the islands of Torres Strait. No patient has been infected in the mainland of this State since 1945. A good malarial vector, *Anopheles punctulatus farauti*, is present north of the 19th parallel of latitude, and there are extensive breeding grounds in and around towns in North Queensland. Mosquito eradication measures, subsidised by the State Government, have done much to reduce the mosquito population in North Queensland: at least in residential areas. However, untreated cases of malaria arriving in North Queensland during the wet season could start an epidemic similar to the 1942 outbreak at Cairns, and it is possible that the earliest cases of malaria occurring in an area where fevers of other types are common would not be diagnosed promptly, thereby allowing vector mosquitoes to become infected. Local Authorities in the region of Cairns have achieved remarkable results in pushing ahead with major projects for mosquito eradication. The earth channels constructed by the Army in the war years still remain at Cairns, and their replacement by proper drains is much too costly for local government to undertake entirely. In spite of repeated representations the Commonwealth Government has refused to accept any share of the financial responsibility for this national undertaking. The construction of appropriate drains would be an excellent project for Army engineers because the experience gained could be used with advantage should similar schemes be needed in future theatres of war.

Anchylostomiasis.—Although a hookworm control staff based on Cairns makes regular examinations of the white population for evidence of hookworm infestation, hookworm disease is practically confined to aborigines. All of the notified cases this year were in aborigines.

It should be realised that many of these settlements are in isolated areas. The aborigine is naturally a nomad. When he had polluted a camping site he moved on thereby allowing infection of the soil to die out. Now that he resides permanently in a settlement, it is difficult for him to understand that he must change his ways. It will probably take several generations to change the old ways of life. In the meantime the infestation is being controlled and regular treatments of the whole population are given at most settlements.

Scarlet Fever.—Scarlet fever is still present, and in May, 1955, a sharp outbreak occurred at Ipswich. The disease is now so mild and complications so uncommon that its visitation should no longer cause public alarm. It is readily amenable to penicillin therapy, and indeed, the same therapy will bring to an end an epidemic in a closed institution or community, such as an Army camp. If an outbreak occurs at a school, however, I am of opinion that mass therapy to prevent the disease from spreading is not warranted. It is questionable whether every school child should receive oral or depot penicillin merely to prevent him getting a mild attack of scarlet fever, even supposing he was susceptible to this disease. Mass antibiotic therapy such as this would introduce its own dangers, which might well be more serious than the risk of contracting scarlet fever. An organism so ubiquitous and so mild does not warrant public hysteria or mass therapy.

Tuberculosis.—After reaching a peak in 1952-53 notifications of tuberculosis have declined in spite of rigorous case finding. Decline in mortality (See Table XIII.) in the last decade has been dramatic, but it was not anticipated that notifications would commence to fall before 1957 because case finding techniques would still be uncovering new cases of the disease. This is a pleasing trend, for it can only mean that fewer persons are being infected. It appears that the real decline in the incidence of tuberculosis is already under way. By the end of the twentieth century, it should have become a relatively rare disease.

TABLE XIII.

SHOWING DEATHS FROM TUBERCULOSIS—TOTAL DEATHS AND PERCENTAGE OF TOTAL DEATHS, DUE TO TUBERCULOSIS, QUEENSLAND—FOR CERTAIN YEARS SINCE 1900.

Year.	Death Rate per 1,000 mean Population T.B.	All Causes.	Per cent. T.B.	Year.	Death Rate per 1,000 mean Population T.B.	All Causes.	Per cent. T.B.
1900	1·08	11·72	9·2	1945 ..	0·31	8·79	3·5
1910	0·59	9·70	6·1	1946 ..	0·29	9·77	3·0
1920	0·51	10·65	4·8	1947 ..	0·25	9·15	2·7
1930	0·42	8·19	5·1	1948 ..	0·24	9·31	2·8
1940	0·27	8·97	3·0	1949 ..	0·22	8·85	2·5
1950	0·20	8·82	2·3	1950 ..	0·20	8·82	2·3
				1951 ..	0·18	9·20	2·0
				1952 ..	0·17	9·0	1·9
				1953 ..	0·13	8·5	1·5
				1954 ..	0·11	8·6	1·3

Rheumatic Fever.—On 13th March, 1954, rheumatic fever was made a notifiable disease. During the current year 182 notifications were received. Doctors notifying a case were requested to complete a standard report form, and it is pleasing to note that they gave full co-operation. The completed forms were then sent to the Institute of Child Health, Sydney, for further study.

It has long been believed that acute rheumatic fever was rare in Queensland. If notifications continue to be made at the present rate it is obvious that this belief will need modification. The disease is important from the socio-economic angle. It tends to recur and involves prolonged hospitalisation and subsequent invalidity. There is now good evidence that recurrences of rheumatic fever can be prevented. Rheumatic fever and its control must be considered a good field for preventive medicine.

Typhus Fever.—Notifications of scrub and tick typhus showed no significant change during the year. Scrub typhus is confined to the rain forest areas of North Queensland, and does not occur south of Mackay. The areas where scrub typhus occurs are well known and people who contract the disease are usually local residents. Pamphlets on the prevention of the disease have been widely distributed throughout these areas, and mite repellant is available free of charge by one local authority. Cases, however, still occur. The average Australian is casual. If he thinks about scrub typhus at all as he goes into an infected area he decides to take the risk, knowing that the disease is readily cured and rarely fatal. When he develops the disease he readily agrees he should have taken precautions.

Murine typhus is still occurring in and around grain stores, produce markets, grain and peanut silos, and on certain grain farms. The disease can be prevented by adequate measures to control rats and fleas, and the continued occurrence of cases in a particular area indicates that the local authority and other relevant authorities are failing to take proper measures to control vermin.

HANSEN'S DISEASE (LEPROSY).

(1) HANSEN'S DISEASE IN THE WHITE POPULATION.

PEEL ISLAND LEPROSARIUM.

Medical Superintendent: M. H. GABRIEL, M.B., B.S. (Qld.)., A.A.C.I.

STATISTICS.

TABLE XIV.

—	1952–53.			1953–54.			1954–55.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Population at 1st July, 1954 ..	36	7	43	20	3	23	18	6	24
Admitted	1	..	1	7	4	11	5	2	7
Discharged	17	4	21	6	1	7	6	2	8
Died	..	..	..	3	..	3	1	..	1
Population at 30th June, 1955 ..	20	3	23*	18	6	24†	16	6	22†
Increase	..	..	..	..	3	1	..	..	..
Decrease	16	4	20	2	..	..	2	..	2

* Includes one patient who was given special permission to remain at Peel Island.

† The totals marked include one male and one female, who have been granted special permission to remain in the institution, though eligible for discharge. They are unable to care for themselves and have no one to care for them. The total number of patients suffering from active Hansen's disease is twenty.

Admissions.—There were seven admissions during the year. Of these five were males and two were females. Six of the admissions were patients admitted for the first time and one was a patient readmitted for the third time. Of the six patients admitted for the first time two were early cases, two were moderately advanced, and two were advanced cases.

Considering the number of new admissions and the fact that most of these new cases have been free from advanced lesions it would appear that there is an increasing awareness that Hansen's disease, though still relatively uncommon, does occur in the white population in Queensland and that all obscure dermatological and neurological cases should be investigated for Hansen's disease.

The patient readmitted for the third time had, on previous admissions, received some treatment with sulphone drugs. He had not, however, taken advantage of the maintenance courses of sulphone drugs offered to him when he was released, because of some intolerance to the drugs. This case illustrates clearly the need for the continuation of sulphone (or alternative) therapy during the period of supervision after release. Recently discharged patients have all been advised to take sulphone drugs as prescribed and to report any untoward symptoms so that alternative treatment can be given. Most released patients now realise the need for follow-up treatment and many contact Peel Island each year for advice and supplies of sulphone drugs.

Discharges.—Six male patients and two female patients were discharged during the year.

Deaths.—There was only one death during the year—a male patient of advanced years.

Medical Treatment.—The treatment of Hansen's disease is continuing with the sulphone drugs promin, diasone, sulphetrone, and dapsone and with the thiosemicarbazone drug thiacetazone. Isoniazid and para-aminosalicylic acid and its salts are proving useful adjuvant treatment.

During the year several cases of severe persistent "lepra" reaction have been treated with short courses of A.C.T.H. The results have been very encouraging. The course of A.C.T.H. that has been found effective is 20 units daily for six days, then five to seven days' break, followed by a further course of 20 units daily for six days. This course appears to relieve the acute exacerbations of the "lepra" reaction and subsequent convalescence is hastened.

Eleven patients were transferred to Wattlebrae Infectious Diseases Hospital for specialist treatment, three requiring two visits and one requiring to attend on four occasions.

Occupational Therapy.—All patients are encouraged to take up some form of occupational therapy and most of the patients have done so. Arrangements have been made with the Red Cross Handcraft Section for the supply of materials for handcraft work, and patients can also purchase limited extra amounts of materials. The work taken up includes leather work (handbags, overnight bags, shopping bags, writing cases, portfolios, moccasins, purses, belts, &c.) plastic work (shopping bags, belts, artificial flowers), cane work (baskets of all kinds, fishing creels, &c.) macrami work (plaited

belts, &c.) The patients have maintained a steady interest in this work, and it is a valuable method of keeping hands and muscles working and minds occupied. Much valuable assistance has been given by Red Cross instructors, including Miss. N. Ferrier, Superintendent of the Handcraft Section, who made two visits to Peel Island during the year, Miss Home, Handcraft Instructor (nine visits) and Mr. E. Ward, Handcraft Instructor (two visits).

In addition to the handcraft work some patients maintain poultry farms which supply the institution with eggs and table poultry, and other patients are employed as barber, painter, truck driver, groundsman, seamstress, &c. No able-bodied patient need be idle because there is interesting and profitable work available to all who are willing.

Three parties of medical students (18 in all) visited Peel Island for clinical demonstration of Hansen's disease.

Dental Unit.—During the year a dentist from the Brisbane Dental Hospital made 12 visits to Peel Island and carried out all classes of dental work for the patients. This is a reflection of the large amount of dental work required by the newly-admitted patients.

Laboratory of Microbiology and Pathology.—Pathological tests as set out in Table XV. were carried out by this Laboratory.

TABLE XV.

	Specimen.
Venous Blood for Full Blood Examination	269
Tissue Smears (for *M. leprae*)	248
Venous Blood for Serological Tests	8
Venous Blood for ABO and Rh grouping	6
Venous Blood for Blood Sugar Estimation	11
Urine Specimens for Chemical and Microscopical Examination	244
Miscellaneous Specimens (Urine Culture)	1
Total	787

Staff and Administration.—The staff remains substantially the same as that reported for the year ended 30th June, 1954. The staff was increased by an engineer's labourer, the total employed being 34. This number appears unduly high to care for 22 patients, but this number is necessary to observe award conditions.

The decision to remain at Peel Island has resulted in many improvements being carried out at the institution.

The present electric power plant does not permit of unrestricted use of electricity, and it often becomes overloaded, with the attendant risk of blackouts. Plans are in hand for a completely new installation, and it is hoped that an early start will be made on the new installation.

Renovation of the buildings which is being carried out by the Department of Public Works is nearing completion, the outstanding work remaining being new laundries for patients and staff and a new building at the pumping station.

Good progress is being made with the new jetty which, when completed in approximately 12 months, will shorten the distance from Cleveland and at the same time provide a safe anchorage when a south-easterly is blowing. It may be used when tides are favourable even though it is not finished.

Launch Service.—The launch service carried on under contract continues to be most satisfactory, the service given being most efficient.

The Departmental launch "Dawn" has been moored at the institution for some months now, and the engineer has been working on it to keep it in running repair. This launch is run by the Peel Island staff for special trips and in emergencies.

Grounds.—Many old broken fences have been removed and some levelling has been carried out. Much clearing has been done, but in the absence of a full-time groundsman this work has to be done on a part-time basis, and is consequently slow. There has been, however, a general overall improvement during the year.

Patients.—Of the 24 patients in the institution on 1st July, 1954, eight, or one-third, were discharged during the year. Excluding the voluntary patients, only five patients have now been inmates of this institution for four years or more.

The continuing high rate of discharges has been responsible for maintaining a cheerful outlook amongst most of the patients. This is reflected in the pride taken by patients in their personal appearance and in their cottages and surroundings.

The amenities provided for patients remain at the same high level as in the past few years.

Patients' Visitors.—Visiting days and arrangements remain unchanged this year. The relatively large intake of new patients has been responsible for maintaining the substantial number of visitors. However, the numbers of visitors are well within the capacity of the transport available.

Other visitors included the clergy of all denominations and officers of the Salvation Army. These visits are much appreciated by the patients.

Members of the Toowong Sub-Branch of the R.S.S.A.I.L.A. visited on Anzac Day and conducted a service at the flagpole near the recreation hall.

The thanks of staff and patients are due to the visiting concert parties, who provided a high standard of entertainment. These were—

Brisbane Municipal Band and Concert Party.
Fone's Concert Party.
Toowong Sub-Branch R.S.S.A.I.L.A. Concert Party.
Relatives and Friends Concert and Christmas Party.
Advacs Concert Party.
A Concert Party organised by the Relatives' and Friends' Association.

General.—The year has been a most successful one, with eight discharges, one death and seven admissions, leaving only 20 active cases—the lowest number for many years.

There have been many improvements to buildings and grounds and more improvements are planned.

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(2) HANSEN'S DISEASE IN ABORIGINAL POPULATION.

Fantome Island Leprosarium.

All coloured patients are admitted to Fantome Island, one of the Palm Islands Group, off the coast from Townsville.

The institution is controlled by resident members of the Franciscan Missionaries of Mary, and treatment is supervised by the Medical Officer at Palm Island, who visits regularly and is on call by wireless for emergencies.

Specialist treatment is carried out at Townsville Hospital.

At the 1st July, 1954, there were 64 patients, comprising 43 males and 21 females, and on 30th June, 1955, the numbers were 26 and 10, respectively. There were no deaths in the period. The large number of patients discharged during the year is pleasing, viz., 29, vide Table XVI. hereunder.

TABLE XVI.

—	Males.	Females.	Total.
Inpatients at 1st July, 1954	43	21	64
Admitted	..	1	1
Discharged	17	12	29
Died	..	..	..
Remaining 30th June, 1955	26	10	36

SECTION OF ENTHETIC DISEASES.

Government Medical Officer and Medical Officer in Charge: GEOFFREY HAYES, M.B., Ch.M. (Syd.).

Medical Officer: BEATRICE WARNER, M.B., B.S. (Melb.).

During the year 701 cases of venereal diseases were notified to the Department (notification is anonymous; names are not given). This is a decrease of 39 below the notifications for the previous year.

This represents an incidence of 0·529 per 1,000 mean population, as compared with 0.578 for the previous year. Of these notifications 129 were females and 572 males, as compared with 129 females and 611 males in the previous year.

Four hundred and forty-three patients were diagnosed as suffering from gonorrhoea, and 129 from syphilis, as compared with 515 and 114, respectively, for the previous year. Ninety-seven cases of venereal warts represented an increase of four, and cases of early syphilis (primary and secondary) showed an increase from 58 in the previous year to 75.

Table XVII. dissects the incidence of notified venereal disease in Queensland for the past 12 months.

TABLE XVII.

NOTIFIED VENEREAL DISEASE IN QUEENSLAND, 1954–55.

—	Metropolitan.		Outside Centres.		Whole State.		Total.
	Males.	Females.	Males.	Females.	Males.	Females.	
Gonorrhoea—							
Unspecified	1	1	8	0	9	1	10
Acute	281	44	55	18	336	62	398
Sub-acute	..	..	6	..	6	..	6
Chronic	1	9	1	13	2	22	24
Ophthalmia	..	..	1	1	1	1	2
Vulvo-vaginitis	..	1	..	1	..	2	2
	283	55	71	33	354	88	442
Syphilis—							
Unspecified	4	5	..	1	4	6	10
Primary	21	4	8	..	29	4	33
Secondary	23	9	8	2	31	11	42
Tertiary	4	..	6	2	10	2	12
Latent	13	3	1	3	14	6	20
Neuro	..	..	..	1	..	1	1
Pre-natal (Cong.)	2	4	2	1	4	5	9
	67	25	25	10	92	35	127
Soft Sore	35	..	..	..	35	..	35
Venereal Warts	90	..	..	..	90	..	90
Ulcerative Granuloma	..	..	..	5	..	5	5
Syphilis and Gonorrhoea	1	..	..	..	1	..	1
Syphilis and Warts	..	..	..	1	..	1	1
	126	..	..	6	126	6	132
	476	80	96	49	572	129	701
	556		145		701		
	701						

Notifications from centres outside Brisbane, shown in Table XVIII., give some idea of the distribution.

As was the case last year, the far-North (Townsville and Thursday Island) would appear on notification figures to have a much greater incidence than elsewhere outside the metropolis.

TABLE XVIII.

CENTRES OF NOTIFICATION OF VENEREAL DISEASE OUTSIDE THE METROPOLIS.

Centre.	Males.	Females.	Total.
Ayr	..	2	2
Barcaldine	2	..	2
Bundaberg	1	..	1
Cairns	7	6	13
Clifton	1	..	1
Cloncurry	4	1	5
Cooroy	1	..	1
Cunnamulla	2	1	3
Dalby	2	1	3
Gayndah	2	1	3
Goondiwindi	3	..	3
Gordonvale	1	..	1
Gympie	3	..	3
Innisfail	1	..	1
Ipswich	4	..	4
Longreach	1	..	1
Mackay	4	..	4
Mareeba	1	..	1
Maryborough	6	..	6
Mount Isa	4	4	8
Murgon	6	1	7
Palm Island	1	..	1
Quilpie	2	1	3
Rockhampton	6	3	9
Southport	1	..	1
Thursday Island	21	21	42
Toowoomba	2	3	5
Townsville	4	4	8
Torquay	1	..	1
Tully	1	..	1
Warwick	1	..	1
	96	49	145

Table XIX. shows the number of venereal diseases notifications since 1914, and the incidence per 1,000 of population.

TABLE XIX.

SHOWING NUMBER OF NOTIFICATIONS OF VENEREAL DISEASE SINCE 1914.

Fiscal Year.	Notifications.	Mean Population.	Incidence per 1,000 Population.
1914–15	1,414	688,212	2·054
1915–16	1,946	690,494	2·818
1916–17	1,477	680,772	2·171
1917–18	..	688,946	..
1918–19	2,003	707,732	2·83
1919–20	2,848	737,463	3·861
1920–21	2,302	754,374	3·051
1921–22	1,815	769,180	2·359
1922–23	1,710	785,466	2·177
1923–24	1,521	804,442	1·889
1924–25	1,503	825,313	1·821
1925–26	1,401	847,757	1·652
1926–27	1,319	864,502	1·525
1927–28	1,373	877,753	1·564
1928–29	1,382	891,435	1·55
1929–30	1,541	903,703	1·705
1930–31	1,552	917,830	1·690
1931–32	1,841	930,456	1·978
1932–33	1,464	940,628	1·556
1933–34	1,576	950,462	1·595
1934–35	1,248	961,200	1·298
1935–36	1,125	972,767	1·156
1936–37	1,211	984,056	1·23
1937–38	1,256	996,448	1·26
1938–39	1,147	1,008,207	1·127
1939–40	1,091	1,021,426	1·077
1940–41	1,328	1,032,122	1·286
1941–42	1,207	1,036,690	1·164
1942–43	3,101	1,040,433	2·98
1943–44	2,718	1,054,810	2·576
1944–45	2,391	1,068,630	2·24
1945–46	1,309	1,084,125	1·207
1946–47	1,373	1,097,303	1·251
1947–48	1,000	1,112,722	1·112
1948–49	846	1,134,738	·745
1949–50	731	1,163,084	·628
1950–51	626	1,172,542	·534
1951–52	627	1,219,606	·514
1952–53	757	1,247,890	·607
1953–54	740	1,280,000	·578
1954–55	741	1,322,886	·530

Table XX. shows the alleged sources of the notified infections, of which 39 are attributed to professional prostitutes, as compared with 55 last year. Twenty prostitutes (professional) were found infected (and treated), as compared with 15 in the previous year.

TABLE XX.

SHOWING SOURCES OF INFECTION.

Non-prostitutes	451
Unknown	167
Prostitutes	39
Occupational (prostitution)	20
Wives	5
Husbands	6
Mothers	3
Parents	9
Homosexual	1
	701

Tables XXI. and XXII. show the marital status and age groups of the cases notified, and follow the same trend as in former years.

TABLE XXI.

MARITAL STATUS.

—	Males.	Females.	Total.
Married	96	36	132
Single	454	60	514
Separated	9	4	13
Widowed	5	6	11
Divorced	1	3	4
Unknown	7	20	27
	572	129	701

TABLE XXII.

SHOWING AGE GROUPS OF NOTIFIED CASES.

Age Group.	Males.	Females.	Total.
Under 1 year	5	4	9
1–5 years	..	2	2
6–10 years	..	3	3
11–15 years	..	..	..
16–20 years	72	24	96
21–25 years	145	27	172
26–30 years	133	12	145
31–35 years	78	15	93
36–40 years	64	7	71
41–45 years	34	..	34
46–50 years	12	2	14
51–55 years	12	2	14
56–60 years	5	1	6
61–65 years	3	2	5
Over 65 years	3	1	4
Unknown	6	27	33
	572	129	701

Table XXIII. shows the sources of the notifications received. It will be seen that 8·1 per cent. of these were received from private practitioners, as compared with 9.3 per cent. last year and 10 per cent. in the previous year. Of the remainder of the notifications approximately 13 per cent. came from public hospitals and 78 per cent. from clinics (mainly the two ad hoc clinics in Brisbane).

TABLE XXIII.

Showing Sources of Notification.

—	Males.	Females.	Total.
Private Doctors—			
Brisbane	19	3	22
Outside Centres	29	6	35
Total	48	9	57
Hospitals—			
Brisbane	11	13	24
Outside Centres	44	26	70
Total	55	39	94
Clinics—			
Brisbane	446	64	510
Outside Centres	23	17	40
Total	469	81	550
Total all sources	572	129	701

Ad Hoc Clinics Brisbane.

Approximately three-fourths of all venereal disease cases (on notification figures) are handled by the two ad hoc clinics in Brisbane (Colchester Street for males, and William Street for females).

With the proven efficacy of the newer antibiotics there is no longer the necessity for the specialised equipment and technique which led to the setting-up of the then more efficient ad hoc centres.

In the past 12 months approximately two-thirds of the 1,262 new cases seen at the male clinic were found to be suffering from genito-urinary or urological conditions not notifiable as "venereal disease." At least two of these were found to be ulcerations due to cancer and quite a few due to bladder neck pathology or upper urinary tract infections more suitable for investigation and treatment in a urological set-up, to which they were ultimately referred.

Table XXIV. covers the activities of the male and female ad hoc clinics in Brisbane.

TABLE XXIV.

Departmental Clinic for Males.

A. Record of Activities.			
New Cases			1,262
Total Visits			12,743
Notifications			446
Injections—			
Arsenic	Nil		
Bismuth	10		
Penicillin	771		
			781
Blood samples for Wasserman tests ..			1,683
Smears to Departmental Laboratory ..			529
Smears examined at Clinic			5,089
Dark Ground Tests at Clinic			97
Prophylactic Treatments			1,288
B. Notifications (Dissected).			
Early Syphilis—			
Primary	20		
Secondary	13		
Latent	13		
Late Syphilis—			
Secondary	2		
Latent	1		
			49
Gonorrhoea—			
Acute	270		
Chronic	1		
Rectal	1		
			272
Venereal (Genital) Warts			90
Soft Sore (Clinical Diagnosis Only) ..			35
Total Venereal Disease Cases Notified ..			446

Departmental Clinics for Females.
Record of Activities—

A. Women's Clinic—	
Total Interviews	748
New Patients	142
Arsenic Injections	25
Bismuth Injections	118
Penicillin Injections	222
Smears taken	401
Bloods taken	227
Dark Ground Examinations	16
Patients from whom Cultures taken ..	162
Number of Cultures Prepared	391
B. William street Rooms (Examination of Prostitutes)—	
Examinations	1,812
Bloods taken	169
Dark Ground Examinations	6
Smears taken	3,426
Patients cultured	20
Number of Cultures prepared	48
C. Notifications (Dissected)—	
Acute Gonorrhoea	43
Chronic Gonorrhoea	10
Treated Gonorrhoea	1
Primary Syphilis	3
Secondary Syphilis	4
Latent Syphilis	7
Treated Syphilis	6
Total	74

Of these 74 Cases—

15 were professional prostitutes (all suffering from acute gonorrhoea).

10 were prisoners from H. M. Prison—

Acute Gonorrhoea	6
Chronic Gonorrhoea	1
Primary Syphilis	1
Latent Syphilis	2

Twenty-five girls from St. Mary's Home were examined and one was found to be suffering from gonorrhoea in a chronic form.

SECTION OF FOOD AND DRUGS.

Work carried out by this section included all duties required by the Food and Drug Sections of the Health Acts, the Food and Drug Regulations, Health (Food Supply) Regulations, the Milksellers' Regulations, the Poisons Regulations, and the Health (Insecticide) Regulations. Work has been carried out during the year on all aspects of food and drugs, and a brief summary of the section's activities is given below.

Milk.—Regular attention has been given to milk during the year. The field covered in this phase of public health work is very wide. Apart from the amount of milk which is sold "raw" to consumers there is an increasing number of pasteurised milk plants throughout the State, and the production of pasteurised milk and its sale necessitates close supervision by officers of this department. Regular inspection of all such premises has been maintained, whilst samples are being continually secured to check the quality of the milk and the efficiency of the pasteurising methods. Where faults have been found immediate steps have been taken to have those faults rectified. It is pleasing to report that the trade generally is now aware of the necessity for improving premises and technical methods and, apart from the many improvements secured during the year, a further satisfying feature is the fact that plans have been drawn up for major alterations and improvements in some factories for the coming year.

An innovation is the establishment of bottling plants at Cunnamulla and Charleville, whilst others are projected for the west and south-west. Milk, which has been subjected to a pasteurising heat, is forwarded in bulk in refrigerated rail wagons. It is bottled at these plants by approved machines on approved premises. A close check has been kept on the quality of this milk, and, with the co-operation of the respective local authorities, samples have been regularly secured and examined. Results have been very satisfactory, and a continuance of these efforts should ensure a regular supply of good-quality milk to these areas where milk is most needed.

At the beginning of the fiscal year the Brisbane Milk Board undertook the registration of milk sellers in its area, and generally exercised its power under the Act in regard to the production and distribution of milk. This section has collaborated with the Milk Board during the year, especially in regard to milk dumps in streets. It is pleasing to report that this practice has now ceased. Vendors are now served with supplies at approved depots and sites.

Sampling operations, both for chemical and bacteriological purposes, have taken place consistently throughout the State, and the numbers of these samples are shown in the reports of the Government Chemical Laboratory and the Laboratory of Microbiology and Pathology.

Assistance has been afforded to the Department of Public Instruction, when required, in regard to the free milk scheme for schools. Advice and comment have been given to proposals for extending the scheme, whilst all complaints have been investigated.

Complaints from the public in respect of poor-quality milk, of dirty milk bottles, or of foreign objects in milk have all received immediate attention, and corrective measures were taken.

During the year check samples of raw milk were taken from one producer, as there was a suspicion that the milk was infected with tubercle bacilli. However, after exhaustive laboratory tests, the milk was found free of the tubercle bacillus.

Prosecutions during the year for adulterated milk numbered 25, and resulted in fines of £357, together with £44 costs. The results are detailed in Table XXV.

TABLE XXV.

PROSECUTIONS FOR ADULTERATED MILK—1954–55.

Date.	Place.	Fines.	Costs.
		£ s. d.	£ s. d.
1954—			
19th July	Rockhampton	15 0 0	1 11 0
19th July	Rockhampton	10 0 0	1 11 0
7th September	Murgon	13 0 0	1 11 0
7th September	Dalby	15 0 0	1 11 0
10th September	Goondiwindi	20 0 0	2 12 0
13th September	Mackay	10 0 0	1 11 0
22nd September	Brisbane	18 0 0	1 11 0
7th October	Rockhampton	5 0 0	1 11 0
19th October	Ipswich	15 0 0	1 11 0
27th October	Brisbane	20 0 0	4 14 0
4th November	Brisbane	10 0 0	1 11 0
11th November	Brisbane	20 0 0	1 11 0
11th November	Brisbane	10 0 0	1 11 0
15th December	Brisbane	6 0 0	1 11 0
1955—			
17th January	Southport	15 0 0	1 11 0
17th January	Southport	25 0 0	1 11 0
25th January	Richmond	20 0 0	1 11 0
2nd February	Wowan	20 0 0	1 11 0
2nd February	Wowan	9 0 0	1 11 0
3rd February	Gympie	20 0 0	1 11 0
15th March	Woodford	10 0 0	1 11 0
15th March	Woodford	8 0 0	1 11 0
14th June	Toowoomba	20 0 0	1 11 0
17th June	Millaa Millaa	13 0 0	1 11 0
27th June	Toowoomba	10 0 0	2 12 0
Totals		357 0 0	44 0 0

Liquor-testing, Hotels, &c.—Officers have regularly carried out testing of liquors for sale throughout the State, whilst particular attention has been paid to the washing of glasses and the denaturing of waste beer. Generally warnings for breaches in these directions have had the desired effect but, unless regular and frequent inspections are carried out, there is a tendency for some hotel keepers to forget their responsibilities. Three publicans were proceeded against during the year for the sale of adulterated spirits and convictions secured in each instance. One licensee had 17 different bottles of rum, all adulterated in varying percentages. Results of prosecutions are set out in Table XXVI.

TABLE XXVI.

PROSECUTIONS FOR ADULTERATED LIQUORS—1954–55.

Date.	Place.	Offence.	Fines.	Costs.
			£ s. d.	£ s. d.
1954—				
22nd September	Lowood	Adulterated rum	5 0 0	4 14 0
1955—				
2nd February	Warwick	Adulterated rum (17 Adulterations)	9 0 0	13 15 0
23rd March	Marburg	Adulterated gin	5 0 0	1 11 0
		Totals	19 0 0	20 0 0

Preservative in Minced Meat.—Despite prosecutions of butchers over a number of years for the offence of putting preservative in minced meat the habit still persists with some traders although it is refreshing to note that quite a big percentage of butchers are now observing the law. Action was taken against offenders and convictions secured in every case.

Three cases were taken against butchers for having more than the prescribed amount of preservative in sausages, whilst a fourth butcher was successfully proceeded against for selling sausages which did not conform to the legal standard in regard to meat content.

TABLE XXVII.

PROSECUTIONS FOR ADULTERATED MINCED MEATS—1954–55.

Date.	Place.	Basis of Prosecution.	Fines.	Costs.
			£ s. d.	£ s. d.
1954—				
2nd July	Rockhampton	Added preservative	3 0 0	1 11 0
2nd July	Rockhampton	Added preservative	2 0 0	1 11 0
18th August	Brisbane	Added preservative	10 0 0	1 16 0
18th August	Brisbane	Added preservative	15 0 0	1 11 0
31st August	Cairns	Added preservative	5 0 0	1 11 0
30th September	Brisbane	Added preservative	5 0 0	3 13 0
15th October	Cairns	Added preservative	6 10 0	1 11 0
10th November	Atherton	Added preservative	5 0 0	1 11 0
11th November	Malanda	Added preservative	10 0 0	1 11 0
15th November	Mareeba	Added preservative	10 0 0	1 11 0
17th December	Ravenshoe	Added preservative	5 0 0	1 16 0
1955—				
5th January	Pomona	Added preservative	5 0 0	1 11 0
5th January	Pomona	Added preservative	5 0 0	1 11 0
5th January	Pomona	Added preservative	5 0 0	1 11 0
5th January	Pomona	Added preservative	4 0 0	1 16 0
10th May	Brisbane	Added preservative	10 0 0	1 11 0
10th May	Brisbane	Added preservative	10 0 0	1 11 0
11th May	Brisbane	Added preservative	5 0 0	1 11 0
11th May	Brisbane	Added preservative	15 0 0	5 15 0
27th May	Cairns	Added preservative	7 10 0	1 11 0
27th May	Cairns	Added preservative	5 0 0	1 11 0
31st May	Innisfail	Added preservative	8 0 0	1 11 0
31st May	Innisfail	Added preservative	6 0 0	1 11 0
1st June	Brisbane	Added preservative	5 0 0	1 11 0
1st June	Brisbane	Added preservative	5 0 0	1 11 0
2nd June	Cairns	Added preservative	7 10 0	1 11 0
10th June	Kingaroy	Added preservative	3 0 0	1 11 0
10th June	Kingaroy	Added preservative	5 0 0	1 11 0
10th June	Kingaroy	Added preservative	5 0 0	1 11 0
10th June	Kingaroy	Added preservative	3 0 0	1 11 0
15th June	Brisbane	Added preservative	15 0 0	1 11 0
15th June	Brisbane	Added preservative	5 0 0	1 11 0
15th June	Brisbane	Added preservative	15 0 0	1 11 0
15th June	Brisbane	Added preservative	10 0 0	1 11 0
15th June	Brisbane	Added preservative	6 0 0	1 16 0
15th June	Brisbane	Added preservative	7 0 0	1 11 0
15th June	Brisbane	Added preservative	2 0 0	1 11 0
17th June	Millaa Millaa	Added preservative	5 0 0	1 11 0
21st June	Innisfail	Added preservative	5 0 0	1 11 0
	Totals		265 10 0	67 15 0

TABLE XXVIII.

PROSECUTIONS FOR ADULTERATED SAUSAGES—1954–55.

Date.	Place.	Offence.	Fines.	Costs.
			£ s. d.	£ s. d.
1954—				
15 October	Cairns	Excess preservative	4 10 0	1 11 0
15 October	Cairns	Excess preservative	4 10 0	1 11 0
1955—				
15 June	Brisbane	Excess preservative	10 0 0	1 11 0
16 June	Cairns	Not to prescribed standard	5 0 0	1 11 0
	Totals		24 0 0	6 4 0

Fruit, Vegetables, &c.—As a result of action taken last year the quantity of fruit and vegetables arriving on the market contaminated with poisonous residual spray was appreciably less than formerly and it would appear that growers are now realising their responsibilities better. Regular inspections have been made during the year and the necessary action taken, when breaches were detected.

Bread, Flour, &c.—During the year a survey was made of bread sold in Brisbane and in certain larger country centres. Generally bread was found to be of fair average quality, but where bread was found below prescribed standards steps were taken to have the quality improved. Failure to comply in this regard led to the successful prosecution of two bakers.

Attention was also given to the wrapping of bread at bakehouses and other premises and warnings in regard to breaches were generally heeded. Failure to comply with instructions resulted in the successful prosecution of five persons. Results of these prosecutions are shown in the list of miscellaneous prosecutions later on.

Flour used in the manufacture of bread is regularly checked and found satisfactory. The nutritional qualities of Queensland flour are the best in Australia.

Butter.—A survey was made of butter produced in Queensland and, though generally satisfactory, it was found that some had bacterial contamination. Close liaison exists with the Department of Agriculture and Stock, and the information given to that department resulted in remedial measures being taken.

Ice Cream, Flavoured Ices, &c.—Regular samples of ice cream and flavoured ices on the market were secured and contact maintained with manufacturers to ensure the production of these lines to the standard required by the Health Acts and Regulations. Co-operation by manufacturers was excellent.

Soft Drinks.—A number of samples of soft drinks on the market were examined and, where necessary, corrective measures were taken to improve quality and to ensure correct labelling.

Complaints.—Not the least of the work of this section has been receiving and investigating complaints from the general public in regard to adulterated and contaminated foodstuffs. Every complaint received has been attended to. Where evidence has been sufficient to sustain a prosecution such prosecutions have been launched. Results are shown in the list of miscellaneous prosecutions below. Unfortunately, there is generally a disinclination among complainants to proffer evidence for prosecution purposes, but in these instances every effort is made to deal with the offender so that a repetition of the breach is an exceptional occurrence.

Labelling, &c.—A good deal of work has been done in regards to correcting faulty labelling of foods. In this regard it is pleasing to report that the Department still retains the confidence of the trade, which does not hesitate to secure the advice of Departmental officers in labelling and packing of foods before they are put on the market. Assistance has been sought by and given to traders in respect to the soundness of foodstuffs, and close co-operation exists not only with the general trade but also with auction marts, &c.

Bacteriological Samples.—A much wider use has been made of the services of bacteriologists this year in regard to bacteriological examinations of foods, and samples submitted have included butter, oysters, ice cream, flavoured ices, milk, flour, pickles, and meats. Following on the previous year's experience with infected coconut, samples of coconut on the market were submitted for bacteriological examination and found to be quite safe.

Fish.—The staff at the Fish Markets carried out duties of inspection of fish for fitness for human consumption during the year in the usual efficient manner, condemning and destroying all fish considered unfit. Particulars of fish so destroyed are set out in Table XXIX.

TABLE XXIX.

QUANTITY OF FISH CONDEMNED AND DESTROYED AT THE FISH BOARD, SOUTH BRISBANE.

Class of Fish.	Weight.			
	T.	C.	Q.	L.
Bonito	0	0	0	9
Bream	7	13	0	26
Bream, Coral	0	1	0	10
Bream, Black	0	13	1	3
Catfish	0	11	2	19
Cod	0	0	1	10
Cod Fillets	0	0	0	14
Coral Trout	0	1	1	3
Dolphin	0	0	0	20
Emperor	0	0	1	9
Fish Fillets	0	1	3	6
Flathead	0	8	1	22
Garfish	0	5	2	3
John Dory	0	4	0	20
Leather Jackets	0	1	2	12
Lobsters	0	3	0	25
Long Toms	0	1	0	11
Mackerel	0	15	2	20
Mixed Fish	0	2	0	27
Morwong	0	0	0	16
Mud Crabs, Cooked	157 Crabs.			
Mullet	45	18	2	0
Mullet Fantale	0	11	1	10
Oysters, Bottled	308 Bottles			
Parrot	0	3	0	2
Perch	0	0	1	20
Pike	0	0	0	2
Prawns Cooked	0	11	2	23
Prawns Green	2	19	2	2
Prawns King	1	11	0	2
Prawns School	6	1	2	4
Prawns Small	0	9	3	23
Prawns Tiger	0	4	0	7
Salmon	0	0	1	26
Sand Crabs	1,740 Crabs.			
Saw Fish	0	1	0	22
Schnapper	0	5	1	16
Shark Fillets	0	2	1	16½
Soles	0	2	0	5
Squid	0	4	1	23
Squire	0	5	3	22
Sting Ray	0	3	1	22½
Sweetlip	0	13	3	5
Tailer	14	11	0	21
Trevally Fillets	0	3	3	19
Tuna	0	0	0	19
Turrun	0	1	2	27
Whiting	1	1	0	6
Total	87	13	3	14

TABLE XXX.

SHOWING QUANTITIES OF UNSOUND FOODS DESTROYED—1954–55.

Article.	Weight.				
	T.	C.	Q.	L.	O.
Anchovies	0	0	0	15	12
Arrowroot	0	0	0	7	0
Biscuits	0	3	1	22	0
Breakfast Foods	0	0	0	7	8
Cakes and Cake mixtures	0	1	2	20	8
Cheese	0	0	3	17	4
Chutney	0	0	0	13	3
Citric Acid Crystals	0	2	0	0	0
Coconut	2	14	1	24	0
Coffee	0	4	0	8	0
Coffee and Chicory	0	0	0	11	0
Confectionery	3	2	0	8	4
Crabs	0	0	3	6	0
Cream	0	0	0	4	1
Curry Powder	0	1	0	4	12
Custard Powder	0	7	3	26	14
Eggs	0	0	0	7	10
Essences	0	0	1	6	8
Fish—					
Canned	6	18	1	13	12
Fresh	0	14	3	18	0
Cured, Dried, Preserved	1	0	1	15	0
Fish Paste	0	1	2	25	14
Flour	0	0	0	2	0
Fruit—					
Canned	1	10	0	12	12
Fresh	4	2	0	9	0
Dried, Preserved	0	16	3	9	7
Ginger	0	0	0	17	8
Ham	0	0	0	14	0
Honey	0	0	0	9	10
Icing Sugar	2	0	0	0	0
Jams	0	15	3	15	8
Macaroni	0	0	0	22	0
Meat (Canned)	0	0	3	26	12
Milk—					
Condensed	0	2	3	22	0
Malted	0	0	1	2	0
Powdered	0	0	0	3	0
Nuts	16	13	2	22	0
Pastry Mixture	0	0	0	2	4
Peas (Split)	0	8	1	22	0
Peel (Mixed)	0	0	0	0	4
Pickles	0	0	3	15	4
Prawns	0	3	1	19	0
Puddings	0	0	1	18	8
Rice	0	7	1	3	0
Sago	0	0	0	10	0
Sauce	0	0	0	9	0
Sausages	0	0	1	10	8
Soups	0	0	2	15	12
Spaghetti	0	0	2	10	0
Spreads	0	0	1	18	4
Sugar	0	3	1	4	0
Tea	0	2	2	25	0
Vegetables—					
Canned	0	1	3	18	3
Dried	0	0	0	5	4
Fresh	5	4	2	18	0
Vegetable Extracts	1	17	1	5	0
Vermicelli	0	0	0	26	0
Totals	50	10	3	25	10

In addition, the following foods were destroyed:—14 packets almond kernels, 3 bottles of cordial, 44 packets (assorted sizes) of jelly crystals, 80 bottles of whisky and a bundle of sausage skins.

During the year the following drugs were also found unfit for use and were destroyed:—99 tons 9 cwt. 1 lb. of tobacco damaged by fire and water, 50,118 cigarettes and 287 bottles, 454 packets and 656 tubes of various patent medicines, together with a small quantity of toilet preparations.

TABLE XXXI.

MISCELLANEOUS PROSECUTIONS—1954–55.

Date.	Place.	Offence.	Fines.	Costs.
			£ s. d.	£ s. d.
1954—				
8 July	Bowen	Medicated bandage in bread	10 0 0	0 10 0
6 October	Gladstone	Bread wrapped in newspaper	3 0 0	0 10 0
6 October	Gladstone	Bread wrapped in newspaper	3 0 0	0 10 0
29 October	Mackay	Dirty cafe premises	10 0 0	0 10 0
29 October	Mackay	Dirty grocery premises	10 0 0	0 10 0
17 November	Brisbane	Bread wrapped in newspaper	5 0 0	3 13 0
1 December	Brisbane	Brown bread not to prescribed standard	10 0 0	1 16 0
7 December	Cairns	Dirty hotel pantry	10 0 0	0 10 0
8 December	Atherton	Dirty bakehouse premises	5 0 0	3 13 0
17 December	Ravenshoe	Brown bread not to prescribed standard (second offence)	30 0 0	1 11 0
21 December	Herberton	Food premises not properly enclosed	5 0 0	0 10 0
1955—				
16 February	Mareeba	Dirty chemists premises	5 0 0	4 14 0
4 March	Townsville	Minced meat unfit for human consumption	14 0 0	5 15 0
14 March	Brisbane	Bread wrapped in newspaper	3 0 0	4 14 0
21 March	Rockhampton	Confectionery exposed to contamination	5 0 0	0 10 0
21 March	Barcaldine	Failure to comply with inspector's notice	5 0 0	0 10 0
1 June	Brisbane	Bread wrapped in newspaper	1 10 0	0 10 0
		Total	134 10 0	30 16 0

Poisons and Drugs.—Inspections in regard to the Poisons Regulations are an ever-increasing feature of the work of this section, and much control and advisory work was carried out during the year. When all the avenues of the uses of poisons and drugs are considered the field for activity is very wide.

In regard to the sale, handling, and use of dangerous drugs, attention has been regularly given to doctors, chemists, hospitals, and other users of such drugs. Failure to observe the law led to the prosecution of two chemists, the result of the prosecutions being listed below, whilst two medical practitioners were questioned about their prescribing of dangerous drugs. The possibility of addiction through careless use of dangerous drugs is to be guarded against, and rigid control of habit-forming narcotic drugs is fully justified.

Licensed dealers in poisons have been regularly checked and steps taken to ensure compliance with the Regulations. In this regard the co-operation of the trade has always been sought and generally obtained. Close attention has been paid to correct labelling and packing, and here again, a big feature of the work has been the willingness of the trade to seek advice before putting poisons on the market.

The handling and use of the highly toxic poison cyanide was checked during the year and steps taken to ensure that such poison was safely stored and its uses recorded.

Surveys were made during the year of some of the commoner drugs on the market and all remedial steps taken to ensure that standards were maintained and labelling and packing kept correct. Some of the lines so checked were iodine, calamine lotions, and peroxides, whilst many disinfectants and patent medicines were subjected to both chemical and bacteriological examinations.

Another interesting sample was a "Sneezing Powder" novelty which was found to be of such strength as to offer a hazard. This line was immediately withdrawn from the market.

Advertising of drugs and patent medicines has received attention of the staff, and any extravagant claims have been checked and, as a result, greatly modified. Improved law forecast for the future will make it possible to deal more effectively with extravagant advertising.

Hair preparations and cosmetics again came under review and, where necessary, action taken to ensure correct labelling and packing. In regard to cosmetics this State has always frowned upon the unrestricted sale of cosmetics containing sex hormones, and this attitude will not be relaxed. It is considered that the use of hormones is one for medical prescription.

Insecticides, &c.—During the year very many insecticidal sprays were checked whilst electric vapourisers for the volatilisation of insecticides were tested and only those whose volatilisation rate was considered safe, were approved. The ever-increasing application of chemistry to the field of insect-control means that new preparations are continually coming on to the market and must receive attention.

TABLE XXXII.

PROSECUTIONS FOR BREACHES OF POISONS REGULATIONS—1954–55.

Date.	Place.	Offence.	Fines.	Costs.
			£ s. d.	£ s. d.
17 December, 1954	Ravenshoe ..	Failing to cancel properly dangerous drug prescriptions	2 10 0	0 10 0
17 December, 1954	Ravenshoe ..	Improper keeping of records of dangerous drug prescriptions	2 10 0	0 10 0
16 February, 1955	Mareeba	Improper keeping of records of dangerous drug prescriptions	10 0 0	0 10 0
3 March, 1955 ..	Inglewood ..	Failing to keep records of transactions in dangerous drugs	2 0 0	0 10 0
		Total	17 0 0	2 0 0

Legislation.—Much work was done on the preparation of new Food and Drug Regulations to bring them up to date, and it is expected that these Regulations will be gazetted in the near future.

A scheme for uniform Poisons Schedules throughout the Commonwealth was submitted by the National Health and Medical Research Council. This scheme received most careful attention and has now referred back for discussion and consideration to the various States. If uniformity of Schedules can be secured, a very big step forward will have been taken in poisons control and administration in Australia.

ENVIRONMENTAL SANITATION.

One of the functions of Local Government in this State is the administration of those parts of "*The Health Acts*, 1937 *to* 1949," and Regulations thereunder relating to environmental sanitation. Ample powers are given to Local Authorities under this law to enable them to control preventable disease within their areas.

The well-recognised causes of many diseases and their means of transmission have been known for so long and the means of breaking the chain of infection have become so universally accepted that there is a tendency towards a complacency which is to be regretted. This tendency is perhaps fostered by developments in science which has presented the world with some seemingly easier methods. Unfortunately, while these controls are excellent when used for the intended purpose, they are seldom able to remove the need for basic sanitation.

There is no easy way to prevent disease arising from defective sanitation. The cause must be removed by the prevention of the breeding of vectors, such as flies, mosquitoes, rats, fleas, and cockroaches in nightsoil and refuse which is improperly collected and disposed of in non-flyproof cabinet pansteads, defective drainage, dirty and untidy yards, and lanes. Some very effective chemicals for the destruction of these pests are known, but unless their breeding and feeding places are removed permanently, these pests become as numerous and dangerous as ever once the use of the chemical ceases.

To carry out this work effectively a Local Authority has the services of a Medical Officer of Health and a Health Inspector. These officers, working as a team, can keep the Local Authority well informed of conditions within its area.

The bulk of the field work falls on the inspector. All sciences have contributed to the knowledge used by inspectors who in performing their duties efficiently find defects and have them remedied to prevent the spread of disease.

The success of this system depends largely on the adequacy of the health staff, its competency, and its loyalty to the people, and to the support and encouragement the Local Authority gives its staff.

Reports submitted by Medical Officers of Health, Local Authority health inspectors, and departmental officers, indicate that some progress has been made throughout the State, but there is much yet to be done to progress further while still maintaining the standard already reached. This is particularly noticeable in Local Authorities still without the services of a fully-qualified inspector.

The distribution of inspectors in the State is as follows:—

Brisbane City Council	31
Cities and Towns	34
Shires employing one or more Inspectors	32
Joint Areas (one Inspector to two or more Local Authorities)	23
Total	120

This shows an increase of three inspectors over last year. Unfortunately, the increase has not been in that part of the State where it is most needed—the North and Central-West where Local Authorities have been without inspectors for years. Only one of these Local Authorities secured the services of a health inspector. The balance of the new appointments were in coastal districts. One joint area dissolved and each Local Authority is now employing its own inspector. Brisbane City Council increased its staff.

This unhappy state is due to a reluctance on the part of qualified men to serve where amenities are believed not to equal those on the coast, where secondary school education is not readily available to their children, where much time is necessarily spent away from headquarters, and where salaries are often below those paid by Local Authorities on the coast. In these days of industrial awards, this last factor is difficult to believe, but it is nevertheless true, because several agreements between Local Authorities and associations of employees are known to exist whereby salaries, higher than those prescribed in the general award, are paid in certain areas.

Nightsoil Removal and Disposal.—For the most part these have been well conducted and, except in rare instances, the defects observed were of such a nature as to be easily adjusted at the time on being drawn to the attention of the responsible party.

The most common defects are the practices of not fitting airtight lids to the pans for removal to the disposal ground and the overfilling of trenches when burying. The first practice allows the nightsoil to be spilt on to the street—a most objectionable and dangerous occurrence. The latter usually results in overfilled trenches overflowing as an attempt is made to cover the nightsoil with earth. Large areas of soil are polluted and left exposed for flies to breed in. Sanitary depots where this occurs are usually heavily fly infested, and this infestation spreads for miles.

To prevent these practices, Local Authorities have the advantages of the penal clauses in the contract, where the work is undertaken by contractor.

From reports received, it is believed that there has been greater care taken in the construction of cabinet pansteads. While no prosecution for any breach of the Regulations is recorded, Local Authorities have had badly or incorrectly made cabinets returned to the manufacturer to be altered.

Refuse Collection and Disposal.—Reports from departmental officers show that where the Local Authority has undertaken or contracted for the collection and removal of refuse, these services are generally satisfactorily carried out. However, instances are reported of premises not having sufficient cylindrical metal close-lidded refuse receptacles. It is the responsibility of the Local Authority to supply such receptacles,

and as galvanised iron is becoming more easily obtainable, there is no longer any need for such receptacles as tea chests and fruit cases for holding refuse.

One point in the construction of the collecting vehicles, sometimes overlooked by Local Authorities and contractors, is that vehicles should be kept closed while travelling. Too often the loading doors are large hinged steel plates which are difficult for the loaders to open and close, as a result of which they remain open. Sliding panels would overcome this difficulty.

It is at the disposal areas that the greatest trouble arises. Except at such cities as Ipswich and Toowoomba, where refuse is incinerated, the tipping of refuse creates serious problems. At no place is controlled tipping, according to accepted practice, properly carried out, with the result that these refuse tips, while of inestimable value in the reclamation of low-lying ground, become serious menaces to the health and comfort of nearby residents. They provide prolific fly and mosquito breeding grounds as well as often being a harbourage and feeding place for rats.

It has been proved that flies, bred in refuse tips, disperse as far as 12 miles from their breeding places. As the average tip is seldom more than 2 miles from a township—in cities they are very often close to residential areas, and in unsewered areas—the danger of fly-borne disease can readily be appreciated. Compacting of the refuse in layers of not more than 6 feet deep, restricting the face to not more than 24 feet, preferably less, giving the sides a slope of 45 degrees, and covering the top and sides with at least 9 inches of soil daily will reduce this fly, mosquito, and rat menace. Too often, however, refuse is tipped and left uncovered for long periods until a bulldozer is in the vicinity.

Plague Precautions.—Local Authorities are responsible for the control of rats, which term includes mice. The Plague Prevention Regulations specify measures to deny them food and shelter without which rats will not remain in an area. Most Local Authorities assume this responsibility reasonably and see that new buildings do not provide any harbourage for rats, but it is their inspector's responsibility to see that harbourages are not created and to take steps with the owner or occupier to remove any which are created.

In addition to these measures, many Local Authorities provide free rat baits. Phosphorus is the bait usually supplied. Those Local Authorities whose areas include seaports are particularly watchful, and most of them employ men whose duty it is to search for breeding places and to bait and trap rodents, often using a variety of methods.

As a check for bubonic plague, a percentage of the rats destroyed in Brisbane are examined at the Laboratory of Microbiology and Pathology.

Table XXXIII. shows the number of rats known to have been destroyed during the year, and takes no account of rats which may have been destroyed and bodies not recovered as a result of regular baiting of the waterfront and refuse tips.

TABLE XXXIII.

Local Authority.	Rats.	Mice.
Brisbane	55,354	5,524
Bundaberg	696	..
Cairns	1,779	256
Gympie	276	..
Ipswich	461	24
Mackay	1,048	584
Maryborough	660	..
Rockhampton	3,884	..
Townsville	3,213	312
Total	67,371	6,700

Mosquito Eradication.—In this State there are several species of mosquitoes which are known vectors of disease, and it is the responsibility of the Local Authorities to control mosquito breeding. Many pay particular attention to the eradication of the *Aëdes aegypti* by screening tanks and by preventing their access to other accumulations of clean water in which they breed. Control measures adopted against *Culex fatigans* usually result in the control of other species as well. To assist Local Authorities the Government subsidises works which will permanently eradicate mosquito breeding places, and Local Authorities are availing themselves of this subsidy. Table XXXIV. shows the amount of subsidy granted for this purpose throughout the year.

TABLE XXXIV.

SUBSIDIES GRANTED TO LOCAL AUTHORITIES FOR MOSQUITO ERADICATION PURPOSES DURING 1954–55.

Local Authority.	Amount Granted.
	£
Brisbane City Council	60,543
Cairns City Council	7,786
Mackay City Council	8,050
Rockhampton City Council	4,963
Toowoomba City Council	2,707
Townsville City Council	14,809
Bowen Town Council	63
Dalby Town Council	4,000
Redcliffe Town Council	10,160
Blackall Shire Council	393
Douglas Shire Council	1,000
Johnstone Shire Council	6,895
Mareeba Shire Council	53
Redland Shire Council	750
Widgee Shire Council	100
Total	122,272

Camping Areas and Seaside Resorts.—In this sunshine State, strict attention to the sanitation at seaside resorts is particularly necessary owing to the crowds which flock to the beaches at holiday periods. Some Local Authorities have this well organised, and are proceeding with a works programme designed to improve amenities at beaches within their areas. Adequate water is a handicap to some, but where possible, water closets connected to septic tanks, showers, and laundries are provided at camping areas. There are still, however, Local Authorities who are content to provide a lower standard of accommodation which encourages misuse and vandalism.

Reports from departmental officers indicate that for the most part Local Authorities are making an effort to improve standards in this respect, their progress depending on the availability of finance and on the progressiveness of the Council's outlook.

Water samples were submitted during the year by Local Authorities for a number of reasons. Many were submitted in the course of surveys for a possible source of supply for contemplated reticulated services. Others were regular routine checks of an existing reticulated supply.

In one or two instances, difficulties were being experienced in an existing supply, and expert assistance was being sought. Many were from wells, dams, and streams, the waters from which it was proposed to use for domestic purposes.

During the year, Local Authorities were requested to submit samples of local water, whether reticulated or not, for estimation of flourine content. These samples are still being received, and the survey is not yet completed.

District officers at Toowoomba, Rockhampton, Mackay, Townsville, and Cairns all report similarly regarding the conduct of essential services in their areas.

District Officers report as follows:—

Toowoomba.—Extensions to sewerage have been made at Toowoomba and Warwick, whilst at Goondiwindi, the development of a residential area, well removed from sewerage and water, may necessitate the introduction of a small nightsoil removal service.

There are a number of centres where reticulated water schemes are contemplated, but few have progressed beyond the investigation stage.

Local Authorities in this district are undertaking works for the eradication of mosquitoes, the erection of public conveniences, shelter sheds, and sanitary accommodation at aerodromes, all of which attract subsidy.

Rockhampton.—While some Local Authorities in this district have ceased to insist that occupiers of premises place the refuse bin on the footpath for collection, there are still some continuing this practice. While this system is convenient and possibly economical because of the time saved by collectors, it does not ensure that the Local Authority remove the refuse from every premises at least once a week.

Extensions to the Rockhampton sewerage system were continued, and the first connections to the new system at Blackall have been made. The Barcaldine scheme has progressed. Surveys for sewerage at Gladstone have advanced and Longreach is investigating finances for its scheme.

Local Authorities are proceeding with works attracting Government subsidy. Such works include mosquito eradication, water supplies, and public sanitary conveniences.

Mackay.—The defects of Mackay's sewerage system were again emphasised during the floods and continual rains in the latter part of this year, and it is hoped that the necessary urgent works to remedy these defects will be undertaken by the Council soon. The City Council is well aware of the importance of this project.

Work on the Proserpine water reticulation scheme was held up during the wet weather.

Townsville.—This city is considering extending its sewered area, and for that purpose consideration is being given to the disposal of the additional sewage. Certain proposals in this respect are still under review.

The only Local Authority in this district to avail itself of the subsidy on mosquito eradication works is the City of Townsville, which is continuing with its extensive programme planned years ago. These drainage works are accompanied by the filling-in of mosquito breeding grounds with the city's refuse.

Cairns.—This city is about to embark on a sewerage scheme which is a very necessary amenity in this tropical seaport.

A visit to Normanton shows that the Carpentaria Shire has reason to be proud of its efforts in sanitation in remote settlements on the Gulf of Carpentaria.

Local Authorities in this district, particularly those on the Coastal belt, have done much to eradicate mosquito breeding areas by drainage and filling-in of low-lying places.

Swimming Pools.—It is now accepted practice that the water in swimming pools contain 0·2 p.p.m. to 0·5 p.p.m. residual chlorine as a sterilising agent, and it is pleasing to report that wherever departmental officers have tested the water in swimming pools, this accepted standard has been found.

Bedding and Upholstery Regulations.—The investigation commenced some time ago and reported last year has continued, but no great progress has been made owing to the difficulty in obtaining suitable material for investigation. The material required is mainly used bedding, preferably freshly contaminated. It is this latter requirement which is difficult to fulfil.

Hotel Licensing.—Inspection of hotels and other premises licensed under "*The Liquor Acts,* 1912 *to* 1954," was undertaken on behalf of the Licensing Commission. Inspectors by virtue of Regulation 45 of "The Liquor Regulations of 1955," have and enjoy the same rights and privileges and may exercise the same powers and shall be subject to the same responsibilities as are conferred or imposed upon an inspector appointed under the provisions of "*The Liquor Acts,* 1912 *to* 1954."

The Licensing Commission receives much valuable information from the reports submitted by our officers.

Paint.—Samples of paint being applied to buildings have been obtained to ascertain whether painters are observing the section of the Health Acts which prohibits the use of lead paint on certain exterior parts of premises. Professional painters generally were observing the law, but an occasional amateur was found to be ignorant of the law and the breach was adjusted by removal of the offending paint.

However, the sampling of paint on houses still shows soluble lead in quantities exceeding the permitted five per centum on many homes. Owners, on receipt of a request to remove such paint, do so without legal action being necessary.

"The Paint Regulations of 1954" repealed the similar Regulations of 1953. When paints are all labelled in accordance with these Regulations, purchasers will be easily able to distinguish a paint containing no lead or less than 5 per cent. of soluble lead from paints containing over 5 per cent. A recent survey of paint manufacturers in this State indicates that they have accepted the regulations. Naturally there are still inconsistencies or misinterpretations to be adjusted but it is hoped that very soon all paint coming on to the retail market will be correctly labelled.

Toys.—The sale of toys containing lead either in the toy itself or in the paint on the toy is prohibited in this State.

With the reappearance of wooden and tin painted toys on the market which was previously dominated by plastics, our efforts in this respect have necessarily had to be increased this year.

It is unusual to find a toy made of lead or lead alloy these days, but the paints in the brightly coloured toys too often contain lead which children will suck or bite off.

SECTION OF HOOKWORM CONTROL.

Microscopist in charge: S. Thompson.

General.

The staff responsible for hookworm control consists of a Microscopist, a Field Inspector, and two trainee nurses.

During the year, the Microscopist visited Mornington Island Mission. All persons found positive for hookworm were treated and re-examined. Of the 326 examined, 255 were found to be harbouring hookworms. All children three years of age and under were treated in the hospital. At the completion of the survey, arrangements were made with the Sister at the hospital to send specimens from hookworm hosts to Cloncurry by 'plane until such time as they have been cured.

A survey of Hopevale Lutheran Mission was carried out at the request of the Superintendent, and of the 304 examined, 181 were found to be harbouring hookworms. It is pleasing to note that of the 367 specimens re-examined, 139 showed negative results. Every endeavour is being made to have all hookworm hosts at the Hopevale Lutheran Mission treated to a cure.

Owing to the high infestation rate at the Mornington Island and Hopevale Lutheran Missions, all aboriginals will be mass treated for hookworm disease every six months. When the sanitary conditions and disposal methods are brought up to a reasonable standard, the incidence of hookworm should be greatly reduced.

Mass treatment of aboriginals has been carried out at Bloomfield River camps, Cooktown Reserve, Hopevale Lutheran Mission, Normanton, and Mornington Island Mission.

Surveys of school children have also been carried out in the Cairns, Coen, Normanton and Burketown areas. Of the 1,371 school children examined, only 46 were positive for hookworm and 88 for other parasitic worms. Most of the infested children were aboriginals.

Of 1613 aboriginals examined from all areas, 991 were found to be harbouring hookworms.

From all areas, 3,418 specimens were examined, 1,062 were positive for hookworm; 245 of the hookworm hosts were treated to a cure.

It was found that 227 specimens contained ova of *Enterobius vermicularis, Hymenolepis nana,* and *Trichostrongylus* spp.

A number of hookworm hosts were treated in the Cairns, Mossman, and Cooktown hospitals.

Several hookworm cultures were made of positive specimens, and the examinations showed that these were either *Anchylostoma duodenale* and *Necator americanus.*

The sanitation of all schools visited was found to be of satisfactory standard. Sanitary inspections were carried out at the township of Cooktown, and reports were forwarded to the Local Authority.

DIVISION OF TUBERCULOSIS.

Director: E. W. Abrahams, M.D., (Melb.) M.R.C.P., (Lond.).

Chest Physician: G. R. Hales, M.B.Ch.B., (Edinburgh), T.D.D.

Medical Officers, Chest Clinic: E. M. Rathouse, M.B.Ch.B., (Capetown).
I. L. Chapple, M.B.B.S., (Q'ld.).

Despite the falling-off of new cases, the work of the clinic continues to increase. The number of cases on the register is mounting steadily, and is an indication of the prevalence of the disease. In contrast with the pre-chemotherapy period, numbers of cases are less depleted by death but still require supervision, as do their contacts, though these may be expected to disclose fewer new cases than in the past, due to rapid conversion of sputum with modern treatment.

Buildings.

The present position of the building programme is:

Brisbane Chest Hospital, Chermside.—Pavilion wards of this hospital totalling 186 beds, constructed of prefabricated aluminium, together with staff quarters, were opened by the Commonwealth and State Health Ministers, the Right Honourable Sir Earle Page and the Honourable W. M. Moore, respectively, on 14th November, 1954. Occupation of the first ward had actually commenced in August of the same year. These wards are now fully occupied and are proving most satisfactory to both staff and patients. They have been commented on favourably by both Australian and overseas medical visitors.

The slow delivery of steel for the main block has resulted in almost 12 months' delay in its construction, and though the steel has now been delivered, assembly of the framework has not yet commenced. Beautification of the grounds continues, and already the surroundings of the institution are most attractive.

Thoracic Annexe, Cairns.—This annexe is now in full use. It was opened by the Commonwealth and State Health Ministers on 26th September, 1954.

Thoracic Annexe, Townsville.—This is to be opened by the Commonwealth and State Health Ministers on 31st July, 1955.

The opening of these two annexes with spacious airy wards overlooking the sea sets a high standard of hospital construction and gives to North Queensland an excellent foundation for anti-tuberculosis work. It is hoped that medical officers to staff these annexes can be found without delay.

Toowoomba Annexe.—Tenders were let in December, 1954, and construction has commenced. The building should be completed early in 1957.

Rockhampton Annexe.—The building has not yet commenced.

Waiben Annexe, Thursday Island.—Only minor additions have been made during the past year, but two more wards (which will bring the establishement up to 100 beds), together with buildings for doctor's office, X-ray, and nurses quarters, are planned for the forthcoming year.

Aplin Hostel, Thursday Island.—The building of two new wards, lavatory block, and laundry facilities is in hand but is not yet completed.

Westwood Sanatorium.—Nurses' quarters are under construction to free for use a ward at present used as staff quarters. This will bring the available beds to 100.

Chest Clinic, Brisbane.—The accommodation position in this building is now acute, and with the increase of staff envisaged, considerable difficulty will be experienced in finding space for new appointees. Approval for new buildings having been obtained during this year, and following a conference with the Public Service Commissioner and officers of the Department of Public Works, urgent action to prepare the plans is anticipated.

Staff.

The position of Assistant-Director has been created during the past year, and applications for the position have been called.

Dr. G. R. Hales, the first of the regional chest physicians appointed, took up his duties on Thursday Island in January of this year and has been busy familarising himself with the area and its problems. The chief obstacles he has to overcome are the uniformly low standard of native housing and the difficulty of transport in a scattered island community. The announcement that the Department of Native Affairs is undertaking an ambitious rehousing programme in the area is indeed welcome. The transport problem awaits solution.

Advertisements for medical officers for similar positions at Cairns and Townsville have failed to bring suitable applications and the positions are to be readvertised.

The increasing pressure of clerical work at the Chest Clinic itself necessitated a review of staffing and of future requirements during the past year. As a result the position of Senior Clerk, Chest Clinic, was created.

Mass Radiography is continuing at the Chest Clinic in Brisbane and at the Brisbane and Toowoomba General Hospitals. In addition,

the Mobile X-ray Unit has visited the following centres during the past year:—Proserpine, Bowen, Collinsville, Home Hill, Ayr, Townsville, Charters Towers, Ingham, Innisfail, Tully, Babinda, Gordonvale, Cairns, Mossman, Mareeba, and Atherton. A total of 45,517 small and 1,526 large films has been taken by the Unit.

Figures for the Mobile X-ray Unit's operations since its inception and up to the end of December, 1954, have been analysed. This has allowed time for investigation of cases found and so can be taken as a reasonably complete picture of the result of the survey. However, as some cases found early in the survey are only now, after many months' observation, proving to be active, it is possible that active cases brought to light by these surveys will continue to occur for some time.

Mobile X-Ray Survey.

(Tables XXXVII. and XXXVIII.)

The results of the survey to date show an overall incidence of 1·56 active cases per 1,000 films. The extra-metropolitan incidence is 1·5 per 1,000. In Rockhampton and Townsville, the largest centres of population in this survey, the rates were 2·2 and 2·6 per 1,000 films, respectively. The figures for the smaller towns are set out in Table XXXVIII. They should be interpreted with reserve, as the numbers are small in most of them and the rates, therefore, may be misleading. In the survey, only 50 per cent. of the estimated population over 13 years of age was X-rayed. No figures are available of the population of the nearby surrounding districts, and no doubt a large number of these people came into the towns for the X-ray. For instance, in the case of Nambour, slightly more than the total estimated population over the age of 13 years of that town was X-rayed, so that probably only about one-third of the town's population has been X-rayed.

The incidence found in the 1953 mass X-ray survey of Sydney (Rubinstein, 1955) was:—

In a voluntary survey—1·08 active cases per 1,000 films.

In a compulsory survey—2·17 active cases per 1,000 films.

These rates, compared with the finding of 1·56 per 1,000 films in a voluntary survey, show that the incidence in the Queensland extra-metropolitan area is rather high. As 133 active cases were found in the 21 towns, where less than half the population availed themselves of the X-ray, it means that there could be between 250 and 500 active cases of tuberculosis still undetected in the towns surveyed.

The increased number of microfilms taken in the metropolitan area is encouraging, and the increase in the number of large films taken reflects the ever-increasing number of people being kept under regular X-ray review for doubtful chest conditions. (Table XXXVI.)

Staffing of the X-ray machines, particularly the Mobile X-ray Unit, is difficult, and a vacancy exists permanently with this unit for a radiographer. For this reason, two cadets have commenced training at the Chest Clinic to help provide for the demand for radiographers in the State.

Treatment.

There have been no major innovations or changes in treatment during this year. The use of antibiotics continues to an ever-increasing extent, and isoniazid is proving an increasingly helpful drug. The trend towards longer duration of drug administration is particularly noteworthy. No new drugs of apparent permanent value have been added during the past year.

The shortage of surgical facilities still remains a major problem, and is not likely to be overcome until the main building at the Brisbane Chest Hospital is in use.

Notifications.

For the year there were 725, which is 96 less than last year. It is hoped that this continued fall reflects a real diminution in the incidence of the disease and not a failure to notify cases on the part of those treating them. Paradoxically, increased emphasis on the bacteriological diagnosis may adversely affect the notification of cases. Some cases may not be notified without bacteriological confirmation though radiological and clinical evidence may be suggestive; also, in areas where specimens are sent long distances to laboratories, negative findings are not reliable. Too many cases are being first notified after death. (Table XXXIX.)

The death rate for the calendar year 1954 is 10·6 per 100,000, as compared with 12·6 for the last year. This drop has not been as marked as in the previous year, but still represents a fall of 16·0 per cent., and is in keeping with the trend in other States and overseas. It is undoubtedly due to the widespread use of chemotherapy and chest surgery.

Morbidity figures, however, show a rise during the corresponding period. This is probably not a true increase in the number of cases occurring but reflects the fact that modern treatment keeps many people alive who would otherwise be removed by death.

The death rate and morbidity figures are listed in Tables XLIII. and XLIV. These figures have been corrected, in the light of the recent census, for population estimates. The differences from those already published are small.

Prophylaxis.

Investigation of contacts of known cases in country districts still presents great difficulty because of the distances involved and because of transport difficulties in the Torres Straits-Gulf of Carpentaria area. Here regular medical visits, including those for tuberculosis prophylaxis and case-finding, are almost impossible, and until a suitable boat is provided in this area, prophylaxis must continue to be inadequate.

Mantoux Testing and B.C.G. Vaccination.

School-leaving-age Groups.—This is described in the report of the School Health Services. However, the results of testing at the Sandgate School are sufficiently interesting to warrant mention in this report. Here the percentage of positive tuberculin reactors was 59·6 per cent., compared with an overall percentage of 27·5 in the whole of Brisbane. Both of these figures compare most unfavourably with published percentages from Bendigo, Victoria, 1948, of 5·5 per cent., and of the Canberra district, 1949, 5·4 per cent. For this reason, an effort was made, with the help of the School Health Services, to contact all teachers who had taught the class concerned, in addition to the families of the children. No school contact could be traced and only in 10 of 34 cases was there any known contact with a tuberculous patient. It therefore seemed possible that the milk supply could explain the cause of the high percentage of positive reactors. From information supplied by the Milk Board, it seems likely that many Brisbane children during early life consumed milk from unpasteurised sources. Tuberculin testing of herds in 1945 disclosed a positive reaction rate of 13 per cent. This incidence would relate substantially to producers who were supplying milk direct to consumers. If this was the true explanation of the high reactor rate, surveys of the younger age groups should show a very much lower rate. It is felt, therefore, that the present high reactor rate of children of school-leaving age of Brisbane is not a true index of the amount of tuberculosis in the community and, as adequate steps to control the disease in cattle have been undertaken progressively since 1945, a drop in these figures may be anticipated in the next few years. However, there is no doubt that from the point of view of preventing tuberculosis, no effort should be spared to ensure that all milk is pasteurised, even if it comes from tuberculin tested herds.

Testing is being continued among National Service Trainees, known contacts of cases of tuberculosis, hospital nursing staffs, University students, teacher trainees, and other groups. Vaccination with B.C.G. vaccine was carried out. (Table XLV.)

Analysis of the results of B.C.G. vaccinations done since 1949 have been undertaken during the past year. This enabled assessment of the complications following B.C.G. vaccinations to be obtained. (Table XLVI.) In no case did a complication give rise to anxiety nor was there evidence of constitutional disturbance. The higher complication rate in infants, which is general experience, is confirmed, and it is felt that unless there is definite risk of infection B.C.G. should not be given to infants. In older age groups, however, the complication rate is so low that there would be no contra-indication to widespread use of the vaccine.

Tuberculosis Allowances.

The amounts at present payable are:—

	£	s.	d.
Single persons without dependants ..	5	12	6
Single persons in hospital	3	10	0
Married persons with dependent wife (plus 10s. a week for each dependent child)	9	2	6

This is a Commonwealth benefit for which the State Director of Tuberculosis is medical referee (and for which the State has no responsibility). Without its help, it would not be possible to persuade many early cases to enter hospital for treatment at a stage in their disease when they feel well, and so enhance their chances of recovery. Financial hardship is still experienced by many sufferers from tuberculosis, particularly by those in the middle income group with responsibilities and commitments up to their salary for whom the Tuberculosis Allowance is a less adequate substitute than for those whose income approximates to the basic wage. (Table XLVII.)

TABLE XXXV.

Showing Number of Hospital Beds Exclusively Available for Tuberculous Patients.

Chest Hospital, Chermside ..	186
South Brisbane Auxiliary Hospital	205
Westwood Sanatorium	75
Townsville Hospital	60
Cairns Hospital	50
Thursday Island	80
Repatriation Hospital, Greenslopes	78
Repatriation Hospital, Kenmore	76
Total	810

TABLE XXXVI.

Showing Number of X-Ray Examinations Carried Out—1954–55.

Type of Film.	Chest Clinic.	Mobile Unit.	Brisbane Hospital.	Toowoomba Hospital.	Total.
Micro films	42,742	45,517	23,251	3,297	114,807
Micro re-rays	1,959	1,526	784	81	4,350
Other large films	4,000	..	..	..	4,000
Total	48,701	47,043	24,035	3,378	123,157
Active cases (sputum positive) ..	89	86	40	4	

TABLE XXXVII.

SHOWING RESULTS OF MOBILE X-RAY UNIT SURVEY, 15TH JULY, 1953—31ST DECEMBER, 1954.

Locality.	Number of Micro Films Taken.	Number of Active Cases Found.	Active Cases per 1,000 Micro Films.	Number of Inactive Cases.	Old Cases Rediscovered.	Heart Lesion Noted.	Carcinoma Noted.	Benign Tumour Noted.	Bronchiectasis Noted.	Other Lung Conditions.	Pneumoconiosis Noted.	Under Investigation.
Ford Motors	635	5	7·9	..	..	..	..	..	..	..	..	..
Ipswich	9,900	15	1·5	15	4	5	..	2	8	18	7	..
Gladstone	2,552	4	1·6	8	..	3	2	1	3	9	..	2
Baralaba	299	1	3·3	..	..	..	..	..	..	1	1	..
Biloela	952	..	..	..	..	..	..	1	1	2	..	..
Mount Morgan	1,791	1	·6	5	..	..	1	..	..	6	10	..
Rockhampton	10,549	23	2·2	12	3	9	..	..	6	11	5	1
Bundaberg	7,101	7	1·0	2	..	11	1	..	1	5	..	1
Howard–Childers	1,371	1	·7	2	..	..	..	..	..	..	..	..
Maryborough	6,173	3	·5	11	..	1	1	1	4	24	3	..
Gympie	3,973	4	1·0	9	1	3	..	..	1	13	2	..
Nambour	3,536	6	1·7	5	..	3	..	1	2	7	..	..
Mackay	8,375	2	·2	16	1	7	2	5	9	23	2	..
Proserpine	1,640	6	3·7	3	..	1	..	..	..	4	1	1
Bowen	1,860	1	·5	5	1	1	..	..	..	4	1	2
Collinsville	827	2	2·4	..	..	..	..	..	1	2	5	..
Home Hill	1,185	5	4·2	4	1	2	..	..	1	3	..	..
Ayr	2,964	6	2·0	10	..	1	..	1	2	3	3	3
Townsville	12,249	32	2·6	42	6	13	3	1	3	29	11	8
Charters Towers	2,543	3	1·2	3	2	1	..	1	1	4	12	6
Ingham	3,108	9	2·9	4	2	2	..	..	1	1	..	3
Innisfail	4,182	2	·5	4	4	1	..	..	1	4	..	6
Total	87,765	138	1·56	160	25	64	10	14	45	173	63	33

TABLE XXXVIII.

SHOWING RESULTS OF MOBILE UNIT SURVEY IN CERTAIN QUEENSLAND CITIES AND TOWNS, JULY, 1953, TO DECEMBER, 1954.

Town.	Population 30-6-54.	Estimated Population over 13 Years of age.	Number of Films Taken.	Percentage Population X-Rayed.	Towns in Order of Percentage X-Rayed.		Towns in Order of Cases Found.	
Rockhampton	40,676	29,300	10,549	36	Ipswich	35	Townsville	32
Townsville	40,485	29,150	12,249	42	Rockhampton	36	Rockhampton	23
Ipswich	38,966	28,000	9,900	35	Townsville	42	Ipswich	15
Bundaberg	19,953	14,350	7,101	50	Maryborough	48	Ingham	9
Mackay	18,298	13,200	8,375	63	Bundaberg	50	Bundaberg	7
Maryborough	17,955	13,000	6,173	48	Charters Towers	51	Ayr	6
Gympie	9,964	7,180	3,973	55	Gladstone	51	Proserpine	6
Ayr	7,082	5,100	2,964	58	Gympie	55	Nambour	6
Charters Towers	6,960	5,000	2,543	51	Ayr	58	Home Hill	5
Gladstone	6,943	5,000	2,552	51	Home Hill	59	Gympie	4
Innisfail	6,646	4,800	4,182	87	Mount Morgan	60	Gladstone	4
Nambour	4,670	3,350	3,536	106	Collinsville	62	Maryborough	3
Mount Morgan	4,151	3,000	1,791	60	Mackay	63	Charters Towers	3
Ingham	3,945	2,850	3,108	109	Bowen	72	Mackay	2
Bowen	3,571	2,570	1,860	72	Howard–Childers	76	Innisfail	2
Home Hill	2,794	2,000	1,185	59	Innisfail	87	Collinsville	2
Howard–Childers	2,491	1,800	1,371	76	Biloela	95	Bowen	1
Proserpine	2,187	1,580	1,640	104	Baralaba	104	Mount Morgan	1
Collinsville	1,857	1,340	827	62	Proserpine	104	Howard–Childers	1
Biloela	1,399	1,000	952	95	Nambour	106	Baralaba	1
Baralaba	400	290	299	104	Ingham	109	Biloela	..
Total	241,393	173,860	87,130	50				

TABLE XXXIX.

SHOWING SOURCES OF NOTIFICATION OF TUBERCULOSIS 1953–54 AND 1954–55.

	1953–54.	1954–55.
Hospitals	244	285
Chest Clinic	266	221
Private Practitioners	127	85
Death Certificates	34	43
Sanatoria	22	30
Repatriation Department	62	29
Thursday Island Hospital	54	22
Post Mortem	..	6
Cherbourg Aboriginal Settlement	12	4
	821	725

TABLE XL.

SHOWING INFORMATION FROM CASE REGISTER, 1954–55.

—	Brisbane.			Country.			State.		
	M.	F.	P.	M.	F.	P.	M.	F.	P.
Notifications 1954–55	201	96	297	284	144	428	485	240	725
Cases on Register 1st July, 1954	1,049	595	1,644	921	519	1,440	1,970	1,114	3,084
Cases added to Register ..	173	91	264	260	138	398	433	229	662
On Register 30th June, 1955 ..	1,222	686	1,908	1,181	657	1,838	2,403	1,343	3,746

M.—Males; F.—Females; P.—Persons.

TABLE XLI.

SHOWING BACTERIOLOGICAL STATUS OF PATIENTS WHEN NOTIFIED.

—	Brisbane.	Country.	State.
Pulmonary—			
Positive—			
Smear	47	136	183
Culture	145	121	266
Animal Inoculation	4	..	4
Negative—			
Smear	16	62	78
Culture	5	14	19
Animal Inoculation	..	..	..
Not Stated—Results Pending, Death Notifications, &c. ..	66	83	149
Total Pulmonary	283	416	699
Non-Pulmonary—			
Positive	2	2	4
Negative	2	5	7
Not Stated	10	5	15
Total Non-Pulmonary	14	12	26
Total All Forms	297	428	725

TABLE XLII.

SHOWING DETAILS OF TUBERCULOSIS IN MIGRANTS, QUEENSLAND.

—	British.			Non-British.			Total.		
	M.	F.	P.	M.	F.	F.	M.	F.	P.
Cases prior to 1st July, 1954 ..	57	28	85	79	48	127	136	76	212
Cases, 1st July, 1954, to 30th June, 1955	17	11	28	26	7	33	43	18	61
	74	39	113	105	55	160	179	94	273

Rates:

1. Queensland total cases — Australian Population — 41 per 100,000 Australians.
2. Queensland Migrant cases — Australian Migrant Population — 29 per 100,000 migrants in Australia.
3. Queensland total cases — Queensland Population — 279 per 100,000 Queenslanders.

(These figures form the only available basis of comparison of the incidence of Tuberculosis among Post-war immigrants and Australians).

TABLE XLIII.

SHOWING NUMBER OF DEATHS FROM TUBERCULOSIS AND DEATH RATE FROM TUBERCULOSIS (PER 100,000 MEAN POPULATION), QUEENSLAND.

Year.	Deaths.	Death Rate.
1950	236	19·8
1951	226	18·4
1952	216	17·2
1953	162	12·6
1954	140	10·6

TABLE XLIV.

SHOWING NUMBER OF CASES ON REGISTER AND MORBIDITY RATE (PER 100,000 POPULATION), QUEENSLAND.

Year Ending.	Cases on Register.	Morbidity Rate.
30th June, 1952 ..	1,942	154
30th June, 1953 ..	2,569	198
30th June, 1954 ..	3,201	243
30th June, 1955 ..	3,746	279

TABLE XLV.

SHOWING MANTOUX TESTS AND B.C.G. VACCINATIONS, AT CHEST CLINIC, BRISBANE, 1954-1955.

—	Mantoux Tested.	Did not Return.		Positive.		Negative.		Given B.C.G.		Refused B.C.G.	
	No.	No.	Per-centage.	No.	Per-centage.	No.	Per-centage.	No.	Per-centage.	No.	Per-centage.
Chest Clinic	6,089	183	3·0	2,519	41·4	3,387	55·6	1,792	53·0	1,595	47·0
Schools	4,978	99	2·0	1,370	27·5	3,509	70·5	3,433	97·8	76	2·2
National Service Trainees	2,752	..	..	1,008	36·6	1,744	63·4	1,744	100·0	..	..
University Students ..	633	38	6·0	308	48·7	287	45·3	282	98·2	5	1·8
Teachers Training College	463	..	..	214	46·2	249	53·8	243	97·5	6	2·5
St. Vincent's Home, Nudgee	445	..	..	70	15·7	375	84·3	375	100·0	..	..
Downlands College, Toowoomba ..	328	..	..	110	33·5	218	66·5	218	100·0	..	..
Westbrook Boys' Home	118	..	..	65	55·1	53	45·9	53	100·0	..	..
Spastic Centre ..	110	32	29·1	20	18·2	58	52·7	5	8·6	53	19·4
Totals	15,916	352	2·2	5,684	35·7	9,880	62·1	8,145	82·4	1,735	17·6

TABLE XLVI.

SHOWING COMPLICATIONS, FOLLOWING B.C.G. VACCINATION AT CHEST CLINIC, BRISBANE, 1949–1955.

Age Group.	Given B.C.G. No.	Local Ulcer.		Glands.				Total Complications.	
				Closed.		Incised—Draining.			
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
0– 2 years	632	10	1·6	14	2·2	14	2·2	38	6·0
3–14 years	5,221	13	·25	10	·19	5	·1	28	·54
Over 14 years	3,104	..	..	..	..	..	..	..	..
Total	8,957	23	·26	24	·27	19	·21	66	·74

TABLE XLVII.

SHOWING NUMBER OF TUBERCULOSIS ALLOWANCES, QUEENSLAND, 1954–1955.

——	Male.	Female.	Total.
Number accommodated in tuberculosis institutions	285	109	394
Number not so accommodated	308	105	413
Total on Allowance	593	214	807

DIVISION OF INDUSTRIAL MEDICINE.

Director of Industrial Medicine: Douglas Gordon, M.B., B.S. (Q'ld.).
Inspector in Charge: Weil's Disease Control: J. M. Kennedy, M.R.San.I.

During the past year the following matters have been dealt with by this Division:—

	1954–55.	1953–54.
(1) Reports submitted on industrial premises, industrial health hazards or to a less extent on administrative matters	65	63
(2) Clinical reports, reports concerning laboratory investigations, etc., to medical practitioners, the Insurance Commissioner, etc.	1,070	723
(3) Clinical examinations, other than regular routine ones	187	173

Approximately one hundred and twenty other different problems or questions were dealt with by letter, telephone, or by interview.

Mention of Some Matters of Interest which Received Attention.

Sewer work in low-pressure caissons.

Working at great depths in hot, wet climates.

Artificial respiration after electric shock.

Lead hazard to waterside workers.

Sulphuric acid in testing cream.

Metal fume fever on ship repair work.

Methyl bromide fumigation.

Benzol hazard at a rubber factory.

Nitrous oxide fumes in a fertiliser factory.

Use of lead in sugar mill laboratories.

Lighting and working conditions at the Brisbane Gaol.

Dust arising from stuffing toy koala bears.

Boils in cable jointers.

Pentachlorphenate poisoning.

Aerial dusting and spraying of insecticides.

Benzol solvents as an adhesive in aerial map work.

Standards required for welding glass.

Papers and Lectures.

Lectures were delivered to medical and engineering students, and eight field days were spent with medical students at the Ipswich Railway Workshops. Three final year students in occupational therapy attended a field day in industry. An address was given to the United Graziers' Association on "1080" (sodium fluoroacetate) as a bait for dingoes. A paper—"Dust and History"—appeared in the Medical Journal of Australia.

Dr. D. Gordon and Inspector J. M. Kennedy contributed to a report published in the *Australasian Annals of Medicine* on leptospirosis in North Queensland.

Industrial Toxicology.

Arsenic.—Two electrical technicians had to to take up and replace cables lying in concrete channels in a building in North Queensland. The cables, which had been liberally sprinkled with arsenic trioxide to poison white ants, took approximately three weeks to remove: both men were mildly poisoned. Some of the symptoms produced and the transient personality defects were similar to those which occur in a mild anxiety state. Dr. Gordon has noted that in mild cases of industrial poisoning with arsenic, vague ill-health and general querulousness seem to persist for some time after the more obvious and well-known symptoms and signs have cleared up.

Chlorphenates.—Gloomy remarks made in the last annual report concerning the toxicity of these weedicides have unfortunately received further justification. Up-to-date, in Queensland, four deaths and four cases of sickness have been noted in men handling these substances. The type of clinical syndrome follows a fairly definite pattern, is hard to explain in terms of any other known pathological lesion, and has not been recorded in people not handling these chemicals. Up-to-date, however, penta-chlorphenol has not been found in any substantial quantity in the organs of those who have died. Practical methods of prevention which farmers might be expected to use are hard to devise.

Radioactive Substances.—It is not yet known whether radioactive material has been found in the north-western areas of the State in payable quantities, but consideration is being given to preparing legislation for a Radioactive Substances Act.

Benzol.—Benzol is being used in greater quantity in this State. One firm, which has taken great care not to use it unless forced to do so, was obliged to use it in a small process which allowed evaporation into the atmosphere. The fumes resulted in at least two operators suffering anaemia. The increased use of this solvent will necessitate its being brought under control, and amending legislation to require it to be labelled with a warning notice is being prepared.

Nitrous Oxide Fumes.—Two lead burners were doing some repair work on a very large lead-lined tank. At the bottom of the tank was nitric acid. By mistake, water was run into the tank and nitrous fumes generated. The men decided that the best thing would be to keep going till the job was finished. They worked about 17 hours on end; fortunately, on general principles, they wore gas masks which were, however, only partially efficient. They both ended up in hospital with pneumonia. Luckily, the masks had given sufficient protection to save their lives. It was a narrow escape.

Weil's Disease Campaign.

Towards the end of this year officers of the Queensland Institute of Medical Research produced evidence which strongly suggests that the diagnosis of "unknown" fevers in North Queensland has, for practical purposes, been solved. The position now would seem to be as follows:—

If a patient, suffering from a fever not caused by any obvious clinical entity, has negative agglutinations from two samples of blood taken at the appropriate times and if, in certain cases where scrub typhus has been suspected, the blood has been injected into animals with negative results, then the patient in all probability has had an attack of either influenza or dengue. This means that in patients whose investigations were negative, it can now be said with reasonable certainty that they were not suffering from an occupational fever. This advance is useful. It not only ties up loose ends that have existed for many years, on the diagnostic side, but in industrial insurance it allows for the giving of a reasonably definite opinion as to cause. Hitherto, a feeling persisted that an unknown occupational disease might be lurking behind negative results.

Unfortunately, the research work has not produced anything which would help in prevention. Work done in this Department's laboratory does, in fact, suggest that leptospirae may survive for considerable periods in waterlogged soils. This would tend to nullify the beneficial effects obtained from burning cane prior to cutting. In a recent outbreak at Babinda, approximately two-thirds of the cane-cutters proved to have leptospirosis had cut cane after adequate burns only and about the same number had cut on farms thought beforehand to be safe from risk of leptospirosis.

In the last couple of years, in spite of hard work and strict supervision by the field staff, cases of leptospirosis have occurred with monotonous regularity in both cane workers and in non-cane workers around Babinda and Innisfail. This points to a review of policy in regard to leptospirosis. The number of inspectors in this field could be reduced without any increased danger to the people of North Queensland.

When there are, as at present, no known methods of preventing the spread of a particular disease, it is logical to intensify research into elucidating the problem once its extent is known. This is now being worked out by the Queensland Institute of Medical Research, research in the coming year being directed to the probable animal and insect vectors of the diseases known in North Queensland and the path of infection from animal to man.

Accidents.

The necessity for inquiry into the prevention of accidents has been pointed out previously. Approval has been given for the project, and the method of approach is now being examined.

Whether an inquiry into the precise and real causes of accidents, as against the superficial causes, will reveal practical methods of prevention is another matter. The greatest method of accident prevention is the building up of a strong public opinion on the subject. The inquiry, however, is worth trying, for accidents killed some 796 Queenslanders in 1953 and mained many more, either temporarily or permanently. In the same period, there were 12 deaths from poliomyelitis and 134 cases of the disease were notified.

There is a fear of poliomyelitis which amounts to mass hysteria, but the constant killing and maiming of young lives by accidents, far in excess of the killing and maiming of poliomyelitis, is passed over lightly. If the same emotional dread surrounding poliomyelitis could be transferred to the subject of accidents, the incidence of the latter would probably be considerably reduced.

It has taken some 50 years to build up a public consciousness of infectious disease, cleanliness, and food lacks, but it is hoped that with education and co-operaton, this time will be shortened in regard to accidents. It is interesting to note in the past year, 325 persons died from communicable diseases, including influenza, whilst 764 died from accidents.

Details of Fever Patients.

The various tables appearing hereunder give the main data in connection with cases of "fever" which have occurred in North Queensland and in South Queensland. In North Queensland the number of cases checked during the current year has shown an increase from 509 in 1953-54 to 584 in 1954-55. In Southern Queensland, patients who have been followed up show an increase from 132 to 180.

TABLE XLVIII.

Total Cases North Queensland, 584.

Leptospirosis.

	Cane Worker.	Non-cane Worker.	Total.
Thursday Island District	..	..	..
Cooktown District	..	..	..
Mossman District	5	4	9
Atherton Tableland	..	2	2
Cairns District	..	3	3
Gordonvale District	6	2	8
Babinda District	50	15	65
Innisfail District	15	18	33
Tully District	5	6	11
Ingham District	1	3	4
Townsville District	..	3	3
North-Western Queensland	..	..	..
Bowen District	..	..	..
Proserpine District	..	..	..
Mackay District	..	3	3
Total	82	59	141

Leptospirosis (Pomona Type).

Tully District	1
Ingham District	1
Townsville District	2
North-Western Queensland	1
Mackay District	2
Total	7

Leptospirosis (Hyos Type).

Atherton Tableland	1
Babinda District	1
Tully District	1
Total	3

Scrub Typhus.

	Proved Cases.	Clinical Cases.	Total.
Thursday Island District	..	..	..
Cooktown District	2	..	2
Mossman District	1	..	1
Atherton Tableland	..	..	..
Cairns District	3	..	3
Gordonvale District	2	..	2
Babinda District	2	..	2
Innisfail District	7	..	7
Tully District	3	2	5
Ingham District	1	..	1
Townsville District	1	..	1
Mackay District	1	..	1
Total	23	2	25

Murine Typhus.

	Proved Cases.	Clinical Cases.	Total.
Thursday Island District	1	..	1
Atherton Tableland	15	1	16
Cairns District	4	..	4
Innisfail District	1	..	1
Townsville District	1	..	1
Total	22	1	23

Q Fever.

Mossman District	1
Atherton Tableland	1
Cairns District	3
Innisfail District	2
North-Western Queensland	1
Total	8

Brucellosis.

Atherton Tableland	2
Innisfail District	1
Total	3

P.U.O.

	Finalised Cases.	Cases without second blood samples.	Total.
Thursday Island District	15	..	15
Cooktown District	3	..	3
Mossman District	6	..	6
Atherton Tableland	44	4	48
Cairns District	18	..	18
Gordonvale District	20	..	20
Babinda District	32	1	33
Innisfail District	95	3	98
Tully District	28	3	31
Ingham District	11	2	13
Townsville District	41	2	43
North-Western Queensland	13	..	13
Bowen District	2	..	2
Proserpine District	..	..	..
Mackay District	30	1	31
Total	358	16	374

Grand Total North Queensland .. 584.

TABLE XLIX.

Thursday Island District.
Total Cases—16.

Month of Onset.	P.U.O.	Murine Typhus.
1954—		
July	2	..
August	..	..
September	2	..
October	..	1
November	..	..
December	2	..
1955—		
January	1	..
February	5	..
March	1	..
April	2	..
May	..	..
June	..	..
Total	15	1

TABLE L.

Cooktown District.
Total Cases—5.

Month of Onset.	P.U.O.	Scrub Typhus.
1954—		
July	..	..
August	..	..
September	1	1
October	..	..
November	..	..
December	..	..
1955—		
January	..	..
February	1	..
March	..	1
April	1	..
May	..	..
June	..	..
Total	3	2

TABLE LI.

MOSSMAN DISTRICT.

TOTAL CASES—17.

Month of Onset.	Leptospirosis.		Lepto-spirosis (Pomona Type).	Scrub Typhus.	Murine Typhus.	Q Fever.	Brucellosis.	P.U.O.	P.U.O. (Lack of Complete Investi-gation).
	Cane Worker.	Non-cane Worker.							
1954—									
July	1	..	..	..	..	..	..	1	..
August	..	..	..	1	..	..	..	3	..
September	1	..	..	..	..	..	..	..	..
October	3	1	..	..	..	..	..	1	..
November	..	..	..	..	..	..	..	1	..
December	..	..	..	..	..	..	..	..	..
1955—									
January	..	..	..	..	..	..	..	..	..
February	..	3	..	..	..	..	..	..	..
March	..	..	..	..	..	1	..	..	..
April	..	..	..	..	..	..	..	..	..
May	..	..	..	..	..	..	..	..	..
June	..	..	..	..	..	..	..	..	..
Total	5	4	..	1	..	1	..	6	..

TABLE LII.

ATHERTON TABLELAND.

TOTAL CASES—70.

Month of Onset.	Lepto-spirosis (Non-cane Worker).	Lepto-spirosis (Hyos Type.)	Scrub Typhus.	Murine Typhus.	Clinical Murine Typhus.	Q Fever.	Brucellosis.	P.U.O.	P.U.O. (Lack of Complete Investi-gation).
1954—									
May	..	..	..	..	..	..	1	..	..
July	..	1	..	..	..	..	..	8	..
August	..	..	..	..	..	..	..	4	..
September	..	..	..	1	..	..	..	1	..
October	..	..	..	2	..	..	..	1	..
November	..	..	..	2	..	..	..	4	3
December	..	..	..	3	..	..	..	..	1
1955—									
January	1	..	..	1	..	..	1	2	..
February	..	..	..	3	..	..	..	4	..
March	1	..	..	..	..	..	..	7	..
April	..	..	..	1	..	..	..	4	..
May	..	..	..	1	1	1	..	6	..
June	..	..	..	1	..	..	..	3	..
Total	2	1	..	15	1	1	2	44	4

TABLE LIII.

CAIRNS DISTRICT.

TOTAL CASES—31.

Month of Onset.	Leptospirosis.		Lepto-spirosis (Pomona Type).	Scrub Typhus.	Murine Typhus.	Q Fever.	P.U.O.	P.U.O. (Lack of Complete Investi-gation.)
	Cane Worker.	Non-cane Worker.						
1954—								
July	..	..	..	..	..	..	1	..
August	..	..	..	..	..	..	2	..
September	..	..	..	..	..	..	2	..
October	..	..	..	..	..	..	..	..
November	..	1	..	1	..	..	1	..
December	..	..	..	..	1	..	2	..
1955—								
January	..	1	..	..	1	1	4	..
February	..	1	..	..	..	..	1	..
March	..	..	..	..	2	..	2	..
April	..	..	..	2	..	1	2	..
May	..	..	..	..	..	1	1	..
June	..	..	..	..	..	..	..	..
Total	..	3	..	3	4	3	18	..

TABLE LIV.

GORDONVALE DISTRICT.

TOTAL CASES—30.

Month of Onset.	Leptospirosis.		Leptospirosis (Pomona Type).	Leptospirosis (Hyos Type).	Scrub Typhus.	Clinical Scrub Typhus.	Murine Typhus.	Q Fever.	Brucellosis.	P.U.O.	P.U.O. (Lack of Complete Investigation).
	Cane Worker.	Non-cane Worker.									
1954—											
June ..	..	..	..	..	1	..	..	..	..	..	..
July	..	..	..	..	..	..	..	..	..	4	..
August ..	..	..	..	..	..	..	..	..	..	2	..
September	1	2	..	..	..	..	..	..	..	1	..
October ..	..	..	..	..	1	..	..	..	..	3	..
November	1	..	..	..	..	..	..	..	..	2	..
December	..	..	..	..	..	..	..	..	..	1	..
1955—											
January ..	1	..	..	..	..	..	..	..	..	2	..
February ..	1	..	..	..	..	..	..	..	..	1	..
March ..	1	..	..	..	..	..	..	..	..	4	..
April ..	1	..	..	..	..	..	..	..	..	..	..
May ..	..	..	..	..	..	..	..	..	..	..	..
June ..	..	..	..	..	..	..	..	..	..	..	..
Total	6	2	..	..	2	..	..	..	..	20	..

TABLE LV.

BABINDA DISTRICT.

TOTAL CASES—101.

Month of Onset.	Leptospirosis.		Leptospirosis (Hyos Type).	Scrub Typhus.	Clinical Scrub Typhus.	Murine Typhus.	Q Fever.	Brucellosis.	P.U.O.	P.U.O. (Lack of Complete Investigation).
	Cane Worker.	Non-cane Worker.								
1954—										
July	12	..	1	..	..	..	..	..	2	..
August	15	..	..	..	..	..	..	..	3	..
September	2	1	..	..	..	..	..	..	5	1
October	4	1	..	1	..	..	..	..	3	..
November	6	1	..	1	..	..	..	..	3	..
December	4	3	..	..	..	..	..	..	3	..
1955—										
January	2	2	..	..	..	..	..	..	2	..
February	5	6	..	..	..	..	..	..	5	..
March	..	..	..	..	..	..	..	..	4	..
April	..	..	..	..	..	..	..	..	2	..
May	..	..	..	..	..	..	..	..	..	..
June	..	1	..	..	..	..	..	..	..	..
Total	50	15	1	2	..	..	..	..	32	1

TABLE LVI.

INNISFAIL DISTRICT.

TOTAL CASES—142.

Month of Onset.	Leptospirosis.		Leptospirosis (Pomona Type).	Scrub Typhus.	Murine Typhus.	Q Fever.	Brucellosis.	P.U.O.	P.U.O. (Lack of Complete Investigation).
	Cane Worker.	Non-cane Worker.							
1954—									
July	3	..	..	2	..	..	..	10	..
August	..	..	..	2	..	1	..	7	1
September	5	..	..	1	..	..	1	9	..
October	2	..	..	..	..	..	..	5	1
November	1	1	..	1	..	..	..	14	1
December	..	1	..	..	..	..	..	16	..
1955—									
January	..	3	..	..	..	..	..	14	..
February	1	5	..	..	..	1	..	9	..
March	..	5	..	..	..	..	..	9	..
April	3	2	..	1	1	..	..	2	..
May	..	1	..	..	..	..	..	..	..
June	..	..	..	..	..	..	..	..	..
Total	15	18	..	7	1	2	1	95	3

TABLE LVII.

TULLY DISTRICT.

TOTAL CASES—49.

Month of Onset.	Leptospirosis.		Lepto-spirosis (Pomona Type).	Lepto-spirosis (Hyos Type).	Scrub Typhus.	Clinical Scrub Typhus.	P.U.O.	P.U.O. (Lack of Complete Investi-gation).
	Cane Worker.	Non-cane Worker.						
1954—								
May	..	..	..	..	..	..	1	..
June	..	..	..	..	..	..	1	1
July	..	..	..	..	1	2	5	..
August	1	1	..	..	1	..	4	..
September	1	..	..	..	..	..	6	1
October	..	..	..	1	..	..	1	..
November	..	2	..	..	..	..	3	..
December	2	..	..	..	..	..	2	..
1955—								
January	..	1	1	..	..	..	2	1
February	..	..	..	..	..	..	2	..
March	1	1	..	..	..	..	1	..
April	..	1	..	..	1	..	..	..
May	..	..	..	..	..	..	..	..
June	..	..	..	..	..	..	..	..
Total	5	6	1	1	3	2	28	3

TABLE LVIII.

INGHAM DISTRICT.

TOTAL CASES—19.

Month of Onset.	Leptospirosis.		Lepto-spirosis (Pomona Type).	Scrub Typhus.	Clinical Scrub Typhus.	P.U.O.	P.U.O. (Lack of Complete Investi-gation).
	Cane Worker.	Non-cane Worker.					
1954—							
May	..	..	..	..	..	..	1
July	..	1	..	..	..	1	..
August	1	..	1	..	..	..	..
September	..	..	..	..	..	..	..
October	..	..	..	..	..	2	..
November	..	1	..	..	..	..	1
December	..	..	..	..	..	..	..
1955—							
January	..	..	..	..	..	4	..
February	..	..	..	..	..	3	..
March	..	..	..	..	..	..	..
April	..	..	..	..	..	..	..
May	..	..	..	1	..	..	..
June	..	1	..	..	..	1	..
Total	1	3	1	1	..	11	2

TABLE LIX.

TOWNSVILLE DISTRICT.

TOTAL CASES—50.

Month of Onset.	Lepto-spirosis (Non-cane Worker.)	Lepto-spirosis (Pomona Type).	Scrub. Typhus.	Murine Typhus.	Q Fever.	P.U.O.	P.U.O. (Lack of Complete Investi-gation).
1954—							
June	..	..	..	..	..	1	..
July	..	..	..	..	..	2	1
August	..	..	..	..	..	6	..
September	..	..	..	..	..	2	..
October	..	..	..	..	..	5	..
November	..	..	..	..	..	3	..
December	..	1	..	..	..	..	..
1955—							
January	..	..	..	1	..	3	..
February	1	..	..	..	..	6	..
March	..	1	..	..	..	3	1
April	..	..	1	..	..	6	..
May	2	..	..	..	..	3	..
June	..	..	..	..	..	1	..
Total	3	2	1	1	..	41	2

TABLE LX.

NORTH-WESTERN QUEENSLAND.

TOTAL CASES—15.

Month of Onset.	Leptospirosis (Non-cane Worker).	Leptospirosis (Pomona Type).	Q Fever.	P.U.O.	P.U.O. (Lack of Complete Investigation).
1954—					
July	..	..	..	2	..
August	..	..	..	2	..
September	..	..	..	..	..
October	..	..	..	..	..
November	..	..	..	3	..
December	..	..	..	1	..
1955—					
January	..	..	..	..	..
February	..	..	1	..	..
March	..	..	..	3	..
April	..	..	..	..	..
May	..	..	..	1	..
June	..	1	..	1	..
Total	..	1	1	13	..

TABLE LXI.

BOWEN DISTRICT.

TOTAL CASES—2.

Month of Onset.	P.U.O.
1954—	
July	..
August	..
September	1
October	..
November	..
December	1
1955—	
January	..
February	..
March	..
April	..
May	..
June	..
Total	2

TABLE LXII.

MACKAY DISTRICT.

TOTAL CASES—37.

Month of Onset.	Leptospirosis.		Lepto-spirosis (Pomona Type).	Scrub Typhus.	Q Fever.	Brucellosis.	P.U.O.	P.U.O. (Lack of Complete Investi-gation).
	Cane Worker.	Non-cane Worker.						
1954—								
July	..	..	..	..	..	..	3	..
August	..	..	..	..	..	..	3	..
September	..	..	..	..	..	..	1	..
October	..	..	..	..	..	..	1	..
November	..	..	..	..	..	..	1	..
December	..	..	..	1	..	..	2	..
1955—								
January	..	..	..	..	..	..	2	1
February	..	..	..	..	..	..	4	..
March	..	1	2	..	..	..	2	..
April	..	..	..	..	..	..	9	..
May	..	2	..	..	..	..	1	..
June	..	..	..	..	..	..	1	..
Total	..	3	2	1	..	..	30	1

TABLE LXIII.

FEVER CASES, SOUTHERN QUEENSLAND (Total 180).

OCCUPATIONS OF PATIENTS.

Q Fever (*Total* 41).

Abattoir worker	18
Bricklayer	1
Fitter and turner	1
Builders' labourer	1
Docker (general cargo)	1
Carpenter	1
Concrete worker	1
Labourer	4
Meat inspector	2
Slaughterman	2
Labourer in cattle yards	1
Foreman butcher	1
Dairy farmer	2
Shearer	1
Timber cutter	1
Jeweller	1
Shopkeeper	1
Not known	1
Total	41

Brucellosis (*Total* 11).

Abattoir worker	1
Slaughterman	1
Bacon factory employee	1
Dairy Farmer	1
Child on dairy farm	1
Farmer	1
Carpenter	1
Groundsman at airfield	1
R.A.A.F.	1
Housewife	1
Schoolchild	1
Total	11

Leptospirosis (*Total* 26).

Dairy farmer	6
Farm labourer	3
Grazier	1
Cattle station hand	1
Schoolchild on dairy farm	1
Meat worker	2
Slaughterman	2
Railway ganger	1
Council worker	1
P.M.G. linesman	1
Cook	1
Architect	1
Retired architect	1
Housewife	1
Not known	3
Total	26

Leptospirosis (*Pomona Type*) (*Total* 89).

Dairy farmer	26
Mixed farmer	3
Farm hand	3
Pig farmer	1
Pig farm hand	1
Schoolchild on farm	7
Station hand	2
Abattoir worker	7
Pig abattoir worker	6
Piggery worker	2
Slaughterman	8
Meat inspector	2
Butcher	1
Bacon factory worker	2
Milk factory worker	1
Tractor driver	1
Child swimming in river frequented by cattle and pigs	6
Sawmill worker	1
Labourer	1
R.A.A.F. (general hand)	1
Domestic	1
Schoolchild	4
Not known	2
Total	89

Leptospirosis (*Hyos Type*) (*Total* 5).

Pig farmer	1
Farm hand	1
Housewife on pig farm	1
Schoolchild on farm	1
Schoolchild	1
Total	5

Murine Typhus (*Total* 7).

Produce store employee	2
Apprentice fitter and turner	1
Cabinet maker	1
Schoolchild	1
Not known	2
Total	7

Tick Typhus (*Total* 1).

Student (bitten by tick at Tamborine Mountain)	1
Total	1

WEIL'S DISEASE CAMPAIGN.

As in previous years, all cane areas north of Townsville received varying degrees of attention as required, the sections covered including the areas of highest tropical rainfall.

A staff of five operated during the year and ten sugar mills functioned in the area.

The year generally was abnormally wet, and during the harvesting period from July to mid-January, control was exercised by keeping cane-cutters off doubtful fields altogether rather than permit a start only to be held up later to await an effective burn. As tramlines had not been laid, it was possible in many cases to select an alternative field. The turnover of labour was extremely high during the season and, towards the end of crushing, cutters could command their own price.

During the twelve months, a total of 406 fever cases have been followed up, of which 372 have been reported and 34 are not yet traced. Of that total, six had been hospitalised before 30th June but followed up and reported during the current year. During the 12 months, no difficulty has been experienced by Pest Boards in obtaining ample supplies of poison baits, and the only difficulty in several areas is effective distribution when required by farmers. Baits made available to farmers and poisons used are shown in Table LXVII.

The various Local Authorities have distributed baits to stores, shops, and householders on request, and, because of continued wet weather, additional control at rubbish tips and foreshores has been necessary.

The year generally has been a trying one for all concerned, as little opportunity was presented of cleaning-up farms or effectively controlling harvesting operations, even on clean properties. Persistent wet weather, extending into normally dry months, contributed to one of the worst years experieneed by the campaign.

TABLE LXIV.

CANE FIELD DATA.

Mill Areas.	Area Harvested.	Cane Crushed.	Total Cane Burned.		Burned under Health Regulations.	
	Acres.	Tons.	Acres.	Tons.	Acres. (Including under 10 tons per acre)	Tons.
South Johnstone	14,022	430,964	14,412	427,616	455	12,377
Goondi	10,627	319,124	10,542	316,269	557	14,785
Mourilyan	10,220	288,324	10,200	287,960	30	220
Tully	14,184	438,528	14,159	437,753	4,248	131,339
Babinda	13,383	354,969	13,316	353,322	1,003	26,598
Mulgrave	12,514	385,372	12,478	384,215	5,568	170,193
Victoria	21,934	652,885	21,847	649,785	508	9,127
Macknade	14,292	404,884	14,284	404,609	362	5,589
Hambledon	12,924	390,872	12,911	390,407	..	..
Invicta (Ingham Line)	5,064	120,358	5,064	120,358	150	1,100
Totals	129,164	3,786,280	129,213	3,772,294	12,881	371,328

TABLE LXV.

INSPECTIONS.

Mill Areas.	Farms Inspected.	Fields Inspected.	Acres Inspected.	Fields Burned.	Cane-cutters signed on.
South Johnstone	435	468	3,370	66	414
Goondi	326	334	3,210	45	340
Mourilyan	29	42	303	5	293
Tully	1,110	1,111	10,013	137	445
Babinda	599	635	5,410	178	1,041
Mulgrave	110	123	1,182	40	1,048
Victoria	247	449	4,258	18	626
Macknade	249	404	4,122	16	428
Hambledon	13	15	130	..	400
Invicta (Ingham Line)	58	89	649	5	112
Totals	3,176	3,670	32,647	510	5,147

TABLE LXVI.

FEVER CASES ALL AREAS—OCCUPATION AND TYPE.

FIELD INVESTIGATED.

Occupation.	Leptospirosis.	Scrub Typhus.	Marine Typhus.	Q Fever.	Brucellosis.	P.U.O.
Canecutters	45	1	..	..	..	63
Timberworkers	5	2	..	1	..	25
Farmers	13	3	..	..	..	35
Mill, L.A. and tramway employees	5	..	..	1	..	19
Farm labourers	6	1	..	..	..	28
Women	3	1	..	..	1	26
Children	8	2	..	..	1	45
Others	13	3	1	1	..	48
Totals	98	13	1	3	2	289

TABLE LXVII.

BAITS DISTRIBUTED BY MILL PEST BOARDS FOR RODENT DESTRUCTION.

NUMBER AND TYPE.

Mill Areas.	Phosphorus (Bread).	Thallium Sulphate (Wheat).	Other.
South Johnstone	8,000	1,286,000	..
Goondi	..	1,500,700	10 lbs. Phos. paste
Mourilyan	1,000,300	4,296,000	2 oz. Strychnine
Tully	20,000	144,840	..
Babinda	3,099,390	975,520	28 lbs. Phos. paste
Mulgrave	260,000	612,000	..
Victoria	..	1,378,000	..
Macknade	..	1,405,000	..
Hambledon	..	884,352	..
Invicta (Ingham Line)	..	143,360	..
Mossman	..	600,000	..
Totals	4,387,690	13,225,772	..

DIVISION OF MATERNAL AND CHILD WELFARE.

Director: H. C. Murphy, M.B., B.S.

Deputy Director: Pamela Jackson, M.B., B.S.

Part-time Pre-school Child Health Officer: A. E. Paterson, M.B., Ch.M.

Acting Superintendent: A. Jenkinson, A.T.N.A.

Table of Contents.

A very pleasing feature of the Vital Statistics for the State of Queensland for 1954 is the reduction of the infant mortality rate from 25·0 per thousand live births in 1953 to 22·3 per thousand live births in 1954. This is the lowest annual rate ever recorded in Queensland.

The problem of infant mortality has been causing concern, and a committee was formed in July, 1954, for the purpose of exploring every possible means of reducing the rate. The Committee includes public health officers, obstetricians, pediatricians, and the Government Statistician, under the chairmanship of the Director-General. Meetings have been held regularly and much valuable information obtained, but as this is essentially a long-range project it will be some considerable time before any evaluation of the work of the Committee can be made. The co-operation of the Queensland Branch of the British Medical Association and the College of General Practitioners has been sought and was freely given.

Accidental deaths of children in the one to 14-year-old group show very little sign of diminishing, there being 85 deaths for the year as compared with 90 in the previous year, road accidents and drowning accounting for 50 per cent. of the deaths recorded. Road accidents accounted for 29 deaths, and this figure, together with that for 1951, is the highest number recorded in the past six years. Despite the vigorous campaigns conducted by the Road Safety Council and the Queensland Health Education Council, the need for more and ever-increasing care on the part of motorists and parents is obvious.

A statement was made during the year by a medical practitioner practising in the northern part of the State that, in Queensland, underfeeding is a very frequent occurrence both in hospitals and private practice, and mentioned as a contributory factor, failure to introduce solid foods at an early age.

Modern methods of feeding in infancy and childhood are practised throughout the Maternal and Child Welfare Centres in Queensland. Allowance is made for variations in the appetites of infants, and they are allowed to take what they will without any forcing and without the strict adherence to a feeding schedule that obtained formerly. Introduction of solid foods is commenced at the age of four months, which is in keeping with modern practice. The early introduction of solids is not meant to add extra food but to educate the infant to the taste and feel of a new food. Most nutritionists agree that milk is the main article of diet for the first 12 months of age.

Another statement which this practitioner made was that blood transfusion was not uncommon in infants in Queensland on account of severe malnutrition. This is not correct. Many hundreds of blood counts are done yearly in the metropolitan area, and it is not our experience that blood transfusion is often necessary. In this practitioner's particular area, there were transfusions given to four children in the 12 months prior to the appearance of his statement. They were all aboriginal children, and were diagnosed as (1) toxic gastro-enteritis, (2) suspect typhoid, (3) diarrhoea, (4) Banti's syndrome.

Staff.

The position of the nursing staff is not at all satisfactory. The total number of staff is 137, of which only 52 are members of the permanent staff. This is six less than the total of permanent staff for the previous year.

The lack of permanent staff makes it increasingly difficult to maintain a stable staff, which is an important factor in maintaining attendances as mothers lose interest if the staff is changed frequently.

The temporary staff has been exceedingly helpful and without its members, we could not have kept the centres and homes as successfully staffed as has been the case in this past year.

For the far-reaching results of this service to be a success it depends upon the integrity, knowledge, and suitability of the sisters to carry out the specialised and important work necessary to fulfil the aims and objects of the service. They must have that necessary drive and enthusiasm which this exacting work requires in order to encourage, teach, and hold the interest of mothers.

It is of paramount importance that the mothers, especially young mothers with first babies, have the correct advice and encouragement from their early ante-natal period and right through the early years of her child's life. If this work is sincerely and well carried out, the mothers should become confident and capable in mothercraft which, coupled with their mother love, should enable their children to become healthy and creditable adult citizens of this State.

Over the past year, due to heavy rains and floods and consequent disrupted transport, the staff has had to contend with many difficulties. They are to be commended for the manner in which they have met these difficulties and made every effort possible to maintain the service to the mothers.

Vital Statistics.

Births.

During the year 1954, 31,176 births were registered, an increase of 394 over the previous year. There were 15,880 males and 15,296 females born, giving a masculinity rate of 103·8. The natural increase of 19,832 was equal to an increase of 1·53 per cent. of the population, compared with 1·56 in 1953. The birth rate for 1954 was 23·7 per 1,000 mean population, compared with 23·9 in 1953.

Marriages.

Registrations of marriages in 1954 numbered 10,027, giving a marriage rate of 7·6 per 1,000 mean population, compared with 7·7 in the previous year. Minors married numbered 4,157, comprising 751 males and 3,406 females.

Deaths.

Maternal.

The maternal mortality rate of 0·96 per 1,000 live births was the second lowest ever experienced in Queensland, the lowest being 0·71 in 1953. There were 30 deaths during the year caused by diseases and accidents of pregnancy and childbirth. Of these, 15 followed childbirth and 14 were due to diseases and accidents of pregnancy (excluding one abortion). The causes of the 15 deaths due to diseases and accidents of childbirth were as follows:—

Other accidents of childbirth, including Caesarian section	7
Haemorrhage of childbirth and puerperium	4
Puerperal pulmonary embolism	2
Disproportion and malposition of foetus	2

The causes of the 14 deaths due to diseases and accident of pregnancy were as follows:—

Toxaemias of pregnancy	8
Ectopic pregnancy	3
Haemorrhage of pregnancy	1
Other complications of pregnancy	2

Infantile Mortality.

Deaths of infants aged under one year numbered 695, comprising 392 males and 303 females, compared with 769 in 1953. The infantile mortality rate of 22·3 deaths per 1,000 live births was the lowest annual rate ever recorded in Queensland. In the metropolitan area the rate fell from 21·1 in 1953 to 18·9, the lowest on record. The sub-tropical (non-metropolitan) area rate remained fairly steady at 23·8 compared with 23·9 in 1953, while the tropical area recorded the greatest fall by registering a rate of 24·6 compared with 32.5 in 1953. This was due to a reduction in deaths from all causes except prematurity.

Deaths of Children Aged One Year and Under Five Years.

(*a*) Deaths of children, aged one year and under two years during the year 1954 numbered 77, representing a death rate of approximately 2·5 per thousand children in that age group.

The chief causes of death were:—

Accidents		16
Pneumonia—		
Bronchopneumonia	5	
Lobar Pneumonia	3	11
Other Unspecified	3	
Gastro-enteritis and Colitis		9
Congenital Malformations		8
Meningococcal Infections		4
Bronchitis		3

Of the 16 deaths due to accidents, one was caused by burns and scalds, one by drowning, seven by accidental poisoning, two by traffic accidents, three by motor-vehicle (non-traffic) accidents, one by cutting and piercing instruments, and one by accidental fall.

Of the seven deaths due to accidental poisoning, two were caused by shellite, one by alcohol, one by hydrochloric acid, one by kerosene, one by lead, and one by parathion.

(*b*) Deaths of children between two and under five years, during the year numbered 80, representing a death rate of approximately 0·9 per 1,000 children in that age group.

The chief causes of death were:—

Accidents	21
Congenital Malformations	11
Malignant Neoplasms	10
Pneumonia (all kinds)	5
Meningococcal Infections	4
Bronchitis	2
Tetanus	1

Of the 21 deaths due to accidents, five were caused by motor traffic accidents, four by burns and scalds, one by poisoning, six by drowning, two by falls, one by electrocution, one by motor-vehicle (non-traffic) accident, and one by cutting instrument.

Accidental Deaths of Children Between One and Fourteen Years.

Accidental deaths of children in this age group numbered 85 in 1954, compared with 90 in 1953, and an average of 89 in the six years 1949 to 1954, inclusive. The total deaths of children in this age group from all causes were 300.

TABLE LXVIII.

CAUSES OF DEATHS IN INFANTS UNDER ONE YEAR, QUEENSLAND, 1954.

Cause.	1953.	1954.				Increase or Decrease.
		Metropolitan.	Sub-Tropical. (a)	Tropical.	Total.	
Immaturity (unqualified)	145	62	76	47	185	+36 (188)
Immaturity with mention of any other subsidiary condition	7	1	2	..	3	
Congenital Malformations	129	42	48	31	121	− 8
Post-natal Asphyxia and Atelectasis	81	20	33	14	67	−14
Intracranial and spinal injury at birth	73	19	33	19	71	− 2
Other birth injury	39	7	23	7	37	− 2
Pneumonia of newborn	27	5	8	6	19	− 8
Haemolytic disease of newborn(Erythroblastosis)	27	4	6	2	12	−15
Neo-natal disorders arising from Maternal Toxaemia	25	6	10	7	23	− 2
Haemorrhagic disease of newborn	12	3	8	5	16	+ 4
Diarrhoea of newborn	2	2	3	..	5	+ 3
Other diseases peculiar to early infancy	29	3	4	7	14	−15
Total diseases of early infancy	596	174	254	145	573	−23
Gastro-Enteritis and Colitis	32	2	14	8	24	− 8
Bronchopneumonia, other and unspecified Pneumonia	31	9	5	4	18	−13
Lobar Pneumonia	8	2	3	1	6	− 2
Whooping cough	3	..	2	..	2	− 1
Diphtheria	2	..	..	..	..	− 2
All other causes	97	19	24	29	72	−25
Total Deaths under 1 year	769	206	302	187	695	−74

(a) Excluding Metropolitan.

TABLE LXIX.

CAUSES OF DEATHS IN INFANTS MORE THAN ONE MONTH, BUT LESS THAN TWELVE MONTHS OF AGE—QUEENSLAND, 1954.

Cause.	1953.	1954.				Increase or Decrease.
		Metro-politan.	Sub-Tropical. (a)	Tropical.	Total.	
Congenital Malformations	57	14	25	14	53	−4
Post-natal Asphyxia and Atelectasis	3	..	1	..	1	−2
Intracranial and Spinal injury at birth	2	..	..	..	..	−2
Other diseases peculiar to early infancy	14	3	3	2	8	−6
Total Pre-natal Causes	76	17	29	16	62	−14
Bronchopneumonia, other and unspecified pneumonia	31	9	5	4	18	−13
Gastro-enteritis and Colitis	32	2	14	8	24	− 8
Whooping Cough	3	..	2	..	2	− 1
Lobar Pneumonia	8	2	3	1	6	− 2
Diphtheria	2	..	..	..	..	− 2
All other causes	68	14	19	26	59	− 9
Total Deaths 4 weeks and under 1 year	220	44	72	55	171	−49

(a) Excluding Metropolitan.

TABLE LXX.

CAUSES OF DEATHS IN INFANTS UNDER ONE MONTH OF AGE—QUEENSLAND 1954.

Cause.	1953.	1954.				Increase or Decrease.
		Metropolitan.	Sub-Tropical. (a)	Tropical.	Total.	
Immaturity (unqualified)	145	61	76	47	184	+36
Immaturity with mention of any other subsidiary condition	6	1	2	..	3	187
Post-natal Asphyxia and Atelectasis	78	20	32	14	66	−12
Congenital Malformations	72	28	23	17	68	− 4
Intracranial and Spinal injury at birth	71	19	33	19	71	..
Other birth injury	39	7	23	7	37	− 2
Pneumonia of Newborn	27	5	8	6	19	− 8
Haemolytic diseases of newborn (Erythroblastosis)	27	4	6	2	12	−15
Neo-natal disorders arising from Maternal Toxaemia	25	6	10	7	23	− 2
Haemorrhagic disease of newborn	12	3	8	5	16	+ 4
Diarrhoea of newborn	2	2	3	..	5	+ 3
Other diseases peculiar to early infancy	16	1	1	5	7	− 9
Total pre-natal causes	520	157	225	129	511	− 9
All other causes	29	5	5	3	13	−16
Totals	549	162	230	132	524	−25

(a) Excluding Metropolitan.

TABLE LXXI.

CAUSES OF DEATHS OF PREMATURE (IMMATURE) INFANTS.

	1953.	1954.
Immaturity unqualified	145	185
Ill-defined diseases peculiar to early infancy, with immaturity	11	8
Post-natal asphyxia and atelectasis, with immaturity	40	33
Intracranial and spinal injury at birth, with immaturity	13	10
Other birth injury, with immaturity	21	22
Neo-natal disorders arising from maternal toxaemia, with immaturity	23	20
Pneumonia of newborn, with immaturity	7	9
Haemorrhagic diseases of newborn, with immaturity	2	2
Erythroblastosis, without mention of nervous affection but with immaturity	10	..
Nutritional maladjustment, with immaturity	1	..
Immaturity with mention of any other subsidiary condition	7	3
Umbilical sepsis with immaturity	1	..
Other sepsis of newborn	1	..
Diarrhoea of the newborn	..	2
Totals	282	294
Total under one year	282	294
Total under one month	278	292

TABLE LXXII.

ACCIDENTAL DEATHS OF CHILDREN (AGED 1–14 YEARS) IN QUEENSLAND.

—	1949.		1950.		1951.		1952.		1953.		1954.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
Road Accidents	14	8	9	9	13	16	15	10	15	9	18	11	147
Firearms	2	..	..	..	7	..	1	1	3	1	5	..	20
Drowning	21	3	19	7	16	7	10	7	12	4	10	4	120
Falls	6	2	4	1	2	..	2	1	3	2	3	..	26
Other Accidents	27	12	17	11	21	16	29	12	22	19	21	13	220
	70	25	49	28	59	39	57	31	55	35	57	28	533
Totals	95		77		98		88		90		85		533

Twenty-nine deaths in this age group were caused by road accidents, 18 males and 11 females. The total number of deaths was 85—5 less than the previous year—and the ratio of males to females was 2 : 1.

TABLE LXXIII.

Brisbane Women's Hospital.	Live Births.			Premature Births.			Percentage of Live Births.			Deaths of Premature Infants.			Percentage Mortality of Premature Infants.		
	1952.	1953.	1954.	1952.	1953.	1954.	1952.	1953.	1954.	1952.	1953.	1954.	1952.	1953.	1954.
Public Hospital ..	3,307	3,471	3,726	208	204	210	6·3	5·9	5·6	32	17	19	15·4	8·3	9·0
Intermediate ..	6,564	6,500	6,435	297	297	236	4·5	4·6	3·6	23	24	25	7·7	11·4	10·6
Total ..	9,871	9,971	10,161	505	501	446	5·1	5·55	4·5	55	51	44	10·9	10·2	10·0

Brisbane Women's Hospital Statistics.

There is a steady drop in the percentage mortality due to prematurity, more noticeable in the Intermediate Section than in the Public Section. This could be accounted for by the fact that a number of very small premature infants, born either outside the Hospital or in the Intermediate Section, are transferred to the Premature Nursery in the Public Hospital.

The Year's Work.

There are now 224 centres and sub-centres throughout the State, 55 in the metropolitan area and 169 in the country.

The following new sub-centres have been established:—

(1) Tinaroo Falls Dam, on 19th July, 1954—serviced from Atherton;
(2) Upper Mount Gravatt on 7th September, 1954—serviced from Woolloongabba;
(3) Millmerran, on 22nd July, 1954—serviced from Toowoomba;
(4) Park avenue, on 18th November, 1954—serviced from Rockhampton;
(5) Garbutt, on 29th November, 1954—serviced from Townsville;
(6) Rising Sun, on 30th November, 1954—serviced from Townsville;
(7) Oxley, on 14th March, 1955—serviced from Herschell street;
(8) Banyo, on 16th May, 1955—serviced from Nundah.

Sub-centres have been approved for the housing establishments at Inala and Mount Gravatt.

The total number of attendances was 370,680, an increase of 8,672 on the previous year. This figure is very satisfactory considering the fact that during the year there were two severe cyclones and two disastrous floods.

St. Paul's Terrace Home, Brisbane.

The year has been consistently busy and the number of babies admitted shows a slight increase on that of the previous year, whilst mothers admitted show a very small decrease, respective numbers being, for 1953-54, 222 babies, 118 mothers, and for 1954-55, 232 babies, 116 mothers. The daily average for the year was babies 12·02, mothers 4·68. Again artificially-fed babies exceed the number of breast-fed babies or babies admitted for the establishment of breast feeding.

Probably the majority of babies admitted for the establishment of breast feeding are from the small premature baby group. Continued tube feeding has caused them to lose the sucking instinct and consequently they present some of our greatest difficulties and account for most of the failures in the establishment of breast feeding. The other common difficulty in the breast-fed group surrounds a behaviour problem and is frequently seen in the older baby, who may also be an over-stimulated baby.

A number of cases of twins have come into the home for feeding adjustment and to have a routine established. Within the year three sets of triplets have been resident—the first group in residence at the beginning of the year were partially breast fed, the other two sets were wholly artificially fed.

Hare lip and cleft palate babies have been cared for and feeding adjusted. Mostly they remain until they reach 10 lb. weight and are ready to be transferred to hospital for repair of lip. The number has been larger than usual and in each case the mother is instructed in methods of feeding and care.

The following country centres have referred babies:—Tenterfield, Ipswich, Cherbourg, Nambour, Monto, and Bundaberg.

St. Paul's Terrace Training School.

Examinations were conducted on behalf of the Nurses' and Masseurs' Registration Board in June and December, 1954.

In July, 29 candidates were presented with certificates by Dr. D. Johnson (Deputy-Director of Health and Medical Services). In January, Dr. Dittmer, M.L.A., presented 28 successful candidates with certificates.

Clayfield Home, Brisbane.

It is now almost 12 months since reorganising the working of the home. New rosters and reallocation of duties were worked out and tried again and again until the present workable plan became satisfactory.

New time-sheets were made to obviate the necessity of 16-year-olds travelling home after 10 p.m. duty. This, with a complete reorganisation of the home and its workings, is proving successful.

The recent installation of modern machinery in the laundry simplified a difficult position.

The babies admitted for the past year numbered 186, as compared with 193 for 1953-54. Mothers admitted were 77, comparing favourably with the previous year. The daily average for the year was mothers 4·35, babies 12·86.

Difficulties surrounding the establisment of lactation appear to be increasing, both maternal and infantile. The increasing tendency to artificial feed is very marked, and there appear

to be many contributing factors: difficult living conditions, early discharge from hospital, lack of knowledge on part of mother, and often maternal unwillingness to persevere.

Special difficulties have been with small premature babies, some previously tube fed, and with older over-stimulated babies.

Artificially-fed babies admitted far exceed breast-fed, and are admitted for adjustment of feeding and management because of failure to gain weight, for observation of vomiting, and congenital defects. Twins and one set of triplets were graded on to simplified feedings and a routine established.

Older babies and toddlers remain the greatest problem, and require patience, experience, and careful handling if any success is to be achieved.

Clayfield Home Training School.

In October, 12 candidates were presented for examination, 11 being successful. At the subsequent graduation ceremony held at Centaur House, Dr. Johnson (Deputy Director of Health and Medical Services) presented the certificates.

The eight candidates presented for examination in April were all successful and were presented with certificates by the Director at the graduation ceremony held in the same month.

Although the majority of these girls intend to enter the nursing profession, a small number from each grade undertakes work in private homes.

Toowoomba Home.

During the year, 47 mothers were admitted; total number of days in residence was 728, daily average 2·04.

Total number of babies admitted during the year, 102; total number of days in residence, 3,885; daily average, 10·6.

Accommodation is now available for seven mothers, including three single rooms and two double rooms. This is a great advantage, as it gives the mothers privacy, which is quite unobtainable in the ward system. The same applies to the treatment room, also new to "Unara."

Babies and mothers have been admitted from over a wide area, including Goondiwindi, Atherton, Stanthorpe, Dalby, Warwick, Killarney, Taroom, Crow's Nest, Dulacca, Clifton, and surrounding Toowoomba districts.

A fairly large number admitted were for feeding adjustment and restoration of natural feeding, also prematurity, congenital heart, anaemia, twins, pyloric stenosis (pre- and post-operative), severe malnutrition, vomiting, infantile eczema, coeliac disease, and many difficult feeding cases in babies and toddlers.

Mothers in residence received treatment for the restoration of breast milk and instruction in mothercraft.

Mothers of artificially-fed babies and toddlers have visited the home for instruction in the preparation of milk mixtures and food, the giving of feeds, and care and management of their babies.

The new staff quarters which were completed in November are built away from the main building, and, when the veranda and passage way are made weatherproof, will be greatly appreciated by the staff. The laundry, provided for the staff, is also much appreciated.

The grounds have been kept in good order and most of our vegetable requirements have been produced in our own garden.

Toowoomba Home Training School.

During the year, 15 Child Welfare assistants commenced training, two withdrew after a few weeks, and 13 presented themselves for examination. Twelve were successful, eight of whom are continuing with their training as general nurses.

Two graduation ceremonies were held during the year, the certificates being presented to the successful graduates by Mr. L. Wood, M.L.A.

The Jefferis Turner Home, Ipswich.

During the year, 105 babies and 58 mothers were admitted into residence at the home, being an increase of 12 babies and ten mothers on the previous year and an increase of 38 babies and 23 mothers on the first year. The daily average for the year was babies 6·76, mothers 2·70. Babies were admitted from Ipswich and suburbs and Laidley, Harrisville, Kalbar, Boonah, Esk, Yarraman, Rosewood, Nambour, Wacol, Amberley, and Brisbane.

The cases included 11 sets of twins, 27 frail and premature infants, nine being under 5 lb., the smallest 4 lb. 2 oz., four mongols, two cases of pyloric stenosis, cases of anemia, malnutrition and vomiting babies, restoration and establishment of breast feeding, two hare lip and cleft palate, educational feeding, suddenly weaned babies on account of mother's sudden illness, underweight and badly managed toddlers, cases of fat intolerance—one very marked who is responding well to feeding with soya bean mixture. One very difficult breast-fed infant admitted at 2½ weeks weighing 6 lb. 5½ oz. had a congenital obstruction of the respiratory tract. He was continuously cyanosed and was treated with alevaire and oxygen for ten days before being transferred to the Mater Children's Hospital for treatment and observation where he was subsequently weaned. He remained in hospital for six weeks and was then returned to the home, aged two months, still very difficult to feed but with cyanotic condition improved.

The Jefferis Turner Maternal and Child Welfare Home, Ipswich—Side View.

The Jefferis Turner Maternal and Child Welfare Home, Ipswich—Front View.

He remained a difficult feeding case, but made a gradual progress and slowly improved and was discharged at eight months weighing 15 lb. 8 oz. He was somewhat mentally retarded but appeared to be improving generally.

Mrs. Jefferis Turner presented the home with three lovely paintings.

Jefferis Turner Training School.

Six Child Welfare assistant trainees were prepared for examination, all of whom were successful. Eight trainees, four in each of two grades, are at present being prepared for examinations.

A graduation ceremony was held in May, 1955, certificates being presented by Mr. Marsden, M.L.A.

Rockhampton Home.

During the year, there have been 67 babies and 31 mothers admitted. The daily average for the year was babies 8·7, mothers 1·55. Fifteen of the babies, including one set of twins, were born prematurely, while another set of twins was born at full term. Both sets of twins were in residence at the same time. One mother was able to feed her babies simultaneously, the other alternate breast and artificial feeds.

There were 15 premature infants admitted during the year, four 6 lb. and over, six 5 lb. and over, two under 5 lb., two under 4 lb. and one under 2 lb.

The other cases included undernourished babies, vomiting babies, congenital heart, pink disease, malnutrition, and the usual breast and artificially-fed feeding problems, some of whom have been very difficult.

Babies were admitted from Emerald, Mackay, Mount Morgan, Westwood, Gladstone, Goovigen, Raglan, Ogmore, and nearby districts.

The smallest premature baby had a birth weight of 1 lb. 14½ oz. Her admission weight was the same and she was two weeks old. She was nursed in an ordinary premature cot and did not at any time need oxygen. Fortunately, her mother had sufficient breast milk for the first seven weeks and some was also obtained from the Lady Goodwin Hospital, where she was born. Grading to a milk mixture was commenced about the eighth week. During the first two weeks she was fed by pipette every two hours, then changed to three-hourly feeding, eight feeds a day, gradually reducing the number of feeds to six a day. At all times her feeds were taken well. She was discharged weighing 7 lb. 8½ oz.

Rockhampton Home Training School.

The December grade finally consisted of two girls. As one failed in the written paper, there was no graduation ceremony.

Twelve girls commenced in May-June, 1954, and one left, owing to ill-health, after six months.

Graduation was held on 26th April, 1955. Mr. Cooper, M.L.A., presented the certificates to the eight successful graduates.

Four trainees commenced at each new term. There are now eight trainees each year.

Sandgate Home.

The year opened with 43 children in residence.

Admissions during the year	..	.. 696
Families represented	.. ..	.. 287
Boys under 5 years	204	
Boys 5–10 years	176	
Boys over 10 years	19	
Total number of boys ..	399	
Girls under 5 years	138	
Girls 5–10 years	147	
Girls over 10 years	12	
Total number of girls ..	297	
Total number of days children spent in Home		15,895
Average number of days per child ..		22·83
Daily average for year		43·54

During the year, nine families returned once to the home. Thirty-one children were sent to hospital during the year. Of these, six returned to the home and the remainder were discharged to their own homes from hospital. The majority of the children sent to hospital were suffering from measles or chicken pox. In February, there was a mild outbreak of gastro-enteritis; ten children were infected, two were sent to hospital, the remainder were isolated and nursed in the home. The home was closed to admissions for two weeks until the epidemic had cleared up.

The children as a general rule are very happy and contented during their stay, and it is very rarely a child takes any length of time to settle in. They are under continual supervision and everything possible is done by the staff to keep them occupied and entertained.

A new building, which includes dining and recreation rooms, was occupied during the year.

New machinery was installed in the laundry.

Sandgate Home—Baby Ward.

Admitted during the year—147 (89 males, 58 females)
Total number of days—3,929
Daily average—10·76

Five babies returned a second time during the year. Six babies transferred to hospital, measles and upper respiratory tract infection accounting for these. Two of these were readmitted to the home, the remaining four were discharged to their own homes from hospital. Except for an epidemic of rubella in August of this year, there has been no infection in this home apart from the usual coughs and colds. After the first initial upset for the toddlers after admission, they have all progressed very well.

Rail Car.

The itinerary remains the same as in the previous year, namely, Winton, Dajarra, Julia Creek, Maxwelton, Kajabbi, and Richmond.

Mothercraft classes were held at Richmond, Julia Creek, and Hughenden.

Attendances for the year were 3,013.

Ante-Natal Section.

There has been an increase in ante-natal attendances at both metropolitan ante-natal clinics. Fifty-four point seven per cent. of

patients returned for post-natal examinations, which is an increase of 14·5 per cent. on the previous year, but which is still far from satisfactory.

Conditions complicating pregnancy were as follows:—

Ante-Natal.	
Toxaemia	32
Anaemia	11
Rh. Negative (3 showed anti-body production)	29
Hydramnios	2
Prolapse	3
Thrombophlebitis	1
Essential Hypertension	8
Pyelitis	3
Hypoproteinaemia	39
Contracted pelvis	3
Twin pregnancy	3
Premature Labour (4 due to toxaemia, 1 twin pregnancy, 2 Rh. anti-body production, 1 jaundice, 2 unexplained, 1 positive Wassermann test)	11
Caesarian Section (due to contracted pelvis)	3
Stillbirths (1 due to prematurity, 2 due to Rh. incompatability)	3
Maternal death (due to Cerebral Haemorrhage while in hospital for Ante-natal treatment)	1

Of the 11 patients who had premature labours, five did not attend until the sixth month, or later.

Post-natal.	
Subinvolution	6
Rectocele	4
Cystocele	6
Cervicitis	5
Cervical erosion	10
Anaemia	1
Bacterial endocarditis	1

A survey of the diet of 115 patients showed that 26 were below the accepted standard, but only two were seriously deficient. Neither of these patients showed anaemia, hypoproteinaemia, or gross vitamin deficiencies. One developed toxaemia of pregnancy and had a premature labour.

The main dietary deficiencies were in milk, fruit, eggs, and cheese. None of the 26 patients took more than ½ pint of milk daily, and four no milk at all.

Apart from the one patient who developed toxaemia, their ante-natal health was average.

Particulars of infant feeding were obtained from 70 mothers who had attended the ante-natal clinics. The results are shown in the following table:—

TABLE LXXIV.

Duration of Breast Feeding.	Baby Fully Breast Fed.	Baby Partly Breast Fed.	Mother's Health.
9 months	4	1	1 had mild toxaemia; 1 showed Rh. incompatability.
More than 6 months	9	4	1 had mild hypoproteinaemia; 1 showed Rh. incompatability.
More than 3 months and less than 6 months	13	13	Average.
Less than 3 months	20	19	Average.
One month or less	16	6	2 had breast abscess; 2 toxaemia; 1 essential hypertension; 2 instrumental deliveries.
Weaned before leaving hospital	5	..	1 had Caesarian section; 1 had premature labour; 2 had retracted nipples; 1 failed to lactate.

Ante-natal Section.

Attendances at Metropolitan Centres.—

Fortitude Valley	801
Woolloongabba	1,633
Caboolture	209

Expectant mothers sent by doctors for books or literature and who are advised to attend talks to mothers at Valley and Woolloongabba Centres total 58.

Expectant mothers attending these talks, total 231.

Fortitude Valley and Woolloongabba clinics have shown a marked increase in attendances, and at both ante-natal clinics, talks on Mothercraft are given to expectant mothers.

Physiotherapy classes are continued as in previous years.

Circular letters forwarded to expectant mothers	6,101
Circular letters forwarded to expectant mothers (other than above) re "Expectant Mother" books	2,072
Response to circular letters	1,720
Serial letters to expectant mothers	10,495
Letters received from expectant mothers	467
Special letters of advice sent on request	169
Copies of "The Expectant Mother" sent on request	1,504
Requests from country centres and Hospitals for "The Expectant Mother" book	2,125
Copies of "Ante-natal and Post-natal Exercises" sent on request to expectant mothers	1,551
Requests from country centres for "Ante-natal and Post-natal Exercises"	480
Copies of baby patterns sent on request	133
Copies of belt patterns sent on request	48

The correspondence service to expectant mothers continues to contact country mothers through the co-operation of hospitals who supply monthly lists.

Many of these mothers later write letters giving particulars of the birth and appreciation of advice given during their pregnancy.

Director's Consultant Centre.

Attendances during the year ended June, 1955, were as follows:—

Number of children examined for admission to Sandgate Home	1,411
Number of children examined for admission to Red Cross Home, Margate	443
Number advised per phone	348
Attendances at Director's Consultant Centre for advice	2,382
Total number of children examined or advised at Centre	4,584

The Jefferis Turner Maternal and Child Welfare Home, Ipswich—Trainees in Rear Garden.

The Jefferis Turner Maternal and Child Welfare Home, Ipswich—Trainees on Front Lawn.

This shows an increase in the number of infants and toddlers whose feeding, management, or behaviour has proved difficult and who were referred to the Director by Sister in Charge of metropolitan and country centres and by private medical practitioners. There has been an increase in the number of children medically examined and swabbed for admission to the Sandgate Home.

Many families were unable to have their children admitted to the Sandgate Home during the mother's hospitalisation owing to the shortage of beds. These families were referred to the Red Cross and Mothercraft Homes and, where possible, were admitted.

All children admitted to the Red Cross Home, Margate, during the year were medically examined and had throat swabs taken by the Director or Deputy Director.

Of the throat swabs taken, 20 swabs were positive, four of these being virulent.

One hundred and ninety blood counts, 108 urine specimens, 12 cellophane swabs, eight specimens of faeces for fat analysis, one glucose tolerance test, 105 rectal swabs were examined at the Laboratory of Micro-Biology and Pathology.

Sixty-five children and babies were referred to hospital, 41 to their own doctor, 32 to the X-ray Department, ten to the Radium Clinic, two to the Psychiatry Clinic, and 1 to the Speech Therapy Clinic. Of the 190 babies who had blood counts done, 56 had haemoglobin levels below 10 gm. Of the 105 rectal swabs examined, three gave positive swabs for *E. coli. 111.*

Children who had blood counts done were mostly referred from the centres because of paleness, and are not a cross section of the children attending the centres.

Pre-school Health Centres.

At the 15 centres and six kindergartens, children from the age of one to six years were examined twice during the year at all centres except Ipswich. Appointments at Ipswich Centre are now at eight or nine monthly intervals.

The total number of examinations made during the year was 4,944, of which 2,162 were first examinations and 2,782 were subsequent examinations. The total examinations during the previous year numbered 4,421. Attendance at West End and Paddington was disappointing. Bulimba, Ashgrove, Kedron, Nundah, and Stone's Corner have all shown an increase in attendances.

During the year the average per clinic was 12·0.

The following table shows the main abnormalities found at half-yearly examinations:—

TABLE LXXV.

Enlarged tonsils	1,305
Knock knees	1,169
Carious teeth	194
Bow legs	190
Adenoiditis	164
Flat feet	81
Skin rash	76
Intoeing	63
Umbilical hernia	63
Thread worms	50
Allergy	44
Cardiac murmur	39

TABLE LXXV.—*continued.*

Stained teeth	33
Tonsillitis	28
Squint	24
Pilonidal cyst	19
Bronchitis	13
Naevus	12
Pronated feet	11
Congenital heart	10
Impetigo	9
Boils	7
Hydrocele	7
Ringworm	7
Otitis media	6
Geographical tongue	6
Nocturnal enuresis	5
Stomatitis	5
Scabies	5
Inguinal hernia	5
Prurigo	4
Congenital deformities	4
Fissure (anal)	4
Anorexia	3
Cyst	3
Pharyngitis	3
Undescended testes	3
Blocked tear duct	3
Intertrigo	2
Mentally deficient	2
Spastic	2
Fractured clavicle	2
Miscellaneous	28

One hundred and ninety-two blood counts, 76 specimens of urine, 19 cellophane swabs were examined at the Laboratory of Micro-Biology and Pathology.

Of the 192 toddlers who had blood counts done, 40 had haemoglobin levels below 10 gm. per 100 ml. Forty children were referred to their own doctors for treatment, 37 to hospital, 35 to the X-ray Department, two to the Acoustic Laboratory, two to the Radium Clinic, two to the Speech Therapy, two to the Child Guidance Clinic, and five to their own dentist.

Country Centres.

The total number of examinations at country centres are as follows:—

Centre.	New Patients.	Subsequent Visits.	Total Visits.
Cairns	185	178	363
Rockhampton	115	18	133
Toowoomba	70	108	178
Townsville	196	179	375

The following table shows the main abnormalities found at half-yearly examinations.

Umbilical hernia	25
Knock knees	8
Enlarged tonsils	6
Squint	6
Flat feet	4
Thread worms	3
Bowing	3
Allergy	3
Inversion	2
Impetigo	2
Miscellaneous	7

Forty-seven children were referred to their own doctor, three to dentists, and one to hospital.

Despite cyclonic conditions, the overall attendance was maintained.

Kindergartens controlled by the Creche and Kindergarten Association.

Children attending Valley, Paddington, West End, and Rosalie were medically examined twice during the year.

Kindergartens affiliated with the Creche and Kindergarten Association.

Children attending Wynnum Kindergarten were examined twice during the year. Children from Ashgrove Kindergarten, Devoy Street, were medically examined at Ashgrove Toddlers' Clinic.

At the request of the Director of Holland Park Kindergarten, permission has been granted for the medical and nursing staff of this Department to visit and examine the children.

Kindergartens directed by Department of Public Instruction, State.

Children attending West Ashgrove Kindergarten were medically examined twice during the year. Children from Ipswich Kindergarten attend Toddlers' Clinic, Ipswich, for half-yearly medical examinations.

LECTURE DEMONSTRATIONS TO SCHOOL GIRLS.

The Mothercraft teaching in the schools for the year ending 1954 was satisfactory. The same schools were visited as in the previous year, with the exception of the South Brisbane Intermediate. These lessons were discontinued owing to the closing of the school. In addition, classes were held at the new High Schools: Banyo, Salisbury, Cavendish Road, and Indooroopilly. The Principals of these schools were very helpful in arranging classes at suitable times, and through their help and co-operation, the lessons were most successful. The girls were enthusiastic, attentive, and did good work.

In the beginning of 1955, no satisfactory arrangements could be made to have the usual Mothercraft lessons in the second term. It will be regrettable if no arrangement can be made later as these lessons have been given at this school for 18 years.

The sisters on the Rail Car gave Mothercraft lessons in the centres at which the car called.

At Mount Morgan High School, the sister was unable to arrange classes at the school in 1954, but they were given this year with satisfactory results. Mothercraft lessons were given for the first time to a class at the Charters Towers State High School by the sister from that centre. These lessons are just completed.

The usual function, at which the prizes and certificates are presented, was held at most of the schools.

Some schools this year presented their prizes at their own school breaking-up ceremony.

TABLE LXXVI.

REPORT FOR SCHOOL YEAR ENDING 1954.

Time.	Name.	Number in Class.	Number sat for Examination.	Number obtaining over 60 per cent.
February	Petrie Terrace State School	20	13	13
April	Milton State School	52	41	35
	Rainworth State School	21	19	18
	Brisbane Girls' High School	14	14	14
May–July	Ipswich Technical College	77	77	65
	Silkstone State School	40	32	28
	Domestic Science High School—			
	Sub-Seniors	14	14	14
	Juniors	28	23	20
	State Commercial High School	84	66	56
	Indooroopilly High School	62	52	50
	Wynnum Intermediate School	90	86	76
August–December	Cavendish Road High School	72	55	48
	Salisbury High School	80	67	63
	Banyo High School	88	88	78
	Brisbane State High School	37	28	28
		779	675	606
	Country Centres.			
	Richmond State School	10	10	9
	Julia Creek State School	3	3	3
	Hughenden State School	12	12	8
	Hughenden Convent School	2	2	2
		27	27	22

CORRESPONDENCE SECTION.

There is a marked increase of notifications received from centres, due to mothers being able to attend only infrequently. The sisters have contacted the Correspondence Section for these mothers. More responses to circulars have also been received. There are still further increases in letters on feeding and management, as well as many letters of appreciation of help given to mothers whilst in Queensland who later transferred to another State. Diphtheria leaflets are still sent to all mothers whose babes' names have been received from centres. Lists of births and deaths are sent regularly to the Health Department of the City Council. Less long distance telephone calls have been received this year.

More correspondence mothers with babes have called in during their stay in the city this year, and most of these babes have been examined by the Director before returning home.

From the commencement of this year a detailed list of deaths of premature babes and causes has been sent regularly to the Director-General on receipt of same from the Registrar-General. This is part of the research work being carried out by the Infant Mortality Committee mentioned earlier in this report.

TABLE LXXVII.

	Year Ending 30-6-55.	Year Ending 30-6-54.
Number of birth notifications received	5,102	3,622
Number of circulars posted—		
(1) Within reach of centre	1,609	1,219
(2) Not within reach of centre	3,493	2,403
Number of follow-up circulars posted	2,788	2,266
Letters to correspondence in response to circular No. 2	843	676
Visits to centres in response to circular No. 1	..	..
Letters of advice re feeding and management sent on request	1,723	1,478
Number of "Care of Mother and Child" sent on request	1,057	829
Number of extra "Care of Mother and Child" sent on request	266	313
Number of six-month greeting cards sent re diphtheria	3,774	3,149
Number of birthday cards sent during year	172	146
Number of telephone calls re feeding and management	111	116

Social Welfare Service.

Calls upon the Social Welfare sisters from mothers who cannot visit the centres continue to increase. The number of visits made during the year total 4,015, compared with 3,865 in the previous year.

Child Welfare trainees have appeared interested in the work of the Social Service. Many have said that they did not realise the difficulties that could be met with in the homes, also they did not realise that some people lived in such poor housing conditions.

Number of newborns visited in Hospital	10,514
Number of newborns visited in homes	424
Number of test feeds given	575

Medical Students.

As in previous years, lectures and demonstrations were given to fourth, fifth, and final year medical students, the only alteration being that final year students did not accompany the Social Service sisters on their visits to mothers in their own homes.

Publications of the Service.

"The Expectant Mother" booklet has been revised and the printing is expected to be completed shortly.

The demand for the booklets "Care of Mother and Child" and "Ante-Natal and Post-Natal Exercises" has been so heavy that it has been found necessary to limit their distribution to the Maternal and Child Welfare centres.

"Problems of Prematurity" are distributed to medical students and, on request, to medical practitioners and midwifery hospitals.

Newspaper Articles.

Articles dealing with infant and pre-school child management were forwarded each month to 60 newspapers in the State. Subjects dealt with included—"Abdominal Pain in Childhood," "The Importance of Feeding a Baby Correctly," "Tonics in Winter," "Vomiting in Childhood," "The Problem of Sleeplessness," "Mental Health in Childhood," "Behaviour Problems in Infancy," "The Normal Behaviour of the Pre-school Child," "Behaviour Problems of the Pre-school Child," "Vitamins," "Pre-Natal Health," and "Breast Feeding."

Baby Clinic Social Club.

Four meetings were held during the year.

A cheque of £13 13s. 7d., being sponsorship and affiliation fees for 1955, was forwarded to Save the Children Fund (Queensland Branch), and a Christmas parcel sent to our sponsored child, Helga Koller, of Austria.

TABLE LXXVIII.

VISITS TO NEWBORNS, SUBSEQUENT AND TOTAL VISITS.

Year.	Visits to Newborns.	Subsequent and other Visits.	Total Visits.
1952–53	25,298	939	26,237
1953–54	25,284	913	26,197
1954–55	26,348	951	27,299

TABLE LXXIX.

ATTENDANCES AT CENTRES.

Number of New Cases seen at the Centres.

	1952–53.	1953–54.	1954–55.
Infants—			
Under one year ..	18,180	17,736	18,565
One to two years	5,310	4,750	4,653
Over two years ..	2,201	1,851	1,857
Total	25,691	24,337	25,075
Expectant mothers..	827	783	977
Total new cases	26,518	25,120	26,052

TABLE LXXX.

ATTENDANCES OF INFANTS AND CHILDREN AT MATERNAL AND CHILD WELFARE CENTRES AND SUB-CENTRES.

Metropolitan.

	1952–53.	1953–54.	1954–55.
Fortitude Valley ..	17,611	16,448	16,230
Branches—			
Clayfield	1,484	1,086	1,020
Hamilton ..	1,425	1,095	1,411
Hendra	1,380	1,264	1,245
Newmarket-Grange	802	1,042	1,049
Wacol Immigration Centre (opened 7–1–53).. ..	453	1,112	1,222
Windsor	1,812	2,676	3,177
	24,967	24,723	25,354
Herschell Street ..	11,225	11,606	13,984
Branches—			
Corinda	2,036	2,051	2,046
Darra	683	933	1,419
Enoggera ..	1,523	1,685	2,085
Graceville.. ..	2,105	2,182	1,885
Immigration Centre Enoggera (opened 7–1–53, closed 23–10–53) ..	398	178	..
Indooroopilly ..	1,213	1,042	1,149
Mitchelton ..	1,509	1,903	3,030
Oxley (opened 14–3–55) ..	..	..	165
St. Lucia	497	629	577
Toowong	1,648	1,376	1,508
	22,837	23,585	27,848
Nundah	5,277	5,374	5,265
Branches—			
Banyo (opened 16–5–55) ..	..	..	43
Chermside (opened 10–6–54) ..	..	56	2,292
Geebung	746	859	918
Kedron	3,462	3,099	1,662
Northgate (opened 10–4–53) ..	138	301	260
Wavell Heights (opened 4–12–52)	174	390	405
Zillmere	1,026	1,449	1,769
	10,823	11,528	12,614

Metropolitan—continued.

	1952–53.	1953–54.	1954–55.
Paddington	4,381	4,382	3,411
Branches—			
Ashgrove	3,951	4,138	3,117
Bardon	987	994	1,044
Kelvin Grove ..	1,301	990	808
Rosalie	1,364	1,107	1,145
	11,984	11,611	9,525
Sandgate	4,159	4,166	5,474
Branches—			
Caboolture ..	1,173	1,246	1,142
Cribb Island ..	389	268	357
Dayboro	293	308	360
Redcliffe	2,415	2,339	2,901
	8,429	8,327	10,234
South Brisbane Sub-centres—			
Archerfield ..	396	466	581
Bulimba	2,168	2,282	2,451
Camp Hill ..	2,191	2,122	2,365
Holland Park ..	2,538	2,060	2,087
Morningside ..	2,420	2,429	2,077
Stones Corner ..	1,030	821	746
	10,743	10,180	10,307
West End	7,752	6,499	6,240
Branch—			
Beenleigh ..	634	734	1,096
	8,386	7,233	7,336
Woolloongabba ..	20,507	19,468	18,155
Branches—			
Coopers Plains (opened 3–11–52)	346	680	1,163
Ekibin	1,066	1,305	1,747
Holland Park T.H.E. (closed 31–8–54) ..	694	430	47
Ipswich Road ..	1,398	1,564	1,491
Rocklea T.H.E. ..	979	778	1,191
Salisbury	855	929	1,101
Upper Mount Gravatt (opened 7–9–54).. ..	..	..	559
Yeronga	1,711	1,539	1,586
	27,556	26,693	27,040
Wynnum	8,174	7,339	7,901
Branches—			
Cleveland ..	614	759	753
Manly	1,230	710	545
	10,018	8,808	9,199

Country.

	1952–53.	1953–54.	1954–55.
Atherton	2,201	2,087	1,697
Branches—			
Herberton ..	303	337	191
Malanda	641	721	438
Millaa Millaa ..	665	537	630
Ravenshoe ..	691	646	610
Tinaroo Falls (opened 19–7–54)	..	..	113
Yungaburra ..	160	197	221
	4,661	4,525	3,900

Country—continued.

	1952–53.	1953–54.	1954–55.
Ayr (from 18–5–54)	..	407	3,430
Branches—			
Clare (opened 31–5–54) ..	..	16	214
Giru (from 18–5–54)	..	76	785
Home Hill (from 18–5–54) ..	..	214	1,888
	..	713	6,317
Barcaldine	1,206	849	1,235
Branches—			
Alpha	254	188	188
Aramac	196	188	142
Jericho	105	126	129
	1,761	1,351	1,694
Biloela	3,865	4,602	4,431
Branches—			
Baralaba	423	577	461
Goovigen	249	331	357
Jambin	188	154	119
Moura	162	308	190
Thangool	350	423	352
Theodore	376	451	433
Wowan	547	699	466
	6,160	7,545	6,809
Bowen	2,138	2,057	1,920
Branches—			
Collinsville ..	1,180	1,348	1,158
Murroona ..	436	439	343
Proserpine ..	1,120	1,233	1,049
	4,874	5,077	4,470
Bundaberg	7,047	7,171	7,339
Branches—			
Gin Gin	411	423	417
Miriam Vale ..	227	262	283
	7,685	7,856	8,039
Cairns	8,849	7,388	7,941
Branches—			
Cooktown	340	325	178
Earlville	501	382	365
Edge Hill ..	1,351	875	964
Edmonton ..	538	420	547
Gordonvale ..	937	917	933
Kuranda	168	143	181
Mossman	923	944	1,296
	13,607	11,394	12,405
Charleville	4,512	4,413	4,213
Branches—			
Cunnamulla ..	1,077	899	950
Morven	140	142	153
Quilpie	327	377	301
	6,056	5,831	5,617
Charters Towers ..	3,557	3,449	2,927
Dalby	2,803	2,879	2,324
Branches—			
Chinchilla ..	1,715	1,453	945
Miles	659	527	643
	5,177	4,859	3,912

Country—continued.

	1952–53.	1953–54.	1954–55.
Emerald	774	1,025	1,095
Branches—			
Blair Athol ..	149	115	140
Capella	88	74	121
Clermont	116	330	420
Springsure ..	181	173	144
	1,308	1,717	1,920
Gayndah	1,265	1,613	1,688
Branches—			
Eidsvold	188	310	449
Monto	1,228	1,084	1,208
Mulgeldie ..	182	99	154
Mundubbera ..	1,026	832	931
	3,889	3,938	4,430
Gladstone	5,043	4,742	4,597
Branches—			
Calliope	250	157	152
Mount Larcom ..	853	712	456
	6,146	5,611	5,205
Goondiwindi ..	681	1,032	1,129
Branches—			
Dirranbandi ..	233	265	348
Inglewood ..	390	667	461
Texas	291	475	340
Yelarbon	163	107	126
	1,758	2,546	2,404
Gympie	6,445	4,851	5,506
Branches—			
Cooran	353	152	197
Imbil	559	289	361
Kandanga ..	188	148	140
Pomona	459	491	464
	8,004	5,931	6,668
Ingham	2,180	2,442	2,848
Branches—			
Cardwell	76	220	237
Halifax	257	791	748
	2,513	3,453	3,833
Innisfail	5,260	5,031	5,862
Branches—			
Babinda	1,107	881	1,313
El Arish	139	101	41
Mourilyan ..	128	96	307
Silkwood	183	138	124
South Johnstone ..	291	249	221
Tully	1,499	1,199	1,498
	8,607	7,695	9,366
Ipswich	11,303	11,789	11,091
Branches—			
Boonah	1,239	1,127	1,041
Esk	432	403	452
Laidley	488	631	525
Lowood	162	100	305
Rosewood ..	1,042	970	908
Somerset Dam (closed 12–4–55)	126	79	59
Toogoolawah ..	773	461	741
	15,565	15,560	15,122
Kingaroy	2,407	2,397	2,317
Branches—			
Kumbia	300	295	283
Nanango	378	524	274
Yarraman ..	215	129	152
	3,300	3,345	3,026

Country—continued.

	1953–54.	1953–54.	1954–55.
Longreach (closed 3–6–54, reopened 21–1–55) ..	651	725	608
Blackall	693	680	374
Muttaburra (not reopened) ..	26	16	..
	1,370	1,421	982
Mackay	7,172	7,054	6,895
Branches—			
Calen	201	180	216
Finch Hatton ..	497	333	336
Koumala	200	310	288
Marian	312	335	272
North Mackay ..	2,128	1,895	1,894
Sarina	1,402	1,808	1,804
West Mackay (opened 8–6–54)	..	56	1,614
	11,912	11,971	13,319
Mareeba	3,132	2,994	2,804
Branches—			
Dimbulah (closed 3–8–53) ..	255	19	..
Mount Mulligan ..	223	151	173
	3,610	3,164	2,977
Maryborough ..	8,067	6,844	7,243
Branches—			
Biggenden ..	691	824	833
Childers	543	553	702
Howard	574	584	559
Pialba	753	647	458
	10,628	9,452	9,795
Mount Isa	3,412	3,072	3,272
Branches—			
Camooweal ..	94	99	72
Cloncurry ..	837	761	614
	4,343	3,932	3,958
Mount Morgan ..	2,871	2,721	2,559
Branches—			
Baree	302	207	183
Red Hill	48	61	30
	3,221	2,989	2,772
Murgon	1,748	1,299	1,437
Branches—			
Goomeri	1,052	524	319
Hivesville ..	81	81	79
Kilkivan	227	143	85
Proston	233	79	73
Wondai	1,061	876	740
	4,402	3,002	2,733
Nambour	3,555	3,189	3,200
Branches—			
Buderim	172	104	107
Caloundra ..	350	277	323
Cooroy	1,138	879	684
Eumundi	274	201	169
Landsborough ..	266	164	215
Maroochydore ..	614	373	397
Palmwoods ..	321	166	251
Yandina	329	146	278
	7,019	5,493	5,624
Railway Car—			
Winton	684	683	616
Hughenden ..	1,545	1,370	1,056
Julia Creek ..	746	686	588
Maxwelton ..	135	159	212
Richmond ..	507	558	512
	3,617	3,456	2,984

Country—continued.

	1952–53.	1953–54.	1954–55.
Rockhampton ..	11,689	11,737	11,256
Branches—			
North Rockhampton	1,540	1,569	1,278
Ogmore	189	181	188
Park Avenue (opened 18–11–54) ..	..	..	459
St. Lawrence ..	272	122	171
Yeppoon	856	687	825
	14,546	14,296	14,177
Roma	2,260	2,476	2,470
Branches—			
Dulacca	125	139	141
Jackson	85	175	158
Mitchell	910	1,233	1,290
Surat	236	341	228
Wallumbilla ..	134	152	95
Yuleba	160	225	284
	3,910	4,741	4,666
Southport	3,001	3,330	3,357
Branches—			
Beaudesert ..	1,365	1,286	1,583
Burleigh Heads ..	742	691	944
Coolangatta ..	2,598	2,739	2,693
	7,706	8,046	8,577
Toowoomba ..	9,261	8,586	7,556
Branches—			
Clifton (transferred Warwick 2–7–54)	298	206	..
Crow's Nest ..	587	682	484
Forrest Hill ..	98	34	75
Gatton	1,216	968	975
Harristown ..	603	641	699
Millmerran (opened 22–7–54) ..	..	..	466
Oakey	641	645	785
Pittsworth ..	860	1,136	1,152
	13,564	12,898	12,192
Townsville	13,510	12,908	12,304
Branches—			
Ayr (to 18–5–54)	4,149	3,258	..
Garbutt (opened 29–11–54) ..	..	..	130
Giru (to 18–5–54)	593	499	..
Home Hill (to 18–5–54) ..	2,023	1,596	..
Rising Sun (opened 30–11–54) ..	..	..	965
	20,275	18,261	13,399
Warwick	4,368	5,094	4,574
Branches—			
Allora	638	666	584
Clifton (transferred from Toowoomba 2–7–54)	..	..	223
Killarney ..	468	390	360
Stanthorpe ..	1,620	2,586	2,666
	7,094	8,736	8,407
Social Welfare Services ..	4,133	3,865	4,015

TABLE LXXXI.

TOTAL ATTENDANCES OF INFANTS AND CHILDREN AND EXPECTANT MOTHERS.

1952–53.	1953–54.	1954–55.
372,326	362,008	370,680

TABLE LXXXII.

ANTE-NATAL CLINICS.

	1952–53.		1953–54.		1954–55.	
	New Cases.	Attendances.	New Cases.	Attendances.	New Cases.	Attendances.
Fortitude Valley	74	540	74	718	98	801
Woolloongabba	132	1,076	133	1,193	179	1,634
Caboolture	38	260	21	236	34	209
Herschell Street	17	22	5	8	..	..
West End	13	18	6	12	..	..
Total	274	1,916	239	2,167	311	2,644

DIVISION OF SCHOOL HEALTH SERVICES.

Chief Medical Officer: P. R. Patrick, M.B., B.S. (Q'ld.).

Chief Inspector, School Dental Services: G. O. Hosking, L.D.Q.

Staff.

The staff position has been a mixed one, being very satisfactory on the medical side, but disappointing in the dental section. At the end of the year all nursing positions were filled and the number of medical officers remained the same. In addition to the Chief Medical Officer, one full-time school medical officer is stationed at Brisbane and Townsville respectively, and there is a part-time school medical officer at Ipswich. Of the 23 school sisters, six, including the senior sister, work in Brisbane and 17 in country districts. It is pleasing to report that the standard of nurses recently recruited to the service has been very high. After preliminary training in Brisbane, they are now giving satisfactory service in country areas.

At the end of the year the field staff consisted of—

The Chief Medical Officer.
Two full-time Medical Officers.
One part-time Medical Officer.
The Chief Dental Inspector.
Fifteen full-time Dental Officers.
One part-time Dental Officer.
The Senior Sister
Twenty-two School Sisters.

Routine Medical Inspections.

During the year, a change in the procedure, followed in routine medical inspection of school children, was adopted. Previously school sisters worked routinely through their district examining every child in each school visited. Each nurse took approximately two years to cover her district. In those districts where medical officers are stationed, all children in Grades I and II were fully examined, as well as children in upper grades specially selected by the nurses and teachers. Under this method, some children had been at school two years before they were examined, while children with defects found at one examination were not seen again for two years.

At the beginning of 1955, a new method was introduced in an endeavour to make the visit to each school an annual one. Instead of examining every grade, children in Grades I, III, V, and VII, are now examined. Children are still seen every two years. The improvement lies in the fact that all children will be seen during their first year at school. In addition, the annual visit to the school helps teachers, particularly in the country, to discuss children with special problems, more often. In Brisbane, and the headquarters towns of country districts the services of school nurses are readily available to schools. They are often called upon to investigate minor skin infections, pediculosis infestations, and children with special problems, such as backwardness. The annual visit in remote country areas has improved the position in this regard for schools situated at long distances from the nurses' headquarters.

Eighty-six thousand eight hundred and eighteen children were examined during the year. Of these, 26,380 were in Brisbane and 60,438 in country schools. School medical officers examined 13,426 of these children, a number of whom included new admissions and referrals from upper grades. The number of schools visited in conducting routine medical examinations was 1,048, including 106 Brisbane schools and 942 country schools. This is an increase on last year's figures due to the new method used in conducting routine visits to schools. It is hoped that during the next year most, if not all, of the schools in Queensland will be visited.

Of the children examined, 3,838 were considered to have medical defects worthy of further opinion. This figure includes only those children whose parents were notified in writing of the defect found. It does not include those children with defects already being treated or those with defects which it is considered could not be improved by further medical advice.

The follow-up of children with defects notified is carried out by school nurses and head teachers. The action taken by parents is checked at the end of one month and again at the end of two months. From returns received during the year as a result of the second check, it was found that 76.4 per cent of parents acted on the advice from school health officers. It is firmly believed that the true percentage would be higher. Often on a return visit to a school, it is noted that parents who have not acted immediately have done so later. In country areas where specialist treatment is not readily available, there is often a delay in taking the advice given at a school medical inspection.

Communicable Diseases in Schools.

There was no serious outbreak of communicable disease in Queensland schools during the year. Chicken pox, morbelli, and mumps were, however, prevalent and caused much absenteeism in the younger grades in the spring of 1954 and winter of 1955.

Diphtheria.—Only 26 cases of diphtheria occurred in school children during the year. This is the lowest number recorded in post-war years. It is believed that the reduction has been due to the campaign for booster doses to be given at school entry age. It is also held that the number of cases could be still further reduced by having all children receive booster immunisation doses. From information received throughout the year from parents it was found that the percentage of children commencing school who had received initial diphtheria immunisation was 91·2 per cent. in Brisbane schools and 87 per cent. in country schools. However, the figures for those children who had in addition received booster doses was only 39·85 per cent. in Brisbane and 18·3 per cent. in the country schools.

Scarlet Fever.—The total number of cases of scarlet fever for the year, 242, approximated that of the previous year, 253. However, there was a reduction in the cases occurring in metropolitan schools and an increase in country schools. This latter increase was due mainly to an outbreak in Ipswich during May and June of 1955. As in similar outbreaks in recent years the disease continues to be mild.

Poliomyelitis.—There was an increase in the number of cases of poliomyelitis. The total number reported amongst school children of 101 was higher than that of the two previous years when 33 and 95 cases, respectively, were recorded. However, the incidence was not as high as the major epidemic years of 1950-51 and 1951-52. The increase occurred mainly in country children in the summer months. The cases occurred mainly as single cases from any one school.

Tetanus.—Only six cases of tetanus occurred in school children during 1954-55. One would like to think this low figure was due to the increase in immunisation against the disease. While it is considered there is an increase in the number of children receiving such protection, the percentage is not sufficient yet to have any great bearing on the incidence of the disease. From information received during 1954-55, at school health examinations it was found that 38·28 per cent. of children entering school were immunised against tetanus. The use of triple antigen recently introduced for initial immunisation and the wider use of the single antigen tetanus toxoid in older children will no doubt increase this percentage as the years go by.

Other Communicable Diseases.—The year under review was the first full year for which rheumatic fever was notifiable. The total number of cases in school children was 115. The rate was higher in Brisbane than the country.

The number of other notifiable diseases in school children was cerebrospinal meningitis (9), typhoid fever (2), lead poisoning (10), and tuberculosis (13).

Immunisation.—Local Authorities in Brisbane and Ipswich were assisted by school sisters in their immunisation campaigns. In Brisbane, school sisters helped to give initial diphtheria immunisation to 965 children, diphtheria booster doses to 7,899 and tetanus immunisation to 2,589 at Brisbane schools.

At Gatton Agricultural College, School Health Services staff immunised 184 students against tetanus. This included initial immunisation courses and booster doses. The proportion of new students requiring tetanus immunisation is now less than previously, more students coming to the College already immunised.

Mantoux Testing of School Children.

Mantoux testing in primary schools in Brisbane was carried out by officers from the Chest Clinic. The children tested included all who intended to leave primary school during the current year. State and denominational schools, as well as primary sections of private schools, were included. During the year, the number of children tested was 4,889. Of these, 1,263 children gave positive reactions—a percentage of 25·8. In one school, the percentage of positive reactions was 59. This was the subject of a special investigation by a school nurse and a Chest Clinic nurse. All teachers at the school were X-rayed and all contacts investigated. No case of tuberculosis was found amongst the teachers, and the incidence of contacts with tuberculosis was not high. The high incidence of positive reactions was believed to be due to the fact that more children at this school drank raw milk in their early years than elsewhere in Brisbane. It is only recently that pasteurised milk has been used to any great extent in this particular area.

The incidence of positive reactions of 25·8 per cent. amongst all Brisbane children is higher than those reported in Southern States. It is pleasing to note that, of 3,496 who were found to be negative, only 69 parents refused B.C.G. vaccination. Consideration is being given to extending this testing to country school children.

Approval has been given for a scheme by which teachers will have an annual X-ray of their lungs on a voluntary basis.

Service to Remove Areas.

It is part of the policy of School Health Services to give priority to children who attend country schools. Except for children in homes under the supervision of the State Children Department no school dentists worked in Brisbane. In the capital city and other towns where hospital board dental clinics are situated, children whose parents cannot afford private dental fees are expected to attend these clinics for treatment. School dentists now only visit schools which are situated more than 15 miles from a Hospital Board Dental Clinic. In this way, those children living furthest away from the resident dental facilities are given first claim on the school dental service. Many of these remote country schools are situated away from the railway and public transport. Seven official vehicles are used by dentists to reach these schools. Those dentists who have no official vehicles hire private transport, the cost being borne by the department. During the year dentists hired private transport to visit 121 schools and treat 2,915 children.

Of the 23 school sisters on the staff, only six are employed in the metropolitan area. Sisters stationed in country districts hired private transport to visit 277 schools and examine 7,432 children.

Special Education.

One of the most important activities of School Health Services is the investigation of children who are backward educationally. In these investigations there is close collaboration with three other agencies, viz., the Research and Guidance Branch of the Department of Public Instruction, the Remedial Education Centre of the University of Queensland, and the Commonwealth Acoustic Laboratory. There is a mutual referral of cases between these agencies and School Health Services. Children in need of further investigation, discovered first at routine school medical examinations, are referred to the

appropriate Department. Children who report first to any of these agencies and have not been medically examined are referred to School Health Services.

The Educationally Subnormal Child.—The number of centres with Opportunity classes is growing. In addition to those at Dutton Park, Valley, Ipswich, Sandgate, Petrie Terrace, and Rockhampton, the Department of Public Instruction has recently established classes at Bundaberg and Cairns. Children in these latter two classes were medically examined by the Chief Medical Officer during official visits to those towns. In addition, routine medical examinations have been carried out at the former centres.

As a result of routine medical examinations, 162 children were referred to the Research and Guidance Branch as likely cases for special education at Opportunity Schools.

While such investigations have been confined mainly to the larger cities, school sisters have reported cases in country areas. After reports from the head teachers, arrangements have been made for many of these children to be brought to Brisbane for investigation.

The Remedial Education Centre interests itself with children of normal intelligence who are not progressing as well as they should at school. Their work consists of remedial teaching of such children and research into possible causes. School Health Services Branch has helped in both these activities. Before remedial teaching is commenced, every child is given a thorough medical examination. Fifty-two such children were examined at School Health Services Office. While some of these children have physical defects likely to cause retardation or have had much absenteeism due to illness, the backwardness in many circumstances is bound up with the home environment.

The Remedial Education Centre has conducted investigations into backwardness at three Brisbane schools during the year. Two groups, one of backward children and the other a control group, have been examined. School Health Services Branch has assisted by performing medical examinations. The final analysis of the findings has not yet been made.

The Deaf Child.—Tests for hearing form an important part of school health examinations. Portable pure-tone audiometers are used as well as voice tests. Of 7,945 children examined with portable audiometers, 85 were found to have some degree of hearing loss. Altogether 130 children with hearing losses were referred to the Commonwealth Acoustic Laboratory for further hearing tests. It is important to note that while nearly all Brisbane children avail themselves of this opportunity for further testing, not many children from the country attend. In a few instances, arrangments have been made for country children to be brought to Brisbane. However, it would help many deaf children in the country if facilities for testing and fitting hearing aids could be made available at some of the larger country towns.

The number of children at present attending the Deaf School is 179. This includes over 70 children, born in 1941, with the rubella type of deafness. The Chief Medical Officer is a member of the Ascertainment Committee, appointed to investigate deaf children who would benefit from the Oral Method of Teaching, which will be used solely at the Deaf School to be established at Gladstone Road, Brisbane. The number of children attending the Blind School at present is 27.

Health Education in Schools.

An important part of a sound school health programme is health education. In this State, it is believed that the actual instruction is best given by the class teacher, who is present all the time and is far better qualified to teach than medical or nursing personnel, whose visits are too infrequent to allow them to play any great part in health instruction. To give this instruction, the teacher must have knowledge of the subject. The Queensland Health Education Council has been of great assistance in this regard. Their publication "Subject Health" is closely followed by teachers in health lessons. During the year, the Council issued to schools a small reader, devoted to health subjects, to be used by children who have just learnt to read for themselves.

At the Annual Camp held by the Physical Education Branch at the National Fitness Camp at Tallebudgera for student teachers, the Chief Medical Officer supervised the discussion of school health topics by the students.

During the latter half of 1955, student teachers will take a health course as part of their training. This instruction, introduced for the first time this year, has been prepared by the School Health Co-ordination Committee, which consists of representatives from the Queensland Health Education Council, the Education Department, the Teachers' Training College, the Physical Education Branch, and the School Health Services.

Examination of Teachers.

The School Health Services Branch examined 532 student teachers on their admission to the Training College at the beginning of 1955. The examinations were used not only to decide medical fitness, but to give advice to the students on any personal health problems. As a result of Mantoux testing carried out by the staff of the Chest Clinic, two students were found to be suffering from pulmonary tuberculosis, whilst a third is being investigated for this disease. Since the beginning of 1955, a medical officer has visited the college once a fortnight to consult with the principal on particular students and give advice to any student who desires help concerning his health.

Hookworm Control Assistance.

In North Queensland, two school sisters, stationed respectively at Cairns and Innisfail, assist in hookworm control in addition to their routine school duties. They collect and examine specimens from school children and others in the area. During the year, the number of school children investigated for the disease was 1,371. Of these, only 24 children were found to be positive cases of hookworm infestation.

Trachoma.

Local medical practitioners in Western Queensland are employed in a part-time capacity to treat eye diseases which may occur in school children in their towns. Reports from these practitioners for the year show that trachoma, which was once a severe disease, is now very mild in both incidence and severity. The majority of cases reported came from schools in North-Western Queensland. The Queensland Health Education Council has recently produced pamphlets, giving information about trachoma to teachers and children, and these will be distributed to those schools in which the disease is still found.

School Dental Services.

A smaller dental staff gave a very satisfactory service to children in remote areas of the State. In previous years, children in close vicinity to hospital dental clinics were inspected and the parents advised of treatment required. This "inspection only" procedure has now ceased and school dentists are employed solely in treating children who attend schools at long distances from the clinics. Unfortunately, the end of the year saw four vacant districts due to shortage of staff.

A travelling dental service, such as a School Dental Service, imposes hardships on the personnel, not experienced by the dentist working in a permanent surgery. Two of the greatest hardships are absence from homes and not enjoying all the working facilities provided in a stationary surgery. In Queensland, this has been overcome to a large extent by the Rail Dental Clinics in which comfortable living quarters and modern surgeries are provided. The four Rail Clinics work along the three main inland railway lines and on the Atherton Tableland. The end of the year saw these clinics working respectively at Wyandra, Blackall, Camooweal, and also at Butcher's Creek, on the Atherton Tableland.

In other areas, dentists use portable equipment at the schools, often under rather trying conditions. This portable equipment includes the use of a foot engine for drilling. Some electric portable engines are being used and more are ordered, but many of the small country schools are without electricity. The solution is the provision of more Rail Dental Clinics and taking the children from "off-the-line" schools to the nearest rail-head where the clinic can be stationed.

School dentists examined 24,086 children. Of these, 1,078 had naturally sound teeth and 3,782 had had previous treatment and needed no treatment. This means that of all children seen, only approximately 4·5 per cent. of children had had no caries. The proportion of children needing dental attention was 78 per cent. Of these, in number 19,226, school dentists treated 11,003. The remainder indicated their desire for private attention and were referred to their own dentist.

Table of Findings—School Health Services—1954-1955.

Number of visits paid to schools on medical inspection by School Sisters—

Metropolitan	106
Country	942

Number of children examined by school sisters —

Metropolitan	26,380
Country	60,438

Number of children whose parents were notified of child's defect—

Total	3,838

Number of homes visited by Medical Staff—

Total	184

Number of parents interviewed at school by medical staff—

Total	335

Apparent physical defects notified by metropolitan and country medical staff—

Defect.	Total.
Defective vision	1,487
Strabismus	113
Other eye defects	92
Deafness	128
Ear discharge	13
Nasal defects	87
Tonsils	1,123
Swelling in groin	141
Swelling in scrotum	38
Posture defects	121
Lower limb defects	230
Heart	26
Teeth	552
Other defects	469
Scabies	76
Impetigo	694
Pediculosis	809
Other skin defects	269

Number of cleanliness visits made by school sisters—

Metropolitan	20
Country	16

Number of children examined—cleanliness visits by school sisters—

Metropolitan	7,478
Country	1,224

Defects found on special cleanliness visits by metropolitan and country school sisters—

Defect.	Total.
Impetigo	48
Pediculosis	362
Other skin defects	20

Number of cases of diphtheria in school children—

Metropolitan	7
Country	19

Number of cases of scarlet fever in school children—

Metropolitan	86
Country	156

Number of cases of poliomyelitis in school children—

Metropolitan	24
Country	77

Number of cases of lead poisoning in school children—

Metropolitan	4
Country	6

Number of cases of malaria in school children—

Metropolitan	—
Country	2

Number of cases of meningitis in school children—

Metropolitan	3
Country	6

Number of cases of tetanus in school children—

Metropolitan	3
Country	3

Number of cases of tuberculosis in school children—

Metropolitan	4
Country	9

Number of cases of typhoid in school children—

Metropolitan	—
Country	2

Number of cases of rheumatic fever in school children—

Metropolitan	71
Country	44

School Dental Inspection.

Table LXXXIII gives the results of examinations carried out by dental officers during the year.

TABLE XXXIII.

Number of Children Examined.	Number Notified for Professional Attention.	Number of Children under Regular Dental Care.			Number with Sound Mouths.		Carious Teeth Saveable (Permanent).	Carious Teeth Unsaveable (Permanent).	Temporary Carious Teeth.	Permanent Teeth Lost or Extracted.	Six-year Molars Extracted.
		Clinic.	School Dental Officer.	Private Dentist.	Natural.	Operatively Restored.					
24,086	5,653	661	6,455	5,621	1,078	3,782	21,469	3,201	35,461	10,829	8,393

TABLE LXXXIII.—*continued.*

Permanent Teeth Filled.	Temporary Teeth Filled.	State of Mouth. *			Use of Tooth Brush.†			Percentage of Children with Dirty Mouths.	Total Number of Defective Permanent Teeth.	Average Number of Defective Permanent Teeth per Child.
		A.	B.	C.	A.	B.	C.			
41,264	8,150	7,366	14,281	2,439	7,306	11,338	5,442	10	24,670	1·02

*State of Mouth—
A—Good Standard of Mouth Health.
B—Fair Standard of Mouth Health.
C—Bad Standard of Mouth Health.

†Use of Tooth Brush—
A—With a full measure of effectiveness.
B—With a partial measure of effectiveness.
C—With no effectiveness.

Clinical Phase of Service.

Table LXXXIV summarises the particulars of treatment performed during the year. The summary does not include treatment performed throughout the State at the various Hospital Board Clinics for children who were referred to such clinics by officers of the School Health Services.

TABLE LXXXIV.

Total Treatment for Year.

Number of Children Treated.	Number of Extractions.	Number of Fillings.	Number of Other Treatments.
11,003	12,016	24,802	14,981

TABLE LXXXV.

Treatment for Correspondence Pupils.

Number of Children Treated.	Number of Extractions.	Number of Fillings.	Number of Other Treatments.
27	41	51	23

In addition to the treatment performed by dental inspectors of schools, children are treated at the various Hospital Board Dental Clinics throughout the State, and Table LXXXVI sets out the treatment of school children at the Brisbane Dental Hospital.

TABLE LXXXVI.

Treatment of School Children at Brisbane Dental Hospital

Number of Children Treated.	Number of Extractions.	Number of Fillings.	Number of Other Treatments.
23,178	31,090	82,563	29,125

DIVISION OF MENTAL HYGIENE.

Director of Mental Hygiene: B. F. R. Stafford, M.B., B.S.

The clinic was reorganised so that the Director of Mental Hygiene will be relieved of the routine Psychiatric Clinic work incumbent on the office of the Director of Psychiatry. To this end, Dr. Neville Parker, M.B., B.S. (Qld.), D.P.M. (Melb.), has been appointed full-time psychiatrist to the clinic. It can be expected that the increasing demands on the clinic will be better met, with the present full-time and visiting specialist staffs.

In addition to the Secretary to the Director of Mental Hygiene, a Senior Clerk will be appointed. The object of this reorganisation is to enable the Secretary to the Director of Mental Hygiene to undertake more detailed supervision and inspection of the administrative functions of the Mental Hygiene Service. It is anticipated that this will enable the Medical Superintendents to take a more personal interest in the clinical and treatment sides of their hospitals.

We are entering a phase of psychiatry where most people are impatient in their desire for the cure of the mentally sick. This is a trend that must achieve good results. However, the good obtained can be seriously prejudiced by enthusiasms born of hope rather than experience.

Several physical treatments and many drug treatments have been introduced and widely used in Queensland as in other parts of the world. These treatments fall into two classes:—

(i.) Those that place the patient in a position to benefit by efficient psychotherapy.

(ii.) Those that effect relief of symptoms and (although by no means cured) make a patient a happier and a more co-operative social unit.

It is essential that the limitations of physical and drug treatments are realised, particularly so that the need for trained specialist personnel in the medical and nursing fields be not overlooked or underestimated. From the public viewpoint, much distress can be caused to people already anxious by "overselling" alleged cures. Some treatments and drugs do help considerably even though falling short of actual cure.

During the past year, Dr. Alan Stoller and Mr. K. W. Arscott visited Queensland, and later a report was submitted to the Commonwealth Government. This report received much publicity.

The accommodation problem in this State is well in hand. It has been stressed previously that the provision of accommodation is not the final answer to mental disease. It is the specially designed and sited building, equipped with facilities appropriate to its service and manned by competent staff, that demands planning and organising ability. Further, it is these special services that will permit the development of efficient therapies and rehabilitation activities.

A satisfactory feature of the work done by the Psychiatric Clinic is the assistance given to the Supreme Court in cases, other than sex offenders, as prescribed by "*The Criminal Code Amendment Act of* 1945." Three instances deserve mention. After conviction and prior to sentence, clinic reports on prisoners were made to the presiding Judge. Two prisoners were found to be suffering from Huntington's chorea (a deteriorating and progressive disease of the central nervous system) and the third from Korsakov's psychosis (a disease affecting the mental and physical functions of the brain).

The special ward at the Ipswich Mental Hospital for the care and treatment of the criminal mentally sick is performing a valuable service, and the medical superintendent and staff deserve commendation. However, it would be regrettable if the successful management of this ward delayed the establishment of a place for the care and treatment of the criminal mentally sick within the Prison's Department. It must always be kept in mind that, with the criminal mentally sick, safe custody is the fundamental element of their care.

The first unit of the new mental hospital at Charters Towers was officially opened on the 1st July, 1954, by the Honourable the Minister for Health and Home Affairs. The attendance of some 1,200 people and the manner in which the institution was adopted into the civic thinking of the leading citizens who attended more than justifies the regional development of Mental Hygiene Services.

The building of more wards at Charters Towers, the further wards at the Farm Colony, Wacol, the female unit at Ipswich, and the care of seniles by Hospitals' Boards must solve present over-crowding. Additional development of services and accommodation will provide for population increase and ideal standards of accommodation.

An overall survey of patients in mental hospitals as at the 30th June, 1955, is shown in appended statistical tables. Important trends shown in these tables are:—

TABLE LXXXVII.

—	1953-54.	1954-55.	Increase or Decrease.
1. No. of patients admitted	1,128	1,124	− 4
2. No. of patients discharged	713	666	− 47
3. No. admitted suffering from senility	345	365	+ 20
4. No. admitted suffering from mental deficiency	138	128	− 10

BRISBANE MENTAL HOSPITAL.

Medical Superintendent: C. R. Boyce, M.B. (Syd.).

The hospital has operated throughout the year with a shortage of medical officers, yet a very high standard of treatment has been maintained.

A total of 6,237 electrotherapy administrations were given; 48 patients received insulin therapy; succinic acid treatment was given a very fair trial with disappointing results, and at the present moment, some 60 patients are on chlorpromazine and 20 on reserpine. The latter two appear, at least, to be relieving many nursing problems and to be reducing electrotherapy, whilst several erstwhile difficult patients have been returned to the family fold.

Patients.

There has been a steady improvement in all things pertaining to patients. Enlargement with added staff and facilities of the general kitchen and local ward servery improvements have resulted in a more varied dietary and a more aesthetic presentation of it. All working patients receive "smokos" and all who sit up beyond the usual bed-time receive supper.

The female cafeteria caters for upwards of 200 patients daily, and serves an excellent physical and psychological purpose in removing them daily to the picturesque river bank from their rather drab and crowded ward airing courts. The benefit extends further by easing the ward nursing chores and by allowing more individual attention to be paid to patients whose conduct and demeanour precludes them from the cafeteria privileges.

Many new recreational activities are now available, and the sports range through tennis, basketball, bowls, croquet, vigoro, and squash for females, and cricket, football, tennis, and golf (putting) for the men.

Pictures and motor-bus trips are always popular, and the hall is always crowded for dances and concert parties. Excellent services have been rendered by a hospital concert party, well organised and active, and patients are particularly enthusiastic for evenings when dances are interspersed with concert items.

The usual amenities—canteen and hairdressing salons—are well patronised.

The hospital's gratitude is extended to the representatives of various religous denominations who tend to the patients' spiritual wants and to Mrs. Bestman, the C.W.A., the Salvation Army Band, the hospital concert party, Mrs. Kelly, the Seventh Day Adventists, the Scripture Gift Mission, Monty Bloom's Concert Party, Silver Hut, Mrs. Smibert, the Presbyterian Fellowship Council, and the Relatives and Friends Association for their unselfish and generous gifts of time and goods.

Staff.

Resident nurses now have a night tennis court, and numerous improvements are on the way for their living quarters that have been dependent on installation of alternating current. Action has been taken and is in progress to increase efficiency and comfort of working by installing modern office furnishings for the enlarged administrative staff.

Artisan staff has also been augmented, and they now have a new building, well equipped for purposes of changing, eating, ablution, and toilet. The building accommodates 50. The establishment of the artisans in a new colony is well under way, and the present unsightly workshops will be replaced by a very pretty park and arboretum.

Much extra equipment has been provided for the vegetable gardens and the farm, and a record crop of all products has not been realised, only because of the extraordinary climatic conditions that have prevailed.

Buildings.

The yard of female ward 12 has been completely changed by a shelter shed, cement paths, lawns, and drains, and this ward, crowded with mixed deteriorated patients, is now for the first time negative for hookworm tests.

The dairy is now mechanised and fully functioning.

The Public Works Department has completed its alterations to the kitchen; extensive improvements to female wards 1 and 2 are nearly complete; a complete new farm ward for 70 patients is furnished and, except for road access, ready for occupation; and the kitchen cum dining hall cum recreation room for the new farm colony is in its last stages of completion. Work is well on the way for another large ward in this area.

Farm irrigation is complete.

An added water supply to the hospital through 9-inch mains has been brought from Inala, some 6 miles away, and is capable of delivering over 20,000 gallons per hour.

Occupational Therapy.

This activity continues to expand and is infiltrating into more and more wards.

An excellent sub-centre has been established within the female cafeteria sports ground area, and two of the nursing staff there have been seconded to the rehabilitation of some 30 patients. Female admission ward makes new patients more at home with needle and fancy work; the centre at the recreation hall is always busy, whilst the main centre has already become overcrowded and must expand.

At the latter, four male and three female nurses introduced 100 and more patients to woodwork, leather, cane, felt, and cloth work, with basketwork, pottery and bookbinding, and repair much in evidence. Expansion of this centre can only be accomplished by removal of the mattress maker and bootmaker elsewhere, and plans have been made towards this end.

Grounds.

Grounds generally are undergoing progressive improvements by expansion of lawns, by addition of garden beds, and by tree and shrub planting.

Convalescent Ward.

With the completion of alterations to a very old building first used as a communal female bathroom and then as a sewing and mending room, a small ward (12 beds) has been established. It is an open ward and has no nursing staff.

Patients manage all their own domestic affairs including ordering of food, stores, &c., and do all their own cooking.

Transfer to this ward implies probable early discharge and its purpose is to prepare patients for their return home.

Very few patients transferred to this ward have failed to rehabilitate, and during the 12-month period, 83 have been admitted and 67 discharged.

Wacol Repatriation Pavilion.

This subdivision of the Brisbane Mental Hospital consists of three ward blocks common to one large fenced area of 19 acres. It can comfortably accommodate 106 patients with no overcrowding. Housing only ex-servicemen, with preference for repatriation responsibility cases, it is not uncommon for some beds to be unoccupied. This is because the wards are open, there is little provision for conduct and behaviour problems, and patients have to be physically capable of attending the cafetaria for meals.

Occupational therapy is a feature of the pavilion. Woodwork is well provided for and the workshop is well equipped. A new building is planned for the handicraft section.

Steady improvement and beautification of the grounds is the rule and a staff of two gardeners do a really good job with garden plots, shrubs, trees, and lawns.

Patients are constructing their own sports oval, and plans are on the way for provision of an all-weather tennis court and for a four-rink bowling green.

Regular visits are made by the Deputy Commissioner for Repatriation and his staff, and they make inquiries into, and inspections of, the patients, their diets, treatments, and welfare.

Particular attention is given to their pension allowances and to their private clothing.

Concert parties visit regularly and pictures are shown twice weekly at the theatrette in B Block, while monthly motor-bus outings enable patients to visit the seaside and country beauty spots. Besides these recreations, patients at Wacol may visit, at will, the mental hospital recreation hall for pictures, dances, and concerts, and they may participate in bus-trips from that centre.

During the year, a general overhaul was made of the refrigeration plant of the kitchen and cafeteria, forced ventilation was provided for excess steam, and the kitchen interior was repainted.

Trouble was experienced with loose tiles on the kitchen floor, but this has been remedied.

An excellent varied dietary is maintained and the patients' behaviour in the cafeteria is exemplary.

There seems a probability that a closed ward may be built in this area. Its purpose will be to accommodate repatriation cases whose conduct problems preclude them from residence at Wacol at present.

It will be beneficial to everyone when all repatriation cases are together and not scattered, as they now are, throughout the mental hospital's male wards.

In the past 12 months, 65 cases were admitted to the Wacol Repatriation Pavilion and 35 discharged.

TOOWOOMBA MENTAL HOSPITAL.

Medical Superintendent: J. H. B. Henderson, M.B., B.S.(Syd.)

Once again it is satisfactory to know that the percentage of voluntary admissions during the year has been high, viz., 52 per cent., and that the clinic at the Toowoomba General Hospital is functioning with increased popularity.

The appointment of a psychologist here some years ago has proved invaluable, and he is a useful member of the clinic and serves a very definite purpose in protean ways in the town.

Improvements to the wards and to ancillary departments have been continuing throughout the year, the two most important projects which have been completed being the modernising of the kitchen at the nurses' quarters, together with the construction of a nurses' recreation room and also the building of a new X-ray block. The nurses' kitchen incorporates a supper room, and the whole is well furnished and completely equipped and should add considerably to the comfort and wellbeing of the staff. The X-ray room has also had no expense spared in its construction. The X-ray plant will assist greatly in efforts to detect and ultimately eliminate tuberculosis, both in patients and staff. A consulting radiologist has been appointed to interpret X-ray films.

The Public Works Department throughout the year has been effecting repairs and external painting to various portions of the institution, whilst our own painters are busy with internal painting.

Elaborate plans, drawn up some time ago for the construction of new sculleries and bathrooms for most of the wards, are now being translated into structures.

A considerable amount of entertainment has been provided for the patients during the year, and this, together with a balanced, ample, and well-prepared diet, has made them as contented as is possible. Entertainments include 'bus trips, concerts, band recitals, parties, movies, dances, and a popular innovation has been the institution of community singing in the summer months under the altruistic direction of Head Male Nurse Ranger and Mrs. Ranger. The wards are also well equipped with recreational facilities.

The Department has provided a 16-mm. movie projector with which entertainment will be given to patients who cannot leave the wards. Groups of patients under escort visit the town on special occasions, whilst many others are given parole, yet with all these privileges and the fact that some of the wards are open, abuse of these opportunities and escapes are singularly few.

The staffing position is improving slowly, the male side being almost up to full establishment, whilst there is some increase in female members. Unfortunately, most of the females are unsuitable for trainees, a fact which is to be deprecated. So far it has not been possible to acquire an occupational therapist. The female hairdressing establishment is practically completed and should ultimately serve a very useful purpose. The accommodation in the store has been considerably increased by installing a mezzanine floor and by moving and modernising the office space.

During the year, a highly successful clinical meeting was held at which colleagues from Brisbane and Toowoomba were present.

The grounds are still being improved and better maintained, and the agricultural and milk position is very satisfactory, but vegetable production has been hindered by adverse weather conditions.

IPSWICH MENTAL HOSPITAL.

Medical Superintendent: J. A. Hede, M.B., B.S. (Melb.).

The patient population has further increased during the past year, the increase being mainly due to additional child admissions, particularly in the under five years age group. This has aggravated the problem of accommodation in male and female children's wards and the hospital ward. However, when the proposed structural additions to female ward 4 have been completed, the situation should be relieved.

Additional male nursing posts have been approved to provide greater security in male ward 2. Unfortunately, recruitment of male trainees has been disappointing, and the male staff is well below establishment.

Occupational and recreational activities have been improved in the therapy centre and wards, and special schools have functioned for suitable children. Food service has improved with the acquisition of a special food delivery vehicle. A canteen has been equipped and is to operate early in July.

Entertainment was provided during the year in the form of dances, motion picture shows, band recitals, and picnic excursions. With the recent installation of two 16-mm. projectors, the standard and continuity of film showings has been improved. In addition, the portable units will provide entertainment for those patients confined to their wards. Selected children have visited the local public playground, and it is expected that a hospital playground will be equipped in the near future. Adult patients were entertained at Eventide, Sandgate, as in previous years. The Sandy Gallop Sub-Branch of the R.S.S.A.I.L.A. has provided trips, dinners, and visits to the local theatre for returned servicemen.

All children received Christmas gifts donated from the *Courier-Mail* Toy Fund, and were entertained by Miss Hinton and party and members of the Ipswich Red Cross and C.W.A. organisations. The C.W.A. donated ice cream for the children each month.

A visiting surgeon has been appointed to the hospital.

Local conditions render adequate production of milk and garden produce increasingly difficult.

CHARTERS TOWERS MENTAL HOSPITAL.

The Charters Towers Mental Hospital was officially opened on the 1st July, 1954.

The official opening was performed by the Honourable W. M. Moore, Minister for Health and Home Affairs, who was supported by the Honourable A. Jones, Minister for Labour and Industry, the Mayor of Charters Towers (Alderman P. T. Wherry) and the Chairman of the Dalrymple Shire Council (Councillor H. M. Clarke).

The units then completed included the administration block, together with the male and female admission wards, at an estimated cost of £240,000. Accommodation had been provided for 100 patients. The opening of this section of the hospital could be regarded as a major development in the Government's plan to make better provision for the mentally sick, and is one of the constructive measures to meet the increased demands of accommodation and treatment which will result in an important link being established in the modern psychiatric approach to mental illness. A policy of decentralisation as regards mental hospitals has now been instituted.

Since the official opening, steady progress has been maintained by the Department of Public Works in the erection of the general kitchen, together with two male wards. On completion, these wards will accommodate an additional 115 patients. An extensive sewerage system is in the course of construction, and the building of a machinery shed for the housing of farm implements is nearing completion. It is expected that work on the erection of a high-level tank for fire fighting purposes and the building of a garage for our motor truck will soon be commenced. More suitable storage space for garden machinery and equipment is also planned.

Patients were first admitted here on 16th September, 1954, on transfer from the Brisbane Mental Hospital. Since that date a total of 66 male patients have been under treatment; the average number daily resident was 31.

The patients admitted were residents from northern regions of the State. There was a range of different nationalities, with approximately two-thirds of the admissions having been born in Queensland. The ages of the patients admitted ranged from 14 to 83, the number of

those single persons being over twice those who were married, and the occupations, considering the number admitted, covered a fairly wide range.

The most common types of mental sicknesses suffered by the patients admitted were the schizophrenic reaction types and those under the heading of mental deficiency. Six patients are listed in each group. Senile dementia accounted for five cases. There were four patients discharged as recovered over the nine months, the recovery rate based on the number of patients admitted being 17·39 per cent. If the senile and mental deficient patients were excluded from these figures the recovery rate would be 33·3 per cent. Still these figures do not give a complete reading, as the hospital has only been functioning for a short period and sufficient time has not remained to allow courses of treatment in the cases of certain patients to be completed. Only one death occurred during the nine months.

The standards of food and clothing have been maintained. Certain lines of green vegetables have been received from the Eventide Home. Fifteen tons of pumpkins are now stored as the result of a catch crop planted in our cultivation area. Supplies of pumpkins are sent to the Eventide Home and General Hospital weekly.

Various forms of indoor entertainment have been provided. Wireless sets, playing cards, quoits, draughts, chess, and table tennis sets are contained in both wards. A billiard table is included in the male admission ward and a piano has been supplied for the female admission ward. Concert parties have been arranged from time to time by local artists. It is considered that the weekly screening of pictures would complete a rather extensive programme of entertainment for the patients here. Daily newspapers and periodicals are also supplied.

Members of the Country Women's Association regularly visit the hospital and issue fruit, cake, sweets, cigarettes, and reading material to the patients. The local sub-branch of the R.S.S.A.I.L.A. provides comforts for the ex-servicemen patients.

An area of 20 acres has been prepared in the cultivation section of the farm area for the planting of further crops of pumpkins. One hundred and twenty-four citrus trees are contained in the orchard, and supplies of oranges, lemons, and grapefruit should be available for hospital use over the coming seasons.

EPILEPTIC HOME.

Superintendent: E. G. Kenyon.

There was a total of 113 patients under treatment at the home during the year, comprising 52 males and 61 females. There were 17 admissions, 12 males and five females; 11 discharges, seven males and four females. One female patient died.

As far as possible a record of epileptic "fits" is kept. Figures for the various groups during the year were as follows:—

	Males.	Females.
Grand Mal	1,660	1,623
Petit Mal	1,006	3,399
	2,666	5,022

During the year Dr. A. Stoller, Psychiatrist appointed by the Commonwealth Government to inquire into conditions existing in mental hospitals throughout Australia, visited the institution and made an inspection and investigation. In his report Dr. Stoller stated that "the conditions at the Epileptic Home, Toowoomba, were good."

There appears to be an erroneous impression concerning the status of the home. Many have the belief that it is part of the Toowoomba Mental Hospital. This is not so as it is an institution registered under "*The Charitable Institutions Act of* 1885."

There is only one other epileptic home separate from a mental hospital in Australia—at Clayton, outside Melbourne, where the Talbot Epileptic Colony is carried on by public subscription and subsidised by the State Government.

All patients capable are expected to assist in carrying out any necessary work—females performing work of a domestic nature and males carrying out farming and gardening, &c.

Discharges are generally confined to the younger age groups. During the year there were three such cases. Two males aged four years, after being inmates for six months, were discharged, though when admitted their case histories showed evidence of grand mal. The two boys are now keeping well and attending school. The third case was a female, aged 17 years, who, after being an inmate for nine years, was discharged at the beginning of the year and latest reports are that she, too, is keeping well. Institutional discipline and regular sedation play a big part in the discharge of patients. A careful watch is kept on progress of the younger age groups with a view to their early discharge. Trial leave is generally granted before final discharge. General health of patients has been good during the year. Changes in menu have helped to satisfy the tastes of all.

Visiting dentist from the Toowoomba General Hospital Dental Clinic attended to dental requirements. An examination of teeth is made annually.

The teacher-in-charge of school reports as follows:—

> "Attending the home school are 16 boys and 15 girls, total 31, which includes four boys and three girls from the Toowoomba Mental Hospital. Since presenting the last report, ten new pupils have been admitted to the school. As these include epileptics of uncertain response and violent reactions, emotionally unstable and mal-adjusted children, together they represent the most difficult types to handle. Formal school work from kindergarten, infant and mid-school standards is undertaken when the child presents correct mental attitude and co-operation. Play-therapy, aiming at social behaviour, appears to produce happy, if temporary, results. Increasing expression in water colouring shows pleasing and hopeful pictures. Happy rivalry, encouraged between boys and girls, is producing greater interest in woodwork. We hope for expansion in this craft. Physical educational activities, elementary folk-dancing, ball and other games produce opportunities for individual wellbeing, physical, mental, and emotional expression in their particular community group."

Precautions are in hand to deal with any outbreaks of fire by the installation of a direct fire alarm connected with the Toowoomba Fire Brigade. Fire hydrants will also be installed outside the building so that an outbreak can be attacked at four different points.

Farm produce was in good supply during the year, though owing to abnormal rainfall during the last few months, work in this direction has been slowed down. An outbreak of leucosis in the poultry yard meant the destruction of all livestock. Restocking of pens is now in progress, and it is expected that egg production will again be normal in the near future. A new laundry unit has recently been installed. This unit will be a big improvement and is capable of handling all the washing required.

Several 'bus outings were provided at intervals for the patients. The outings are generally taken during the week end, visits being made to various parts of the Downs. Visits to the city of Toowoomba for a day's outing is often availed of by suitable patients.

Maintenance repairs have been carried out by the Department of Public Works, but painting of interior of the home is still under consideration by that Department.

Accommodation has almost reached the limit. Should the necessity arise, some of the older patients who have mentally deteriorated could be admitted to the Toowoomba Mental Hospital.

An interested visitor was the Reverend Dr. F. Raywood, Superintendent of Central Mission, Sydney. Dr. Raywood, who is interested in the establishment of a home for epileptics at Ashfield, Sydney, was favourably impressed with what he saw here.

The staff position remains the same. Approval has been given for the appointment of an extra female nurse on night duty.

PSYCHIATRIC CLINIC.

Additions to staff in the second half of this year have made possible the reorganisation of the clinic into a more tightly integrated unit. It should now be possible to employ the team approach to cases more thoroughly and effectively than has hitherto been feasible.

Effective psychiatric screening of new cases will be carried out by the psychiatrist and examination and therapeutic procedures allocated to appropriate staff personnel. The psychiatrist himself will be available for regular and intensive clinical work, freeing the director for administrative duties although he will continue to act as consultant to the psychiatric staff.

Preliminary interviewing of patients and waiting room routines are now fully in the hands of welfare officers, the second of whom was recently appointed. A certain amount of social work will be done by these officers in the future.

Earlier this year the child guidance section was reorganised. The new organisation is characterised by team conferences to decide on methods of therapy and regular reviews of cases to determine the response of the patient to therapy. More widespread use has been made of various types of play techniques to facilitate diagnosis.

Under the new administration, it envisaged that speech therapy will supply more exclusively an ancilliary service to psychiatric medicine within and without the clinic. In the past the speech therapists have handled many self-referred patients whose main problem was not psychological in nature, thereby restricting their availability for work with psychiatric patients. Relief from the stress of visiting work, as referred to in the previous report, has had the effect in this year of increasing considerably the number of patients handled by the speech therapy section.

There has been a further increase in the number of referrals for examination of male prisoners on remand for sentence and increased interaction between the clinic and the Educational Research and Guidance Branch of the Department of Public Instruction.

TABLE LXXXVIII.

QUEENSLAND MENTAL HOSPITALS.

SHOWING ADMISSIONS, READMISSIONS, DISCHARGES AND DEATHS, DURING THE YEAR ENDED 30TH JUNE, 1955.

	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Males.	Females.	Totals.
On the Books of the Hospitals on 1st July, 1954	**1,353**	**1,325**	**2,678**	**639**	**618**	**1,257**	**370**	**208**	**578**	..	**2,362**	**2,151**	**4,513**
Admitted for the first time	384	325	709	65	59	124	42	25	67	23	514	409	923
Readmitted	65	101	166	15	17	32	2	1	3	..	82	119	201
Totals All Hospitals	**1,802**	**1,751**	**3,553**	**719**	**694**	**1,413**	**414**	**234**	**648**	**23**	**2,958**	**2,679**	**5,637**
Transferred from Brisbane	..	..	..	27	37	64	7	5	12	43	77	42	119
Transferred from Toowoomba	8	..	8	..	..	..	..	2	2	..	8	2	10
Transferred from Ipswich	2	..	2	..	..	..	..	..	..	..	2	..	2
Transferred from Charters Towers	1	..	1	..	..	..	..	..	..	..	1	..	1
***Total number under care during the year**	**1,813**	**1,751**	**3,564**	**746**	**731**	**1,477**	**421**	**241**	**662**	**66**	**3,046**	**2,723**	**5,769**
Discharged—													
Recovered	187	185	372	42	32	74	6	..	6	2	237	217	454
Section 49	28	34	62	4	2	6	2	..	2	..	34	36	70
Relieved	6	16	22	10	24	34	1	2	3	..	17	42	59
Not Improved	6	2	8	16	16	32	3	4	7	..	25	22	47
Voluntarily left	24	10	34	..	..	..	..	..	..	2	26	10	36
Died	137	137	274	36	33	69	18	18	36	1	192	188	380
Total Number Discharged and Died	**388**	**384**	**772**	**108**	**107**	**215**	**30**	**24**	**54**	**5**	**531**	**515**	**1,046**
Transferred to Brisbane	..	..	..	8	1	9	2	..	2	1	11	1	12
Transferred to Toowoomba	27	37	64	..	..	..	..	..	..	..	27	37	64
Transferred to Ipswich	7	5	12	..	1	1	..	..	..	..	7	6	13
Transferred to Charters Towers	43	..	43	..	..	..	..	..	..	..	43	..	43
Total number discharged, died, &c., during year	465	426	891	116	109	225	32	24	56	6	619	559	1,178
Remaining on Books of Hospitals on 30th June, 1955	**1,348**	**1,325**	**2,673**	**630**	**622**	**1,252**	**389**	**217**	**606**	**60**	**2,427**	**2,164**	**4,591**
Average Number Daily Resident	**1,235**	**1,205**	**2,440**	**621**	**593**	**1,214**	**377**	**215**	**592**	**31**	**2,264**	**2,013**	**4,277**
Number on leave of absence on 30th June, 1955	79	110	189	8	23	31	2	2	4	4	93	135	228
Proportion of Mentally Sick to each 1,000 of population as at 31st December, 1954											3·57	3·36	3·47
Proportion of Admission per 10,000 of population for year ended 31st December, 1954											8·77	8·2	8·49

* These totals include interhospital transfers.

TABLE LXXXIX.

ADMISSIONS, DISCHARGES, AND DEATHS, WITH THE PROPORTIONS OF RECOVERIES AND DEATHS PER CENT. DURING THE YEAR ENDED 30TH JUNE, 1955.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Males.	Females.	Totals.
Total Admissions ..	449	426	875	80	76	156	44	26	70	23	596	528	1,124
*Discharged—													
Recovered ..	239	229	468	43	33	76	6	..	6	4	292	262	554
Relieved ..	6	16	22	11	25	36	1	2	3	..	18	43	61
Not Improved ..	6	2	8	18	16	34	5	4	9	..	29	22	51
Died	137	137	274	36	33	69	18	18	36	1	192	188	380
Average Number Daily Residents ..	1,235	1,205	2,440	621	593	1,214	377	215	592	31	2,264	2,013	4,277
Percentage of Recoveries on Admissions ..	53·23	53·75	53·49	53·75	43·42	48·71	13·63	..	8·57	17·39	48·99	49·62	49·29
Percentage of Patients Relieved on Admissions	1·33	3·75	2·52	13·75	32·89	23·07	2·27	7·69	4·28	..	3·02	8·14	5·43
Percentage of Deaths on Average Number Resident	11·09	11·36	11·23	5·79	5·56	5·68	4·77	8·37	6·23	3·22	8·48	9·34	8·88

* For the purposes of this table patients discharged under Section 49 (3) and Voluntarily Left have been classified under these headings.

TABLE XC.

FORMS OF MENTAL DISORDERS IN PATIENTS ADMITTED DURING THE TWELVE MONTHS ENDED 30TH JUNE, 1955.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Males.	Females.	Totals.
1. AFFECTIVE REACTION TYPES—													
(a) Manic Depressive Psychosis	41	57	98	..	..	..	1	..	1	..	42	57	99
(b) Mania	..	..	..	4	7	11	1	..	1	..	5	7	12
Recurrent Mania	..	1	1	..	..	..	..	..	..	..	..	1	1
(c) Depression ..	..	..	..	2	7	9	..	..	..	1	3	7	10
Reactive Depression ..	..	..	..	..	1	1	..	..	..	..	..	1	1
Recurrent Depression ..	1	..	1	..	..	..	..	..	..	..	1	..	1
Hypomania	1	8	9	..	..	..	..	..	..	..	1	8	9
(d) Involutional Depression	1	4	5	1	12	13	..	..	..	..	2	16	18
2. SCHIZOPHRENIC REACTION TYPES—													
(a) Schizoid Personality ..	..	..	..	1	2	3	..	..	..	..	1	2	3
Schizophrenia	147	117	264	30	12	42	11	..	11	6	194	129	323
(b) Paraphrenia	20	25	45	..	3	3	..	..	..	..	20	28	48
Catatonia	1	..	1	..	..	..	..	..	..	..	1	..	1
(c) Paranoid Reaction ..	3	4	7	..	..	..	..	..	..	..	3	4	7
3. ORGANIC REACTION TYPES—													
(a) Organic Dementia ..	1	1	2	..	..	..	..	..	..	..	1	1	2
Organic Psychosis ..	7	3	10	..	..	..	..	..	..	..	7	3	10
Parkinson's Disease ..	..	1	1	..	..	..	..	..	..	..	..	1	1
(b) Toxins—													
Acute Alcoholism	..	..	..	2	..	2	..	..	..	..	2	..	2
Alcoholic Hallucinosis ..	11	1	12	1	..	1	..	..	..	..	12	1	13
Alcoholic Psychosis ..	9	2	11	..	..	..	1	..	1	3	13	2	15
Alcoholic Psychosis (Korsakov's)	..	..	..	1	..	1	..	..	..	..	1	..	1
Cerebral Syphilis	1	..	1	..	..	..	..	..	..	..	1	..	1
Tuberculous Meningitis ..	..	..	..	..	..	..	1	..	1	..	1	..	1
(c) Arteriosclerotic Dementia	7	14	21	..	1	1	..	..	..	..	7	15	22
Arteriosclerotic Psychosis	6	9	15	..	..	..	..	..	..	2	8	9	17
Disseminated Sclerosis ..	1	..	1	..	..	..	..	..	..	..	1	..	1
Presenile Dementia ..	1	3	4	..	..	..	..	..	..	..	1	3	4
Presenile Psychosis ..	..	..	..	..	1	1	..	..	..	..	..	1	1
Senile Dementia	78	94	172	..	..	..	..	..	..	5	83	94	177
Senile Psychosis	32	20	52	8	11	19	..	..	..	..	40	31	71
4. EPILEPTIC REACTION TYPES—													
Epileptic Psychosis ..	5	6	11	3	..	3	..	..	..	..	8	6	14
Epilepsy	1	1	2	..	..	..	..	..	..	..	1	1	2
5. PSYCHONEUROTIC REACTION TYPES—													
Psychoneurosis	15	18	33	..	..	..	..	..	..	..	15	18	33
Anxiety State	..	4	4	9	10	19	..	..	..	..	9	14	23
Hysteria	..	..	..	1	3	4	..	..	..	..	1	3	4
Obsessive	..	1	1	..	1	1	..	..	..	..	..	2	2
Neurasthenia	1	..	1	..	1	1	..	..	..	..	1	1	2
6. MENTAL DEFICIENCY—													
(a) Mental Deficiency ..	23	21	44	..	..	..	..	..	..	6	29	21	50
With Epilepsy	4	..	4	1	2	3	6	3	9	..	11	5	16
Moron	..	..	..	1	..	1	..	..	..	..	1	..	1
Mongol	3	1	4	1	..	1	4	8	12	..	8	9	17
With Schizophrenia ..	1	6	7	..	..	..	1	..	1	..	2	6	8
(b) Idiocy	..	..	..	1	1	2	15	12	27	..	16	13	29
(c) Imbecility	..	..	..	1	..	1	3	3	6	..	4	3	7
7. ADDICTION—													
Chronic Alcoholism ..	20	4	24	10	1	11	..	..	..	..	30	5	35
8. PSYCHOPATHIC PERSONALITY	6	..	6	2	..	2	..	..	..	..	8	..	8
9. TRAUMATIC PSYCHOSIS ..	1	..	1	..	..	..	..	..	..	..	1	..	1
Totals	449	426	875	80	76	156	44	26	70	23	596	528	1,124

TABLE XCI.

CAUSES OF DEATHS WHICH OCCURRED DURING PERIOD ENDED 30TH JUNE, 1955.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Males.	Females.	Totals.
GENERAL DISEASES—													
Carcinoma of Stomach	..	..	..	..	..	..	1	..	1	..	1	..	1
Carcinoma of Breast	..	..	..	..	2	2	..	..	..	..	..	2	2
Carcinoma of Face	..	1	1	..	..	..	..	..	..	..	..	1	1
Carcinoma of Cervix Uteri	..	1	1	..	..	..	..	..	..	..	..	1	1
Mammary Carcinoma	..	2	2	..	..	..	..	..	..	..	..	2	2
Exhaustion	1	..	1	..	..	..	..	..	..	..	1	..	1
Gangrene	2	..	2	..	..	..	..	..	..	..	2	..	2
Melanoma	..	1	1	..	..	..	..	..	..	..	..	1	1
Lymphosarcoma	1	..	1	..	..	..	..	..	..	..	1	..	1
Septicaemia	1	..	1	..	..	..	..	..	..	..	1	..	1
DISEASES OF NERVOUS SYSTEM—													
Cerebral Degeneration	2	3	5	3	3	6	3	5	8	..	8	11	19
Cerebral Thrombosis	2	7	9	2	5	7	..	..	..	1	5	12	17
Cerebral Haemorrhage	5	3	8	..	..	..	..	..	..	..	5	3	8
Cerebral Arteriosclerosis	2	..	2	..	..	..	..	..	..	..	2	..	2
Cerebral Trauma (Gun shot wound of head)	1	..	1	..	..	..	..	..	..	..	1	..	1
Huntington's Chorea	..	1	1	..	..	..	..	..	..	..	..	1	1
Wernickes Encephalopathy	..	1	1	..	..	..	..	..	..	..	..	1	1
Epileptic Psychosis	..	1	1	..	..	..	..	..	..	..	..	1	1
Status Epilepticus	..	..	..	..	..	..	..	1	1	..	..	1	1
Congenital Hydrocephalus	..	..	..	..	..	..	4	2	6	..	4	2	6
Disseminated Sclerosis	2	..	2	..	..	..	1	..	1	..	3	..	3
Left Hemiplegia	1	..	1	..	..	..	..	..	..	..	1	..	1
DISEASES OF CIRCULATORY SYSTEM—													
Cardio Vascular Degeneration	48	57	105	..	..	..	3	2	5	..	51	59	110
Coronary Occlusion	6	9	15	9	..	9	..	3	3	..	15	12	27
Congenital Morbus Cardis	..	..	..	..	..	..	..	2	2	..	..	2	2
Acute Myocarditis	5	1	6	4	..	4	..	..	..	..	9	1	10
Myocardial Degeneration	..	..	..	15	11	26	..	..	..	..	15	11	26
Auricular Fibrillation	1	11	12	..	..	..	..	..	..	..	1	11	12
Congestive Cardiac Failure	15	6	21	..	..	..	..	..	..	..	15	6	21
Pernicious Anaemia	..	1	1	..	1	1	..	..	..	..	..	2	2
Left Ventricular Failure	16	3	19	..	..	..	..	..	..	..	16	3	19
Haemopericardium	1	..	1	..	..	..	..	..	..	..	1	..	1
DISEASES OF RESPIRATORY SYSTEM—													
Broncho Pneumonia	4	1	5	2	5	7	2	3	5	..	8	9	17
Lobar Pneumonia	..	..	..	..	1	1	..	..	..	..	..	1	1
Basal Pneumonia	1	..	1	..	..	..	..	..	..	..	1	..	1
Terminal Pneumonia	7	13	20	..	..	..	..	..	..	..	7	13	20
Hypostatic Pneumonia	1	..	1	..	..	..	..	..	..	..	1	..	1
Pneumonia	2	4	6	..	..	..	..	..	..	..	2	4	6
Cardiac Asthma	1	3	4	..	..	..	..	..	..	..	1	3	4
Pulmonary Tuberculosis	3	..	3	..	..	..	2	..	2	..	5	..	5
Pulmonary Embolism	..	1	1	..	..	..	..	..	..	..	..	1	1
Pulmonary Infauction	1	..	1	..	..	..	..	..	..	..	1	..	1
Asphyxia	1	..	1	..	..	..	..	..	..	..	1	..	1
Asphyxia (accidental drowning)	..	..	..	..	..	..	1	..	1	..	1	..	1
Asphyxia (aspiration of food)	..	..	..	..	..	..	1	..	1	..	1	..	1
Asphyxia (hanging)	1	..	1	..	..	..	..	..	..	..	1	..	1
DISEASES OF ALIMENTARY SYSTEM—													
Haemorrhage into Stomach	..	..	..	1	1	2	..	..	..	..	1	1	2
Intestinal Obstruction	1	1	2	..	1	1	..	..	..	..	1	2	3
Acute Gastro Enteritis	..	4	4	..	..	..	..	..	..	..	..	4	4
Pancreatic Carcinoma	1	..	1	..	..	..	..	..	..	..	1	..	1
Peritonitis	1	..	1	..	..	..	..	..	..	..	1	..	1
DISEASES OF GENITO-URINARY SYSTEM—													
Carcinoma of Kidney	..	..	..	..	1	1	..	..	..	..	..	1	1
Uraemia due to Chronic Nephritis	..	..	..	..	2	2	..	..	..	..	..	2	2
Chronic Nephritis	..	1	1	..	..	..	..	..	..	..	..	1	1
Totals	137	137	274	36	33	69	18	18	36	1	192	188	380

TABLE XCII.

BODILY HEALTH AND CONDITION OF PATIENTS ADMITTED DURING THE YEAR ENDED 30TH JUNE, 1955.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Males.	Females.	Totals.
In apparently good health and condition	228	196	424	54	45	99	34	16	50	11	327	257	584
In indifferent health and reduced condition	150	155	305	19	18	37	9	4	13	9	187	177	364
In bad health and exhausted condition	71	75	146	7	13	20	1	6	7	3	82	94	176
Totals	449	426	875	80	76	156	44	26	70	23	596	528	1,124

TABLE XCIII.

BIRTH PLACES OF PATIENTS ADMITTED DURING PERIOD ENDED 30TH JUNE, 1955.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Males.	Females.	Totals.
Queensland	241	270	511	53	51	104	33	23	56	15	342	344	686
New South Wales ..	51	43	94	12	10	22	3	2	5	3	69	55	124
Victoria	16	11	27	3	2	5	2	..	2	..	21	13	34
South Australia ..	5	3	8	1	2	3	..	..	..	..	6	5	11
Western Australia ..	3	..	3	..	..	..	..	..	..	..	3	..	3
Tasmania	3	2	5	..	..	..	..	..	..	..	3	2	5
New Zealand ..	9	2	11	..	..	..	..	..	..	..	9	2	11
England	32	38	70	1	4	5	1	..	1	1	35	42	77
Scotland	13	7	20	3	2	5	..	..	..	1	17	9	26
Ireland	13	11	24	..	..	..	1	..	1	1	15	11	26
Wales	2	2	4	..	1	1	..	..	..	..	2	3	5
India	1	..	1	..	..	..	..	..	..	..	1	..	1
New Guinea	1	..	1	..	..	..	..	..	..	..	1	..	1
Bulgaria	..	..	..	..	..	..	2	..	2	..	2	..	2
Norway	..	..	..	..	..	..	..	..	..	1	1	..	1
Latvia	1	..	1	..	..	..	..	..	..	..	1	..	1
China	..	1	1	..	..	..	..	..	..	..	..	1	1
Denmark	..	1	1	..	..	..	..	..	..	..	..	1	1
Finland	..	1	1	..	..	..	..	..	..	..	..	1	1
Lithuania	1	..	1	..	..	..	..	..	..	..	1	..	1
Germany	7	2	9	..	1	1	..	..	..	..	7	3	10
Sweden	1	1	2	..	..	..	..	..	..	..	1	1	2
Italy	13	6	19	..	..	..	1	..	1	..	14	6	20
Holland	2	4	6	..	1	1	..	..	..	..	2	5	7
Poland	7	2	9	..	..	..	..	..	..	..	7	2	9
Sicily	2	..	2	..	..	..	..	..	..	..	2	..	2
Russia	1	7	8	..	..	..	..	..	..	..	1	7	8
Hungary	2	1	3	..	..	..	..	..	..	..	2	1	3
Singapore	..	1	1	..	..	..	..	1	1	..	..	2	2
Czechoslovakia ..	4	..	4	..	..	..	..	..	..	..	4	..	4
United States of America	1	..	1	..	..	..	..	..	..	..	1	..	1
Switzerland	1	..	1	..	..	..	..	..	..	..	1	..	1
Unknown	15	9	24	7	2	9	1	..	1	..	23	11	34
Cyprus	1	..	1	..	..	..	..	..	..	1	2	..	2
Estonia	..	1	1	..	..	..	..	..	..	..	..	1	1
Totals ..	449	426	875	80	76	156	44	26	70	23	596	528	1,124

TABLE XCIV.

DISTRICTS WHENCE PATIENTS WERE RECEIVED DURING THE YEAR ENDED 30TH JUNE, 1954.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Males.	Females.	Totals.
Northern and North-Western	74	39	113	1	1	2	6	4	10	23	104	44	148
Central	25	22	47	..	..	..	3	2	5	..	28	24	52
Southern and South-Western	350	365	715	79	75	154	35	20	55	..	464	460	924
Totals ..	449	426	875	80	76	156	44	26	70	23	596	528	1,124

TABLE XCV.

Age Groups of Patients whose Admissions, Discharges, or Deaths Occurred during the Year, and those who Remained in the Hospital on 30th June, 1955.

Age Group.	Admissions.			* Discharges. Recovered.			* Discharges. Relieved and not Improved.			Deaths.			Remaining.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Brisbane Mental Hospital.															
nder 5 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
years and under 10 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
years and under 15 years	2	1	3	..	..	..	..	..	..	..	..	..	4	..	4
years and under 20 years	17	10	27	7	8	15	1	2	3	..	..	..	26	14	40
years and under 30 years	81	58	139	60	42	102	4	6	10	1	1	2	160	89	249
years and under 40 years	90	75	165	73	60	133	3	6	9	6	2	8	267	209	476
years and under 50 years	55	56	111	42	39	81	1	2	3	7	4	11	272	268	540
years and under 60 years	45	57	102	25	46	71	2	1	3	8	12	20	244	291	535
years and under 70 years	54	61	115	20	18	38	1	..	1	30	14	44	208	225	433
years and under 80 years	63	62	125	7	12	19	..	1	1	48	44	92	119	152	271
years and under 90 years	30	40	70	4	4	8	..	..	..	29	51	80	42	68	110
years and over	5	4	9	1	..	1	..	..	..	8	9	17	2	6	8
nknown	7	2	9	..	..	..	..	..	..	..	..	..	4	3	7
Totals, Brisbane Mental Hospital	**449**	**426**	**875**	**239**	**229**	**468**	**12**	**18**	**30**	**137**	**137**	**274**	**1,348**	**1,325**	**2,673**
Toowoomba Mental Hospital.															
nder 5 years	1	1	2	..	..	..	..	..	..	..	..	..	2	3	5
years and under 10 years	..	1	1	..	..	..	..	1	1	..	..	..	4	3	7
years and under 15 years	2	..	2	..	..	..	2	..	2	..	..	..	10	5	15
years and under 20 years	6	4	10	2	2	4	1	2	3	..	..	..	13	8	21
years and under 30 years	15	7	22	8	1	9	2	1	3	1	..	1	37	41	78
years and under 40 years	20	16	36	11	8	19	8	8	16	3	..	3	69	50	119
years and under 50 years	20	14	34	13	9	22	2	6	8	1	5	6	126	115	241
years and under 60 years	7	13	20	6	9	15	1	4	5	1	2	3	122	157	279
years and under 70 years	2	7	9	2	3	5	4	9	13	9	7	16	147	144	291
years and under 80 years	5	8	13	1	1	2	9	9	18	12	6	18	65	72	137
years and under 90 years	2	4	6	..	..	..	..	1	1	6	12	18	31	18	49
years and over	..	1	1	..	..	..	..	..	..	2	1	3	..	1	1
nknown	..	..	..	..	..	..	..	..	..	1	..	1	4	5	9
Totals, Toowoomba Mental Hospital ..	**80**	**76**	**156**	**43**	**33**	**76**	**29**	**41**	**70**	**36**	**33**	**69**	**630**	**622**	**1,252**
Ipswich Mental Hospital.															
nder 5 years	21	18	39	..	..	..	3	5	8	8	7	15	17	15	32
5 years and under 10 years	7	5	12	..	..	..	3	1	4	1	2	3	34	30	64
) years and under 15 years	1	1	2	..	..	..	..	..	..	..	2	2	35	23	58
5 years and under 20 years	..	..	..	..	..	..	..	..	..	1	1	2	23	19	42
) years and under 30 years	5	1	6	2	..	2	..	..	..	..	1	1	21	21	42
) years and under 40 years	5	..	5	3	..	3	..	..	..	..	..	..	26	20	46
) years and under 50 years	2	..	2	1	..	1	..	..	..	1	..	1	52	20	72
) years and under 60 years	..	1	1	..	..	..	..	..	..	1	1	2	70	25	95
) years and under 70 years	2	..	2	..	..	..	..	..	..	..	2	2	71	25	96
) years and under 80 years	1	..	1	..	..	..	..	..	..	4	1	5	29	15	44
) years and under 90 years	..	..	..	..	..	..	..	..	..	1	1	2	8	3	11
) years and over	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..
nknown	..	..	..	..	..	..	..	..	..	..	..	..	3	1	4
Totals, Ipswich Mental Hospital	**44**	**26**	**70**	**6**	..	**6**	**6**	**6**	**12**	**18**	**18**	**36**	**389**	**217**	**606**
Charters Towers Mental Hospital.															
nder 5 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5 years and under 10 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
0 years and under 15 years	1	..	1	..	..	..	..	..	..	..	..	..	1	..	1
5 years and under 20 years	2	..	2	..	..	..	..	..	..	..	..	..	2	..	2
0 years and under 30 years	2	..	2	2	..	2	..	..	..	..	..	..	4	..	4
0 years and under 40 years	3	..	3	..	..	..	..	..	..	..	..	..	14	..	14
0 years and under 50 years	6	..	6	1	..	1	..	..	..	1	..	1	10	..	10
0 years and under 60 years	4	..	4	1	..	1	..	..	..	..	..	..	14	..	14
0 years and under 70 years	3	..	3	..	..	..	..	..	..	..	..	..	10	..	10
0 years and under 80 years	1	..	1	..	..	..	..	..	..	..	..	..	4	..	4
0 years and under 90 years	1	..	1	..	..	..	..	..	..	..	..	..	1	..	1
0 years and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
nknown	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals, Charters Towers Mental Hospital ..	**23**	..	**23**	**4**	..	**4**	..	..	..	**1**	..	**1**	**60**	..	**60**
Grand Totals, All Hospitals	**596**	**528**	**1,124**	**292**	**262**	**554**	**47**	**65**	**112**	**192**	**188**	**380**	**2,427**	**2,164**	**4,591**

*For the purposes of this table patients discharged under Section 49 (3) and Voluntarily Left have been classified under these headings.

TABLE XCVI.

OCCUPATION OF PATIENTS ADMITTED DURING THE YEAR ENDED 30TH JUNE, 1955.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Males.	Females.	Totals.
Accountant	1	..	1	..	..	..	..	..	..	..	1	..	1
Amalgamater	..	..	..	..	..	..	..	..	..	1	1	..	1
Apprentice	3	..	3	..	..	..	1	..	1	..	4	..	4
Baker	1	..	1	..	..	..	..	..	..	..	1	..	
Barman	..	..	..	1	..	1	..	..	..	..	1	..	1
Barrister	..	..	..	..	..	..	1	..	1	..	1	..	1
Beekeeper	1	..	1	..	..	..	..	..	..	..	1	..	1
Blacksmith	2	..	2	..	..	..	..	..	..	1	3	..	3
Boilermaker	1	..	1	..	..	..	..	..	..	..	1	..	1
Boot Repairer	2	..	2	..	..	..	..	..	..	..	2	..	2
Bricklayer	2	..	2	..	..	..	..	..	..	..	2	..	2
Builder's Labourer	1	..	1	..	..	..	..	..	..	..	1	..	1
Bush Worker	..	..	..	1	..	1	..	..	..	..	1	..	1
Butcher	1	..	1	1	..	1	1	..	1	..	3	..	3
Cabinet Maker	1	..	1	..	..	..	..	..	..	..	1	..	1
Cane Cutter	3	..	3	..	..	..	..	..	..	..	3	..	3
Caretaker	1	..	1	..	..	..	..	..	..	..	1	..	1
Carpenter	8	..	8	..	..	..	..	..	..	1	9	..	9
Carrier	3	..	3	3	..	3	..	..	..	..	6	..	6
Chemist	2	..	2	1	..	1	..	..	..	..	3	..	3
Children	..	..	..	..	..	..	28	25	53	..	28	25	53
Cleaner	2	..	2	..	..	..	..	..	..	..	2	..	2
Clerk	21	3	24	2	1	3	..	..	..	1	24	4	28
Collector	1	..	1	..	..	..	..	..	..	..	1	..	1
Cook	4	3	7	..	..	..	..	..	..	..	4	3	7
Crane Driver	1	..	1	..	..	..	..	..	..	..	1	..	1
Dealer	1	..	1	..	..	..	..	..	..	..	1	..	1
Dental Assistant	..	1	1	..	..	..	..	..	..	..	..	1	1
Domestic	..	40	40	..	10	10	..	..	..	..	..	50	50
Draper	1	..	1	..	..	..	..	..	..	..	1	..	1
Dressmaker	..	6	6	..	1	1	..	..	..	..	..	7	7
Electrician	2	..	2	..	..	..	..	..	..	..	2	..	2
Engine Driver	1	..	1	..	..	..	..	..	..	..	1	..	1
Engineer	1	..	1	..	..	..	..	..	..	..	1	..	1
Examiner	..	..	..	1	..	1	..	..	..	..	1	..	1
Factory Hand	4	2	6	..	..	..	..	..	..	..	4	2	6
Farmer	18	..	18	4	..	4	..	..	..	1	23	..	23
Farm Labourer	7	..	7	2	..	2	..	..	..	..	9	..	9
Fireman	..	..	..	1	..	1	..	..	..	..	1	..	1
Fisherman	1	..	1	..	..	..	..	..	..	..	1	..	1
Fitter	4	..	4	1	..	1	..	..	..	..	5	..	5
Forrester	..	..	..	1	..	1	..	..	..	..	1	..	1
Freezer	1	..	1	..	..	..	..	..	..	..	1	..	1
Ganger	1	..	1	1	..	1	..	..	..	..	2	..	2
Gardener	3	..	3	..	..	..	..	..	..	1	4	..	4
Glazier	1	..	1	..	..	..	..	..	..	..	1	..	1
Grazier	6	..	6	..	..	..	..	..	..	..	6	..	6
Hairdresser	1	..	1	..	1	1	..	..	..	..	1	1	2
Hotelkeeper	..	..	..	..	..	..	..	..	..	1	1	..	1
Household Duties	..	54	54	..	8	8	..	..	..	..	..	62	62
Housemaid	..	2	2	..	..	..	..	..	..	..	..	2	2
Housewife	..	113	113	..	31	31	..	1	1	..	..	145	145
Ironworker	..	..	..	1	..	1	..	..	..	..	1	..	1
Laboratory Assistant	1	..	1	..	..	..	..	..	..	..	1	..	1
Labourer	104	..	104	20	..	20	9	..	9	7	140	..	140
Landlady	..	1	1	..	..	..	..	..	..	..	..	1	1
Laundress	..	1	1	..	..	..	..	..	..	..	..	1	1
Lighthouse Keeper	1	..	1	..	..	..	..	..	..	..	1	..	1
Machinist	1	..	1	..	..	..	..	..	..	..	1	..	1
Manager	1	..	1	..	..	..	..	..	..	..	1	..	1
Meat Worker	2	..	2	..	..	..	..	..	..	1	3	..	3
Mechanic	2	..	2	..	..	..	..	..	..	..	2	..	2
Medical Practitioner	..	..	..	1	..	1	..	..	..	..	1	..	1
Messenger	1	..	1	..	..	..	..	..	..	..	1	..	1
Miner	3	..	3	..	..	..	..	..	..	..	3	..	3
Musician	1	..	1	..	..	..	..	..	..	..	1	..	1
Music Teacher	..	1	1	..	..	..	..	..	..	..	..	1	1
Newspaper Compositor	..	..	..	1	..	1	..	..	..	..	1	..	1
Nil	20	13	33	11	8	19	1	..	1	4	36	21	57
Nurse	..	11	11	..	2	2	..	..	..	..	..	13	13
Orchardist	1	..	1	..	..	..	..	..	..	..	1	..	1
Packer	..	1	1	..	..	..	..	..	..	..	..	1	1
Painter	3	..	3	1	..	1	..	..	..	1	5	..	5
Pearl Diver	1	..	1	..	..	..	..	..	..	..	1	..	1
Pensioner	112	128	240	6	7	13	1	..	1	..	119	135	254
Photographer	1	..	1	..	..	..	..	..	..	..	1	..	1
Piano Tuner	1	..	1	..	..	..	..	..	..	..	1	..	1
Pipe Fitter	1	..	1	..	..	..	..	..	..	..	1	..	1
Pipe Maker	1	..	1	..	..	..	..	..	..	..	1	..	1
Plumber	1	..	1	..	..	..	..	..	..	..	1	..	1
P.M.G. Technician	..	..	..	1	..	1	..	..	..	..	1	..	1
Poultry Farmer	..	..	..	1	..	1	..	..	..	..	1	..	1

TABLE XCVI.—*continued.*

OCCUPATIONS OF PATIENTS ADMITTED DURING THE YEAR ENDED 30TH JUNE, 1955.—*continued.*

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Charters Towers Mental Hospital.	Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Males.	Females.	Totals.
Presser	2	..	2	..	..	..	..	..	..	..	2	..	2
Proprietor	1	..	1	..	..	..	..	..	..	..	1	..	1
Railway Employee	9	..	9	2	..	2	..	..	..	1	12	..	12
Ring Barker	..	..	..	1	..	1	..	..	..	..	1	..	1
Sales Agent	..	..	..	1	..	1	..	..	..	..	1	..	1
Salesman	2	..	2	1	..	1	..	..	..	..	3	..	3
School Teacher	1	2	3	..	1	1	..	..	..	..	1	3	4
Scientist	1	..	1	..	..	..	..	..	..	..	1	..	1
Seaman	4	..	4	..	..	..	..	..	..	..	4	..	4
Seamstress	..	2	2	..	..	..	..	..	..	..	..	2	2
Shearer	..	..	..	1	..	1	..	..	..	..	1	..	1
Shed Hand	..	..	..	1	..	1	..	..	..	..	1	..	1
Shop Assistant	1	6	7	..	1	1	..	..	..	..	1	7	8
Shop Owner	..	..	..	2	..	2	..	..	..	..	2	..	2
Soldier	1	..	1	..	..	..	..	..	..	..	1	..	1
Station Hand	5	..	5	1	..	1	1	..	1	..	7	..	7
Stenographer	..	4	4	..	1	1	..	..	..	..	..	5	5
Stockman	3	..	3	1	..	1	..	..	..	2	6	..	6
Storekeeper	2	..	2	..	..	..	..	..	..	..	2	..	2
Storeman	3	..	3	..	..	..	..	..	..	..	3	..	3
Student	4	1	5	..	..	..	..	..	..	..	4	1	5
Sugar Mill Employee	..	..	..	1	..	1	..	..	..	..	1	..	1
Surveyor's Assistant	1	..	1	..	..	..	..	..	..	..	1	..	1
Tailoress	..	1	1	..	..	..	..	..	..	..	..	1	1
Timber Cutter	2	..	2	1	..	1	..	..	..	..	3	..	3
Toolmaker	1	..	1	..	..	..	..	..	..	..	1	..	1
Tractor Driver	..	..	..	1	..	1	..	..	..	..	1	..	1
Transport Driver	..	..	..	1	..	1	..	..	..	..	1	..	1
Typist	..	5	5	..	1	1	..	..	..	..	..	6	6
Unemployed	4	1	5	..	..	..	..	..	..	..	4	1	5
Unknown	21	21	42	..	2	2	..	..	..	..	21	23	44
Waitress	..	3	3	..	..	..	..	..	..	..	..	3	3
Warder	1	..	1	..	..	..	..	..	..	..	1	..	1
Wardsmaid	..	..	..	..	1	1	..	..	..	..	..	1	1
Wardsman	..	..	..	1	..	1	..	..	..	..	1	..	1
Watchmaker	1	..	1	..	..	..	..	..	..	..	1	..	1
Waterside Worker	1	..	1	..	..	..	1	..	1	..	2	..	2
Welder	2	..	2	1	..	1	..	..	..	..	3	..	3
Yardman	2	..	2	..	..	..	..	..	..	..	2	..	2
Totals	449	426	875	80	76	156	44	26	70	23	596	528	1,124

TABLE XCVII.

MARITAL STATUS OF PATIENTS WHOSE ADMISSIONS, DISCHARGES AND DEATHS OCCURRED DURING THE YEAR AND OF PATIENTS WHO REMAINED IN HOSPITAL ON 30TH JUNE, 1955.

Marital Status.	Admissions.			*Discharges.						Deaths.			Remaining.		
				Recovered.			Relieved or not Improved.								
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
BRISBANE MENTAL HOSPITAL.															
Single	244	121	365	141	60	201	11	9	20	53	26	79	986	624	1,610
Married	125	185	310	76	135	211	..	7	7	48	29	77	260	503	763
Widowed	54	107	161	11	31	42	1	1	2	33	81	114	60	177	237
Divorced	4	10	14	8	3	11	..	1	1	..	1	1	13	20	33
Unknown	22	3	25	3	..	3	..	..	..	3	..	3	29	1	30
Totals, Brisbane Mental Hospital	**449**	**426**	**875**	**239**	**229**	**468**	**12**	**18**	**30**	**137**	**137**	**274**	**1,348**	**1,325**	**2,673**
TOOWOOMBA MENTAL HOSPITAL.															
Single	48	24	72	23	8	31	19	13	32	24	18	42	535	349	884
Married	28	41	69	17	24	41	8	24	32	8	6	14	63	208	271
Widowed	3	10	13	2	1	3	..	4	4	3	8	11	12	46	58
Divorced	..	1	1	..	..	..	..	..	..	..	..	..	5	14	19
Unknown	1	..	1	1	..	1	2	..	2	1	1	2	15	5	20
Totals, Toowoomba Mental Hospital	**80**	**76**	**156**	**43**	**33**	**76**	**29**	**41**	**70**	**36**	**33**	**69**	**630**	**622**	**1,252**
IPSWICH MENTAL HOSPITAL.															
Single	40	25	65	4	..	4	6	6	12	16	14	30	325	163	488
Married	2	..	2	2	..	2	..	..	..	..	2	2	48	39	87
Widowed	..	1	1	..	..	..	..	..	..	..	2	2	5	7	12
Divorced	1	..	1	..	..	..	..	..	..	2	..	2	2	6	8
Unknown	1	..	1	..	..	..	..	..	..	..	..	..	9	2	11
Totals, Ipswich Mental Hospital	**44**	**26**	**70**	**6**	**..**	**6**	**6**	**6**	**12**	**18**	**18**	**36**	**389**	**217**	**606**
CHARTERS TOWERS MENTAL HOSPITAL.															
Single	14	..	14	3	..	3	..	..	..	..	..	..	42	..	42
Married	6	..	6	..	..	..	..	..	..	1	..	1	12	..	12
Widowed	3	..	3	1	..	1	..	..	..	..	..	..	6	..	6
Divorced	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Unknown	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals, Charters Towers Mental Hospital ..	**23**	**..**	**23**	**4**	**..**	**4**	**..**	**..**	**..**	**1**	**..**	**1**	**60**	**..**	**60**
Grand Totals, all Hospitals ..	**596**	**528**	**1,124**	**292**	**262**	**554**	**47**	**65**	**112**	**192**	**188**	**380**	**2,427**	**2,164**	**4,591**

* For the purposes of this table patients discharged under Section 49 (3) and Voluntarily Left have been classified under these headings.

TABLE XCVIII.

LENGTH OF RESIDENCE IN THE HOSPITAL OF THE PATIENTS WHO WERE DISCHARGED OR WHO DIED DURING THE YEAR AND OF THOSE WHO REMAINED ON THE BOOKS OF THE HOSPITAL ON 30TH JUNE, 1955.

—	*Discharges.						Deaths.			Remaining.		
	Recovered.			Relieved and not Improved.								
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
BRISBANE MENTAL HOSPITAL.												
Under 1 month	20	13	33	3	1	4	26	22	48	42	37	79
1 month and under 3 months	78	69	147	3	6	9	29	21	50	42	47	89
3 months and under 6 months	71	68	139	2	5	7	13	14	27	65	58	123
6 months and under 9 months	27	22	49	1	3	4	8	14	22	35	59	94
9 months and under 12 months	12	17	29	..	1	1	7	4	11	42	36	78
1 year and under 2 years	18	23	41	2	1	3	11	19	30	138	134	272
2 years and under 3 years	6	7	13	..	..	..	10	5	15	93	102	195
3 years and under 5 years	3	6	9	..	..	..	4	12	16	163	151	314
5 years and under 7 years	3	3	6	..	1	1	8	5	13	110	119	229
7 years and under 10 years	..	..	..	..	..	..	2	7	9	113	154	267
10 years and under 12 years	1	1	2	..	..	..	4	3	7	71	73	144
12 years and under 15 years	..	..	..	1	..	1	3	3	6	88	99	187
15 years and under 20 years	..	..	..	..	..	..	3	2	5	133	120	253
20 years and over	..	..	..	..	..	..	9	6	15	213	136	349
Totals, Brisbane Mental Hospital	239	229	468	12	18	30	137	137	274	1,348	1,325	2,673
TOOWOOMBA MENTAL HOSPITAL.												
Under 1 month	10	9	19	7	9	16	..	..	..	4	1	5
1 month and under 3 months	14	11	25	3	2	5	3	1	4	11	11	22
3 months and under 6 months	14	5	19	6	3	9	..	1	1	5	14	19
6 months and under 9 months	4	3	7	1	1	2	..	1	1	3	8	11
9 months and under 12 months	1	3	4	1	6	7	..	..	..	5	4	9
1 year and under 2 years	..	2	2	..	7	7	5	3	8	26	23	49
2 years and under 3 years	..	..	..	1	1	2	2	2	4	22	16	38
3 years and under 5 years	..	..	..	2	2	4	2	2	4	25	42	67
5 years and under 7 years	..	..	..	..	..	..	5	2	7	43	23	66
7 years and under 10 years	..	..	..	1	..	1	5	1	6	60	56	116
10 years and under 12 years	..	..	..	..	2	2	..	..	..	28	25	53
12 years and under 15 years	..	..	..	1	..	1	1	2	3	48	47	95
15 years and under 20 years	..	..	..	1	1	2	1	2	3	87	65	152
20 years and over	..	..	..	5	7	12	12	16	28	263	287	550
Totals, Toowoomba Mental Hospital	43	33	76	29	41	70	36	33	69	630	622	1,252
IPSWICH MENTAL HOSPITAL.												
Under 1 month	..	..	..	1	2	3	2	1	3	3	..	3
1 month and under 3 months	2	..	2	2	..	2	2	4	6	4	1	5
3 months and under 6 months	..	..	..	..	2	2	1	3	4	10	3	13
6 months and under 9 months	..	..	..	1	1	2	2	1	3	14	6	20
9 months and under 12 months	2	..	2	..	..	..	..	..	..	10	13	23
1 year and under 2 years	2	..	2	1	1	2	1	2	3	28	11	39
2 years and under 3 years	..	..	..	..	..	..	..	1	1	37	11	48
3 years and under 5 years	..	..	..	1	..	1	1	1	2	38	25	63
5 years and under 7 years	..	..	..	..	..	..	1	1	2	18	21	39
7 years and under 10 years	..	..	..	..	..	..	..	..	..	38	19	57
10 years and under 12 years	..	..	..	..	..	..	1	..	1	36	27	63
12 years and under 15 years	..	..	..	..	..	..	..	1	1	30	17	47
15 years and under 20 years	..	..	..	..	..	..	..	1	1	38	22	60
20 years and over	..	..	..	..	..	..	7	2	9	85	41	126
Totals, Ipswich Mental Hospital	6	..	6	6	6	12	18	18	36	389	217	606
CHARTERS TOWERS MENTAL HOSPITAL.												
Under 1 month	..	..	..	..	..	..	1	..	1	2	..	2
1 month and under 3 months	2	..	2	..	..	..	..	..	..	7	..	7
3 months and under 6 months	1	..	1	..	..	..	..	..	..	5	..	5
6 months and under 9 months	..	..	..	..	..	..	..	..	..	7	..	7
9 months and under 12 months	..	..	..	..	..	..	..	..	..	1	..	1
1 year and under 2 years	1	..	1	..	..	..	..	..	..	7	..	7
2 years and under 3 years	..	..	..	..	..	..	..	..	..	5	..	5
3 years and under 5 years	..	..	..	..	..	..	..	..	..	9	..	9
5 years and under 7 years	..	..	..	..	..	..	..	..	..	4	..	4
7 years and under 10 years	..	..	..	..	..	..	..	..	..	3	..	3
10 years and under 12 years	..	..	..	..	..	..	..	..	..	2	..	2
12 years and under 15 years	..	..	..	..	..	..	..	..	..	2	..	2
15 years and under 20 years	..	..	..	..	..	..	..	..	..	2	..	2
20 years and over	..	..	..	..	..	..	..	..	..	4	..	4
Totals, Charters Towers Mental Hospital	4	..	4	..	..	..	1	..	1	60	..	60
Grand Totals, all Hospitals	292	262	554	47	65	112	192	188	380	2,427	2,164	4,591

* For the purposes of this table patients discharged under Section 49 (3) and Voluntarily Left have been classified under these headings.

TABLE XCIX.

EXPENDITURE TABLE FOR THE TWELVE MONTHS ENDED 30TH JUNE, 1955.

—	Brisbane Mental Hospital.	Toowoomba Mental Hospital.	Ipswich Mental Hospital.	Charters Towers Mental Hospital.	Total and Average Costs.
Average Number Daily Resident.	2,440	1,214	592	31	4,277
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Total expenditure	816,018 7 7	339,919 4 9	257,443 13 0	29,838 16 5	1,443,220 1 9
Sales	1,321 14 6	2,466 7 9	3,268 14 8	..	7,056 16 11
Net Expenditure	814,696 13 1	337,452 17 0	254,174 18 4	29,838 16 5	1,436,163 4 10
					Average Costs.
Gross cost per Patient per annum	334 8 8	280 0 0	434 17 5	962 10 10	337 8 9
Net cost per Patient per annum	333 17 10	277 19 4	429 7 0	962 10 10	335 15 9
Gross cost per Patient per week	6 8 8	5 7 8	8 7 3	18 10 2	6 9 9
Net cost per Patient per week ..	6 8 5	5 6 11	8 5 2	18 10 2	6 9 2

TABLE C.

STATEMENT SHOWING EXPENDITURE BY THE DEPARTMENT OF PUBLIC WORKS AT MENTAL HOSPITALS AND THE EPILEPTIC HOME DURING THE FINANCIAL YEAR ENDED 30TH JUNE, 1955.

—	Expenditure, 1954–55.		
	Revenue.	Loan.	Total.
Mental Hospitals—	£ s. d.	£ s. d.	£ s. d.
Brisbane (Excluding Expenditure at the Repatriation Hospital)	8,716 1 5	99,567 10 10	108,283 12 3
Charters Towers	588 18 11	147,558 9 4	148,147 8 3
Ipswich	997 17 8	765 3 6	1,763 1 2
Toowoomba	7,779 6 4	13,814 10 9	21,593 17 1
Rockhampton	..	*2,008 8 0	2,008 8 0
Epileptic Home—Toowoomba	932 11 9	164 12 2	1,097 3 11
	£19,014 16 1	£263,878 14 7	£282,893 10 8

* Acquisition of site only.

DETAILS OF EXPENDITURE ON MAJOR WORKS.

		Expenditure 1954–55.
Mental Hospitals—		£ s. d.
Brisbane	Alteration and paving Yards—Female Wards 1 and 2	20,049 17 9
	Erection of Ward A—Farm Colony	19,166 1 3
	Additions and alterations to kitchens, &c.	2,782 8 5
	Installation of Sewerage System—Farm Ward Colony	10,610 1 1
	Dining and Recreation Block—Farm Colony ..	30,261 11 2
	Erection of Ward B—Farm Colony	10,063 8 3
Charters Towers	Erection of male and female admission wards ..	112,602 1 0
	Installation of Sewerage	33,135 8 6
Toowoomba	Painting and Repairs to Various buildings	6,784 18 3
	Alterations and Improvements to Nurses Accommodation	10,287 5 3

TABLE CI.

POPULATION CHANGES AT EPILEPTIC HOME DURING THE YEAR 1594–55.

PATIENTS AT 30TH JUNE, 1954: MALES 47; FEMALES 61; TOTAL 108.
FOR YEAR ENDED 30TH JUNE, 1955.

Age.	Admitted.		Discharged.		To Ment. Hosp.		Deaths.		Remaining.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Under 5 years	..	..	..	..	..	..	..	..	..	..	..
5—10 years	1	1	1	..	..	..	..	..	..	1	1
10—15 years	7	1	2	1	..	..	..	..	11	3	14
15—20 years	1	..	1	1	..	..	..	..	8	6	14
20—25 years	..	..	..	..	..	..	..	..	1	6	7
25—30 years	2	..	1	..	..	..	..	..	9	4	13
30—35 years	1	1	1	1	..	..	..	..	6	9	15
35—40 years	..	1	..	1	..	..	..	..	1	5	6
40—45 years	..	1	..	..	..	..	..	..	4	6	10
45—50 years	..	..	..	..	..	..	..	1	6	6	12
50—55 years	..	..	1	..	..	..	..	..	2	5	7
55—60 years	..	..	..	..	..	..	..	..	..	6	6
60—65 years	..	..	..	..	..	..	..	..	4	2	6
Over 65years	..	..	..	..	..	..	..	..	..	2	2
Totals	12	5	7	4	..	..	..	1	52	61	113

PATIENTS RESIDENT—

Under 5 years	37
5—10 years	23
10—15 years	16
15—20 years	19
Over 20 years	18

CAUSES OF DEATH—

Female aged 45. Peritonitis.

TABLE CII.

EXPENDITURE TABLE, EPILEPTIC HOME, FOR THE TWELVE MONTHS ENDED 30TH JUNE, 1955.
Average Number Daily Resident—113.

	£	s.	d.
Gross Expenditure	32,229	16	5
Collections	10,480	9	9
Net Expenditure	21,749	6	8
Gross cost per patient per annum	285	4	5
Net cost per patient per annum	192	9	5
Gross cost per patient per week	5	9	8
Net cost per patient per week	3	14	0

TABLE CIII.

YEARLY SUMMARY OF PATIENTS TREATED AT THE PSYCHIATRIC CLINIC, CLASSIFIED IN AGE GROUPS ACCORDING TO DIAGNOSIS, 1954–55.

—	0–4.		5–9.		10–14.		15–19.		20–29.		30–39.		40–49.		50–59.		60&over		Total.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Schizophrenia	..	..	..	..	..	1	3	1	15	8	8	2	2	3	2	1	..	..	30	16	46
Manic-Depressive	..	..	..	..	..	..	..	..	..	..	1	..	2	..	2	1	..	..	5	1	6
Depressive	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	1	1	2	3
Paraphrenia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	1	2	1	6	7
Organic	..	..	1	..	1	2	..	1	1	..	1	..	1	1	..	..	..	2	6	6	12
																			43	31	74
Anxiety	..	..	..	..	3	..	..	..	..	2	6	5	8	8	1	6	..	3	..	..	18	24	42
Hysteric	..	..	..	..	..	..	1	3	..	3	1	3	1	3	..	1	..	..	..	2	3	15	18
Hysteno-Anxiety	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	2	2
Obsessive-Compulsive	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Neurotic Depression	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	2	2
Other Psychoneuroses	..	..	..	5	..	1	3	..	..	2	3	..	2	2	..	2	..	1	..	13	8	21
																			35	51	86
Alcoholism	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	1	..	3	..	3
Inadequate and Immature Personality	..	..	..	5	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	6	3	9
Deviant Personality	..	..	..	5	..	12	8	11	4	7	5	..	2	1	1	1	..	..	..	37	20	57
																			43	23	66
Epilepsy	..	..	..	1	3	3	..	1	3	..	1	..	1	1	..	..	..	..	..	..	6	8	14
Behaviour Problem	..	11	12	25	15	19	9	5	1	..	..	..	..	..	..	..	..	..	..	..	60	37	97
Mental Deficiency	..	..	3	1	10	9	6	2	13	..	..	2	1	..	1	1	..	..	..	..	34	15	49
Borderline Deficiency	..	1	..	3	3	2	..	3	..	1	..	..	..	..	..	..	..	..	..	..	10	3	13
																			44	18	62
Educational Backwardness	..	..	..	..	2	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	2	6
Stammering	..	..	6	4	25	5	14	2	5	2	7	4	..	2	1	..	..	..	..	..	58	19	77
Alalia	..	..	..	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	1	4
Dyslalia and Ret. Sp. Devt.			17	13	25	17	3	..	..	..	1	..	..	..	..	..	..	..	..	..	46	30	76
Cleft Palate	..	..	..	8	5	6	1	1	..	..	1	..	..	..	..	..	..	..	..	..	15	7	22
Aphasia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	1	1	2
Idioglossia	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Laryngectomy	..	..	..	..	..	..	..	..	..	..	..	..	2	1	1	..	..	..	..	..	3	1	4
Partially Deaf	..	..	..	2	1	1	3	..	3	..	1	1	..	..	..	..	..	..	..	..	4	8	12
Dysphonia	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	2
Hyderrhinophonia	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2
Other	..	..	..	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3
																			134	71	205
N.A.D.	..	..	..	1	2	3	2	..	1	..	1	2	1	3	1	..	..	..	..	..	8	9	17
Not yet diagnosed	..	1	1	3	..	6	..	1	2	..	..	..	..	..	..	..	..	..	..	..	11	3	14
Grand Total	..	52	41	124	63	75	36	45	21	43	34	24	25	15	15	10	9	3	9	391	253	644

Diagnostic Testing at Brisbane Mental Hospital—Males 6, Females, 5 ; Total, 11.
Referred by Mental Hospitals—Males, 20 ; Females, 18 ; Total, 38.

TABLE CIV.

SHOWING ADMISSIONS, DISCHARGES, AND DEATHS AT THE WACOL REPATRIATION PAVILION DURING THE YEAR ENDED 30TH JUNE, 1955.

Total number of patients on books as at 30th June, 1954	.. ..	105
Transferred from Brisbane Mental Hospital	..	63
Transferred from Toowoomba Mental Hospital		1
Admitted	.. ..	1
		170
Discharged, recovered	.. ..	23
Discharged, Section 49	.. ..	4
Voluntarily left	.. .. ..	8
Died	.. ..	—
Transferred to Brisbane Mental Hospital		31
		66

Total number of patients on books as at 30th June, 1955	 104
Total number of patients on leave as at 30th June, 1955	 6
Total number of patients in residence as at 30th June, 1955	 98
Average number of patients daily resident	.. 98

DIVISION OF LABORATORY SERVICES.

LABORATORY OF MICROBIOLOGY AND PATHOLOGY.

Director: J. I. Tonge, M.B., B.S. (Syd.), Dip. Clin. Path. (Syd.).

Deputy Director: M. J. J. O'Reilly, M.B., B.S. (Syd.).

Senior Bacteriologist and Technical Supervisor: H. E. Brown.

1. Statistical Summary, 1954-55.

TABLE CV.

1. Bacteriology.

A. Specimens of Human Origin.

Specimen.	Mode of Examination.	Number.
Swabs—		
Throat ..	Culture	2,485
	Direct Smear ..	27
Nose ..	Antibiotic Sensitivity Tests ..	149
Urethra ..	Culture	534
Cervix ..	Direct Smear ..	4,751
Bartholin's Gland	Antibiotic Sensitivity Tests ..	95
Anus ..		
Ear ..	Culture	18
	Direct Smear ..	13
	Antibiotic Sensitivity Tests ..	107
Eye ..	Culture	9
	Direct Smear ..	8
	Antibiotic Sensitivity Tests ..	51
Mouth ..	Culture	4
	Direct Smear ..	4
	Antibiotic Sensitivity Tests ..	18
Face ..	Culture	1
	Direct Smear ..	1
	Antibiotic Sensitivity Tests ..	11
Foot ..	Culture	4
	Direct Smear ..	1
	Antibiotic Sensitivity Tests ..	31
Leg ..	Culture	7
	Direct Smear ..	6
	Antibiotic Sensitivity Tests ..	38
Wound ..	Culture	1
	Direct Smear ..	1
Axillary Gland	Culture	1
	Direct Smear ..	1
Appendix ..	Culture	1
	Antibiotic Sensitivity Tests ..	22
Pus ..	Culture	92
	Direct Smear ..	77
	Antibiotic Sensitivity Tests ..	688
Pleural Fluid	Culture	9
	Microscopical ..	9
Cerebrospinal Fluid	Culture	49
	Microscopical ..	88
Seminal Fluid ..	Microscopical ..	15
Synovial Fluid	Culture	2
	Microscopical ..	2
Ascitic Fluid	Culture	2
	Microscopical ..	3
	Antibiotic Sensitivity Tests ..	9
Pericardial Fluid	Culture	1
	Microscopical ..	1
Hydrocoele Fluid	Culture	1
	Microscopical ..	1
Subcutaneous Fluid	Culture	1
	Microscopical ..	1
Fluid from Cyst	Culture	1
	Microscopical ..	1
Serous Exudate	Direct Smear ..	2,133
	Dark Ground Microscopy	10
Sputum ..	Culture	83
	Direct Smear ..	69
	Antibiotic Sensitivity Tests ..	227

TABLE CV.—*continued.*

A. Specimens of Human Origin—continued.

TABLE CV.—*continued.*

A. Specimens of Human Origin—continued.

Specimen.	Mode of Examination.	Number.
Blood	Culture	48
Urine ..	Culture	829
	Microscopical ..	1,982
	Antibiotic Sensitivity Tests ..	1,431
Faeces ..	Culture	345
	Microscopical ..	20
	Antibiotic Sensitivity Tests ..	9
Gastric Contents ..	Culture	2
Post-mortem swabs and Tissues	Culture	39
	Direct Smear ..	26
Virulence Tests for Corynebacterium Diphtheriae ..	..	37
		16,743

TUBERCULOSIS SECTION.

Specimen.	Mode of Examination.	Number.
Sputum	Culture ..	2,985
	Direct Smear ..	2,985
	Animal Inoculation	87
	Sensitivity Tests ..	69
Gastric Contents	Culture	1,721
	Animal Inoculation	500
Laryngeal Swabs ..	Culture	781
Urine ..	Culture	61
	Microscopical ..	41
	Animal Inoculation	45
Pus	Culture	20
	Direct Smear ..	18
	Animal Inoculation	17
Pleural Fluid ..	Culture	26
	Microscopical ..	26
	Animal Inoculation	22
Faeces	Culture	3
	Microscopical ..	3
	Animal Inoculation	2
Blood	Culture	1
	Direct Smear ..	1
	Animal Inoculation	1
Cultures	Typing	21
		9,436

B. Foods and Waters.

Specimen.	Object of Examination.	Number.
Water	Culture	185
	Plate Count ..	184
	Microscopical ..	7
Milk	Culture	282
	Plate Count ..	283
	Reductase Test ..	229
	Animal Inoculation	2
Ice Cream ..	Culture	122
	Plate Count ..	111
Ice Blocks	Culture	47
	Plate Count ..	48
Soft Drinks	Culture	5
Bottled Beer ..	Culture	1
Fruit Cordial ..	Culture	3
Pineapple Juice ..	Culture	1
Oysters	Culture	1
	Plate Count ..	9
Prawns	Culture	3
Fish	Culture	1
Tinned Corned Meat	Culture	1

TABLE CV.—*continued.*

B. Food and Waters.—continued.

Specimen.	Object of Examination.	Number.
Camp Pie	Culture	1
Sausage	Culture	3
Tinned Beef Loaf ..	Culture	1
Frankfurts	Culture	4
Saveloys	Culture	12
Ham	Culture	1
Meat Pie	Culture	1
Bread	Culture	1
Flour	Culture	74
Jam	Culture	2
Tinned Apples ..	Culture	2
Butter	Culture	37
	Plate Count ..	32
Cheese	Culture	1
Pickles	Culture	2
Pickling Fluid ..	Culture	5
Dehydrated Mushrooms	Culture	2
Savoury Paste ..	Culture	3
	Microscopical ..	3
Chocolates	Culture	3
Sweetmeat	Culture	1
Coconut	Culture	12
		1,728

C. Various Materials.

Specimen.	Object of Examination.	Number.
Disinfectants and Antiseptics	Rideal-Walker Coefficient	32
	Germicidal Value ..	3
Detergents ..	Rideal-Walker Coefficient	3
	Germicidal Value ..	1
Soap	Rideal-Walker Coefficient	2
Bottles	Sterility	13
Glasses	Sterility	16
Filter	Sterility	1
Crockery	Culture	12
Bacterial Cultures	Identification ..	56
	Antibiotic Sensitivity Tests ..	236
Glass Washings ..	Culture	14
Fibre Filling ..	Culture	11
Kapok	Culture	1
Talcum Powder ..	Culture	27
Eye Drops	Culture	1
Tooth Brushes ..	Culture	6
Shaving Brushes ..	Culture	2
Cellophane Paper ..	Culture	1
Sausage Skin ..	Culture	1
Swabs from Drinking Fountain	Culture	10
Tobacco	Presence of Yeasts and Moulds ..	5
	Presence of Fungi ..	5
Cigarettes	Presence of Yeasts and Moulds ..	9
Skin Scrapings ..	Presence of Fungi ..	4
Hair	Presence of Fungi ..	1
		473

2. SEROLOGY.

——	Number.
Serum Agglutination Tests—	
Eberthella typhosa (O)	17
Eberthella typhosa (H)	2,892
Salmonella paratyphi (H)	2,884
Salmonella schottmülleri (H)	2,884
Proteus OX19	2,909
Proteus OXK	2,912
Brucella abortus	2,886
Leptospira icterohaemorrhagiae	3,204
Leptospira canicola	3,153
Leptospira australis B	3,174

TABLE CV.—*continued.*

2. SEROLOGY—*continued.*

—	Number.
Serum Agglutination Tests—*continued.*	
"Robinson" Strain of *leptospira*	3,162
Leptospira australis A	3,165
"Esposito" Strain of *leptospira*	2,389
Leptospira pomona	3,153
Leptospira grippotyphosa	2,965
Leptospira medanensis	3,188
"Kremastos" Strain of *leptospira*	3,188
"Szwajizak" Strain of *leptospira*	3,195
Leptospira hyos	3,153
"Celledoni" Strain of *leptospira*	3,105
Leptospira bataviae	2,627
Leptospira autumnalis	435
Coxiella burneti	3,151
Erythrocytes "O"	68
Streptococcus MG	69
Paul Bunnell Tests	124
Leptospiral Strains Typed (91)—	
Agglutination Tests Performed in Typing	4,000
Leptospiral Antisera Prepared	68
Complement Fixation Tests—	
Coxiella burneti—	
Routine	1,928
Quantitative	315
Rickettsialpox (Soluble)—	
Routine	602
Quantitative	114
Typhus Fever Murine (Soluble)—	
Routine	845
Quantitative	84
Lygranum C.F.	17
Psittacosis Virus C.F.	103
Eagle Wassermann (Serum)—	
Routine	5,856
Quantitative	179
Eagle Wassermann (C.S.F.)	125
Flocculation Tests—	
Kline	6,058
Kahn	1,054
Lange Colloidal Gold Reaction (C.S.F.)	89
	85,489

3. BIOCHEMISTRY

Specimen.	Examined For.	Number.
Whole Blood	Urea	376
	Glucose	55
	Uric acid	44
	Chloride	13
	Pigments	2
Serum	Protein	1,057
	Cholesterol	49
	Bilirubin	306
	Chloride	4
	Sodium	2
	Potassium	4
	Calcium	46
	Inorganic phosphate	14
	Acid phosphatase	48
	Alkaline phosphatase	318
	Thymol turbidity	296
	Thymol flocculation	296
	Zinc sulphate turbidity	296
	Paper Electrophoresis	320
	Thiocyanate	4
	Amylase	26

TABLE CV.—*continued.*

3. BIOCHEMISTRY—*continued.*

Specimen.	Examination for.	Number.
Cerebrospinal Fluid	Protein	90
	Globulin	84
	Chloride	84
	Sugar	89
	Urea	13
Synovial Fluid	Bilirubin	1
Urine	Albumin	2,097
	Sugar	2,104
	Pigments	12
	Bile	5
	Bilirubin	2
	Urobilin	8
	Urea	1
	Diastase	11
	Calcium	2
	Chloride	5
	Chyle	1
	Creatine	3
	Amino-nitrogen	1
Faeces	Total, Split and Unsplit Fats	51
	Occult Blood	47
	Creatorrhoea	5
	Bile pigments	1
Duodenal Contents	Trypsin	10
Renal Calculi	Chemical constitution	9
Functional Tests	Glucose tolerance tests	167
	Urea clearance tests	98
	Urea concentration tests	115
	Fractional test meals	139
		8,831

4. HAEMATOLOGY.

—	Number.
Cell Counts—	
Red Cells (Total)	2,905
Red Cells (Stippled)	895
Reticulocytes	19
White Cells (Total)	3,836
White Cells (Differential)	3,692
Platelet Count	47
Haemoglobin	5,738
Haematocrit	3,544
Sedimentation Rate	315
Coagulation Time	47
Bleeding Time	46
Prothrombin Time	8
Calcium Clotting Time	1
Red Cell Fragility	23
Blood Grouping (A.B.O.)	2,758
Blood Grouping (Rh)	2,753
Rh Antibodies	587
	27,214

TABLE CV.—*continued.*

5. Parasitology.

Specimen.	Object of Examination.	Number.
Faeces	Amoebae (Cysts and vegetative) ..	143
	Helminth ova ..	239
Pus	*Trichomonas vaginalis*	6
Blood	*Microfilariae* ..	5
	Plasmodium sps. ..	21
Helminth	Identification ..	16
		430

6. Various Tests.

—	Number.
Male Toad Test (Pregnancy)	1,899
Casoni Skin Test	11
"Cat-scratch" Skin Test	7
	1,917

7. Histology.

Tissues Sectioned.	Number.
Human—	
Biopsy	4,517
Post-Mortem	860
Animal—	
Guinea-pig	33
Rabbit	13
Dog	4
	5,427

TABLE CV.—*continued.*

8. Medico-Legal.

	Number
Clothing—	
Blood	111
Spermatozo	110
Various Articles—	
Blood	27
Spermatozoa	18
Identification	2
Smears—	
Gonorrhoea	2
Spermatozoa	30
Tissue—Examination	115
Blood—	
Grouping	12
Examination	2
Blood-Stained Articles—Determination of Blood Group of Stains	35
Scrapings—Identification	2
Hair—Identification	18
Bones—Identification	54
Skull—Identification	1
Skeleton—Identification	1
	540
Post-Mortem Examinations	562
Attendances at Courts—	
Supreme Court	27
Police Court	28
Coroner's Court	22
Other Courts	11
	88

2. Staff.

With the continued increase in the volume and scope of the work undertaken by the laboratory, the necessity for a third medical officer has been obvious. Approval for this appointment was obtained recently, and it is hoped that a suitable applicant will soon be appointed.

It has been necessary to provide extra technical assistance in both the haematology and histology sections, and an addition to the clerical staff.

3. Laboratory Development.

The volume of work carried out by the laboratory continues to increase (21 per cent. on last year's figures), and this upward trend has affected most sections, the most marked increase being in the serology and haematology sections. To illustrate this trend, analysis of the tests performed in previous years is set out in Table CVI.

TABLE CVI.

—	1948–49.	1952–53.	1953–54.	1954–55.
Bacteriology	17,305	17,514	18,184	18,940
Serology	14,089	51,828	64,714	85,489
Tuberculosis Laboratory	..	7,444	9,606	9,436
Biochemistry	3,247	5,943	7,255	8,831
Haematology	7,544	20,061	22,424	27,014
Parasitology	1,447	377	381	430
Miscellaneous tests (Pregnancy tests, &c.)	209	1,737	1,606	1,917
Medico-Legal Investigations	102	388	289	540
Histology—				
(*a*) Biopsies	1,003	3,497	4,178	4,567
(*b*) Post-Mortem Tissues	579	1,640	901	860
Total	45,525	110,429	129,538	157,975
Post-Mortem Examinations	487	541	569	562

It is felt that the range of investigations should be further increased, but expansion has had to be restricted due to the limitations of space since at present only 5,500 square feet are available.

The decision to transfer the laboratory to a new building to be erected in George Street was extremely welcome news and opens new horizons for the future.

The tentative plans allot two floors of the building for the use of the laboratory, allowing approximately 15,000 square feet in area. The building is to be air-conditioned, and provision for a large animal house is made on the roof. All the existing sections will be increased in size; a medico-legal laboratory will be established as well as laboratories for mycology and virology. Space will be available for the sterilising and packing of diagnostic kits, and the area for media-making, sterilising and preparation of glassware will be increased. Space will be provided for additional medical staff as well as proper facilities for a clinical examination room and patients' waiting room. The office and records section will be adequately housed and a large store-room is planned, together with proper facilities for staff recreation and change rooms. It is hoped that a small library and conference room will also be included, as well as a dark-room and photography section.

With these facilities, the laboratory should then be able to provide a truly comprehensive service, to undertake virus isolation, and by means of diagnostic kits, to extend its service to those country hospitals and outlying centres which at present lack adequate pathological services. In addition, there will be space available to allow technicians from country hospitals to attend periodically for refresher courses and training in new techniques.

4. The Serology of the "Pyrexias of Unknown Origin."

Active collaboration with the field station of the Queensland Institute of Medical Research has been continued during the year and our knowledge of leptospirosis in North Queensland has been further enhanced by the isolation of two serotypes of leptospirae new to Australia. There has been a 33 per cent. increase in the number of tests performed in this section on the previous year. Three thousand three hundred sera have been submitted from cases of "pyrexia of unknown origin," 1,300 of which were from the field station, the remaining 2,000 coming from practitioners and hospitals throughout the State, as well as from New South Wales and New Zealand.

Of the 298 human sera submitted from New South Wales, three cases of Murine typhus from Lismore and five cases of Q. fever (Newcastle four, Mullumbimby one) were diagnosed and 39 sera contained leptospiral agglutinins in a titre of 1:30 or greater. Of the 58 sera from New Zealand, nine of the 47 human sera, and seven of the 11 bovine sera contained leptospiral agglutinins.

To the battery of agglutination tests to which these sera are submitted the two new strains of leptospirae have been added and, in addition, *L. bataviae* was also used for a period of eight months, although this strain has not been isolated in Australia. During this period, no significant titres were obtained with this organism, except only slight coagglutination with *L. hyos.* *Leptospira autumnalis* has now replaced *L. bataviae* in our routine screen tests. Complement fixation tests are performed on all paired sera with *Coxiella burneti* and *Rickettsia mooseri antigens.* Where indicated, agglutination tests for streptococcus MG and cold agglutinins, also complement fixation tests for psittacosis are included.

(i.) *Psittacosis.*—Two patients were diagnosed as suffering from psittacosis. One occurred in the city area and showed a significant rise in complement fixation titre with both "Lygranum" and a psittacosis antigen prepared from enzootic abortion of ewes' virus. (The latter antigen was made available by courtesy of Dr. Dane, of the Institute of Medical and Veterinary Science, Adelaide). The serological results are set out hereunder:

Antigen.	Patients' Serum Titres. (day of disease).		
	5th.	12th.	26th.
(E.A.E.) Psittacosis Virus	..	16	32
Lygranum	..	16	Not tested

This represents the first proven human cases of psittacosis to be recorded in Queensland. The patient is thought to have acquired the infection either in a shop where she had recently purchased a parrot imported from Adelaide or from the parrot itself. Serological investigation of the parrot's serum proved to be negative.

In addition to the above case, a patient from Warwick suffering from a vague pyrexial illness was found to have significant complement fixation titres in her serum when tested on four occasions with the E.A.E. psittacosis virus antigen. Unfortunately, it was not possible to obtain an accurate clinical history but the patient had had close association with a wild parrot prior to the onset of the illness.

(ii.) *Murine Typhus.*—In the current year, 26 cases of murine typhus have been diagnosed within the State: three from New South Wales and one from Thursday Island. Of the 26 cases, no less than 13 have been from Atherton. The diagnosis is made by the *Proteus OX19* agglutination test and complement fixation tests with *R. mooseri* are made on all paired sera. Both tests are useful and one forms the impression that the agglutinins for *Proteus OX19* appear earlier but persist for a shorter period than the complement fixing antibodies.

(iii.) *Queensland Tick Typhus.*—Sixteen cases of tick typhus have been described in Queensland, only three of which occurred in Southern Queensland. In September, 1954, a schoolboy aged 16 years was bitten by a tick at Mount Tamborine and after an incubation period of 13 days was admitted to hospital with a typhus-like disease. Serum from the patient was collected on the eighth and twenty-first day of the disease for serological examination. During the acute phase of the illness blood was inoculated into mice and guinea-pigs at the Queensland Institute of Medical Research, and in the mice intracytoplasmic rickettsiae were seen in the peritoneal fluid at the third and subsequent passages. The infection was also established in guinea pigs and by inoculation of chick embryos, a strain of rickettsia resembling *R. australis* was grown.

Serological examinations of the patients' serum, convalescent mouse serum pools, and convalescent guinea-pig sera were made at this laboratory, and the results are set out hereunder in Table CVII. These results show that the strain of rickettsiae isolated differs from *R. mooseri*, *R. tsutsugamushi*, and *C. burneti* and the OX19 agglutination with the patients' convalescent serum and the complement fixation of the convalescent guinea pig serum with *R. akari* are consistent with what is known of the behaviour of *R. australis*. It is hoped that it may be possible to have a complement fixation test antigen prepared from this strain of tick typhus since hitherto no antigen has been available.

TABLE CVII.

EXAMINATION OF SERUM FROM PATIENT AND FROM INFECTED MICE AND GUINEA PIGS.

Serum.	Complement Fixation Titres.			Agglutination Titres.	
	R. akari.	R. mooseri.	C. burneti.	Proteus OX19.	Proteus OXK.
Patients' serum—					
8th day	..	..	..	..	..
21st day	..	..	..	256	..
Convalescent mouse serum pools—					
A.	..	..	..	..	..
B.	..	..	..	..	..
Convalescent guinea pig serum—					
A.	8	..	..	..	..
B.	32	..	..	..	..

(iv.) *Q. Fever.*—Seventy cases of Q. fever have been diagnosed during the year and all but five occurred in Queensland. Both the agglutination and complement fixation tests have been used. The complement fixation test becomes positive earlier in the disease than the agglutination test and remains positive for a much longer period. In a few patients the agglutination test failed to become positive even when a significant rise in titre was apparent in the complement fixation tests.

An investigation to determine the persistence of complement fixing antibodies for Q. fever has been completed and a preliminary analysis of the results obtained in 80 patients is set out in Table CVIII. The cases are divided into two main groups, i.e., those who were originally infected at an abattoir or on a dairy farm and subsequently changed their occupation, and in the second group, those who were infected whilst working at an abattoir and have since remained in the same occupation. In the first group there would probably not be much risk of reinfection, whereas in the second group this would be a distinct possibility.

TABLE CVIII.

PERSISTENCE OF COMPLEMENT FIXING ANTIBODIES FOR Q. FEVER IN HUMAN SERA. (TITRES OF 1 : 8 OR GREATER).

Years since infection.	Cases infected at Abattoir or farming and subsequently changed occupation.	Cases infected at Abattoir and still working in same environment.	Total.
	%	%	%
16–18	3/14 = 21	5/10 = 50	8/24 = 33
11–15	6/21 = 29	7/12 = 58	13/33 = 39
6–10	4/8 = 50	12/15 = 80	16/23 = 70
Total	13/43 = 30	24/37 = 65	37/80 = 46

From this table it would appear that the "half life" of antibody is between 6-10 years in those persons in whom there was little risk of reinfection. These results are of value in assessing the significance of random surveys of a population for Q. fever antibodies. Agglutination tests were also carried out on this group of patients but they were found to be of little value in such a survey due to the comparatively short duration of agglutinating antibody following infection.

LEPTOSPIROSIS.

It has been noted, particularly in Southern Queensland, that patients infected with *L. pomona* appear to present two distinct types of agglutination pattern in their sera. In some, agglutinins appear for *L. pomona* only whilst in others, coagglutinins in high titre also appear for *L. australis A.*, the "Esposito" strain, *L. grippotyphosa* and *L. autumnalis*. The significance of this finding is at present unknown but it does stress the importance of obtaining cultures from acute cases whenever possible so as to determine whether there is in fact any antigenic difference between strains of *L. pomona*. Our knowledge of the various strains occuring in North Queensland is fairly complete, but similar investigation is required in the southern part of the State.

(1) *Typing of Leptospiral Cultures.*—During the period August, 1951—June, 1955, 201 cultures of leptospirae have been submitted by the field station of the Queensland Institute of Medical Research for typing. The results are set out in Table CIX.

TABLE CIX.

CLASSIFICATION OF LEPTOSPIRAL CULTURES RECEIVED FROM NORTH QUEENSLAND IN THE PERIOD AUGUST, 1951—JUNE, 1955.

Serotype.	1951-52.	1952-53.	1953-54.	1954-55.	Total.
L. icterohaemorrhagiae	..	2	..	1	3
L. canicola	2	4	2	3	11
L. australis B.	8	13	11	18	50
"Robinson"	4	2	1	4	11
L. australis A.	2	13	8	40	63
"Esposito"	..	..	..	2	2
L. pomona	..	2	..	2	4
"Valbuzzi"	..	..	..	1	1
L. medanensis	2	..	..	..	2
"Kremastos"	3	11	2	12	28
"Szwajizak"	1	3	1	..	5
L. hyos	2	6	..	4	12
"Celledoni"	2	2	2	3	9
	26	58	27	90	201

It will be noted that in the 90 new cultures which have been typed during the current year, two additional serotypes of leptospirae have been discovered in North Queensland. The isolation of the "Valbuzzi" strain enables us to record the presence in Australia of a member of the *grippotyphosa* serogroup of leptospirae. The antigenic structure of this strain, as shown by agglutinin-absorption tests, appears to differ slightly from that of *L. grippotyphosa* (Moscow V), but whether or not it is to be regarded as a distinct serotype is dependent upon further investigation.

The "Esposito" strain represents a serotype related to but distinct from *L. australis* A. (Ballico). Wolff has expressed the opinion that "two strains are considered to be heterologous if the antiserum of each strain after absorption by the other strain retains at least 10 per cent. of its original titre when retested against the homologous strain". Since these criteria are fulfilled in the absorption tests of the Ballico and "Esposito" strains, the "Esposito" strain has provisionally been accepted as a distinct serotype. Another strain was isolated from cane-trash on the cane farm where the patient from whom the "Esposito" strain was isolated was working prior to his illness. This "Cane-trash" strain was found by cross-absorption tests to differ antigenically from *L. australis* A. (Ballico) but to be homologous with the "Esposito" strain. A report on these two additional serotypes of leptospirae in North Queensland has been submitted for publication.

In summary, therefore, it is now known that there are 13 serotypes of leptospirae pathogenic to man occurring in Australia, and eight of these have been isolated and identified since this investigation began in August, 1951. Two of these strains, *L. canicola* and *L. medanensis*, have previously been described and recorded from other parts of the world. Of the other six, the "Kremastos" and "Swajizak" strains appear to represent distinct serotypes within the *hebdomadis* serogroup, the "Robinson" strain a new serotype within the *pyrogenes* serogroup, the "Esposito" strain a new serotype within the *Australis* A. serogroup, and the "Valbuzzi" strain may be regarded at present as belonging to the serotype *L. grippotyphosa*. The "Celledoni" strain shows no close affinity to any leptospiral serotype with which it has been compared.

(2) *Repeat and Double Infections with Leptospirosis.*—A schoolboy of 15 from Babinda had two successive infections with an interval of only 32 days. Blood cultures were made on both occasions and the "Kremastos" strain was isolated in the first attack; *L. hyos* in the second. The serological findings in the patient's sera are set out hereunder in Table CX.

TABLE CX.

REPEAT INFECTION WITH LEPTOSPIROSIS.

Cultures.	Sera from Patient.		
	Second day.	Thirty-fourth day.	Fifty-sixth day.
L. icterohaemorrhagiae	..	10	10
L. canicola	..	30	30
L. hyos	..	..	300
"Kremastos"	..	100	30
Patient's first culture ("Kremastos")	..	300	100
Patient's second culture (*L. hyos*)	..	..	300

A housewife aged 38 years from Babinda was apparently infected with two different serotypes of leptospirae simultaneously—"Szwajizak" and *L. hyos*. The blood culture was made on 1st November, 1954, on the third day of illness, and after leptospirae had been seen at the field station, subcultures were forwarded to this laboratory for typing. On 29th November, 1954, the subculture was found to react only with *L. hyos* antiserum in a titre of 1:10,000. During the next four months approximately nine subcultures were made, and when retested against the stock antisera the culture was found to react with *L. medanensis*, "Kremastos," and "Szwajizak" antisera in titres of 1:300, 1:300 and 1:30,000, respectively, but showed no reaction with the *L. hyos* antiserum. As a result of this discovery subcultures were made from the few leptospirae still remaining in the original cultures received on 20th November, 1954, and these subcultures were found to react now with the "Szwajizak" antiserum in a titre of 1:80,000 but failed to react with *L. hyos* antiserum. Antibodies for *L. hyos*, "Kremastos" and "Szwajizak" developed in the patient's serum during the course of her illness and in mice inoculated with early cultures. The most probable explanation for the curious culture reactions is that *L. hyos* and "Szwajizak" strains were acquired at the same exposure, that *L. hyos* was the predominant organism in the early subcultures but was subsequently overgrown and replaced by the "Szwajizak" strain.

(3) *The Haemagglutination Test as a Screen.*—The examination of large numbers of sera for leptospiral antibodies by the agglutination-lysis test becomes a time-consuming task when it is necessary to employ, as in Queensland, 13 different leptospiral antigens. Reports of the use of group antigens in the complement fixation test have not been encouraging when infections due to a large number of different strains are known to occur.

The most promising of the suggested screen tests was the use of a haemagglutination test devised by Dr. Chang, of Harvard University, employing an erythrocyte sensitising substance (E.S.S.) prepared from one or more strains of leptospirae. To investigate the efficiency of this test sera from 22 patients were sent to Dr. Chang. Serum from 11 pairs of patients were included, each pair having been infected with a different serotype. The results he obtained using the haemagglutination test with an E.S.S. prepared from *L. pomona* were compared with titres obtained by the agglutination-lysis test in this laboratory. (See Table CXI.)

The results obtained with the haemagglutination test were disappointing since the titres were uniformly low and sera from four of the patients infected with three different strains showed no titre. In 11 sera with agglutination-lysis titres of 1:300 or greater, the haemagglutination test was negative. It is possible that, if the sera had been tested with E.S.S. prepared from several different leptospiral serotypes, the results would have been improved. The present indication is, however, that the haemagglutination test is not likely to prove a suitable screen test in areas where infections with a variety of unrelated serotypes are known to occur. We are indebted to Dr. Chang for his co-operation in this trial.

(4) *The Use of Mixed Cultures as "Group" Antigens.*—A preliminary trial was made to determine whether it was possible to prepare mixtures of cultures of different serotypes of leptospirae to act as a group antigen and thus minimise the work entailed in screening sera with the agglutination-lysis test. It was found that four strains could be mixed together and the resultant antigen did give reactions with homologous sera of each of the four strains and no agglutination was obtained with those heterologous sera tested. The reactions were, however, weak, of low titre, and difficult to read. It was found that the agglutination was more distinct when the mixture of the four cultures was concentrated by centrifugation. Attempts were made to mix more than four strains of leptospirae, but difficulties were encountered due to non-specific agglutination, and concentration of floccular material occurring in the medium made the reading of the tests difficult. It is proposed to continue these experiments in a search for a satisfactory group antigen for preliminary screening of sera.

(5) *Observations on the Survival of Leptospirae in Soil and Water.*—The investigations which were commenced last year on the survival of leptospirae in soil and water have been completed. Soil obtained from a cane farm where cases of leptospirosis were known to have occurred was infected with leptospirae. In some instances a culture of *L. australis* A. was added to the soil, in others it was infected by rats (*R. rattus*) known to be excreting leptospirae in their urine.

After periods ranging from eight to 43 days, the soil was flooded with rainwater which was subsequently examined for leptospirae by exposing guinea pigs to the "subcutaneous stream" technique. Leptospirae survived in culture-infected soil for 43 days and in urine-infected soil for 15 days prior to the addition of the rainwater. They were recovered from the water at intervals ranging up to 24 days after the flooding of the soil.

The infected soil was of pH 6·1—6·2, its moisture content, where determined, was 34% to 37% and the prevailing temperature 20 deg. C. to 29 deg. C. The reaction of the infected water samples ranged from pH 6·6 to pH 7·6.

TABLE CXI.

Comparison of E.S.S.* and Agglutination-Lysis Titres in Patients Infected with 11 Different Australian Leptospiral Serotypes.

Patient.	Infecting Serotype.	Day of Onset of Disease.	E.S.S. Titre.	Agglutination-Lysis Titre.
1.	*L. icterohaemorrhagiae*	7	0	0
		21	160	1,000
		63	40	1,000
		303	0	3,000
2.	*L. icterohaemorrhagiae*	4	no serum	0
		306	40	1,000
3.	*L. canicola*	5	0	0
		25	160	300
4.	*L. canicola*	9	excess sed.	0
		85	0	1,000
		141	10	1,000
		430	0	100
5.	*L. australis* A	4	0	0
		24	40	10,000
		45	0	1,000
6.	*L. australis* A	1	excess sed.	0
		11	0	1,000
7.	*L. australis* B.	5	40	0
		27	160	300
8.	*L. australis* B.	2	0	0
		37	40	300
		342	10	100
9.	"Robinson"	2	0	0
		27	0	3,000
		107	10	3,000
10.	"Robinson"	1	0	0
		38	40	1,000
		81	40	300
		329	no serum	30
11.	*L. pomona*	1	0	0
		22	40	100
		65	40	300
		335	10	100
12.	*L. pomona*	3	0	0
		24	160	1,000
		53	40	300
		157	40	300
		361	0	300
13.	*L. mitis*	25	40	1,000
		54	40	1,000
		415	10	30
14.	*L. mitis*	3	0	0
		18	40	1,000
		57	0	1,000
		135	0	300
		166	0	10
15.	*L. medanensis*	2	0	0
		33	no serum	30
		117	0	30
		369	0	10
16.	*L. medanensis*	14	no serum	100
		41	0	100
		329	0	30
		596	0	10
17.	"Kremastos"	4	0	0
		20	160	300
		48	10	10,000
		154	40	0
18.	"Kremastos"	2	0	0
		63	40	300
		92	160	300
		326	40	30
		399	10	30
19.	"Szwajizak"	3	0	0
		24	0	100
		52	10	300
		140	10	100
		423	0	300
20.	"Szwajizak"	4	0	0
		15	0	300
		27	0	100
		195	0	30
		564	0	100
		750	0	30
21.	"Celledoni"	4	0	0
		27	40	300
		78	40	300
		309	10	100
		479	0	30
22.	"Celledoni"	4	0	0
		31	0	300

* The Erythrocyte sensitising substance was prepared with *L. pomona*. Titres are expressed as the reciprocal of the serum dilution.

It would thus appear that *L. australis* A. excreted by a rodent carrier may survive in an acid soil, characteristic of many in North Queensland for periods of at least 15 days. The character of the soil and its ability to harbour leptospirae may be important factors influencing the relative incidence and geographical distribution of leptospirosis in humans in North Queensland.

A paper on this preliminary investigation has been accepted for publication, and it is planned to investigate further certain aspects of this problem.

6. Tuberculosis Laboratory.

In the current year, 5,600 specimens have been examined, and of these 2,985 were sputa, 1,721 gastric lavages, 781 laryngeal swabs, and 113 miscellaneous. All these specimens have been cultured on four tubes of Lowenstein-Jensen medium. It has been the custom to submit three specimens, either gastric lavage or sputum, from each new patient. In those patients from whom gastric lavages are received, at least one specimen is injected into a guinea pig as well as all cultures which appear atypical on culture. Whenever the culture resembles a bovine strain or when there is a suggestive occupational history, both rabbits and guinea pigs are inoculated.

A statistical analysis of the work carried out from January to December, 1954, revealed the following:—

Total number of specimens received	6,224
Total number of sputa examined	2,955
Total number of gastric lavages examined	1,838
Total number of laryngeal swabs examined	1,333
Total number of miscellaneous specimens examined	98
Percentage of total specimens with positive culture	18·2%
Percentage of sputum with positive culture	22·7%
Percentage of gastric lavages with positive culture	19·3%
Percentage of laryngeal swabs with positive culture	7·6%
Percentage of miscellaneous specimens with positive culture	9·2%
Percentage of positive slopes from specimens showing positive culture (4 inoculated from each specimen)	84·4%
Percentage of acid-fast saprophytes (total specimens)	0·5%
Percentage of slopes showing contamination (total)	8·2%
Percentage of slopes showing contamination (sputum)	11·3%
Percentage of slopes showing contamination (gastric lavage)	8·1%
Percentage of slopes showing contamination (laryngeal swabs)	0·3%
Percentage of slopes showing contamination (miscellaneous)	21·5%

There was found to be an increase of 43 per cent. in the number of sputa found to be positive by culture over those positive by smear alone. This fact, together with the low contamination rate, indicates that the media and technique are satisfactory.

Bovine strains have now been isolated from six patients and all of these had an occupational history, being either meatworkers, dairy farmers, or in close association with cattle. One of the patients was a dairy farmer from Murwillumbah, New South Wales.

During the year, a comparative study was made to determine the relative efficiency of the laryngeal swab and gastric lavage in obtaining positive cultures of *M. tuberculosis* in patients without sputum. The study embraced 1,305 examinations by each method on a total of 465 patients. In our hands one single gastric lavage was found to be almost twice as effective as three laryngeal swabs in obtaining positive cultures. The rate of growth is slower and the density of growth reduced in cultures from laryngeal swabs. The contamination rate is much higher in the gastric lavage than in the laryngeal cultures. No significant difference was found in the results obtained when using galvanised iron or stainless steel laryngeal swabs. The use of 4 per cent. NaOH in processing laryngeal swabs was found to have a deleterious effect on the growth of *M. tuberculosis*, and it is recommended that 2 per cent. NaOH be used. For gastric lavage cultures processing with 4 per cent. NaOH was found to be completely satisfactory. A report on this investigation has been submitted for publication.

The transportation of gastric lavage specimens for culture for *M. tuberculosis* presents a considerable problem, especially when they have to be sent long distances and are exposed to prevailing high temperatures. Numerous reagents have been suggested to preserve the viability of the organisms, to neutralise the gastric acidity, and to minimise the growth of contaminants. The most promising of these appears to be an equal volume of 10 per cent. hydrous tri-sodium phosphate, which, according to American reports, is equally suitable for sputum and gastric lavage specimens. Recently units containing sterile 10 per cent. hydrous tri-sodium phosphate have been despatched to numerous country hospitals and it has been found that the specimens have been arriving in a far more satisfactory condition than previously and contamination appears to be reduced. A controlled study is at present in progress to determine the efficiency of this reagent for the preservation and decontamination of gastric lavage specimens under local conditions and temperatures.

7. Haematology.

The work in this department increased considerably during the year due partly to the examination of sera from Rh negative women for Rh antibodies—an investigation which was previously done by the Red Cross Blood Transfusion Service. The procedure adopted is the indirect Coombs reaction, which is a sensitive method for detection of immune antibodies. All sera giving a positive reaction are then referred to the Blood Transfusion Service for final identification and titration of the antibody. The use of papain-treated red cells as a screening

test for Rh antibodies is at present under trial. If found satisfactory this method will provide a cheaper and less complex alternative to the Coombs test.

The increasing pressure of work in this department resulted in considerable delays for patients requiring haematological investigation, and at one stage appointments were being made for two to three weeks ahead. However, the appointment of additional technical staff and elimination of some redundant investigations gradually brought this situation under control, and at the present time delay is minimal.

8. Analysis of Autopsies.

The number of autopsies performed this year is not significantly different from the previous year. An analysis of the cases coming to autopsy has been made (Table CXII), and indicates the various causes of death within the different age groups. It will be seen that in almost half (49 per cent.), death was due to natural causes, and of this group coronary artery disease, either with or without thrombosis, was by far the commonest cause of death. It is of interest to note that recent thrombosis was found in 21 per cent. of persons dying suddenly and unexpectedly from coronary artery disease. Ten cases of sudden death in infants were investigated and with full bacteriological and histological examination a satisfactory explanation for death was found in each case. Broncho-pneumonia or interstitial pneumonia accounted for six cases, meningococcal septicaemia for two and suppurative otitis media and laryngeal diphtheria for one case each.

The figures for accidental deaths show the vulnerability of the pedestrian, no less than 40 per cent. of deaths occurring in this category of road users. There are seen to be two peaks of incidence, one among the very young and the other among the elderly. The preponderance of males in this group is accounted for to a large extent by alcoholism. Another noteworthy feature is the relatively large wastage of life among young male adult motor-cyclists, which comprise the second largest group of fatal traffic accidents. It should be pointed out that deaths attributed to alcohol have been classified as cases of accidental poisoning, and these account for nearly all those in the higher age-groups.

TABLE CXII.

Medico-legal Autopsies–1954–55—Showing Age and Sex Distribution according to Primary Cause of Death.

Causes.		Age in Years.										Total.	
		0–1.	1–9.	10–19.	20–29.	30–39.	40–49.	50–59.	60–69.	70–79.	80+	M.	F.
Coronary disease without thrombosis ..	M	..	..	..	..	..	3	19	31	16	3	72	..
	F	..	..	..	..	..	..	7	12	7	2	..	28
Coronary thrombosis ..	M	..	..	..	..	1	3	7	5	4	1	21	..
	F	..	..	..	..	..	1	1	1	3	..	..	6
Hypertensive heart disease	M	..	..	..	..	3	..	5	8	1	..	17	..
	F	..	..	..	..	1	1	2	1	2	..	..	7
Heart Disease—Miscellaneous causes ..	M	..	..	..	..	1	..	..	1	1	..	3	..
	F	..	..	..	..	..	1	2	2	..	..	..	5
Ruptured aortic aneurysm	M	..	..	..	..	..	..	..	1	3	..	4	..
	F	..	..	..	..	..	1	..	1	1	..	..	3
Intracerebral haemorrhage	M	..	..	..	..	..	1	5	3	2	..	11	..
	F	..	..	1	1	1	3	..	1	3	..	..	10
Subarachnoid haemorrhage	M	..	..	..	..	1	1	1	..	..	..	3	..
	F	..	..	..	..	4	2	..	2	..	1	..	9
Pulmonary embolism ..	M	..	..	..	..	..	..	..	..	..	..	..	..
	F	..	..	..	..	..	..	1	..	1	..	..	2
Pneumonia (all types)	M	..	..	..	..	..	1	1	6	4	1	13	..
	F	..	..	1	..	1	3	..	3	1	3	..	12
Asthma	M	..	..	..	1	2	..	1	..	..	..	4	..
	F	..	..	..	..	..	..	..	..	..	..	..	..
Sudden unexpected death in infants	M	5	1	..	..	..	..	..	..	..	..	6	..
	F	3	1	..	..	..	..	..	..	..	..	..	4
Miscellaneous natural causes	M	..	1	..	..	2	4	10	7	2	..	26	..
	F	..	1	..	1	2	2	1	1	1	1	..	10
Totals ..		8	4	2	3	19	27	63	86	52	12	180	96

TABLE CXII.—*continued.*

(*b*) Accidental Causes.		Age in Years.										Total.	
		0–1.	1–9.	10–19.	20–29.	30–39.	40–49.	50–59.	60–69.	70–79.	80..	M.	F.
Driver of vehicle ..	M	..	..	..	2	4	3	1	1	..	..	11	..
	F	..	..	..	..	..	..	..	..	..	..	..	..
Passenger of vehicle ..	M	..	1	2	5	4	1	1	1	..	..	15	..
	F	..	1	1	1	1	2	..	1	1	1	..	9
Pedestrian	M	..	3	..	1	3	5	9	5	6	3	35	..
	F	..	2	..	..	1	..	3	6	1	..	..	13
Pedal cyclist	M	..	3	1	..	..	..	1	1	..	..	6	..
	F	..	..	..	..	..	..	..	..	..	..	..	..
Motor cyclist	M	..	..	7	13	5	3	2	..	..	..	30	..
	F	..	..	..	..	..	..	..	..	..	..	..	..
Struck by train ..	M	..	..	1	..	3	2	4	4	..	..	14	..
	F	..	..	..	..	..	..	3	..	..	..	..	3
Fall from tram ..	M	..	..	..	..	2	..	..	1	..	1	4	..
	F	..	..	..	..	..	..	..	..	..	..	..	..
Fall on head	M	..	..	..	1	1	..	2	2	..	1	7	..
	F	..	..	..	..	..	1	3	1	1	..	..	6
Fall from height ..	M	..	..	..	1	1	1	..	1	1	..	5	..
	F	..	..	..	..	..	..	..	..	..	..	..	..
Drowning	M	..	3	1	2	4	4	2	..	..	..	16	..
	F	..	..	..	..	2	..	..	..	..	..	..	2
Electrocution	M	..	..	..	3	7	1	..	..	..	..	11	..
	F	..	..	..	..	..	..	..	..	..	..	..	..
Poisoning	M	..	3	..	..	..	2	1	2	..	..	8	..
	F	..	1	..	..	..	1	1	..	..	..	..	3
Miscellaneous accidents	M	..	2	3	2	2	5	..	1	..	1	16	..
	F	..	1	..	1	..	..	..	..	1	1	..	4
Totals ..		..	20	16	32	40	31	33	27	11	8	178	40

TABLE CXII.—*continued.*

(*c*) Miscellaneous Causes.		Age in Years.										Total.	
		0–1.	1–9.	10–19.	20–29.	30–39.	40–49.	50–59.	60–69.	70–79.	80..	M.	F.
(1) Suicide.—													
Poisoning	M	..	..	..	1	3	1	1	3	1	..	10	..
	F	..	..	..	..	1	1	4	3	..	..	..	9
Hanging	M	..	..	..	..	1	..	..	3	1	..	5	..
	F	..	..	..	1	1	1	1	1	..	..	..	5
Gunshot wound ..	M	..	..	1	1	1	..	1	1	..	1	6	..
	F	..	..	..	..	..	..	..	..	..	..	..	..
Cutting or stabbing	M	..	..	..	..	1	1	1	1	..	..	4	..
	F	..	..	..	..	..	..	..	..	..	..	..	..
Drowning	M	..	..	..	..	..	..	..	..	..	..	..	..
	F	..	..	..	..	1	1	..	..	..	..	..	2
Fall from height ..	M	..	..	..	..	1	1	..	..	..	..	2	..
	F	..	..	..	..	..	..	..	..	..	..	..	..
Incineration	M	..	..	..	..	..	..	..	..	..	..	..	..
	F	..	..	..	..	..	..	..	..	1	..	..	1
Totals ..		..	..	1	3	10	6	8	12	3	1	27	17
(2) Homicide	M	..	1	1	1	..	1	1	1	..	..	6	..
	F	..	..	..	..	..	..	..	..	..	..	..	..
(3) Death under anaesthesia	M	1	..	2	..	1	..	1	..	1	..	6	..
	F	..	..	..	1	..	..	1	2	..	..	..	4
(4) Stillbirth	M	2	..	..	..	..	..	..	..	..	..	2	..
	F	1	..	..	..	..	..	..	..	..	..	..	1
(5) Unknown	M	..	..	..	..	1	..	..	2	..	..	3	..
	F	..	..	..	1	1	..	..	1	..	..	..	3
Grand Totals		12	25	22	41	72	65	107	131	67	21	402	161

The six deaths classified as "Unknown" requires some comment. In three cases decomposition was so far advanced as to render diagnosis impossible. The diagnosis in the remaining three cases remained obscure even after complete toxicological, bacteriological, and histological examination. This type of case remains a baffling but intriguing problem which confronts all forensic pathologists from time to time. One feels that more meticulous examination and more exhaustive investigations should provide an answer, but it is not inconceivable that the cause of these deaths may be a lesion so small as to be discoverable only by a lucky chance or by so detailed a search as to be beyond the realms of practicability.

10. The City Morgue.

The unaesthetic appearance of this establishment, referred to in the last annual report, continues to obtrude itself upon those who visit it. Noise and dust, so far from abating threaten to increase with the expected expansion of the neighbouring sand and gravel works. The ordeal of relatives brought by the police to identify the dead must be made even more distressing by the repellent appearance of what is little more than a tin shed and the lack of proper facilities for the viewing of bodies.

In an endeavour to reduce the risk of infection in those working at the Morgue, particularly with regard to tuberculosis, arrangements have been made with the Public Works Department to install ultra-violet light within the prosectory.

11. Publications.

O'Reilly, M. J. J. (1955): "Acquired Toxoplasmosis: An Acute Fatal Case in a Young Girl," Medical Journal of Australia, Volume II, page 968.

Smith, D. J. W., and Self, H. R. M.: "Observations on the Survival of *Leptospira australis* A. in Soil and Water" (in the press).

Smith, D. J. W., and Brown, H. E.: "Two Additional Serotypes of Leptospirae from North Queensland" (in the press).

Tonge, J. I., and Hughes, P. G.: "A Comparative Study of Laryngeal Swabs and Gastric Lavage in the Detection of Tubercle Bacilli" (in the press).

GOVERNMENT CHEMICAL LABORATORY, 1954-55.

Government Analyst and Chief Inspector of Explosives:
S. B. Watkins, M.Sc., F.R.A.C.I.

Deputy Government Analyst and Inspector of Explosives:
A. S. Hurwood, B.Sc., A.R.I.C., A.R.A.C.I.

The total number of submissions from all sources for the year was 20,905 and the table below includes this figure with those for the preceding 10 years:—

TABLE CXIII.

Year.	Total Submissions.
1944–45	15,434 (Record year)
1945–46	11,875
1946–47	12,834
1947–48	13,629
1948–49	17,564 (Record year)
1949–50	18,840 (Record year)
1950–51	14,137
1951–52	15,675
1952–53	26,014 (Record year)
1953–54	21,894
1954–55	20,905

The current total, 989 less than last year's second highest on record, was evenly spread throughout the several sections of the laboratory. In the following table a five years' dissection is given, covering the number of examinations for the four sections of the laboratory.

TABLE CXIV.

Year.	Section 1.	Section 2.	Section 3.	Section 4.
1950–51	5,148	1,031	3,463	4,495
1951–52	5,590	1,207	4,069	4,809
1952–53	16,602	1,442	3,868	4,102
1953–54	7,762	1,647	4,295	8,190
1954–55	7,397	2,815	4,412	6,281

Table CXV analyses the year's total of samples according to the submitting authority:—

TABLE CXV.

Authority.	Number of Submissions.
State Departments—	
Health and Home Affairs	6,608
Police	265
Geological Survey	469
Mines	104
Coal Board	73
Irrigation and Water Supply	829
Harbours and Marines	387
Portmaster (Explosives)	2,836
Local Government	431
Main Roads Commission	266
State Stores Board	642
Public Works	513
Queensland Housing Commission	552
Tile Testing Station	275
Railways	38
Queensland Institute of Medical Research	1,033
Others	260
Commonwealth Departments—	
Customs	2,922
Commerce and Agriculture	1,356
Others	316
Hospital Boards	330
Medical Profession	87
Public	313
Total	20,905

Accommodation and Equipment.—The ore crushing and grinding equipment, together with other facilities, has been installed in the new building referred to in last year's report. It remains for the small room under the same roof to be furnished and equipped for housing new apparatus to be used in the evaluation of uranium ores and other uranium bearing materials.

During the year, Mr. D. Mathers visited Melbourne and Adelaide to investigate methods, apparatus, and equipment used in uranium determinations, and as an outcome of this visit and in collaboration with senior officers of the Mines Department executive approval has been given to the purchase of valuable equipment for such work.

It is of singular interest that on each occasion when new premises have been provided for the Government Chemical Laboratory they have become inadequate with the passage of a few years. The transfer in August, 1935, from the overcrowded conditions of the laboratory then situated in the Executive Buildings to its present site provided good working conditions for several years. The number of samples analysed for that (1935-36) and the two succeeding years were, respectively, 13,656, 15,421, and 14,447 (average 14,508). The average figure for this and the past two years is 22,938, being 8,430 ahead of the above average, an increase of over 50 per cent. This has again caused overcrowding. This laboratory will take over the accommodation of the Laboratory of Microbiology and Pathology when it transfers to its new site. This should relieve any overcrowding.

Historical Sketch.—Early this year, the President of the Royal Society of Queensland for 1954 sought information concerning the establishment and early history of the laboratory for possible use in preparing a Presidential Address. As a result of this request a search through early Gazettes and Parliamentary reports was made with interesting results. An Act to make provision for the sale of Food and Drugs in a pure state was assented to on 17th October, 1881. By section 9 "The Governor in Council may appoint some person or persons possessing competent knowledge, skill, and experience as Government analyst or analysts for the purposes of this Act." Provision was also made for the appointment of analysts by local authorities, subject to the Minister's approval. A Government analyst, subject to the Minister's approval, may act as a public analyst for any municipality. In many respects,

Government analysts of those days were akin to State analysts of present days, and in other regards, echoes of present day legislation are to be found in this 70-year-old Act. The purchaser of an article of food or of a drug may have same analysed by the analyst of a municipality or by a Government analyst and receive a certificate of the result for the payment of a sum not exceeding twenty shillings. The form of the present day certificate issued by the Government analyst finds its beginnings in the "form of certificate" published in the Schedule to the Act.

In the Statement of Expenditure an account of the financial year 1881-1882 there appeared the items—Government Analyst £117 4s. 1d. and passage money from England £63; and for the year 1882-1883—Government Analyst's salary £400, contingencies £150. It appears that the first Government analyst, by name Robert Mar, arrived about March, 1882. On 6th July, 1883, he submitted his first annual report for the year 1882-1883. This document is of more than passing interest and reads as follows:—

1883.

QUEENSLAND.

REPORT OF THE GOVERNMENT ANALYST FOR THE YEAR ENDED 30TH JUNE, 1883.

Presented to both Houses of Parliament by Command.

TO THE HONOURABLE THE COLONIAL TREASURER.

Government Analyst's Office,

Brisbane, 6th July, 1883.

Sir,—I have the honour to present the Annual Report for this Department for the year ended 30th June, 1883.

During the first half of the year non-arrival of apparatus hindered work, and the same was interrupted by necessitated removal of laboratory in February last, so that most of the analyses tabulated below were made in the quarter ending the year.

Hitherto I have been chiefly engaged in examining spirituous liquors forwarded from the Excise Department.

From the samples of such liquors thus far submitted to me, I judge that any pernicious effects, consequent upon the use of those sold in Brisbane, are due to the spirits themselves being too new, unmatured, and not because of adulteration with foreign, injurious substances. The vendors reduce with water, colour with burnt sugar, and, in some cases, add a little flavouring matter; but, in samples examined, water only has been found in excess.

With regard to other articles sold in the city and articles sold in other parts of the colony, there is not yet to hand sufficient data from which to form an opinion as to the nature and prevalence of adulteration.

Following is a statement of substances analysed, the number of analyses made, and the result of each.

The four adulterated milks came from Townsville, and three of the adulterated whiskies from Warwick.

ANALYSES MADE UNDER "THE FOOD AND DRUGS ACT OF 1881."

Substances Analysed.	Number of Samples Analysed.	Result.	
		Adulterated.	Not Adulterated.
Milk	7	4	3
Bread	8	..	8
Tea	3	..	3
Whisky	47	6	41
Brandy	16	3	13
Rum	10	2	8
Gin	17	1	16
	108	16	92

ANALYSES MADE OTHER THAN THOSE UNDER "FOOD AND DRUGS ACT."

Substances Analysed.	Number of Samples.	Result.	
		Passed.	Condemned.
Water	5	5 (subject to filtration)	..
Mineral Oil	5	1	4
Matter for Colouring Spirits	1	1	..
Vomit	1	(contained phosphorus)	
Vermin Paste	2	..	..
	14	7	4

Total number of analyses made for the year ending 30th June—One hundred and twenty-two (122).

I have, &c.,

ROBERT MAR,
Government Analyst.

SECTION 1.

FOODS, DRUGS AND WATERS.

A. S. HURWOOD, B.Sc., A.R.I.C., A.R.A.C.I., Deputy Government Analyst, Officer-in-Charge.

Table No. CXVI gives the number and source of the samples examined.

TABLE CXVI.

Department.	No. of Samples.
Health and Home Affairs	5,419
Irrigation and Water Supply	755
Other Government Departments	1,069
Public	154
Total	7,397

TABLE CXVII.

SUMMARY OF SAMPLES OF FOODS AND DRUGS EXAMINED FOR THE DEPARTMENT OF HEALTH AND HOME AFFAIRS.

Nature of Sample.	No. of Samples.
Beverage or Cordial	253
Bread	224
Cereal	114
Condiment	44
Disinfectant	110
Drug or Medicine	145
Fish	36
Flock or fibre	8
Fruit or fruit juice	182
Jam or jelly	12
Meat	113
Milk—official	1,750
Milk—unofficial	119
Milk products	92
Paint	613
Spirituous Liquor	87
Tobacco	719
Toy	42
Vegetable	23
Miscellaneous	526
Total	5,212

The miscellaneous samples include confectionery, essence, oil, toilet preparation, solder, and sausage seasoning.

TABLE CXVIII.

Details of legal samples taken by Inspectors in accordance with the provisions of *"The Health Acts, 1937 to 1949."*

Nature of Sample.	Number Examined.	Passed.	Failed.
Milk	1,750	1,524	226
Paint	408	107	301
Minced Meat	71	17	54
Spirituous Liquor	24	1	23
Bread	26	17	9
Sausage Meat	10	8	2
Miscellaneous	3	1	2
Total	2,292	1,675	617

The number of legal samples other than milk is an all-time record, due to intensive sampling of paint from houses in the Yeppoon area.

TABLE CXIX.

DETAILS OF LEGAL SAMPLES OF MILK SUBMITTED FOR ANALYSIS.

District.	Total Number of samples.	Number of samples which passed the standard.	Number of watered samples.	Number of samples below the standard in fat (3·3 per cent.) but not watered.	Number of samples below the standard in total solids (12 per cent.) and/or solids not fat (8·5 per cent.) but not watered nor deficient in fat.	Proportion of watered samples. (per cent.)	Average proportion of added water. (per cent.)
Greater Brisbane	898	840	8	40	10	0·9	11·1
Cairns	55	35	10	8	2	18·2	9·4
Charleville	8	6	Nil	2	Nil	Nil	Nil
Cloncurry	9	5	1	1	2	11·1	10·0
Darling Downs	110	98	4	7	1	3·6	11·0
Dayboro	152	101	23	13	15	15·1	8·0
Goondiwindi	12	9	Nil	3	Nil	Nil	Nil
Ipswich	109	96	3	6	4	2·7	8·6
Longreach	19	7	Nil	12	Nil	Nil	Nil
Mackay	23	21	Nil	2	Nil	Nil	Nil
Maryborough	45	42	1	Nil	2	2·2	20·0
Near North Coast	66	55	2	3	6	3·0	21·5
Redcliffe	50	45	Nil	4	1	Nil	Nil
Rockhampton	62	53	4	5	0	6·5	10·5
South Burnett	18	15	2	0	1	11·1	8·0
South Coast	45	36	2	1	6	4·4	14·5
Townsville	45	40	1	3	1	2·2	35·0
Warwick	24	20	1	2	1	4·1	2·0
Total	1,750	1,524	62	112	52	3·5	10·2

TABLE CXX.

(SUMMARY OF TABLE CXIX).

	Percentage of total number of Samples.
Samples adulterated with water	3·5
Samples deficient in fat but not watered	6·4
Samples below the standard in total solids and/or solids not fat only	3·0
Samples which passed the standard	87·1
	100·0

TABLE CXXI.

MILK SAMPLES TAKEN IN GREATER BRISBANE COMPARED WITH PREVIOUS YEARS.

Year.	Number of Samples.	Proportion of Total Samples.	Proportion Adulterated with Water.
		Per cent.	Per cent.
1947–48	1,261	55·2	1·6
1948–49	1,221	49·3	1·7
1949–50	1,154	53·0	1·7
1950–51	732	43·2	6·5
1951–52	878	41·8	4·3
1952–53	813	42·1	0·7
1953–54	768	37·7	7·7
1954–55	898	51·3	0·9

TABLE CXXII.

SHOWING THE AVERAGE FAT CONTENT OF THE LEGAL SAMPLES OF MILK IN WINTER AND SUMMER IN TOWN AND COUNTRY.

Number of Samples.	Greater Brisbane or Country.	Season.	Months.	Average Fat Content.
				Per cent.
1,750	Both	Overall	July-June	3·94
228	Brisbane	Winter	July-September	3·75
179	Country	ditto	ditto	3·77
407	Both	ditto	ditto	3·76
475	Brisbane	Summer	October-March	3·90
453	Country	ditto	ditto	3·84
928	Both	ditto	ditto	3·87
195	Brisbane	Winter	April-June	4·33
220	Country	ditto	ditto	4·22
415	Both	ditto	ditto	4·27

NOTE :—" Country " in this table means outside the Greater Brisbane Area.

TABLE CXXIII.

SHOWING MILK ANALYSES COMPARED WITH PREVIOUS YEARS.

Year.	Number of Legal Samples.	Percentage showing Deficiency in Fat but not Watered.	Percentage Below the standard in Total Solids and/or Solids not Fat only.	Percentage of Watered Samples.	Added Water (Average amount per cent.)
1948–49	2,476	9·4	4·0	4·3	10·0
1949–50	2,179	9·6	3·5	3·1	9·0
1950–51	1,695	9·7	2·7	8·7	8·5
1951–52	2,100	13·7	9·6	8·0	9·5
1952–53	1,934	7·8	3·5	2·8	10·2
1953–54	2,036	11·0	7·5	6·3	9·4
1954–55	1,750	6·4	3·0	3·5	10·2

The overall quality of foods and drugs in Queensland is of a high order and purity standards are rigidly enforced.

The combined effort of both health inspector and analyst is as vital to-day as ever before, and plays no small part in keeping these standards at the high level that now obtain.

The following report covers a cross-section of the year's work on foods and drugs, and conveys some idea of its variable nature and its magnitude.

MILK.

There was a marked improvement in the quality of milk compared with last year.

The pasteurised milk supply, including the milk issued to schools under the free milk scheme, was regularly examined with satisfactory results. Of the legal samples of milk examined, 51·3 per cent. were from Greater Brisbane and 48·7 per cent. from other parts of the State. The proportion of samples adulterated with water was 0·9 per cent. in Greater Brisbane and 6·3 per cent. outside this area. This does not mean that 0·9 per cent. of the milk of the metropolitan area is adulterated. The milk supply of Brisbane consists of 93.5 per cent. pasteurised milk, and it is for this reason that there is little adulteration. The higher incidence of adulteration in the country is accounted for by the fact that a large number of the samples taken were from milk supplies to factories, and their milk was sampled because of adverse reports received by the Department.

The average fat content of all the samples was at the satisfactory high level of 3·94 per cent.

There was again a high incidence of watered milks in the Cairns district.

MEAT.

One hundred and thirteen samples in all were examined, chiefly minced meats for preservative and sausages for meat content. No contravention of the Food and Drug Regulations is more consistent than the addition of sulphite preservative to minced meat. Of 71 legal samples of this invalid foodstuff taken in the Brisbane and Cairns districts, 54 contained the preservative substance sulphur dioxide in varying proportions up to 25 grains to the pound.

Samples of minced meat were also received from the Commissioner of Prices for a determination of fat content.

Under a recent Prices Order, three grades of minced meat are recognised, namely:—

First quality, containing not more than 7½ per cent. fat.

Second quality, containing between 7½ and and 12½ per cent. fat.

Third quality, containing over 12½ per cent. fat.

BREAD.

Two hundred and twenty-four samples were examined for the Health Department, chiefly in relationship to prescribed standards.

Quality surveys were made in a number of country towns, including Toowoomba, Kingaroy, Esk, Gympie, Pomona, Redcliffe, and Cairns, with generally satisfactory results.

A number of samples was submitted from the Department of Labour and Industry in connection with the manufacture of bread outside prescribed hours.

Seven samples from the Weights and Measures Department were examined for dry solids content and one sample was received from the Prices Commissioner.

Standardisation of bread weight on a dry solids basis will soon operate in Queensland, and legislation is being framed accordingly. The method has much to commend it, and would be more conducive to the production of well-baked, good-quality bread than the present system of direct weighing of the loaf. Preliminary experimental work has been carried out in this laboratory and 19·2 oz. recommended as the minimum dry solids content of a 2-lb. loaf.

Flour.

Flour and flour mixtures from Queensland mills were regularly examined, with satisfactory results, and 114 samples were submitted for examination. The protein content of the white flours varied from 11·0 to 13·4 per cent., a somewhat similar range to last year and well above average, compared with flour available in other States of Australia.

The flours described as "protein rich" and "gluten rich" were seldom more than 1 per cent. higher in protein content than ordinary bakers' flour.

TABLE CXXIV.

Showing the Composition Range of 14 Brands of Tomato Sauce from the Local Market.

	Per cent.
Total solids	29·3 to 40·2
Common salt	1·6 to 3·9
Ash	2·1 to 4·3
Acidity (as ascetic acid) ..	1·0 to 1·8

Three brands only contained artificial colour and three brands only contained preservative (benzoic acid). Apart from excess preservative in one sample, all the brands conformed with official requirements.

Zinc Poisoning From Stewed Apples.

A stewed apple dessert was the cause of sickness, in the form of vomiting, in a family, and a sample of the dessert submitted for analysis proved to be contaminated with zinc compounds at the rate of 0·13 parts per centum, calculated as metal. The contamination was due to cooking in a galvanised iron pan. Most people are well aware of the danger associated with this practice.

The poisonous zinc coating of galvanised iron is readily attacked by acid foods, and because of this, galvanised iron containers are quite unfit for use in the manufacture of jam, chutney, sauce, or for the cooking of food products containing fruit, fruit juice, or vinegar.

Orris Root in Face or Dusting Powders.

An inquiry from a woman, claiming to be allergic to orris root, as to whether any brand of face or talc powder on the market was safe for her to use resulted in 17 of the commoner and cheaper brands being examined. None contained orris root and none contained any commonly recognised skin irritant substance.

Hypersensitivity to orris root is not uncommon, and this substance is now seldom used in face or body powders. There was a marked variation in fineness or particle size between the several powders, the coarsest talc powder yielding—

15 per cent. above 80μ.
25 per cent. between 50-80μ.
40 per cent between 20-50μ.
20 per cent. between 10-20μ.

and the finest face powder—

10 per cent. between 50-80μ.
10 per cent. between 20-50μ.
5 per cent. between 10-20μ.
75 per cent. below 10μ.

Infertile Eggs from Incubators.

The disposal of infertile eggs from incubators to pastrycooks for food manufacturing purposes is common practice. Following a complaint that eggs were being used that were unfit for human consumption, an investigation was made and infertile eggs of 5, 10, and 18 days' incubation examined. All were in sound condition and fit for use for food manufacturing purposes. The practice should find its own level, and any health hazard involved would be remote.

Drugs and Medicines.

One hundred and forty-five samples in all were examined.

The various brands of calamine lotion, hydrogen peroxide, and tincture of iodine were checked against prescribed standards. Complaint samples of medicine were checked for accuracy of dispensing, and in this respect, there was one serious error of dispensing where dilute hydrochloric acid had been used instead of water in an eye lotion.

Adverse criticism was passed on a sample of tablets containing sodium fluoride in small proportion and claiming inter alia to "build sound teeth and prevent decay."

Extravagant claims were associated with a number of proprietary lines, including a crude sugar cane molasses, advertised as a cure for almost all stomach ills; also compressed seaweed tablets claiming vitamin and mineral potency and having very little therapeutic value.

The Hazard of Lead.

The aim of the Queensland Health Department has long been to keep lead in all its forms outside the reach of children, and over the years legislation has been introduced accordingly.

Many samples were submitted for examination in connection with the search for lead, including foodstuffs, toys, crayons, pencils, plasticine, paints, and paint scrapings. An all-time record number of 613 samples of paint and paint scrapings were received for determination of the "soluble lead" content.

The excessive use of lead arsenate on apples constitutes a lead hazard. The continued inspection of all consignments of apples is deemed essential in order to keep the marketed fruit at a safe lead level.

Medicated Toilet Soaps.

Five common brands of soap sold as medicated toilet soap were examined and the only medication present were antiseptics or germicidal essential oils in proportions considerably less than 1 per cent. It is doubtful whether these small concentrations of essential oil add any significant therapeutic value to the soaps. No serious case of misrepresentation is involved, provided extravagant claims concerning medication are not made in the labelling or advertising of the products.

Harmful Sneezing Powder.

A sneezing powder, sold at a novelty shop for joke purposes, was shown to be powdered quillaia or soap bark, a strongly sternutatory substance and a violent local irritant. Used indiscriminately, it could cause harm and discomfort to man. Its sale was consequently stopped.

Inflammable Liquids in the Home.

An ever-increasing number of inflammable liquids is being introduced into the home with added fire and health risks. Many such preparations were examined during the year, including kerosene, petrol, methylated spirit, insecticides, dry cleaners, floor and furniture polishes, and paint removers.

Insecticide Vapourisers.

Ten different brands were examined, all based on the dispensing of lindane by volatilisation from electrically heated cups.

This new development in pest control lends itself to hazard through misuse, improper installation or faulty operation and only those brands with small cups and low rates of volitalisation were considered safe and accepted as suitable for use.

Fruit and Vegetables.

Two hundred and five samples were examined. The use of diphenyl as a fungicide in wrapping paper for citrus fruits was encountered for the first time. Intensive sampling of apples at the local markets resulted in the examination of 105 samples for lead arsenate spray residues.

Tobacco.

Seven hundred and nineteen samples in all were received. Samples of tobacco leaf and prepared tobacco were examined for insecticidal spray residues, with as a whole satisfactory results. Contraband cigarettes and pipe tobacco from the Queen's warehouse were examined as to suitability for sale.

Cures for the Tobacco Habit.

Five different preparations of this kind were examined. One consisted essentially of lactose, two were flavoured cane sugars, one was a dilute aqueous solution (0·1 per cent.) of silver nitrate and one a dilute aqueous solution of silver nitrate together with a few tablets of epsom salts. All were practically useless for the purpose claimed. There is no known simple harmless universal cure with drugs for the tobacco habit.

A popular method of sale for nostrums of this type is through the post at exorbitant charges.

Camouflaged Rusted Cans.

A number of cans of foodstuff from a seaside town was examined. It was old stock and the can ends had been painted white to hide severe rusting. This practice is not tolerated and the whole pack was condemned as unfit for sale.

The application of an external transparent lacquer film will minimise rust formation, and cans, intended for long storage or exposure to severe climatic conditions as obtain at the seaside, should be lacquered externally in this way before—and not after—the cans have rusted.

Deteriorated and Contaminated Foodstuffs.

Auction room foodstuffs are always viewed with suspicion and receive special attention from the Health Inspectors, lines of doubtful purity being submitted to the analyst for opinion as to suitability for sale for human consumption. Many such items were examined during the year.

In a different category are foods contaminated in the holds of boats or on wharves during loading and unloading as the following cases investigated during the year typify:—

- Litharge spilled over a consignment of rolled oats.
- Dried fruits contaminated with copper sulphate.
- Arsenical contamination of nuts and beans.
- Sugar contaminated with copper sulphate.

In cases such as these it is the work of the analyst to determine the extent of the damage and what part of the consignment, if any, is fit for sale. Again during transport by rail, foodstuffs at times are spoiled by rain water or damaged in other ways and the analyst is asked to assist in assessing the damage as was done recently with a consignment of headache powders wetted with rain water.

Hospital Work.

Samples of soap, bread, tablets, and tinctures were examined for the Brisbane and South Coast Hospitals Board. An investigation was made and a report issued on the relative merits of hospital-made soap and factory-made washing powder as detergents for clothes washing at the General Hospital.

Miscellaneous.

Samples of butter from most of the 52 factories in Queensland were examined and nearly all conformed with the prescribed standard.

The different brands of vinegar were examined with satisfactory results both as regards labelling and composition.

Following a complaint, not infrequent of recent years, that some brands of tea contain "Condy's crystals," the several brands of tea on the market were examined. All conformed with the prescribed standard and none contained "Condy's crystals" or other artificial colouring matter.

A number of cases was encountered in which foreign substances of different kinds were found in foods, including a dead mouse in a loaf of bread, earthy matter in a meat pie, rodent excreta in bread, and paint residues in a milk bottle. Every year has its small quota of isolated cases of foreign matter in foodstuff, and this year was no exception. The resultant fines and publicity do much to check carelessness in the manufacture and handling of foods.

In the search for lead, ten proprietary lines of putty were examined and one only contained lead compounds.

The search for ambergris still continues, and 13 specimens from different beaches were submitted for examination. One only was genuine and that of poor quality and worthless.

In six hairwaving preparations examined, the active ingredient in the neutralising portion was sodium perborate—replacing potassium bromate which was recently listed as a scheduled poison in Queensland.

Samples of attractive looking coloured anodised aluminium ware were examined as to suitability for use as food containers.

Twenty-three legal samples of spirituous liquor, including rum, gin, whisky, and brandy failed to conform with official requirements as regards spirit strength.

Many samples of insecticides were examined under "The Health (Insecticides) Regulations, 1953."

A number of detergents was accepted as approved detergents under "The Cafe Regulations, 1952."

Flock, fibre, and kapok samples were examined under "The Bedding and Upholstery Regulations of 1948." Samples were also examined under "The Poisons Regulations of 1947."

From the Department of Health, Port Moresby, seven hair dyes, four cans of fish, and three other samples were submitted for examination and report.

For miscellaneous Government Departments the samples examined were many and varied and included:—

Tender and contract samples of foodstuff for the Repatriation Department and for the Army, minced meat and bread samples from the Prices Department, bread and milk samples from the Weights and Measures Department, beer and headache powders from the Railway Department, fish from Harbours and Marine, human milk from Child Welfare Centres, and miscellaneous samples from Sales Tax, Public Instruction, and Agricultural Departments.

TABLE CXXV.

NUMBER AND SOURCES OF WATER SAMPLES EXAMINED.

Department.	Number of Samples.
Health and Home Affairs	207
Irrigation and Water Supply	755
Local Government	364
Harbours and Marine	384
Miscellaneous Government	113
Public	140
Total	1,963

To cope with this work, a third analyst was attached to the section for the greater part of the year. The Irrigation and Water Supply Department requires reports on water for stock watering and irrigation purposes, whilst the Local Government are mainly concerned with developmental schemes to provide suitable water for country towns. Also among their submissions are an increasing number of sewerage effluents to assess the efficiency of several urban installations. The Harbours and Marine Department are interested in the saline content of the Brisbane River water at several stations and at various tidal stages. Samples submitted by the Health Department are mostly concerned with existing supplies to Queensland towns or camping areas along the coastal belt.

SECTION 2.

TOXICOLOGY, BIO-CHEMISTRY AND INDUSTRIAL HYGIENE.

I. L. B. HENDERSON, B.Sc., Officer-in-Charge.

The total number of specimens submitted for examination by this section was 2,815.

POLICE DEPARTMENT.

Specimens submitted by this Department during the year numbered 262, of which 178 were in connection with 71 post-mortem examinations. Poisons found included barbiturate (21), parathion (2), pentachlor-phenol (2), chloral (1), strychnine (2), Q.E.S. tablets (1), lead arsenate (1). The remaining 41 post-mortem examinations did not disclose any poison but were necessary to exclude any possibility of poison being the cause of death. Barbiturates continue as the popular agents for self-destruction, due chiefly to the fact that they are widely prescribed and that they produce a painless death.

Suspected animal poisonings, involving ten examinations, were also investigated. Other specimens examined for this Department included anaesthetics, hypodermic tablets, bloods, urines, whisky, water, soil, sump oil, explosive preparations, foodstuffs, and a hair shampoo.

BIO-CHEMISTRY.

Biochemical specimens are examined for the Laboratory of Microbiology and Pathology, the Government Medical Officer, the Queensland Institute for Medical Research, the Director of Industrial Medicine, the Brisbane General Hospital, other hospitals and medical practitioners.

The nature, significance, and number of specimens submitted are shown in the following table:—

Nature of Specimen and Significance.	Number of Specimens.
Blood and Urine for alcohol, ether or other drugs	614
Urine for lead	425
Urine for mercury	15
Urine for 17 keto-steroids	31
Bone for lead	1,147
Hair, nail and urine for arsenic	80
Miscellaneous	50
Total	2,362

The majority of alcohol determinations in blood and urine are performed for the Government Medical officer in connection with charges against motorists. Many such examinations are also made on post-mortem specimens submitted by the Government Pathologist.

The large number of determinations of lead in human bone is in continuation of the inquiry by the Queensland Institute for Medical Research into the abnormal incidence of chronic nephritis in Queensland. It is anticipated that after a further six months' work, sufficient data will have been gathered to complete the investigation.

Urine specimens are continuously being checked for their lead and arsenic content, chiefly from persons whose work brings them into contact with these occupational hazards.

The analysis of urine for 17 keto-steroids on behalf of the Brisbane General Hospital is being continued until the Hospital itself can carry out such tests.

Industrial Hygiene.

Dust and ventilation surveys were carried out at four coal mines in Queensland. Dust tests were performed at a quarry, a mineral grinding plant and a fibro-cement factory. Estimation was made of noxious substances in the atmosphere in a rubber works, two shoe factories, a dyeing works and a butter factory. Miscellaneous investigations included ventilation tests at a city power house, inspections of spray painting at a motor assembly works, and of case hardening at an engineering workshop.

Section 3.

MINES, MINERALOGY, METALLURGY AND EXPLOSIVES.

V. R. Cundith, B.Sc., A.R.A.C.I., A.M.Aust., I.M.M., Officer-in-Charge.

The table shows the sources of work done by this Section and the number of samples from each:—

Department.	Number of Samples.
Geological Survey and Mines Department	568
Coal Board	73
Portmaster (explosives)	2,836
Public (chiefly oil tank examinations)	142
Other Departments*	676
Commonwealth	117
	4,412

*Including 275 tiles.

Mines Department and Geological Survey.

Samples of ore were examined for estimation of copper, lead, zinc, cobalt, nickel, arsenic, bismuth, tin, antimony, manganese, and uranium, &c., In addition, there were the usual assays for gold and silver and in this connection it is of interest to record the occurrence of palladium in some gold-copper ores assayed. A yellow colour was observed during parting treatment, and on repeat assays for gold and silver on larger quantities of ore, the typical embossed surface effect of palladium on the prills was evident.

A number of limestone drill cores were submitted for full analyses to determine and ensure adequate reserves of good-quality material available for the manufacture of cement at Stuart Creek, Townsville. Limestone samples were tested for suitability of the finely crushed rock for the stone dusting of collieries. A degree of fineness is required which permits ready dispersibility and the silica content should not exceed 3·0 per cent.

A number of samples of iron ore were received for analysis, mainly for silica, iron, phosphorus, sulphur, titanium, and manganese. Fire tests were made on a number of clays to determine their suitability for the manufacture of bricks, tiles, stoneware, and firebricks. The firing temperature ranges from 900 deg. C. to 1,600 deg. C. and although these provide useful information, finality should rest with a trial bulk firing using the type of kiln and firing conditions required for the job.

The following tables illustrate the type of report furnished:—

TABLE CXXVI.

CLAY A.

Colour	White
Plasticity	Plastic
Air-dried strength	Good dry strength
Air-dried shrinkage	11 per cent.

Fire Test °C. on (Air-dried) Brick.	900	1000	1100	1150
Colour	White	White	White	White
Strength	Fair	Good	Excellent	Dense tough
Shrinkage from air-dried	2·0 per cent	3·0 per cent	5·5 per cent.	6·5 per cent.
Condition of brick	Part Sintered	Part Sintered	Fully Sintered	Part Vitrified

Comment:—The clay would be suitable for many ceramic purposes.

TABLE CXXVI.—*continued.*

CLAY B.

Colour	Brown
Plasticity	Plastic
Air-dried strength ..	Good
Air-dried shrinkage ..	15 per cent.

Fire Test °C. on (Air-dried) Brick.	900	950	1000	1100
Colour	All terra cotta.			
Strength	Medium	Medium	Good	Dense, tough
Shrinkage from air-dried	1·0 per cent.	1·5 per cent.	2·0 per cent.	3·0 per cent.
Condition of brick	Slight Sintered	Part Sintered	Fully Sintered	Part Vitrified

COMMENT:—The clay should prove suitable for brick-making.

During the year, oil companies have been actively engaged in drilling campaigns, and several bore gases, sludges, wax, and grease were received for examination. As in the previous year, samples of ore and mineral were received for the determination of uranium and thorium. The laboratory uses the chemical method, but to cope with increasing work, alternative precision methods consistent with a minimum of preparatory treatment suitable for rapid routine work, are required.

At the invitation of Mr. S. B. Dickenson M.Sc., Director of Mines, Adelaide, and Mr. I. Wark D.Sc., Chief of Division of Industrial Chemistry, C.S.I.R.O. Melbourne, Mr. D. Mathers, M.Sc., visited their laboratories to obtain first hand knowledge of the following assay methods:—

(1) Radiometric;
(2) Fluorimetric;
(3) Spectrophotometric;
(4) Chemical.

The co-ordination of activities in respect of the assay, treatment, concentration, and research on uranium ores is the function of the Atomic Energy Commission, and arrangements are being made to furnish a small laboratory to handle analytical requirements of the Mines Department and in this connection those following the investigation of ore treatment problems by the Department of Mining and Metallurgy, Queensland University.

A controlled potential electro-analyser was received during the year. This apparatus permits the successive determination of several metals in the one solution.

COAL.

The coal and coke work for the Government Geologist and Coal Board has been considerable. Calorific value, proximate and ultimate analyses, fusion point of ash, specific gravity, agglutination, shatter, and washability tests are the usual requirements with the submission of most of the samples received.

In addition to samples of mine air received for analyses, air analysis and roadway dust sampling were carried out in the Collinsville State Colliery. Examination of the exhaust gas of diesel engines used in the Tannymorel and Sugarloaf collieries showed no hazard to exist in respect of air contamination by nitrous fumes or carbon monoxide, and ventilation proved quite adequate. In one instance, the detection of a burning section in a sealed area in an Ipswich Mine, was accomplished readily by means of a portable M.S.A. Carbon Monoxide Detector. Control measures were soon applied, whereas with the former slow procedures of sampling and analysis, such action would have been much delayed.

An outburst of carbon dioxide occurred in the main dip, No. 3 west level, No. 1 tunnel, Collinsville State Coal Mine, on 13th October, 1954, with the tragic loss of seven men and two horses. Samples of gas (Nos. 1 and 2) taken on 13th October, 1954, about 50 feet from the face of the erupted coal (400 tons) about four hours after the occurrence showed:—

	No. 1	No. 2.
Carbon Dioxide (CO_2)—Per cent.	13·6	14·5
Oxygen (O_2)—Per cent. ..	17·8	17·6
Methane (CH_4)—Per cent. ..	0·2	0·2
Nitrogen (N_2)—Per cent. ..	68·4	67·7
	100·0	100·0

The surface of the erupted coal was about 2 feet from the roof, and an oil-burning safety lamp burned freely to within about 6 inches of the coal.

A sample of gas, away from the air, was taken by Mr. T. Platt, Chief Inspector of Collieries, on the 15th October, 1954, close to the top surface of the coal about 30 feet from the site of the former face showed on analysis:—

	No. 3. Per cent.
Carbon Dioxide	76·0
Oxygen	4·75
Methane	1·00
Nitrogen	18·25
	100·00

H_2S and CO were not present.

Samples 1 and 2 show the effect of dilution by the ventilating air supply whilst with No. 3, under conditions of sampling, the entry of a little air would be expected. The three samples were taken by displacement of water from a bottle. Evidence covering these examinations and other relevant matters was also given at the royal commission of enquiry into the cause of the disaster.

Other Departments.

Consultative and analytical work from Government Departments covered a range of industrial products—amalgam, metals, jewellery, concrete, cement, asbestos cement, galvanised iron, cardboard, soils, cutlery, tobacco, tiles and bricks, enamelled baths, crank case oil, dental preparations, parkerised and plated metal, and corrosion problems.

Analyses of concrete, cement, asbestos were made to determine corrosion resistance to town water supplies and sewerage. This work mostly from the Department of Local Government has been heavy, samples being received from Ipswich, South Coast, Rockhampton, Mackay and Townsville.

Another aspect in connection with concrete is the determination of aggregate cement ratio to check adherence to specifications for reinforced house stumps, usually 4·5:1 to 6:1.

In some samples, a mix as lean as 14 : 1 was found, which fact indicates only too well the necessity for strict supervision.

A complete analysis of Stuart Creek (Townsville) cement and an investigation of the potential reactivity of this cement with aggregate and sand to be used for a new airstrip at Townsville was made. The chemical method showed the aggregate to be innocuous. The mortar bar test is still under way at the University Engineering Department but results so far, using cement aggregate combinations, support this finding.

Galvanised iron (corrugated), was tested to determine grading of zinc coating, for it is on the weight of zinc per square foot surface, uniformity of deposit, and absence of surface defects that the subsequent life of the sheet under urban, industrial, or country conditions is determined. A sheet may have zinc coating, e.g., 1·25 to 1·5 oz. per square foot of surface (both sides), yet the presence of gas blows or irregular coating reduces the useful life of the sheet considerably owing to premature rusting at defective spots.

Enamelled baths were examined and tested. The position here could be improved by greater attention to the complete elimination of crazing, pinholes, or blows in the enamel surface. These give rise to rust stains and mar the appearance.

A black coating which appeared on an aluminium cup when boiled in a Monel metal steriliser at the General Hospital was found to consist of iron and aluminium oxides. The treated feed water to the steriliser was practically free of soluble salts and it is likely that steel articles, in association with the aluminium, caused deposition of the oxides. Conductivity water also reacts with ordinary aluminium, coating it with a yellow film and dissolving some of the metal colloidally. At 100 degrees C this reaction is obvious in several hours, and at room temperature in about three months. The layer contains aluminium hydroxide and aluminium and iron oxides.

In Western Queensland, the Southern Electric Commission has successfully commissioned several coal-burning gas producers, and the type of plant (in use for the first time in Australia) is used for public electricity supply purposes. The producers consume about 1·8 lb. of coal per unit generated and are more economical than charcoal or oil fuel.

Typical of samples of gas received from these sources is one from Blackall:—

	Per cent.
Carbon Dioxide	5·2
Oxygen	0·0
Hydrogen	14·5
Carbon Monoxide	25·2
Methane	0·5
Nitrogen	54·6
	100·0

Samples of imported and Australian fibrocement were received for analysis, physical tests such as the flexural strength are carried out at the Department of Engineering, Queensland University.

Difficulties concerned with saponification and break-down of colour still crop up in the painting of this material, even with paints approved by the trade.

The two main factors contributing to the chemical decomposition of paint film and discoloration of susceptible colours by cement, lime, plaster, and asbestos cement are:—

(1) Free alkali content.
(2) Moisture.

During the setting of cement, free alkali (principally slacked lime) is set free, and although some of the water added to the mix will be bound chemically, a fair proportion remains but dries out with time. Exposure to air subsequently carbonates the alkali and free moisture dries out. Even when exposed to outside weathering, cement asbestos retains its alkali reaction for one to two years. Asbestos cement should be as dry as possible before any paint is applied. Greater safety against alkali attack can be obtained over these early years by using in order of preference:—

(1*a*) Oil-free casein bound washable distempers for exterior painting;
(1*b*) Paint that can be washed off if necessary—e.g., non-washable distemper; or
(2) Deferring painting for a year or so;
(3) The use of primer paints containing chlorinated rubber or alkali resistant resin to form a non-porous base.

Some domestic pressure cookers were tested to determine their efficiency as sterilisers, as well as incubators and electrically heated hot-air ovens to check temperature gradients.

Inflammable Liquids and Gases.

The Department provides a service for the public, and the greater proportion of this work is represented by the examination of petrol storage tanks, tankers, road wagons, fuel oil

tanks, and containers to determine the presence of toxic or dangerous proportions of inflammable vapour prior to entry for cleaning and repairs.

Explosives.

Legislation.—On the 9th June, 1955, the Governor in Council fixed the 1st July, 1955, as the day on which "*The Explosives Act of* 1952" shall come into operation. On the same day, the Explosives Regulations of 1955, the Fruit Ripening Regulations, and two Orders in Council covering, respectively, the classification of explosives and the prohibition of the importation of certain explosives became law.

During the year, 2,836 samples of explosives were examined for the Portmaster. These sample were taken from imported explosives intended for storage in Government magazines. The condition of imported explosives was generally good, but one consignment from overseas had exposed iron nail heads in the outer packages and these had to be coated with a quick drying paint as the regulations provide against exposed iron or steel in a magazine. The following table discloses the type, origin, and quantity of industrial explosives imported into the State for the year:—

TABLE CXXVII.

Type.	Australian.	Overseas.
	Cases.	Cases.
A.N. Gelatine Dynamite "75"	239	..
A.N. Geligmite "60"	41,451	..
Forcite 75%	..	3,600
Geophex	24	..
Plastergel	3,361	..
Quarigel	6,436	..
Ajax and Polar Ajax	18,149	2,976
Morcol	1,937	..
Semigel	3,622	..
Quarry Monobel	2,842	..
Monograin	4,015	..
Sunderite	..	200
Seismex Primers	..	20
Blasting Powder	450	..
	82,526	6,796
No. 6 Detonators	1,500,000	..
Electric Detonators No. 6 x 54"	78,000	..
Electric Detonators No. 6 x 72"	1,176,000	..
Electric Detonators No. 6 x 120"	30,000	..
Electric Detonators No. 6 x 144"	20,000	..
Gasless Delay Detonators No. 6 x 144"	..	220,000
Short Delay Detonators No. 6 x 84"	..	177,600
	Feet.	
Safety Fuse	5,004,000	Feet.
Plastic Cordex	..	780,000

Fees for the licensing of magazines for the storage of explosives were collected on account of 17 bulk licenses, 187 retail licenses, and 14 fireworks licenses. No fees were collected for such licenses covering magazines operated by Government Instrumentalities. The Main Roads Department have 259 such magazines, Railways 3, Forestry 39, Water and Irrigation Commission 9, and the Co-Ordinator General of Public Works 4.

Mr. A. D. Murray, Inspector of Explosives, undertook an extensive itinerary of Queensland as far north as Cairns and the Hinterland and westwards to Mount Isa and Longreach to inspect storage conditions of the many licensed magazines en route. The overall condition was satisfactory, but several individuals were not keeping explosives in accordance with legal requirements. Explosives stored in the Government magazines at Brookhill and Bajool were also inspected. A case of Ajax which fell into the river at Pinkenba had to be destroyed.

Section 4.

FEDERAL DEPARTMENTS, STATE STORES, MAIN ROADS, PUBLIC WORKS, &c.

J. Adamson, A.R.A.C.I., Senior Chemist, Officer in Charge.

The total number of samples reported this year was much lower than the record previous year, when we examined a large number of faulty thermometers. However, this was more or less offset by the increase in samples from all other sections; every department concerned forwarded more samples than the previous year thus creating a very busy period.

The following table gives in detail the samples examined by this section:—

Customs	2,576
Commerce and Agriculture	1,356
Public Works Department	504
Queensland Housing Commission	501
State Stores Board	640
Main Roads Commission	258
Explosive (Fireworks)	345
Other Government Departments	89
Public	12
	6,281

The bulk of the work again was for the Federal Departments of Customs and Commerce and Agriculture, the samples examined covering a very wide range—Customs particularly for import and tariff classification and Commerce and Agriculture for conformity with export standards and specifications. During the latter half of the year, some work was carried out for the Dairy Section of the Commerce Department with regards to "extraneous matter" in agricultural products, butter and cheese being the two chief items examined. The results obtained show a "fairly clean" state of manufacture, only a very small proportion of the samples examined being classified as "very dirty."

Continual checking of the quality of paint used by contractors for work carried out for the Works Department shows that the paint used in most cases conforms with the departmental specification; only in a few isolated cases did the samples fail to pass the prescribed standard. Lead paints now are almost conspicuous by their absence.

The checking is also being availed of by the Housing Commission, and whilst the number of samples which fail to pass the standard is much

higher than with the Works Department, the position is improving with each batch of samples being forwarded. A large batch of paint scrapings was submitted by this department for the presence or otherwise of lead compounds, about 48 per cent. containing more than 10 per cent. lead.

The work carried out for the State Stores Department is growing each year, the variety of samples examined covering almost all the requirements used by the various Government Departments and Institutions. They include amongst other things textiles (of all varieties), inks, office paste, detergents, typewriter ribbons, cordials, soaps, disinfectants, &c. The advice offered to this Department with regard to acceptance or otherwise of certain tenders or quotes is no doubt very much appreciated and helpful.

The examination of bitumen, bitumen emulsions, road paints, &c., is causing a big increase in the amount of work carried out for the Main Roads Commission, the volume of work for the year just completed being three times that of the previous year.

Fireworks were again examined this year—imports being much heavier than previous years, and the quality was of the usual standard. One batch from Japan was refused entry into the State on account of their composition and unpredictable flight. They also contained arsenical compounds.

The work of this section is rapidly growing and during the year an extra assistant was added to the staff to assist in keeping pace with the very heavy demand.

DIVISION OF NURSING.

Adviser in Nursing: D. Bardsley, A.T.N.A., F.C.N.A.

Since the establishment of the Division, approximately two years ago, all hospitals with a daily average of over 50 beds (except one), over half of the hospitals with a daily average of between 20 and 50 beds, and many of the smaller hospitals have been visited by the Adviser in Nursing. These include hospitals of the Mental Hygiene Service.

Reports under various headings, including living and working conditions for matrons, sisters and nurses, dining room accommodation, and type of diet provided for nursing staff, care of health, recreation facilities, indoor and outdoor, and, in regard to training schools, accommodation and equipment of the teaching unit, have been made in respect of each hospital visited. Recommendations have been made where necessary in respect of these matters, and problems which have been brought forward by hospital administrators during visits have been discussed personally with officers of the Department.

These reports, in addition to providing a useful departmental record, often make it possible to locate problems and difficulties which may be the cause of hospital staffs not working to a maximum degree of efficiency. This has given the Department an opportunity of advising hospital boards in respect of such problems.

One interesting fact which has emerged is that it is possible to overgeneralise in assuming that all hospitals in a particular area of the State are certain to have similar problems. Actually, it is found that variations occur even between two hospitals in fairly close proximity, depending on the progressiveness of the townspeople and their attitude to the hospital staff, whether friendly or otherwise, as well as other factors.

As a result of recommendations made, action is being taken to institute an adequate record of each member of the nursing staffs of hospitals. These records will assist in assessing the problems of shortage of nursing staff. Two reasons for the shortage are climatic and isolation. To overcome these, every endeavour should be made to encourage local girls to train, particularly as it has been found that, where this does occur, it has been noted that stability is given to the staff. Other factors are the necessity to work evening and night shifts, resulting in the limitation of a girl's social activities, and in western towns, particularly, the lack of social life. These result in girls seeking occupations, other than nursing, in the larger towns of the State. Publicity is being given to the advantages of nursing as a profession. Townspeople should realise their responsibilities by inviting the girls to take part in the social life of the town. It is appreciated that marriage causes the biggest wastage, and this is more so in isolated areas of the State.

Many nurses are lost to their profession on completion of their training, preferring other occupations. It has been stated that the reason for this is the girls, after four years of strenuous training, are so overtired they prefer to work in an easier occupation. During the past four years, recommendations have been made repeatedly for a basic course of two years, to be followed by post-graduate education, but this has been strenuously opposed by the trained nurse members of the profession. The trend of discussion at present is for this shortened course, and it is hoped that the nursing profession themselves will recommend such a course in the near future.

The following hospitals were visited by the Adviser in Nursing during the yast year:—

Base Hospitals.—Brisbane, Ipswich, Toowoomba, Mackay, Cairns, Longreach, and Cloncurry.

District Hospitals.—Proserpine, Ayr, Home Hill, Innisfail, Atherton, Mareeba, Mount Isa, Hughenden, Charters Towers, Blackall, and Tara.

Others.—Isisford, Tambo, Maleny, Nambour, Southport Maternity, Brisbane Chest Hospital, Oakey, Mount Lofty.

Mental Hospitals.—Goodna, Ipswich, and Toowoomba.

During the visits the opportunity was taken to discuss nursing problems with the administrative officers of hospitals, especially matrons, and informal talks were held with trained and trainee nurses in regard to their particular problems. Discussions have taken place with girls interested in nursing as a profession, and the advantages of nursing as a career have been stressed to both these girls and their parents.

Nurse Training Programme.

The Adviser in Nursing gave valuable advice to matrons and tutor sisters in the development of a teaching programme. A five-page brochure was prepared by her in regard to the use of the Hospital Reference Library.

A short course of practical nursing training was prepared for the assistant nurses at the Chermside Chest Hospital, and orientation lectures were given to them.

An investigation was carried out into the training of mental nurses, and the report furnished is now receiving consideration.

The Adviser in Nursing arranged the programme for the Matron's Conference and led the discussion on the subject "Can I Help You?" This discussion covered aspects of hospital control of interest to the matrons, particularly those coming from small institutions.

Miss Bardsley is President of the Royal Australian Nursing Federation and attended the Australasian Nursing Conference in that capacity, and also presented several papers.

General.

The duties of the Adviser consist of anything referring to nurses, their education, and welfare. During the year she has given lectures to young girls and prepared a broadcast on the advantages of being a nurse. She is available to assist any nurse in her problems, whether personal or administrative, and she has been responsible for making the paths of many nurses in isolated areas of this State easier.

The Nursing Training Club at the Brisbane Hospital, which was formed in 1952, has proved a success. Girls between the ages of 14 and 17 attend the Hospital on one night a week, and are given lectures in anatomy and physiology and hygiene. They are shown the various activities of the hospital. The idea is to keep the girls interested in nursing until they reach the age of 17 when they can commence their training. Approximately 20 of these girls commence training at the Brisbane Hospital each year, and the General Matron states they give every indication of being nurses above the average.

DIVISION OF SOCIAL SERVICES.

Welfare Officer: Mrs. V. Wills.

Welfare work, in its many phases, has engaged the constant attention of the Welfare Officer during the period covered by this report.

Though the temporary housing areas are for the most part closed down, she has been actively engaged in visiting those that remain and in carrying out routine hygiene inspections.

Arrangements were made for the admission to Eventide of aged people found with no one to care for them, appointments made for persons needing psychiatric treatment and others were assisted in making application for social pensions.

Inspections were made regularly of the toilet rooms provided for patrons of metropolitan theatres, picture shows, emporiums, and public parks.

On checking complaints regarding neglected children, it was found that in most instances both parents were working and the children were left to fend for themselves or rely on the kindly attention of neighbours. In one instance three children, one of school age and the others four years and two and a-half years respectively, were left alone. The elder of the two (a boy) was found under a hut with a box of matches and the younger sitting in an out-house, filthily dirty, and weeping bitterly. The matter was immediately brought to the notice of the responsible authorities.

This officer's activities have been well summed up in previous reports, though from time to time, further instances of a need for such services are brought sharply to mind and the Queensland Housing Commission and the State Children's Department have been greatly appreciative of her work. Mrs. Wills has also taken an active part in the recruiting of trainee nurses, particularly for the Mental Hygiene Service.

Legislation.

As mentioned in our last Annual Report, "The Trade Descriptions (Textile Products) Regulations" appeared in the *Government Gazette* of the 16th July, 1954.

"The Paint Regulations of 1953" were repealed and replaced by "The Paint Regulations of 1954," *Government Gazette*, 11th September, 1954. The principal amendment was a description of the labelling of every package of paint which contained any soluble lead, calculated as monoxide of lead. A statement of the proportion of such soluble lead present in the pigment of the paint was required. It is considered there will be no excuse for anyone to offend against the provisions of section 127 of "*The Health Acts*, 1937 *to* 1949," and which restricts the use of paints containing soluble lead. The Acts forbid the placing of paint containing any lead on any roof of any house or building and restrict the use of paint containing more than five per centum of soluble lead on certain exterior portions of buildings to which children under the age of fourteen years have access.

"The Cafe Regulations of 1955" repealed and replaced those of 1953. The terms "cafe" and "food stall" were made more definite. They are intended to control businesses, whose prime function is the preparation and serving for consumption of meals on their own premises. Canteens which are non-profit-making and are conducted for the welfare of employees have been excluded from the necessity of licensing, though they must subscribe to the hygiene provisions of the Regulations. The various areas in the State in which the licensing provisions shall be in force are set out, and it is considered that a wise and rational application of structural requirements and effective and regular policing will ensure a good hygienic standard for eating houses in Queensland. The various local authorities are required to supervise, enforce, and be charged with the execution of these regulations.

"The Tuberculosis Regulations of 1951" were amended in the *Government Gazette* of 30th May, 1955. The principal reason for the amendment was the fact that when court action was contemplated under existing regulations, legal opinion was received that the regulations did not specify the person whose duty it was to enforce the orders of the Medical Officer of Health. The conditions which will enable a Medical Officer of Health to order a patient into isolation have been made more clear and provision has been made for the return of a patient (who leaves the institution against medical advice) to hospital on an order from a Justice. Here, again, the control of the Regulation is entrusted to various local authorities.

ACKNOWLEDGMENTS.

I desire to express my thanks to all members of the staff for their unfailing and conscientious attention to duty. I would particularly mention Dr. D. Gordon, Director of Industrial Medicine, and Dr. P. R. Patrick, Chief Medical Officer, School Health Services, for their assistance in carrying on the duties of Deputy Director during the absence of Dr. D. W. Johnson overseas. Thanks are also given to Government Departments, particularly to the Government Statistician (Mr. S. E. Solomon) for his assistance in preparing the vital statistics section of this report and in supplying other statistical details sought from time to time throughout the year, and to the Department of Public Works for their ready co-operation in complying with requests made to them.

The Queensland Health Education Council has again been most co-operative, and the work carried out by this body is a most important part of the preventive medicine of this State.

Our relations with the British Medical Association have been most cordial, and their co-operation is appreciated.

I would thank those of my colleagues who have during the past year given me the benefit of their experience, particularly the members of the Advisory Committee on Hospital Drugs and Surgical Appliances and the Infantile Mortality Committee, and would particularly mention Dr. O. S. Hirschfeld, Chancellor of the University of Queensland and Senior Physician of the Brisbane Hospital, and Dr. A. D. D. Pye, General Superintendent of the Brisbane Hospital.

Thanks are due to the officers of the Department and the Brisbane Mental Hospital who kept the mental hospital water supply running when the main was damaged during the floods. I would also thank the members of those organisations and individuals who came to our assistance during the stoppages at the mental hospitals. They did excellent work in caring for the mentally ill.

APPENDIX A.

ANNUAL REPORT OF THE NATIONAL MOSQUITO CONTROL COMMITTEE FOR 1954-55.

During the year, the work of the Committee has continued to advance knowledge of Queensland mosquitoes, to assist local authorities in their mosquito problems and to co-operate with other institutions and individuals engaged in research on mosquitoes.

1. Field Work.

At the request of the Director, Queensland Institute of Medical Research, Dr. Marks' services were made available in November to assist in field work at Townsville concerned with the search for the vector of Murray Valley Encephalitis. The return journey by road from Townsville provided the opportunity for collecting near Sarina and at Camboon. A five-day field trip to Lamington National Park was made in May, 1955. In August, 1954, Dr. Marks was granted leave to join, as Entomologist, the Great Barrier Reef Committee's expedition to Low Island, where new records of marine midges were obtained. In addition, collections have been made in a number of localities in south-eastern Queensland and northern New South Wales. The following list summarises the field work, and reports of the longer trips and more important finds are appended.

Low Island; Townsville; Sarina district; Camboon; Mountain Creek, Buderim; Upper Cedar Creek; Mount Glorious; Mount Nebo; Ferny Grove-Samford area; Eprapah; Burleigh; Biggera Creek; Springbrook; Lamington National Park; Mount Warning, New South Wales; Coolatai, New South Wales.

Field trip to Townsville (15th November to 7th December, 1954).

The main object of this trip was to assist in collecting adult mosquitoes to be tested as vectors of encephalitis virus. At the end of the dry season conditions were apparently unfavourable for many species, and the numbers of adults were much less than when similar collections were made in April, 1952. Information on the resting habits of adults of several species was obtained from collections in hyacinth swamps and amongst undergrowth. The resting adults included numerous males, and resulted in an important finding that *Taeniorhynchus crassipes* is as common at Townsville as *Taeniorhynchus xanthogaster* (females of the two species are apparently indistinguishable and had previously all been identified as *T. xanthogaster*). The principal larval collections were made from permanent swamps or waterholes and from tree-holes (which if dry were washed out or filled and revisited).

Valuable series of bred adults of *Tripteroides magnesiana* and *Aedes* (*Macleaya*) sp. were obtained, and the range of *Tripteroides sylvestris* extended south to Mount Spec (the previous southernmost record was Innisfail district). *Aedes aegypti* and *Culex fatigans* were common household pests and *Aedes tremula* in some dwellings as much a pest as *A. aegypti*. The numerous mangoes and other large trees in Townsville must provide many waterholding cavities in their forks and in rot-holes where branches have been lopped. Such cavities are suitable breeding places for *A. aegypti* and *A. tremula*. While the usual control measures round dwellings will reduce their numbers considerably, continued re-infestation from these natural reservoirs must be expected, and it would appear almost impossible to eliminate these species entirely in existing conditions.

Field Trip to Lamington National Park (*O'Reillys'*) (30th May to 3rd June, 1955).

The purpose of the trip was to try to fill in gaps in our knowledge of certain species which are found in rain forest or near its margins. Unfortunately, none of these species was collected.

No adult mosquitoes were taken biting nor found in various likely resting places examined. Of 23 water-holding cavities in trees or hollow logs from which collections were made only 11 contained mosquito larvae; in two others remains of cast pupal and larval skins were observed, showing that mosquitoes had recently been breeding in them. The larvae from these sites represented six species, viz. *Tripteroides tasmaniensis* (two samples), *Tripteroides* sp. near *collessi* (three samples—possibly two forms included in these larvae which have not yet bred out), *Aedes notoscriptus* (three samples), *Aedes monocellatus* (four samples), *Aedes* sp. near *quasirubithorax* (three samples), *Aedes candidoscutellum* (two samples). This is only the second time *T. tasmaniensis* has been collected in Queensland, and the first time its larvae have been found here. Both collections were from Lamington National Park, and this may be the northern limit of its range, which extends through New South Wales and Victoria to Tasmania, where it is a common species and at times probably a household pest. Other larval collections were *Aedes alocasicola* (in axils of eunjevoi), *Aedes queenslandis* (two samples from rock pools), and *Aedes palmarum*, in an old milk bottle in secondary rain-forest.

Other Findings.—Aedes gahnicola was collected at Stony Creek, near Sarina—the northernmost previous record was Bundaberg district. From Springbrook collections a good series of larvae of an undescribed species of *Tripteroides* sp. near *argenteiventris* was obtained, also larvae of *Aedes quinquelineatus*. The immature stages of both these species were previously known only from single specimens.

2. Publications.

The following is a list of papers published or prepared by Dr. E. N. Marks during the year:—

Published.

1954: Horizons of Taxonomy—Presidential Address. Qd. Nat. 15 (1-2): 7-15.

1954: A review of the *Aedes scutellaris* subgroup with a study of variation in *Aedes pseudoscutellaris* (Theobald). Bull. Brit. Mus. (Nat. Hist.) Ent. 3 (10): 349-414.

In the Press.

Studies of Queensland Mosquitoes Part V.—Some species of *Aedes* (Subgenus *Finlaya*). Pap. Dep. Ent. Univ. Qd. 1 (2).

Mosquitoes of the Tewantin district. Qd. Nat. 15 (3).

P. F. Mattingly & E. N. Marks: Some Australasian Mosquitoes (Diptera, Culicidae) of the subgenera *Pseudoskusea* and *Neoculex*. Proc. Linn. Soc. N.S.W. LXXX (2).

Unpublished.

Three papers (two completed, one in an advanced state of preparation).

3. Identifications.

The following people have sent specimens from the localities indicated, providing a valuable contribution to our knowledge of the distribution of various species and many useful additions to the collection:—

Queensland.

Mrs. J. Arden (Julia Creek), Mrs. F. Dowe (Tara), Mr. W. R. Horne (Muttaburra and Charleville), Dr. Marshall Laird (Gordonvale), Mr. M. Loveday (Killarney), Dr. I. M. Mackerras (Canungra), Dr. M. J. Mackerras (Palm Island), Mrs. E. O. Marks (Biloela, Wowan, Rockhampton, Marlborough, Blair Athol, Sarina), Mr. L. S. Smith (Quilpie, Cunnamulla, Thylungra, Yalleroi).

Dr. E. J. Reye has submitted for identification a large number of mosquito samples, mainly from light trap collections made in his study of Ceratopogonidae. These have added considerably to our knowledge of distribution and habits, and large collections from Western Queensland were of particular interest. These included records from Charleville and Longreach of an undescribed *Aedes* sp. near *theobaldi*, previously known only from Richmond, the first inland record (from Longreach) of an undescribed *Aedes* sp. near *tremula* known from Townsville, and the extension of the known range of *Aedes mallochi* to Longreach. (The nearest previous record was Eidsvold.)

Other States.

New South Wales.—Mr. A. Dyce, C.S.I.R.O. Wild Life Survey Section (Kangaroo Valley); Dr. B. Macmillan (Cox River); Dr. E. J. Reye (Hornsby, Galston Gorge); Miss K. A. Walker (Coolatai); Mr. E. J. Waterhouse, C.S.I.R.O. Wild Life Survey Section (Armidale district).

Victoria.—Mr. F. N. Ratcliffe, C.S.I.R.O. Wild Life Survey Section (Bright).

Tasmania.—Miss E. G. Connah, Dr. T. E. Woodward.

West Australia.—Dr. E. P. Hodgkin (Kimberley District), Dr. E. J. Reye (Perth District).

Elsewhere.

Mrs. T. A. Walker (Lord Howe Island); The Director, Cawthron Institute, Nelson, New Zealand (in response to a request); Miss L. E. Cheesman (Aneityum, New Hebrides); Mr. S. H. Christian (Minj, New Guinea); Dr. M. O. T. Iyengar and Dr. J. Rageau, (New Caledonia); Dr. C. B. Symes (Fiji); Drs. I. M. and M. J. Mackerras (Malaya and Borneo).

4. Exchanges, Loans, and Gifts.

In exchange for a representative collection of Australian mosquitoes Dr. J. Hamon has sent a valuable collection representing 26 species from French West Africa.

Specimens from our collection were sent for comparison with types in overseas collections to Dr. J. Bonne-Wepster and Mr. P. F. Mattingly. These were identified and returned.

Specimens of *Tripteroides melanesiensis* from New Caledonia have been received for the collection from Mr. P. F. Mattingly.

A collection of Queensland species of *Aedes* was presented to the Zoology Department, University of Melbourne, at the request of Mr. N. V. Dobrotworsky. In addition, specimens of *Culex* and *Anopheles* have been loaned to Mr. Dobrotworsky to assist his research, and living larvae and pupae of *Anopheles stigmaticus* collected and sent to him.

Living larvae of *Aedes australiensis* collected in the Townsville area were sent to Dr. A. R. Woodhill, Zoology Department, University of Sydney, to enable him to attempt to establish a colony of this species.

Queensland specimens of *Aedes* and *Culex* larvae have been loaned to Dr. E. P. Hodgkin, University of Western Australia, and of *Culex* adults to Mr. A. K. O'Gower, School of Public Health and Tropical Medicine, Sydney, for comparison with specimens from other States which they are describing.

At the request of Mr. P. F. Mattingly a collection of 46 specimens, representing 12 species, was presented to the British Museum; five species were totally unrepresented in their collection, and for some others, males or larvae were new additions to it.

In connection with the study of marine midges from Low Island, by Dr. Marks and Dr. M. J. Mackerras, specimens have been received for comparison either as gift or loan from C.S.I.R.O., School of Public Health and Tropical Medicine, British Museum, South Australian Museum, and from Professor T. Esaki, Kyushu University, Japan.

5. Public Health.

At the request of the Chief Health Inspector, Townsville City Council, a list of mosquitoes of the Townsville district was compiled from records of 1952 and 1954 field trips.

Aedes aegypti Survey.

Observations over the last few years suggested that *Aedes aegypti* is no longer so common nor so widely distributed as it was formerly in Southern Queensland, though still common in the north. A knowledge of its present distribution would be useful in the event of a dengue epidemic, and, through the State Health Department, the co-operation of health inspectors in the southern half of the state has been enlisted. In addition to domestic species, a request has been made for specimens of mosquitoes occurring in pest proportions after flood rains, as we have little precise information on these. The investigation commenced in April, 1955, and to date samples have been received from 20 local authorities and include 18 species of mosquitoes, which are listed hereunder:—

Aedes aegypti—Gin Gin, Maryborough, Gayndah, Clermont, Longreach, Barcaldine.

Aedes notoscriptus—Warwick, Allora, St. George, Maryborough, Doolbi, Wondai, Gayndah.

Aedes alboannulatus—Warwick.

Aedes normanensis—Clermont.

Aedes (Mucidus) alternans, Aedes bancroftianus, Aedes vittiger, Culex sp. near *edwardsi*—Wondai.

Culex fatigans—Dalveen, Warwick, Mount Colliery, Allora, Toowoomba, Haden, Dalby, Goondiwindi, St. George, Gin Gin, Maryborough, Doolbi, Wondai, Gayndah, Murgon, Clermont, Blackall, Barcaldine.

Culex pipiens australicus—Goondiwindi, Wondai, Clermont.

Culex annulirostris—Dalby, Gin Gin, Maryborough, Wondai, Clermont.

Culex (Lutzia) halifaxi—Wondai, Clermont.

Culex squamosus, Culex bitaeniorhynchus, Ficalbia metallica—Maryborough.

Anopheles annulipes—Toowoomba, Gin Gin, Maryborough.

Taeniorhynchus xanthogaster and *Taeniorhynchus linealis*—Pomona.

It is hoped that a special effort will be made to send in collections during the next summer when mosquito breeding is at its peak.

Collections have also been received and identified for—

Esk Shire Council, Burketown Hospital (per Matron, Normanton Hospital), Townsville City Council, Wangaratta Shire, Bowen.

6. Miscellaneous Activities.

The co-operation of the Australian Broadcasting Commission was sought in announcing a request for samples of pest mosquitoes occurring in Western Queensland after floods, but there was no response from the public.

At the request of the Darling Downs Naturalists' Club suggestions for projects concerning mosquitoes have been supplied which it is hoped will result in useful information on the species of that area.

At the request of Dr. J. Bonne-Wepster descriptions of larvae of two New Guinea species of *Culex* were prepared for inclusion in her paper "Synopsis of a hundred common non-anopheline mosquitoes of the Greater and Lesser Sundas, the Moluccas and New Guinea."

Two manuscripts on Australian mosquitoes have been checked for other authors in comparison with specimens in our collection.

Instruction in field collecting was given to Medical Science IV and mosquito collections by Medicine IV students examined.

Dr. M. O. T. Iyengar, Research Specialist on Mosquito-borne Diseases, South Pacific Commission, who visited the laboratory on 11-12th November, was assisted in his study of the literature available on Australian mosquitoes.

A list of Queensland locality records of *Aedes aegypti* was supplied to Mr. D. J. Lee, who is preparing a map of its Australian distribution.

By Authority: A. H. Tucker, Government Printer, Brisbane.