

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

Contributors

Queensland. Department of Health.

Publication/Creation

Brisbane : Government Printer, [1964]

Persistent URL

<https://wellcomecollection.org/works/wmzrr5bu>

License and attribution

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.

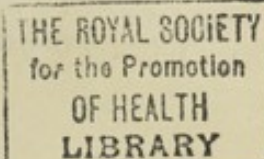


Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>



1964

QUEENSLAND



ANNUAL REPORT

OF THE

HEALTH AND MEDICAL SERVICES

OF THE

STATE OF QUEENSLAND

FOR THE

YEAR 1963-64

PRESENTED TO PARLIAMENT BY COMMAND

BRISBANE:

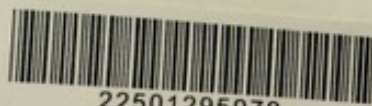
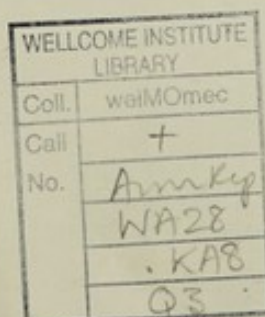
By Authority: S. G. REID, Government Printer

A. 58—1964

RBB
16ai

CONTENTS

	Page
Introductory Remarks and Vital Statistics	3
Division of Public Health Supervision—	
Section of Epidemiology	10
Section of Air Pollution	14
Section of Hansen's Disease	14
Section of Enthetic Diseases	16
Section of Food and Drugs	19
Section of Environmental Sanitation	20
Section of Hookworm Control	22
Division of Tuberculosis	23
Division of Industrial Medicine	30
Division of Maternal and Child Welfare	33
Division of School Health Services	39
Division of Psychiatric Services	43
Division of Welfare and Guidance	64
Division of Laboratory Services—	
Laboratory of Microbiology and Pathology	69
Government Chemical Laboratory	80
Division of Geriatrics	86
Division of Nursing	88
Division of Social Work	90
Flying Surgeon Service	92
Legislation	92
Appendix—	
Annual Report of the National Mosquito Control Committee for 1963-64	93



ANNUAL REPORT OF THE DIRECTOR-GENERAL OF HEALTH AND MEDICAL SERVICES 1963-64

The Honourable the Minister for Health

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 for the year ended 30th June, 1964.

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

INTRODUCTORY REMARKS

It is with regret I record the loss of the Honourable Henry Winston Noble, Minister for Health from 1957 until his death on 28th March, 1964.

Early in his ministry, Dr. Noble supported the policy of keeping patients suffering from mental disease in the community, and so provided out-patient facilities and beds for the treatment of psychiatric conditions in general hospitals; he accepted alcoholism as a disease which should be treated in a general hospital, and so he established the Alcohol Clinic within the Brisbane Hospital. Guidance clinics and a youth hospital for teenagers committed by the courts were established to rehabilitate potential delinquents and delinquents. The care of the aged received his support, and the Marjory Warren Geriatric Unit at Princess Alexandra Hospital is a memorial not only to the late Dr. Warren, but to Dr. Noble also. He conceived the idea of a flying surgeon to give the people of far-western Queensland security in health; he was responsible for the establishment of the Queensland branch of the Australian College of Nursing.

He inspired loyalty in his staff because he gave loyalty. His success as a Minister was probably due to this, as well as to the faculty he possessed of being able to make people work happily together.

It is to be regretted that he did not survive to see his plans for the improvement of the health services of Queensland completed.

STAFF

Dr. Joan Refshauge, O.B.E., joined the Maternal and Child Welfare Service in June, 1964. She spent the past seventeen years in Papua and New Guinea, where she founded the Infant and Child Health Services throughout the Territory.

Dr. R. B. Milton was sent overseas for twelve months to study alcoholism at the Alcoholic Rehabilitation Centre, Atlanta, Georgia, U.S.A.

VITAL STATISTICS

Although the birth rate decreased from 23.2 to 23.0 per thousand population in the past year, 244 more babies were born. This rate is higher than the Australian average of 21.6. It will be seen from Table III that the birth rate continued to fall in all Australian States, the United States of America, and Canada. The marriage rate in Queensland increased from 6.9 per thousand mean population in 1962 to 7.3. It might be expected that an increase in the birth rate would have occurred as a result of this. The crude birth rate is related to per thousand population, not per thousand women of child-bearing age. In comparing the present rate with that of other years, some adjustment should be made for the increasing number of old people and young children in the population. Table I shows a comparison of the birth rate related to women of child-bearing age (18-39 years). If the crude birth rate in 1954 is taken as 100, in 1963 it was 97. If, however, it is related to women of child-bearing age, that is between the ages of 18 and 39, it is 106. It will be seen from Table I that the birth position is still higher than it was ten years ago but it has fallen over the last two years. It will be of interest to see if this fall continues and just what part the contraceptive pill plays in it.

TABLE I

Year	Crude Birth Rate	Related to No. of Women between 18 and 39 taking 1954 as 100
1954	100	100
1955	102	103
1956	99	102
1957	101	106
1958	99	105
1959	103	110
1960	99	108
1961	102	112
1962	98	107
1963	97	106

The infant mortality rate decreased from 21.1 (754 infants) to 20.1 (722 infants) per thousand live births, a decrease of 32. The total deaths from diseases of early infancy showed a decrease of 12 but there was an increase of 14 in deaths due to immaturity. The Maternal Mortality Committee has been concerned at this loss of life which might be due to conditions after birth as well as during the ante-natal period. It was decided to invite paediatricians associated with the Brisbane Women's and Mater Mothers Hospitals to discuss the problem with them. One meeting was held this year at which it was decided to carry out a survey to determine whether the cause was ante-natal or post-natal.

The maternal mortality rate fell from 0.64 (23 deaths) to 0.25 (9 deaths) per thousand live births, a figure which is lower than the Australian figure of 0.27. This is the lowest rate ever recorded in Queensland.

The number of older people in the community is increasing and, as expected, deaths from diseases associated with old age head the list of causes of death. Heart disease was responsible for 4,346 deaths while cancer accounted for 1,984. Of this number 284 died from cancer of the lung (259 males and 25 females). This is an increase of 24 males and a decrease of 7 females as compared with 1962 (235 males and 32 females).

The incidence of cancer is greater in women than men up to the age of fifty, cancer of the cervix and breast being mainly responsible for this. The main organs affected in males over this age are the digestive system and lung.

The number of deaths from motor vehicle traffic accidents (408) is the same as in 1962.

The National Health and Medical Research Council has made a grant of £6,000 towards research into traffic accidents to Dr. K. Jamieson, Senior Neurosurgeon, Brisbane Hospital. He is working with a team consisting of an engineer from the Main Roads Department, officers of the Police Department, and the Health Department.

COMMUNICABLE DISEASES

The total number of notifications received (4,443) showed an increase of 1,471 over the previous year (2,972).

Notifications of tuberculosis in the metropolitan area increased from 322 in the previous year to 441. In the extra-metropolitan area there was a decrease from 499 to 416.

No notifications of poliomyelitis were received.

One notification for diphtheria was received in the metropolitan area as against nil in the previous year while four were received from the country as against one in 1962-63. There has been a tendency for parents to be complacent in regard to immunisation procedures but unless they avail themselves of the facilities available for immunisation they must accept responsibility if their children develop poliomyelitis, diphtheria, whooping cough, and tetanus.

Infective Hepatitis

The incidence as shown by the notifications rose from 988 in 1962-63 to 1,535. Of this number 476 were received from the city and 1,059 from the country. This increase is disturbing as no effective means are known of preventing this disease. I would again emphasise the necessity for personal hygiene as a preventive measure.

Leptospirosis

There were 81 cases of leptospirosis notified as against 130 the previous year.

Rubella

An epidemic of rubella (German measles) occurred throughout the State, 306 patients being notified in the extra-metropolitan area as against 5 in the previous year. The notifications received in the Brisbane area were 557 as against 16 in 1962-63.

SECTION OF AIR POLLUTION

There has been developing throughout the world an awareness that the atmosphere is becoming polluted with waste products of industry. The most common complaint is in regard to smoke. A sooty atmosphere results in dirty clothes and buildings and damaged vegetation. Unfortunately, atmospheric pollution is difficult to control.

In an endeavour to control air pollution in Queensland a "Clean Air Act" was passed in 1963.

It must be appreciated that a completely pure atmosphere is unobtainable. Control must depend on the development and application of mechanical devices for controlling aerial waste products of industry. It will be assisted by the development and application of new sources of heat and power. Whatever can be done will not be done overnight and it is for this reason that a seven-year period of grace was given under the Act to allow industry to get its house in order. An engineer will be appointed to advise industry as to the best methods to be employed to prevent air pollution, but it must be realised that, in most instances, in the present state of our knowledge a compromise only will be achieved and co-operative effort will give the best results.

HANSEN'S DISEASE

Early diagnosis and modern therapeutic methods have resulted in the good results being obtained in the treatment of Hansen's disease. Sulphone therapy was introduced in 1947 when 55 patients were in isolation at Peel Island. Today there are 5 patients in isolation at Princess Alexandra Hospital and 9 in home isolation. Hansen's disease is a disease of low infectivity and requires prolonged intimate contact before spread takes place. It was because there was little danger of spread that permission for home isolation was approved in 1958. The Biblical concept of Hansen's disease (leprosy) has changed and the condition is now looked upon as just another disease.

SECTION OF ENTHETIC DISEASES

The number of notifications for venereal disease received was 1,322 composed of 1,038 males and 284 females. Most were for gonorrhoea. This disease produces symptoms and signs in males which are obvious but in the female the signs and symptoms are not so evident and even if present are not appreciated by young girls. The result is that one female acts as a focus of infection for a number of males.

I would again invite attention to the high incidence of venereal disease in the 16-20 years age group. Over the last five years there has been an increase in the ratio of notifications in this age group to the total received. Of the 1,322 new patients notified this financial year, 478 or 36 per cent were in the 16-20 years age group as compared with 35 per cent. in 1962-63.

In the calendar year 1963 there were 2,661 illegitimate births which were 7.1 per cent. of all births. 831 or 31.23 per cent. of all ex-nuptial births were to mothers under 20 years of age as compared with 28 per cent. in 1962.

3,019 babies were born to couples married less than nine months. This is 30.97 per cent. of all first nuptial births or 8.4 per cent. of all births.

Of 1,956 first nuptial confinements of mothers under 20 years 1,425 or 72.85 per cent. were born within the first eight months of married life.

Of the 2,787 first births to mothers under 20 years of age approximately 80.9 per cent. would have been ex-nuptial or born within the first nine months of marriage. Even when an allowance of 7.3 per cent. (203 births) is made for babies born prematurely, we must realise we have a social problem which we seem unable to solve.

The decrease in the number of persons notified as suffering from venereal disease might be taken to indicate a decrease in promiscuity. I find difficulty in accepting this as the statistics of babies conceived before marriage show an increase and this in the days of the contraceptive pill.

Of the notifications received, 1,112 were from hospitals and clinics and 210 were from private practitioners. I consider, without having evidence beyond the opinion that more than 15.8 per cent. of sufferers from venereal disease would prefer private treatment, that all cases are not being notified.

I would repeat that lack of parental discipline and generally an unsatisfactory home life are the main causes of promiscuity. The answer is in the hands of parents who should make every effort to set up a happy home in which will be found a high standard of social behaviour and a strongly developed sense of social responsibility.

SECTION OF FOOD AND DRUGS

There was an increase from 5 to 16 in the number of milk vendors who were successfully prosecuted for selling milk adulterated with water. Twenty-three butchers were successfully prosecuted for selling mince meat adulterated with preservative. The addition of sulphurous acid improves the appearance of meat which is not fresh but, despite heavy fines, some butchers do not appreciate the fact that the purpose of the regulation is to make certain that mince meat which is used in the diet of invalids and infants is made from fresh meat.

The Food and Drug Regulations were amended in an effort to obtain uniformity of standards and labelling throughout the Commonwealth, following recommendations of the National Health and Medical Research Council.

SECTION OF ENVIRONMENTAL SANITATION

The work of this Section is probably the most important of all Departmental activities. The spectacular reductions in the intestinal diseases such as typhoid fever and infantile diarrhoea, the control of malaria and other insect-borne diseases, pure water supplies, and the safe disposal of body wastes may be attributed to the sanitary measures implemented by health inspectors both State and Local Authority.

While it must be admitted that some Local Authorities are lagging in sanitation programmes, this is understandable because the high cost of water and sewerage installations is outside the financial resources of a number of Local Authorities with towns of limited population. There is, however, an awareness of the importance of environmental sanitation as shown by the large number of Local Authority Health Inspectors who attend the Annual Conference of Health Inspectors officially.

FLUORIDATION OF WATER

"The Fluoridation of Public Water Supplies Act of 1963" was assented to in December, 1963. Under the Act, Local Authorities have the responsibility of determining whether they will or will not fluoridate their public water supplies, the Health Department acting in an advisory capacity.

The results of studies carried out in the United States indicate conclusively that the addition of fluorides up to a concentration of one part per million to the drinking water supply results in up to two-thirds reduction in the incidence of dental caries. In the dosage recommended, fluoridation of water has no side effects.

Approval has been given for the Deputy Director-General, Dr. D. W. Johnson; Dr. M. J. Flynn, Chief Medical Officer of the Metropolitan Water Board, Sydney; and Dr. P. C. Brothers, Dental Consultant to the Department of Health, Tasmania, to visit Local Authorities which desire to discuss fluoridation of water supplies with them.

DIVISION OF TUBERCULOSIS

The mobile X-ray unit has re-commenced X-raying persons living in the Cairns area and there has been a fall in the number of active cases found from 216 discovered on the first run to 46. This fall is a good indication of the value of a compulsory survey as it discovered the unknown case. It is also an indication that in a few years tuberculosis will be no longer a public health problem.

The number of cases suffering from cancer of the lung found in residents in Brisbane was 42 as compared with 26 in the country in the calendar year 1963 in an approximately equal number of X-rays. The rate of active tuberculosis was 1.2 (157 cases) in the city as against 1.0 (123 cases) in the country.

It is of interest to note that of 3,743 persons resident in Brisbane who failed to attend when the X-ray units were in their area, 9, or 2.4 per thousand micro films taken, had active tuberculosis while in the extra-metropolitan area, 1,755 persons of this group were X-rayed of whom 13 or 7.4 per thousand films taken were positive. If X-ray were not compulsory these patients would have been wandering around within the community acting as a focus of infection.

The Director of Tuberculosis is the representative of the Commonwealth Health Department in recommending tuberculosis allowances. The conditions for granting the allowances are laid down by the Commonwealth. This is not appreciated by the public. The date from which payment of the allowance commences is not the date of stopping work or entering hospital but the first Social Service pay day after lodgment of the allowance claim form with the Director of Tuberculosis. Delays have occurred in lodgment of the claim not due to any fault of the patient, resulting in financial embarrassment to him and his family. This hardship to the patient has been raised unsuccessfully by the Tuberculosis Advisory Council.

DIVISION OF MATERNAL AND CHILD WELFARE

Prior to 1963 the rate of maternal deaths annually in Queensland, except on four occasions, was higher than that for Australia as a whole. The fall in the maternal mortality rate from 0.76 (28 deaths) per 1,000 live births in 1961 to 0.64 (23 deaths) per 1,000 live births in 1962 and now to 0.25 (9 deaths) per 1,000 live births in 1963 is an indication of a continuing high standard of maternal care. This rate for last year is the lowest ever recorded in Queensland and is less than that for Australia as a whole which is also the lowest rate recorded for the Commonwealth.

The Maternal Mortality Committee, which was formed in June, 1961, must be given some credit for this as it has awakened an interest in maternal care through the bulletins issued by it. Two new releases were made during the year, "Shock in Obstetrics" and "Caesarean Section". These bulletins, as well as those released previously, "The Prevention and Management of Eclampsia" and "Post Partum Haemorrhage", were distributed with the Australian Medical Association's newsbulletin and are still available from the Maternal and Child Welfare Department.

In an examination of the factors which were responsible for the 23 maternal deaths in 1962, avoidable factors were established in 9 cases. This does not mean that the death could or should have been averted. These avoidable factors were determined long after the event: it is easy to be wise then. But it does mean that if the particular avoidable factor in the death could have been averted the outcome might have been different.

In October, 1963, a guest member of the committee was Professor W. I. C. Morris, Professor of Obstetrics and Gynaecology of the University of Manchester, who was able to give the committee valuable assistance as a result of his wide experience. In April, 1964, a number of paediatricians joined the committee to discuss the care of the premature baby. During the coming year, further meetings will be held with the paediatricians in an attempt to find out the reason for deaths of premature babies. A State-wide birth survey early in 1965 is being planned.

I would again express my appreciation to my colleagues on the committee who have given so much of their time voluntarily to help the mothers of Queensland; to the paediatricians who have co-operated with the committee on the problem of prematurity; to Professor G. Shedden Adam, Dr. R. Drake, Dr. M. Elliott, and Dr. K. Wilson, who spent many hours preparing the bulletins; and to Dr. Robert Miller for his help in obtaining the co-operation of the medical profession in filling in long time-consuming forms. This co-operation has been freely given.

DIVISION OF SCHOOL HEALTH SERVICES

The Health Department has a responsibility to prepare our children, both physically and mentally, for adult life. This responsibility is accepted during school life by School Health Services. Children are examined at intervals varying from one to two years by nurses who have special in-training. The information obtained would be of little value unless subsequent treatment is given. Children with defects are referred to their own doctor or to a public hospital. When no action is taken, after initial reminders, the Sister, where this is possible, makes a home visit in an effort to have the child receive treatment.

Eye disabilities and hearing loss were again the main defects found. Children suffering from these defects might be considered backward but once treatment has been given their progress is normal.

DIVISION OF PSYCHIATRIC SERVICES

For the past five years action was taken under the direction of the late Honourable H. W. Noble, M.L.A., to plan an integrated psychiatric service. It was the practice to admit to mental hospitals patients who were certifiable even though they were likely to require treatment for only a few weeks. The policy now is to keep patients out of special hospitals and treat them in the wards of general hospitals and so remove the stigma associated with certification.

Psychiatric treatment in Queensland is available at hospitals where there is a specialist psychiatrist. Outpatient clinics with inpatient beds are available at the Townsville, Rockhampton, Ipswich, and Toowoomba General Hospitals. At a later date it is hoped to build special units for these patients.

Lowson House at the Brisbane Hospital has been extended and building should be completed in the coming year. Chermide Neuro-psychiatric Unit was opened in May, 1964.

The general practitioner plays an important part in keeping patients out of hospital. It is he who is called to the patient early in his disease. A post-graduate course in psychiatry for general practitioners was conducted during the year by the Queensland Branch of the Australian Association of Psychiatrists.

It is planned that there will be four teams responsible for the continuing treatment of patients. Three medical teams have been appointed, each consisting of a senior and junior consultant psychiatrist and two clinical assistants most of whom are general practitioners. Associated with each team is a psychologist and a social worker. The fourth team will be appointed when the new Professor of Psychiatry takes up duty. If a patient is seen as an outpatient and requires inpatient treatment for a period of up to six weeks, he will be admitted to a bed in Lowson House under the care of a specialist member of the team; if it is anticipated that treatment for a period of up to six months will be necessary he will be admitted to Chermide where he will be visited by a member of the team; if a period longer than this is considered necessary he will be sent to a special hospital where a member of the team will visit him. It might be necessary to transfer patients admitted to Lowson House to Chermide or to a special hospital and, in reverse, if a patient in a special hospital shows rapid improvement he would be transferred to Chermide.

The purpose of the scheme is to prevent the development of a serious mental illness; if the patient does become seriously disturbed to give him the necessary treatment and to discharge him to the community as soon as possible. If supportive treatment is necessary this will be given to him at the outpatient department by the team who cared for him as an inpatient.

DIVISION OF LABORATORY SERVICES

Laboratory of Microbiology and Pathology

This laboratory plays an important part in the public health programme of the State. It provides diagnostic facilities for hospitals and private practitioners for both communicable and non-communicable diseases; it is responsible for the bacteriological examination of food, milk, and water; and it performs post-mortem examinations ordered by the Coroner. It also engages in research and of particular interest is the research being carried out into traffic accidents. This is being done in co-operation with Dr. Kenneth Jamieson, Senior Neuro-surgeon of the Brisbane Hospital.

Up to the present the investigation has been concentrated on the casualties, those being studied either being admitted to hospital or being killed. The results are now being analysed. The data being studied concerns the causation of accidents, the injury pattern in the casualties, and the treatment of these.

The project has been extended, the specific objects being—

- (a) To find the mechanical causes of injury, and to relate these to vehicle construction and features, and to accident circumstances.
- (b) To get detailed data about accident causation itself.
- (c) Collection of information regarding:
 - (i) Driver's occupation and intelligence;
 - (ii) Driver's premorbid personality;
 - (iii) Driver's medical history.
- (d) Correlation with information already available from Traffic Branch Analytical Section:
 - (i) Characteristics of our samples in relation to the full population of accidents;
 - (ii) Characteristics of our drivers in relation to full population;
 - (iii) Changing pattern of injuries and accidents.

The investigation will be carried out by a mobile team consisting of a doctor and an engineer assisted by a social worker. There will be liaison with other agencies (Police, ambulance, and hospitals).

The most obvious approach to prevent accidents is increased law enforcement on the roads but from a medical point of view all information about the class of people who are involved in accidents, the social, educational, and economic background of these people, stresses imposed upon them, their habits as road users, and many other aspects of the individual in his relation to the use of motor cars are required. Unless these factors are known appropriate measures for the education of the community cannot be designed and any action may be misdirected.

Government Chemical Laboratory

The work of this laboratory continues to expand despite accommodation difficulties. A record number of 31,993 samples was examined, an increase of 5,970 over the previous year. There was an increase in the number of samples received for analysis in connection with the search for oil. An investigation was carried out into the explosion of a small number of hair sprays. The analysis pointed to the inclusion of water which caused hydrolysis of the propellant generating acid which cause corrosion and weakening of the metal cans.

There is a delay in the chemical analysis of waters received from Local Authorities. This is due to inability to accommodate additional staff. This should be relieved early next year when the Laboratory of Microbiology and Pathology transfers to the new Health and Welfare building.

DIVISION OF GERIATRICS

The Geriatric Unit at Princess Alexandra Hospital is part of the general hospital. It is only of recent years that the defeatist attitude towards the ills of the aged has changed to a realisation that, with modern methods of treatment, these patients are no longer bedfast and can be discharged into the community.

Old people suffer from diseases which also affect younger age groups and it is most important that specialist consultative laboratory and other hospital ancillary services are easily available. The unit at Princess Alexandra Hospital situated in the grounds of the hospital allows this.

Of the 796 patients admitted, 404 were discharged to their homes. No patient leaves hospital until he is sufficiently ambulatory to attend to his daily needs. Only a few years ago most of these patients would have been considered as suffering from an incurable disease when they had a stroke but today rehabilitation allows them to take their place within the family circle.

The day hospital has an average daily attendance of 45. Patients are brought by ambulance and receive occupational and physio-therapy. If the day hospital were not available they would be occupying hospital beds.

DIVISION OF SOCIAL WORK

The activities of this Division have been restricted by the unavailability of trained social workers. This is particularly so in the field of mental health where the social worker plays an important part in ascertaining home conditions of the patient and the part they play as a predisposing cause to the patient's illness. The social worker plays an important part in preparing the patient's family to assist in his rehabilitation and in helping the patient on his return into the community.

In the care of the elderly, the social worker is responsible for seeing that home conditions are suitable for the return of the patient from hospital to the community and for following up the patient in order to help him to remain in the community.

The University of Queensland provides for a course in Social Studies leading to the degree of Bachelor of Social Studies. The number of students enrolling is increasing. This should relieve the shortage to some extent.

FLYING SURGEON SERVICE

Approximately six years ago the late Dr. H. W. Noble, during a tour of north and west Queensland, had discussions with medical superintendents in the one-doctor towns, on the medical service being given to the people for whose medical care they were responsible.

These doctors, whose post-graduate experience was twelve months in hospital immediately after graduation, carried out difficult emergency operations with skill not usually found in graduates of such limited experience. They told Dr. Noble of their difficulties and on his return to Brisbane he planned a service which would make a surgeon and an anaesthetist available not only in an emergency but which would allow regular monthly visits to enable routine consultations in regard to difficult diagnoses and treatment to take place.

The service completed its first five years of work in June, 1964. In this period the medical team has been responsible for the saving of many lives.

The success of the venture has been mainly due to the work and personality of Dr. C. F. A. Cummins, who has decided to retire at the end of 1964 to enter private practice in Toowoomba.

Dr. Cummins, who is an Englishman, quickly adjusted himself to western Queensland conditions and soon earned the respect of the people for whose medical care he was responsible. His name will be long remembered from Mt. Isa and Collinsville in the north to Quilpie and Surat in the south by the people whom he has served so loyally.

VITAL STATISTICS

Population

The estimated population of Queensland at 31st December, 1963, was 1,571,982, an increase of 21,612 (or 1·4 per cent.) for the year. The estimated population living in the metropolitan area was 654,500, an increase of 12,500 (or 1·9 per cent.) during 1963.

The population density per square mile is 2·36 persons for the whole of Queensland, 1,380 persons in the metropolitan area, and 1·38 persons for the rest of the State; 41·6 of the population of the State reside in the metropolitan area.

TABLE II
SHOWING POPULATION OF AUSTRALIAN STATES AND THE PERCENTAGE OF ESTIMATED AUSTRALIAN POPULATION RESIDENT IN EACH STATE DURING CERTAIN YEARS
(At 31st December), since 1935

Year	New South Wales		Victoria		Queensland		South Australia		Western Australia		Tasmania		Australian Capital Territory		Australia	
	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.
1935	2,658,672	39·3	1,841,595	27·3	971,297	14·4	586,762	8·4	449,623	6·6	233,623	3·5	14,890		6,755,662	
1940	2,790,948	39·4	1,914,918	27·1	1,031,452	14·6	599,056	8·4	474,076	6·7	244,002	3·5	23,134		7,077,586	
1945	2,932,998	39·5	2,015,107	27·1	1,084,864	14·6	630,882	8·5	490,088	6·6	250,380	3·4	25,978		7,430,197	
1950	3,241,057	39·0	2,237,182	28·1	1,205,418	14·5	722,843	8·7	572,649	6·9	290,333	3·5	37,999		8,307,481	
1955	3,536,534	37·9	2,546,332	27·3	1,358,838	14·6	834,661	9·0	668,609	7·2	324,919	3·5	33,960		9,311,825	
1960	3,877,261	37·3	2,888,290	27·8	1,502,286	14·5	937,022	9·2	731,033	7·0	355,969	3·4	55,272		10,391,920	
1961	3,949,420	37·2	2,950,790	27·8	1,525,278	14·4	980,755	9·2	746,205	7·0	364,134	3·4	62,091		10,603,931	
1962	4,016,635	37·2	3,013,447	27·9	1,550,370	14·3	999,693	9·2	765,715	7·1	369,403	3·4	68,824		10,810,371	
1963	4,086,293	37·1	3,080,215	27·9	1,571,982	14·3	1,020,174	9·3	784,107	7·1	373,640	3·4	77,578		11,022,811	

Births

During 1963, births registered in Queensland totalled 35,934, an increase of 244 on the previous year. The crude birth rate was 23.0 compared with 23.2 in 1962. The births comprised 18,316 males and 17,618 females, giving a masculinity rate of 104.0.

The natural increase (excess of births over deaths) was 22,659, being equal to an increase of 1.4 per cent. of the population.

The birth rate in Queensland remains relatively high, and the rate of natural increase is very satisfactory.

TABLE III
CRUDE BIRTH RATE (PER 1,000 POPULATION)

	1958	1959	1960	1961	1962	1963
Commonwealth of Australia	22.6	22.6	22.4	22.9	22.1	21.6
Queensland	23.6	24.3	23.6	24.2	23.2	23.0
New South Wales	21.7	21.5	21.4	22.1	21.5	20.8
Victoria	22.5	22.4	22.4	22.6	22.0	21.5
South Australia	22.3	22.1	22.2	23.1	21.6	21.2
Western Australia	23.9	24.0	23.4	23.2	22.6	22.4
Tasmania	25.5	25.3	25.5	25.4	24.8	23.4
New Zealand	25.2	25.1	25.0	25.5	24.7	25.5
United Kingdom	16.8	16.9	17.5	17.8	18.3	*
United States of America	24.3	24.1	23.6	23.4	22.4	21.5
Canada	27.6	27.5	26.8	26.0	25.5	24.8

* Not available

Deaths

For the year 1963 deaths from all causes totalled 13,275, giving a crude death rate (deaths per 1,000 mean population) of 8.5 compared with 8.6 in the previous year, and still below the crude death rate of the Commonwealth of Australia. Table IV compares the crude death rates of Queensland, other States, and certain overseas countries since 1958.

Diseases of the heart, hypertension and vascular lesions affecting the nervous system were again the greatest cause of death in the population.

There were 1,984 deaths from cancer as compared with 1,937 in 1962. This is about 15 per cent. of all deaths.

In every 100 male deaths 46 died of a degenerative vascular disease, 14 of cancer and 8 of accident. In every 100 female deaths the respective figures are 48, 16, and 3. The fatal accident rate was much higher in males than in females.

TABLE IV
CRUDE DEATH RATE (PER 1,000 POPULATION)

	1958	1959	1960	1961	1962	1963
Commonwealth of Australia	8.5	8.9	8.6	8.5	8.7	8.7
Queensland	8.0	8.4	8.3	8.4	8.6	8.5
New South Wales	8.8	9.4	9.1	9.0	9.3	9.2
Victoria	8.7	9.0	8.6	8.4	8.6	8.8
South Australia	8.6	8.6	8.3	8.1	8.3	8.1
Western Australia	7.9	7.7	7.9	7.8	7.7	7.7
Tasmania	8.1	8.1	7.7	7.9	8.0	7.7
New Zealand	8.9	9.1	8.8	9.0	8.9	8.8
United Kingdom	11.7	11.7	11.5	12.0	11.9	12.1
United States of America	9.5	9.4	9.5	9.3	9.5	9.6
Canada	7.9	8.0	7.8	7.7	7.6	7.8

Marriages

Registration of marriages during the year totalled 11,431, compared with 10,642 in 1962. The marriage rate was 7.3 per 1,000 mean population, compared with 6.9 in the previous year. Marriages of minors during the year totalled 6,427, of whom 1,465 were males and 4,962 females.

Infant Mortality

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

The net reproduction rate is higher than the Australian average, whilst the maternal mortality rate declined from 5.77 in 1911 to 0.25 in 1963.

If the crude death rate had remained at the level prevailing in 1900, over 5,000 additional deaths would have occurred in Queensland during 1963. In addition, the expectation of life has been increased by 17 years during that period.

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	2.28	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	1.51	1.33
1949	24.0	22.9	24.7	25.3	1.44	1.21	1.56	1.46	1.48	1.33
1950	24.4	23.3	24.8	24.5	1.45	1.09	1.60	1.49	1.52	1.42
1951	24.2	23.0	25.7	25.2	1.18	1.05	1.62	1.49	1.54	1.21
1952	24.6	23.3	24.9	23.8	1.03	0.94	1.67	1.55	1.59	1.47
1953	23.9	22.9	23.0	23.3	0.71	0.62	1.65	1.56	1.57	1.48
1954	23.7	22.5	22.3	22.5	0.96	0.69	1.67	1.56	1.62	1.50
1955	24.1	22.6	20.3	22.0	0.62	0.64	1.71	1.59	1.65	1.53
1956	23.5	22.5	22.7	21.7	0.89	0.56	1.72	1.61	1.66	1.55
1957	24.0	22.9	21.6	21.4	0.62	0.63	1.78	1.66	1.72	1.60
1958	23.6	22.6	19.4	20.5	0.47	0.50	1.79	1.67	1.72	1.60
1959	24.3	22.6	20.3	21.5	0.59	0.46	1.87	1.68	1.80	1.61
1960	23.6	22.4	20.2	20.2	0.65	0.53	1.84	1.68	1.77	1.61
1961	24.2	22.0	20.0	19.5	0.78	0.44	1.86	1.73	1.79	1.66
1962	23.2	22.1	21.1	20.4	0.64	0.36	1.79	1.66	1.72	1.60
1963	23.0	21.6	20.1	19.5	0.25	0.27	1.79	1.62	1.72	1.56

(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.

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

	1956	1957	1958	1959	1960	1961	1962	1963
Commonwealth of Australia	21.7	21.4	20.5	21.5	20.2	19.5	20.4	19.5
Queensland	22.7	21.7	19.4	20.3	21.0	20.0	21.1	20.1
New South Wales	23.5	22.7	21.3	22.7	21.2	20.8	21.4	19.9
Victoria	19.3	20.2	19.2	21.2	18.5	17.8	18.5	18.9
South Australia	19.9	20.6	22.4	20.7	18.9	20.0	19.2	18.7
Western Australia	22.7	21.1	21.5	20.2	21.6	19.7	22.3	20.4
Tasmania	22.0	20.2	19.5	23.4	19.1	16.8	20.7	17.9
New Zealand	19.4	20.0	19.4	19.9	19.7	19.1	16.6	19.6
United Kingdom	24.4	24.0	23.4	23.1	22.4	22.4	22.4	*
United States of America	26.0	26.3	27.1	26.4	25.7	25.3	25.4 ¹	*
Canada	31.9	30.9	30.2	28.4	27.3	27.2	*	*

* Not available

¹ Preliminary Rate

The causes of death to residents of Queensland during 1963 are shown in Table VII.

TABLE VII
SHOWING CAUSES OF DEATH OF RESIDENTS OF QUEENSLAND, 1960-1963

Causes of Death	Males	Females	Total 1963	Persons		
				1962	1961	1960
Tuberculosis of Respiratory System	68	9	77	83	66	80
Tuberculosis, other	3	..	3	1	6	3
Diphtheria	..	..	..	..	1	1
Whooping Cough	..	..	..	..	1	..
Tetanus	3	2	5	6	10	13
Acute Poliomyelitis	..	..	..	5	2	..
Measles	2	1	3	3	3	1
Infectious Hepatitis	9	6	15	11	11	15
Other Infectious and Parasitic Diseases	43	16	59	50	40	55
Malignant Neoplasms	1,133	851	1,984	1,937	1,838	1,801
Neoplasms, Benign and Unspecified	13	14	27	34	42	28
Hay Fever and Asthma	36	21	57	46	60	55
Diabetes Mellitus	70	80	150	134	143	145
Other Allergic, Endocrine System, Metabolic, and Nutritional Diseases	15	14	29	28	32	34
Pernicious and other Hyperchromic Anæmias	7	4	11	12	14	9
Other Diseases of the Blood and Blood-forming Organs	15	20	35	35	43	45
Mental, Psychoneurotic and Personality Disorders	38	26	64	60	57	87
Vascular Lesions affecting the Central Nervous System	903	956	1,859	1,746	1,738	1,659
Other Diseases of the Nervous System and Sense Organs	72	70	142	178	143	174
Diseases of the Heart	2,711	1,635	4,346	4,159	3,950	3,784
Hypertensive Disease	131	158	289	336	400	467
Other Diseases of the Circulatory System	268	205	473	465	484	439
Influenza	6	6	12	18	22	16
Lobar-pneumonia	49	46	95	87	86	87
Broncho-pneumonia	107	102	209	213	202	188
Other and Unspecified Pneumonia	75	59	134	115	105	125
Bronchitis	246	48	294	259	206	189
Other Diseases of Respiratory System	76	31	107	126	138	115
Diseases of Stomach and Duodenum	67	36	103	97	112	113
Appendicitis	13	6	19	19	27	17
Diseases of Liver, Gallbladder, and Pancreas	73	58	131	140	117	123
Other Diseases of Digestive System	68	84	152	194	183	162
Nephritis and Nephrosis	105	79	184	181	215	219
Diseases of Male Genital Organs	65	..	65	58	68	69
Other Diseases of Genito-Urinary System	75	132	207	208	177	173
Deliveries and Complications of Pregnancy, Childbirth, and Puerperium	..	9	9	23	28	24
Diseases of the Skin and Cellular Tissue	10	11	21	21	22	21
Diseases of the Bones and Organs of Movement	25	27	52	44	46	49
Congenital Malformations	99	77	176	167	187	205
Intra-cranial and Spinal Injury at Birth	28	16	44	43	61	50
Other Birth Injury	29	16	45	46	39	60
Post-Natal Asphyxia and Atelectasis	40	22	62	101	78	75
Infections of Newborn	16	13	29	28	20	21
Immaturity Unqualified	82	62	144	131	141	140
Other Diseases Peculiar to Early Infancy	76	38	114	103	111	96
Senility without mention of Psychosis	33	53	86	214	192	122
Symptoms Referable to Systems or Organs	4	3	7	5	11	8
Ill-defined and Unknown Causes	22	10	32	21	29	26
Motor Vehicle Traffic Accidents	334	74	408	408	349	331
Accidental Falls	54	59	113	158	134	171
Accidental Drowning and Submersion	63	6	69	59	58	52
Other Accidents	173	40	213	276	246	239
Suicidal and Self-Inflicted Injury	209	80	289	261	232	172
Homicide and Injury Purposely Inflicted by Other Persons	16	6	22	29	20	17
Total from all Causes	7,878	5,397	13,275	13,182	12,756	12,370

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.)

Senior Health Officer: P. R. PATRICK, M.B., B.S. (Q'ld.), D.P.H. (Syd.).

Health Officer: M. H. GABRIEL, M.B., B.S. (Q'ld.), D.P.H. (Syd.).

Chief Inspector of Food and Drugs: W. H. KELLY

Chief Sanitary Inspector: W. D. PRYOR

Secretary to Director-General of Health and Medical Services: R. WOODLEY

INSPECTORS IN CHARGE OF DISTRICT OFFICES

Townsville: H. P. LOWES

Cairns: W. T. JOHNSTON

Toowoomba: W. J. SHIELDS

Rockhampton: R. G. C. J. CUFFE

Mackay: R. A. BURKE

Bundaberg: C. V. JAMES

SECTION OF EPIDEMIOLOGY

Tables VIII and IX show reported incidence of notifiable diseases during the fiscal year, while Table X shows the incidence of the same diseases for the calendar year 1963. During 1963-64, notifications totalled 4,443 (1,922 in Brisbane and 2,521 in country districts), compared with 2,972 (1,050 and 1,922) in the previous year. The increase of 1,471 was due mainly to increased notifications for rubella, infectious hepatitis and infantile diarrhoea. A rubella epidemic was responsible for 863 notifications as compared with 21 in 1962-63. Infectious hepatitis notifications rose from 988 to 1,535, an increase of 547 cases, and infantile diarrhoea cases rose from 173 to 321, an increase of 148 notifications. Other increases occurred in amoebic dysentery (+58), scarlet fever (+27) and tuberculosis (+36). Decreased notifications occurred chiefly in ancylostomiasis (-11), breast abscess (-18), leptospirosis (-49), meningitis (-22), Q. fever (-50) and rheumatic fever (-25).

Variations in the number of notifications of communicable diseases do not always indicate variations in the incidence of disease. Some diseases are poorly notified. Notifications rise after definite surveys of a disease present previously, but not investigated. However, during this particular year there is no doubt that there was a definite increase in the incidence of rubella, infectious hepatitis and a probable increase in infantile diarrhoea. The other variations do not indicate that a particular disease has been defeated or is increasing seriously in incidence.

The Department continued to supply information on current communicable diseases for monthly publication in the Newsbulletin of the Queensland Branch of the Australian Medical Association. The information was based on reports received from the Queensland Institute of Medical Research, the Infectious Disease Block at the Brisbane Hospital, as well as notifications received by the Director-General of Health and Medical Services.

TABLE VIII

NOTIFIABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES) 1ST JULY, 1963, TO 30TH JUNE, 1964
METROPOLITAN AREA (POPULATION AT 31ST DECEMBER, 1963—654,500)

Diseases	Months												Totals 1963-64	Totals 1962-63
	1963						1964							
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June		
Ancylostomiasis	..	..	..	..	..	..	1	..	1	..	..	20	22	5
Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Breast Abscess	2	..	..	1	..	..	1	2	1	..	..	..	7	5
Brucellosis	..	..	..	..	..	..	..	..	1	..	..	..	1	2
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dengue	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Diarrhoea (Infantile)	5	6	20	12	8	3	37	3	11	20	9	6	140	64
Diphtheria	..	..	..	1	..	..	..	..	..	..	..	..	1	..
Dysentery (Amoebic)	..	..	..	..	..	..	..	..	1	..	..	42	43	..
Dysentery (Bacillary)	5	..	..	..	1	1	5	5	3	1	3	2	26	14
Encephalitis	..	..	..	1	..	..	1	..	..	..	..	..	2	4
Filariasis	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hepatitis (Infective)	52	48	50	38	46	24	49	49	30	35	27	28	476	347
Hydatid Disease	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Lead Poisoning	..	..	..	..	..	..	..	2	..	..	..	..	2	2
Leprosy	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Leptospirosis	2	..	1	..	1	..	..	..	..	..	..	1	5	7
Malaria	..	..	1	8	1	..	..	..	3	1	2	2	18	25
Melioidosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningitis	5	1	2	1	5	3	2	8	7	8	4	7	53	66
Neo-Natal Infections	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Ornithosis (Psittacosis)	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Plague	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Polio-myelitis (Paralytic and Non-Paralytic)	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Puerperal Infections	1	..	..	1	..	..	1	..	..	..	..	..	3	3
Q. Fever	1	3	1	5	6	1	..	2	..	2	6	8	35	61
Relapsing Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rheumatic Fever	..	4	2	6	2	3	2	2	1	3	3	3	36	41
Rubella	6	36	122	203	104	47	20	10	2	4	2	1	557	16
Scarlet Fever	7	5	2	5	3	4	1	..	3	1	2	9	42	41
Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taeniasis	..	..	..	..	1	..	..	..	..	..	..	..	1	2
Tetanus	..	..	..	2	1	..	..	..	..	2	..	1	6	5
Tuberculosis	41	40	23	40	42	44	39	39	26	18	24	65	441	322
Typhoid Fever (including Paratyphoid)	1	..	..	..	..	..	1	1	..	..	..	..	3	10
Typhus Fever—	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Epidemic	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Murine	..	1	..	..	..	..	..	..	..	..	..	..	1	..
Scrub	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tick	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Yellow Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	134	144	224	324	221	130	160	123	90	95	82	195	1,922	1,050

TABLE IX
NOTIFIABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES) 1ST JULY, 1963, TO 30TH JUNE, 1964
EXTRA METROPOLITAN AREA (POPULATION AT 31ST DECEMBER, 1963—917,482)

Diseases	Months												Totals 1963-64	Totals 1962-63
	1963						1964							
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June		
Ancylostomiasis	1	..	1	..	1	..	9	..	..	2	12	..	26	54
Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Breast Abscess	1	3	1	..	1	..	1	2	..	1	..	..	10	30
Brucellosis	1	..	..	2	..	..	2	..	1	1	1	2	10	8
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Dengue	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoea (Infantile)	5	7	10	9	6	6	21	46	42	10	15	4	181	109
Diphtheria	..	1	1	..	..	1	1	..	..	..	..	..	4	1
Dysentery (Amoebic)	1	6	4	2	1	..	..	..	14	2	5	1	36	21
Dysentery (Bacillary)	..	..	1	..	2	2	1	1	2	1	2	1	13	24
Encephalitis	1	4	..	..	..	..	1	..	1	1	..	..	8	8
Filariasis	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hepatitis (Infective)	73	81	102	135	130	75	106	125	82	68	34	48	1,059	641
Hydatid Disease	..	..	..	..	..	..	..	..	..	..	..	2	3	5
Lead Poisoning	..	2	1	1	1	1	..	..	1	..	..	..	7	6
Leprosy	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Leptospirosis	6	5	10	3	3	..	5	4	10	10	15	5	76	123
Malaria	7	..	3	7	2	..	3	3	6	3	1	1	36	29
Melioidosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningitis	5	4	3	2	..	..	3	1	3	3	2	5	31	40
Neo-Natal Infections	..	..	1	..	..	..	..	1	..	..	1	1	4	7
Ornithosis (Psittacosis)	1	..	1	..	..	..	..	..	1	..	1	..	4	6
Plague	..	..	..	..	..	..	..	..	..	..	..	..	..	5
Poliomyelitis (Paralytic and Non-Paralytic)	..	3	..	3	2	2	..	3	..	5	1	4	27	22
Puerperal Infections	..	5	11	8	4	20	20	10	15	3	15	8	30	149
Q. Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Relapsing Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rheumatic Fever	8	2	6	2	1	3	2	5	8	5	..	3	45	65
Rubella	1	29	76	78	52	45	11	6	1	3	2	2	306	5
Scarlet Fever	3	..	1	2	4	4	8	1	2	3	5	4	37	11
Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taeniasis	..	..	1	..	..	..	..	1	1	..	..	..	7	..
Tetanus	2	1	..	4	1	..	2	..	..	1	..	2	13	15
Tuberculosis	38	52	39	55	44	16	32	27	11	33	19	50	416	499
Typhoid Fever (including Paratyphoid)	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Typhus Fever—	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Epidemic	..	..	..	..	..	..	..	..	..	..	..	..	3	4
Murine	..	..	..	2	..	..	..	1	..	..	..	..	..	..
Scrub	1	..	..	..	..	..	2	3	..	2	1	1	10	5
Tick	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Yellow Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	166	211	270	311	271	176	222	245	189	169	125	166	2,521	1,922

TABLE X
NOTIFIED INCIDENCE OF COMMUNICABLE DISEASES IN QUEENSLAND (EXCLUSIVE OF VENEREAL DISEASE) SECTION 29 OF
"THE HEALTH ACTS, 1937 TO 1962" DURING THE CALENDAR YEAR OF 1963

Diseases	Metropolitan Area	Outside Areas	Total for Queensland 1963	Total for Queensland 1962
Ancylostomiasis	5	16	21	66
Anthrax	..	..	..	..
Breast Abscess	7	20	27	43
Brucellosis	1	6	7	12
Cholera	..	..	..	..
Dengue	..	..	..	..
Diarrhoea (Infantile)	86	125	211	98
Diphtheria	1	3	4	4
Dysentery (Amoebic)	..	29	29	7
Dysentery (Bacillary)	21	18	39	28
Encephalitis	2	10	12	16
Filariasis	..	..	..	1
Hepatitis (Infective and Serum)	497	935	1,432	880
Hydatid Disease	..	..	..	..
Lead Poisoning	..	3	3	16
Leprosy	1	10	11	4
Leptospirosis	9	86	95	139
Malaria	17	37	54	55
Melioidosis	..	..	..	..
Meningitis	58	39	97	77
Neo-Natal Infections	1	5	6	4
Ornithosis (Psittacosis)	2	6	8	9
Plague	..	..	..	..
Poliomyelitis (Paralytic and Non-Paralytic)	2	2	4	138
Puerperal Infections	5	26	31	18
Q. Fever	70	201	271	99
Relapsing Fever	..	..	..	..
Rheumatic Fever	37	52	89	110
Rubella	524	286	810	16
Scarlet Fever	37	18	55	95
Smallpox	..	..	..	..
Taeniasis	2	5	7	2
Tetanus	8	18	26	13
Tuberculosis	414	485	899	821
Typhoid Fever (including paratyphoid)	6	3	9	9
Typhus Fever { Epidemic	..	..	..	..
Murine	1	2	3	11
Scrub	..	4	4	2
Tick	..	..	..	2
Yellow Fever	..	..	..	..
Totals	1,814	2,450	4,264	2,799

Infantile Diarrhoea

Cases of diarrhoea of more than forty-eight hours' duration in children under two years of age are notifiable. The 321 cases which were notified would not be the total number of cases that occurred. Many cases of infantile diarrhoea would not be seen by medical practitioners, and many seen would not be notified. The number of children admitted to hospital at any particular time was never great although some patients were seriously ill. *Shigella sonnei* and *Escherichia coli* were isolated from some of the cases. As usual, the highest incidence occurred in the summer months. The disease is no longer the worry it was around the beginning of the present century when severe epidemics of this nature were responsible for many deaths in the infant population.

Diphtheria

There were five cases of diphtheria notified. Two were children, the others were in the 15-39 years age group. One child was not immunised and the other had had primary immunisation but no booster doses. The three adults had no knowledge of ever being immunised. Although initial immunisation with triple antigen is now almost universal in Queensland infants, there is still not a sufficient percentage of children receiving booster doses. The Chief Medical Officer, School Health Services, reports that a check of the immunisation status of children at school entry age reveals that only approximately fifty per cent. of children have received booster doses for diphtheria. The recommended schedule of immunisation consists of primary immunisation commencing at three months of age, and booster doses at eighteen months and school entry age.

Infective Hepatitis

At a time when most communicable diseases are being brought under control, one disease which is still causing some concern is infective hepatitis. This condition, in recent years, has been responsible for a large number of notifications and, during the current year, 1,535 cases were reported. Each month brought a large number of notifications but there were fewer cases in the winter months of 1964.

The disease has a fairly long incubation period of an average of twenty-five days. For this reason it moves slowly through an area. The pattern followed is for cases to occur in a suburb or country area for two or three months and then a neighbouring suburb to be affected.

The number of cases in various age groups is indicated in Table XI. The highest incidence was reported from the five to nine years group. Only 3.2 per cent. of patients notified came from the pre-school group. This may not be the correct picture. In the younger children, the disease may be often mild and jaundice (a typical sign by which it is diagnosed) absent. It is thus often missed and this, plus the long incubation period makes the tracing of cases difficult. Few cases occur in old people.

Prevention is not easy. Richtel and Boggs and their associates described in 1961, investigations which suggest successful cultivation of the causative virus in the laboratory. It was then believed that this would lead to the manufacture of a protective vaccine. However, their studies have not been confirmed by independent workers and so far no inoculation is available.

Gamma globulin is useful in close contacts as a preventive measure, but its protection is short-lived. At the present time the only methods of prevention available are to break the link in the chain of spread. It is believed to be spread by intimate person to person contact, the organism leaving the body by the faeces and perhaps by oral and nasal secretions. Good sanitation and personal hygiene, with particular stress on disposal of faeces, are recommended. Contamination of food and water may be a means of spread and its prevention should be aimed at.

TABLE XI
SHOWING AGE DISTRIBUTION OF 1,535 PATIENTS WITH
INFECTIVE HEPATITIS NOTIFIED DURING 1963-64

Age Group in Years	Number of Cases	Percentage of Total Cases
0-4	49	3.2
5-14	561	36.5
15-24	319	20.8
25-34	282	18.4
35-49	229	14.9
50 years and over ..	85	5.5
Not stated	10	0.7
Total	1,535	100.0

Leptospirosis

Leptospirosis occurs in association with animals and wet soil. Reservoirs of infection include cattle, pigs, and rats. In Queensland, the principal occupations in which leptospirosis is a hazard are cane cutters, dairy farmers and meat workers. During 1963-64, the number of cases (81), reported was lower than the previous year (130). Only thirteen were reported amongst cane workers as compared with forty-one cases amongst this industry in the previous year. In some sugar-growing areas, the rainfall during the cutting season was below normal and this, no doubt, was responsible for the reduced number of cases. Mechanical harvesting of cane is being introduced, but it is doubtful if this caused the decrease. This new method has not, as yet, greatly reduced the number of cane cutters and when used, the men are still exposed. Two of the cases were cane harvester operators. The incidence amongst farmers was much the same as previously, while the incidence in meat workers was reduced from 22 to 14. In keeping with the disease only five cases were reported in females. One case came from St. Paul, in the Torres Strait Islands. Table XII shows the geographical location and age groups of patients who contracted the disease during the year.

TABLE XII
SHOWING GEOGRAPHICAL LOCATION ACCORDING TO STATISTICAL DIVISIONS AND AGE GROUPS OF PATIENTS WITH LEPTOSPIROSIS
NOTIFIED DURING 1963-64

Statistical Divisions	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70 and over	Unknown	Totals	In Hospital	Not in Hospital	Males	Females
Metropolitan	..	1	2	2	..	..	..	..	..	5	3	2	4	1
Moreton	..	4	3	1	2	..	..	..	..	10	4	6	9	1
Maryborough	..	3	4	4	3	1	1	..	..	16	12	4	16	..
Downs	..	2	2	3	1	..	..	..	1	9	5	4	9	..
Roma	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Western	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rockhampton	..	1	2	..	1	..	..	..	..	4	2	2	4	..
Central Western	..	..	..	..	..	2	..	..	..	2	2	..	2	..
Far Western	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mackay	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Townsville	..	1	1	..	..	..	..	..	..	2	1	1	2	..
Cairns	..	8	4	8	6	4	..	..	..	30	24	6	27	3
Peninsula	..	..	1	..	..	..	..	..	..	1	1	..	1	..
North Western	..	..	2	..	..	..	..	..	..	2	2	..	2	..
Outside Queensland	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	..	20	20	19	13	7	1	..	1	81	56	25	76	5

Malaria

Fifty-four cases of malaria were notified. All had contracted the disease in countries outside Australia, namely in New Guinea and Malaya. Except in one or two cases, there has been no malaria having origin in Queensland since an epidemic occurred in Cairns during the Second World War.

Meningitis

In 1960, all forms of meningitis were made notifiable. Prior to this, the only type to be reported was that due to the meningococcus. During 1963-64, the number of cases notified totalled 84. Of these, sixteen were due to the meningococcus. Thirteen cases were due to *Haemophilus influenzae* and five were diagnosed as pneumococcal meningitis. Thirty-two of the remaining fifty cases were classified as aseptic meningitis. The Queensland Institute of Medical Research investigated 27 of these and from nine isolated an enterovirus, either from the faeces or the cerebrospinal fluid. Subsequent typing identified the causative organism as Coxsackie (4 cases) or ECHO (5 cases) viruses. The predominance of cases came from the younger age group. Thirty-seven patients were in the 0-4 years group and twenty-seven aged 5-9 years.

Poliomyelitis

There were no cases of poliomyelitis during 1963-64. This disease is notable for its periodicity. While this may account to a certain extent for the absence of the disease, it is felt that vaccination with Salk vaccine has been largely responsible for a decrease of incidence in recent years. The Salk Vaccination Campaign began in 1956 and in only one of the subsequent eight years has there been any significant number of notifications. (See Table XIII.)

This occurred in 1961-62 when 266 notifications were received of which 160 were confirmed as positive. Even in this year it is estimated, from crude protection rates, that the cases would have reached approximately 800 but for Salk vaccination! However there is no room for complacency. Some of the 1961-62 cases occurred in persons who had received three injections. As a result, the National Health and Medical Research Council approved a fourth dose to be given at least twelve months after the third injection. Vaccine is readily available to all private practitioners and local authorities. However, despite much publicity, the response to the recommendation that those eligible receive a fourth injection has been far from satisfactory. At the end of June, 1964, only 19 per cent. of persons aged 15 years to fifty years and only 56 per cent. of children had received four injections.

TABLE XIII

SHOWING THE ANNUAL NUMBER OF NOTIFICATIONS OF POLIOMYELITIS FOR TWENTY YEARS FROM 1944 TO 1963

Fiscal Year	Notifications
1944-45	10
1945-46	429
1946-47	23
1947-48	26
1948-49	28
1949-50	14
1950-51	824
1951-52	359
1952-53	242
1953-54	68
1954-55	248
1955-56	107
*1956-57	45
1957-58	5
1958-59	5
1959-60	4
1960-61	29
1961-62	266
1962-63	8
1963-64	Nil

*Salk vaccination began in July, 1956.

Q. Fever

From Table XIV it will be seen that the 184 cases of Q. Fever notified came from all areas of the State. The first human cases of Q. Fever ever diagnosed came from abattoir workers investigated by Derrick in 1936. The illness also appeared in people connected with the dairy industry. Until 1958, the cases notified came from areas where the meat and dairy industries operated. In January, 1958, cases were reported amongst shearers at Tambo. From then on many cases have been notified from the pastoral industry and it is common now to receive notifications from all parts of Queensland. In the current year's notification, the meat industry supplied 88 cases, the dairy industry 29 cases, and the sheep industry 30 cases. Most of the patients were males. The seven female patients were wives of men working in the above industries.

TABLE XIV

SHOWING DETAILS OF GEOGRAPHIC AND AGE DISTRIBUTION OF 184 CASES OF Q. FEVER NOTIFIED DURING 1963-64

Statistical Divisions	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70 and over	Unknown	Totals	In Hospital	Not in Hospital	Males	Females
Metropolitan	..	6	8	9	7	4	2	..	..	36	18	18	34	2
Moreton	1	13	8	9	5	1	1	..	..	38	25	13	37	1
Maryborough	1	2	2	1	4	2	..	..	..	12	11	1	11	1
Downs	..	14	7	6	3	1	..	..	..	31	19	12	30	1
Roma	..	3	4	4	3	1	..	..	..	15	4	11	15	..
South Western	..	1	..	4	1	..	2	..	..	8	6	2	8	..
Rockhampton	..	..	1	1	2	1	..	1	..	6	4	2	6	..
Central Western	..	..	6	..	2	2	..	..	..	10	7	3	9	1
Far Western	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mackay	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Townsville	..	1	1	1	2	1	2	..	..	8	7	1	8	..
Cairns	..	3	5	3	1	3	..	..	1	16	8	8	15	1
Peninsula	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Western	..	2	1	1	..	..	..	..	..	4	2	2	4	..
Outside Queensland	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	2	45	43	39	30	16	7	1	1	184	111	73	177	7

Rubella

After the epidemic of rubella in 1940 in Australia it was found that women who contract the disease in the first trimester of pregnancy may give birth to children with such congenital abnormalities as cataract, deafness, heart defect and mental subnormality. As a result it was decided in Queensland to make the disease notifiable in females over the age of fourteen years. During 1963-64 the number of such notifications received was 863. Of these 385 were in girls 15-19 years, and 407 in the 20-39 years age group. The Commonwealth Acoustic Laboratory in Brisbane reported that there were at least eleven cases of deafness which arose from the 1957 rubella epidemic, the last recorded in this State.

Most of these children were born in May, 1958, approximately seven months after the height of the epidemic in October, 1957. No doubt other defects, too, occurred.

The present epidemic commenced in August, 1963, when 65 notifications were received. The figures for the following months of the epidemic were September 198, October 281, November 156, December 92, January 31, and February 16. During subsequent months sporadic cases were notified. The Director of Maternal and Child Welfare has given instructions for the staff of all clinics to examine carefully those children born of mothers who were pregnant during this epidemic. During the epidemic there were many patients whose clinical signs included a rash and arthropathy. The Queensland Institute of Medical Research investigated many of these. A report is being prepared.

Tetanus

Nineteen cases of tetanus were reported. The notifications for this disease are gradually falling. None would be received if the people of the State would take the trouble to be immunised.

One case of tetanus neonatorum occurred in a twelve-day-old baby at a country hospital. Investigation failed to reveal any reason. Swabs taken of all material and equipment did not produce any tetanus organisms. Of the remaining eighteen cases, six were in children under fifteen years. The ages of the other cases ranged from eighteen to eighty-three years. Children are better immunised than adults and this factor is responsible for the preponderance of cases in the older age groups. Primary immunisation with Triple Antigen, which includes protection against tetanus, is now accepted by most mothers for their infants. As these children grow older, a greater proportion of the community will have at least some protection. There is need to stress the necessity for booster doses throughout life. Adult cases would also be prevented by immunisation of the older age groups who were children when tetanus immunisation was not an accepted practice.

SECTION OF AIR POLLUTION

The Clean Air Act was passed by Parliament in October, 1963, and was assented on 13th December, 1963. The Act has several features of general interest. Its purpose is to prevent or minimise air pollution, and for this purpose, a body called the Air Pollution Council is set up. The Air Pollution Council shall administer the Act subject to the Minister, and in order to enable this to be done, provision is made for the appointment of a Director of Air Pollution, and other ancillary, technical, and field staff, who will be members of the State Public Service.

The Act will operate in the area or areas specified by the Governor in Council, and the date on which the Act will operate in these areas will likewise be proclaimed.

The Air Pollution Council consists of a chairman and three other members nominated by the Minister. In addition there will be one member nominated by each of the Commissioner for Railways, the Commissioner for Electricity Supply, the Director of Local Government, the Brisbane Chamber of Commerce, the Queensland Chamber of Manu-

factures, and the University of Queensland. A secretary to the Council is appointed by the Governor in Council. This body was appointed in March, 1964, and before the end of the financial year had already held two meetings.

The most urgent requirements were to obtain accommodation, and to compile lists of staff and equipment which would be required over a period of three years until the Act could be fully implemented. In this connection, the Council is indebted to Dr. J. L. Sullivan, Principal Air Pollution Control Engineer in the New South Wales Department of Health, for his willingness to assist the Council in this highly important matter.

The next problem was the duties and qualifications of the Director of Air Pollution Control. These are now being drawn up, and it is expected that the position will be advertised early in 1964-65.

The Clean Air Act divides industry into two groups. The first group is called "Scheduled Premises". These include any premises used for brick, tile, or pottery manufacturing, coal or oil gas works, metallurgical works, oil refineries and sugar mills, as well as premises on which there are boilers capable of using more than one ton of coal per hour. Furthermore, fuel burning equipment operated by the Commissioner for Railways is included in the schedule of Scheduled Premises.

Premises other than scheduled premises include all those premises where any industrial process involving fuel usage is carried out.

The operators of scheduled premises will be licensed, and will pay an annual license fee, which will be paid into a fund called the Air Pollution Trust Fund. Payments from this fund must be authorised by the Minister.

This brief review will indicate that at last a start has been made to control some of the pollution of our major industrial areas. As more industry becomes established in the State, there is no doubt that the amount of air pollution will continue to increase unless some control measures are used. Until the Clean Air Act was passed, there was no control over the amount of aerial effluent which an industry could emit.

Control is a big problem, and air pollution will not be abolished overnight. However, once regulations are in force, it can be anticipated that the amount of air pollution will gradually decline to levels that are regarded as safe as far as health of the local inhabitants is concerned.

HANSEN'S DISEASE

(1) HANSEN'S DISEASE IN THE WHITE POPULATION

Medical Supervision: M. H. GABRIEL, B.Sc., M.B., B.S. (Q'ld.), D.P.H. (Sydney), A.R.A.C.I.

STATISTICS

It has been the usual practice to record statistics for the financial years ending on 30th June, but so many requests are received for figures covering the calendar years that it has been decided to set out the figures for both periods.

	Males	Females	Total
<i>(a) Calendar Year, 1963</i>			
Persons in isolation at 1st January, 1963	6	4	9*
Admitted	6	..	6
Discharged	1	..	1
Discharged to Home Isolation	3	1	4
Died	1	1	2
Persons in isolation at 31st December, 1963	6	2	8*
<i>(b) Financial Year, 1963-64</i>			
Persons in isolation at 1st July, 1963	8	2	10*
Admitted	2	..	2
Discharged	2	..	2
Discharged to Home Isolation	3	..	3
Died	1	..	1
Persons in isolation at 30th June, 1964	4	2	6*

* These totals include one male and two female patients given special permission to remain in hospital although eligible for discharge.

The following comments refer to the financial year 1963-64.

ADMISSIONS

There were only two admissions to hospital, both aged males. One was transferred back from one of the Special Hospitals where he had been sent for special treatment, following which he was considered suitable to resume isolation as an ordinary patient. The other was a very old man received on transfer from a Senile Annexe. His case was interesting in that he had served in East Africa as a member of the British Army for many years. It is presumed that he contracted Hansen's disease in Africa, since he had no history of exposure in Australia, and had not resided in an endemic area.

RELEASES

Two male patients were discharged after having obtained the necessary twelve consecutive negative smears, and three males were released to home isolation after having made favourable clinical and bacteriological progress.

DEATHS

The aged man from East Africa referred to above died from a cardiac condition seven months after admission.

DRUG TREATMENT

Basic drug treatment remains unaltered. Very favourable results are being obtained by using a combined treatment with dapsone, diethyl dithiol-isophthalate and methimazole as set out in last year's annual report.

A REVIEW AFTER SEVENTEEN YEARS OF SULPHONE TREATMENT

In January 1947 sulphone treatment was introduced in Queensland. Sulphones of one type or another have remained

as the basic treatment ever since. The profound effects of sulphones are quite evident from the following table which sets out the statistics for white patients for the calendar years 1946 (one year before sulphones) to 1963.

TABLE XV

Year ended 31st December	—	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
In Isolation at 31st December	Males	40	41	44	44	44	35	27	23	17	18	15	13	12	7	2	3	4	5
	Females	15	12	11	11	8	7	6	5	7	5	5	6	1	3	3	3	2	0
Home Isolation	Males	..	..	..	..	..	..	..	..	..	..	..	..	3	5	7	7	8	7
	Females	..	..	..	..	..	..	..	..	..	..	..	..	2	0	0	0	1	2
Under Sur- veillance	Males	5	6	6	4	7	10	15	27	34	34	32	29	25	17	13	12	13	13
	Females	3	5	4	5	6	8	6	8	9	12	10	8	11	7	8	5	5	5
Ex-Cases known to be still living	Males	0	0	0	1	1	2	2	2	2	4	6	12	17	26	31	33	31	33
	Females	1	1	1	2	2	2	5	5	5	5	7	9	10	13	13	15	15	14
Totals		64	65	66	67	68	66	61	70	74	78	75	77	81	78	77	78	79	79

NOTE 1.—The totals of persons in isolation do not include the three persons noted in the statistics for the current year. They have been included in the appropriate section of the table.

NOTE 2.—Home isolation was introduced in 1958.

It will be seen from the Table XV that in the pre-sulphone days the majority of known cases were in isolation. A few managed to obtain a sufficient number of negative bacteriological tests to be released under surveillance and a very few managed to remain negative through the six year surveillance period and be discharged unconditionally. However, many had to be re-admitted to isolation before their surveillance period had run its course so that the general pattern was one of long isolation with little hope of release or if release was obtained, re-admission was almost inevitable unless one died before this occurred. So then the majority of patients died in isolation or while still under surveillance with very few surviving to become completely unrestricted members of society once more.

If now we look at the present day position we see that there are very few in isolation (hospital and home isolation included). The greater number have come through their period of surveillance with no sign of re-activation of their Hansen's disease and have become unrestricted members of society, many with no stigmata whatever and many with minimal or inapparent stigmata. Even though the ex-patients are not required to do so, most remain in touch with the State Health Department and continue to obtain sulphones at maintenance dose rates for the remainder of their lives. They are, of course, encouraged to do this and free medical consultation and the free issue of sulphones and some other drugs is always readily available to them.

The intervening years, between 1947, when the sulphones were introduced, and the present day, show some interesting changes. For instance it will be seen that it took three to five years before the benefits of sulphones showed themselves in the statistics. The benefits in clinical improvement became apparent much sooner, of course, and this is the usual course of events. However by 1951 the number of patients remaining bacteriologically negative for twelve months or more increased rapidly so that they could be released under surveillance. Consequently, there has been a steady decline in the numbers remaining in isolation and for a time there was a marked increase in the numbers under surveillance. Then as those on surveillance ran through their six year period, there began to be an increase in ex-patients not subject to any legal restrictions. The table shows this latter trend from about 1956 onward.

By 1958 the results of sulphone treatment had been so impressive and so consistent, both as controlling and as maintenance drugs, that it was considered that the conditions of isolation could be relaxed somewhat. All new patients with positive bacteriological tests are still admitted to hospital for assessment, for initiation of drug treatment and for a very necessary period of education about the complaint. As each patient makes progress, he is assessed on his merits; clinical progress, bacteriological improvement and home environment are all taken into consideration. Suitable cases are allowed to continue treatment under conditions of home isolation. The scheme has worked out extremely well and patients isolated at home have co-operated remarkably well and have in almost all cases made excellent recoveries. It means, in effect, that only the really difficult patients or those with quite unsuitable home situations now have to remain in hospital isolation for lengthy periods. In point of fact, of the six persons in hospital at 30th June, 1964,

only one is ever likely to be able to be discharged. All of the others are old and handicapped in a variety of ways, three being totally blind.

It is possibly only coincidental, but it is interesting that the total numbers of cases and surviving ex-cases have been of the same general order each year over the period reviewed. The fact that the numbers have shown a slight increase is undoubtedly due to the progressively better survival rates as a result of sulphone treatment.

GENERAL

The Department's Health Officer supervises patients in isolation in a special ward at one of the Brisbane public hospitals. Limited in-patient facilities are also offered to ex-patients in this ward. Each week the Health Officer conducts an out-patient session at the ward for the benefit of all ex-patients residing in the metropolitan area. This session is well attended and provides a means of keeping in touch with ex-patients. Many ex-metropolitan patients appear at these sessions from time to time, but for those who do not, drugs and advice are sent by mail or arrangements made for them to attend the nearest public hospital.

The awareness of Queensland's medical practitioners that Hansen's disease must be kept in mind in this State is reflected in the continuing numbers of smears and biopsies submitted for examination and the requests for advice about suspicious cases.

Assistance has also been given to the Commonwealth Health Department in efforts to trace cases or suspected cases of Hansen's disease which may have come into Queensland from the Northern Territory.

(2) HANSEN'S DISEASE IN THE COLOURED POPULATION

As in the case of the white population the statistics are set out below for the calendar year 1963 and for the financial year 1963-64.

—	Males	Females	Total
(a) Calendar Year, 1963			
Patients at 1st January, 1963	9	4	13
Admitted	8	3	11
Discharged	4	..	4
Died	2	..	2
Patients at 31st December, 1963	11	7	18*
(b) Financial Year, 1963-64			
Patients at 1st July, 1963	11	4	15
Admitted	5	3	8
Discharged	2	..	2
Died	1	..	1
Patients at 30th June, 1964	13	7	20

* The 18 patients at 31st December, 1963, included seven (7) full-blood aboriginals, nine (9) half-caste aboriginals and two (2) South Sea Islanders.

ADMISSIONS

Three of the males admitted were new patients seen for the first time. Two of them had family histories of Hansen's disease and it is pleasing to be able to record that all three had been detected relatively early. Two of the males were re-admissions, the re-activation of the disease having been detected on routine examination. One of them would not have been detected on clinical grounds and the other showed only moderate clinical re-activation.

The three females were all new admissions. One female of about 16 years had minimal signs while the others showed moderate florid lepromatous signs; one of these was about 16 years old and the other a middle aged grandmother.

It would appear from the continuing numbers of admissions and the fact that there are still young florid cases among them that we have not progressed as far in control of Hansen's disease in the coloured population as we have in the white population.

DISCHARGES

The two discharged male patients were in excellent clinical condition with no obvious stigmata. They will both be able to return to active useful employment.

DEATHS

The one death occurred in an aged male patient with active tuberculosis.

GENERAL

Patients come under notice in a variety of ways. As noted earlier, two readmissions occurred as a result of routine surveillance examinations.

One patient was noticed by the Flying Doctor in the Mt. Isa area and one was detected as the result of the observation of a Bush Nursing Sister who had had experience of Hansen's disease.

The majority are detected among persons attending at a public hospital and the fact that most patients are now coming relatively early testifies to the fact the condition is being kept well in mind by hospital medical staffs.

One interesting epidemiological exercise resulted from the detection of a patient at one western public hospital. Investigation of contacts of this patient resulted in the discovery of a person not related to the patient as the source of infection and was the middle-aged grandmother already referred to. She had quite a large number of children, in-laws, and grand-children in addition to her immediate contacts and these were scattered from Mackay in the north down to several towns in northern New South Wales. These persons co-operated quite well and many travelled many miles for clinical and bacteriological examination. So far only one suspicious finding has resulted, a male child with keloid burn scars and some suspicion of minimal anaesthesia. He is being kept under review.

In early March 1964 the Health Officer visited Fantome Island, where the coloured cases are hospitalized, examined all of the patients and offered necessary medical advice. Such visits are very good for the morale of patients. As a result of being able to discuss their medical problems and a variety of other problems, social, financial and so on, with a senior officer of the Department of Health, they feel that they are not forgotten people on a remote island. The visits also afford the staff at the hospital an opportunity to discuss the latest trends in drug and other therapy and to discuss patients and other matters of mutual interest.

The nursing and general supervision of patients continues in the capable hands of the Franciscan Missionaries of Mary, and medical supervision is maintained by medical officers of the Townsville Hospital stationed at the Palm Island annexe. Specialist and other treatment is available at Townsville Base Hospital and patients are transferred from Fantome Island Hospital as required.

SECTION OF ENTHETIC DISEASES

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

As compared with the previous year, there has been an overall slight decline in the notified incidence of venereal disease (1,473 to 1,322) but this venereal disease has been mainly in the figures for gonorrhoea. Early syphilis notifications show an increase. It has been pointed out before that notification figures do not portray the true picture and here one might quote from World Health Organization Technical Report No. 262, published in 1963, concerning a world survey—

"There was some evidence that private practitioners would co-operate more extensively in reporting serious conditions than in those considered to be less serious."

Thus, syphilis had undoubtedly been reported more conscientiously than gonococcal infection, at least since the introduction of modern drugs effective against the gonococcus. Investigations had shown that in the same area up to 100 times more cases might actually occur than were officially reported. Available statistical data must therefore be held to be minimal information, and it was not possible to determine accurately the extent of the problem of gonococcal infection."

Table XVI gives a dissection of notified Venereal Disease in Queensland for 1963-64:—

TABLE XVI
NOTIFIED VENEREAL DISEASES IN QUEENSLAND 1963-64

	Metropolitan		Outside Centres		Whole State		Total
	Males	Females	Males	Females	Males	Females	
Gonorrhoea—							
Unspecified	..	..	..	..	..	..	..
Acute	657	137	247	69	904	206	1,110
Sub-acute	2	3	7	9	9	12	21
Chronic	2	4	1	29	3	33	36
Ophthalmia	1	4	1	1	2	5	7
Vulvo-vaginitis	..	..	..	3	..	3	3
	662	148	256	111	918	259	1,177
Syphilis—							
Unspecified	..	..	..	..	..	..	..
Primary	20	6	17	6	37	12	49
Secondary	2	3	7	1	9	4	13
Tertiary	1	1	..	1	1	2	3
Latent	5	..	..	1	5	1	6
Neuro	1	..	..	1	1	1	2
Pre-natal (congenital)	..	..	..	..	..	..	..
	29	10	24	10	53	20	73
Soft sore	21	..	..	..	21	..	21
Venereal warts	37	..	1	2	38	2	40
Ulcerative granuloma	5	..	3	3	8	3	11
	63	..	4	5	67	5	72
	754	158	284	126	1,038	284	1,322
	912		410		1,322		
		1,322					

Table XVII shows centres from which notifications were received in the various areas of the State outside Brisbane and shows the northern seaports to be the main centres supplying notification figures:

TABLE XVII
CENTRES OF NOTIFICATION OF VENEREAL DISEASE OUTSIDE METROPOLIS

Centre	Males	Females	Total
Allora	1	..	1
Atherton	1	..	1
Ayr	6	1	7
Beaudesert	..	1	1
Boonah	1	..	1
Cairns	35	6	41
Charleville	..	1	1
Charters Towers	1	1	2
Clermont	1	..	1
Cleveland	1	..	1
Cloncurry	11	5	16
Collinsville	1	..	1
Dalby	1	..	1
Edmonton	1	1	2
Emerald	1	..	1
Gin Gin	1	..	1
Goondiwindi	2	2	4
Gordonvale	6	2	8
Gympie	10	3	13
Hughenden	2	..	2
Ingham	1	..	1
Innisfail	1	..	1
Ipswich	1	1	2
Julia Creek	1	..	1
Killarney	2	..	2
Kingaroy	2	1	3
Longreach	1	..	1
Mackay	13	3	16
Mareeba	7	..	7
Margate	2	1	3
Maryborough	10	3	13
Mossman	11	1	12
Murgon	8	4	12
Mount Isa	13	..	13
Nambour	1	..	1
Oakey	1	..	1
Pialba	1	..	1
Proserpine	3	1	4
Quilpie	3	2	5
Redcliffe	..	3	3
Rockhampton	11	1	12
Roma	2	1	3
Southport	6	..	6
Stanthorpe	3	3	6
Stuart	2	..	2
St. George	2	2	4
Surfers Paradise	1	..	1
Theodore	1	..	1
Thursday Island	30	59	89
Toowoomba	9	3	12
Torquay	1	..	1
Townsville	44	13	57
Tully	3	..	3
Warwick	3	..	3
Woody Point	1	..	1
Woorabinda	..	1	1
Totals	284	126	410

Table XVIII shows the varying incidence for the past 20 years:

TABLE XXVIII
SHOWING NUMBER OF NOTIFICATIONS OF VENEREAL DISEASES FOR PAST 20 YEARS

Fiscal Year	Notifications	Mean Population	Incidence per 1,000 Population
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	1,093,303	1.251
1947-48	1,000	1,114,634	.897
1948-49	846	1,140,816	.742
1949-50	731	1,173,232	.623
1950-51	626	1,207,194	.519
1951-52	627	1,239,868	.506
1952-53	757	1,272,244	.595
1953-54	740	1,300,464	.569
1954-55	741	1,328,064	.558
1955-56	807	1,360,801	.593
1956-57	995	1,394,088	.714
1957-58	1,018	1,422,349	.716
1958-59	965	1,405,535	.665
1959-60	1,021	1,478,129	.691
1960-61	1,436	1,503,703	.955
1961-62	1,525	1,526,959	.999
1962-63	1,473	1,551,500	.949
1963-64	1,322	..	..

B

Tables XIX, XX and XXI show the alleged sources of infection, marital status, and age groups of notified cases, and with the 15-19 (teenager) group proportionately even larger than last year.

TABLE XIX

ALLEGED SOURCES OF INFECTION

Non-professional	1,018
Unknown	165
Not Stated	..
Professional	111
Husband	12
Wife	9
Mother	7
Total	1,322

TABLE XX

MARITAL STATUS OF PATIENTS

	Males	Females	Total
Single	877	185	1,062
Married	134	84	218
Separated	23	5	28
Widowed	1	7	8
Divorced	3	3	6
Totals	1,038	284	1,322

TABLE XXI

SHOWING AGE GROUP OF NOTIFIED CASES

Age Group	Males	Females	Total
Under 1 year	1	5	6
1-4 years	..	2	2
5-9 years	..	1	1
10-14 years	1	5	6
15-19 years	269	113	382
20-24 years	352	66	418
25-29 years	166	36	202
30-34 years	88	27	115
35-39 years	60	11	71
40-44 years	35	9	44
45-49 years	26	4	30
50-54 years	17	4	21
55-59 years	7	..	7
60-64 years	1	1	2
Over 65 years	4	..	4
Unknown	11	..	11
Totals	1,038	284	1,322

Table XXII shows the relative numbers of notified cases from private practitioners, public hospitals, and ad hoc clinics—some 15.8 per cent. coming from private practitioners:

TABLE XXII

SHOWING SOURCES OF NOTIFICATION

	Males	Females	Total
Private Doctors—			
Brisbane	38	5	43
Outside Centres	138	29	167
Totals	176	34	210
Clinics—			
Brisbane	684	138	786
Outside Centres	34	12	46
Totals	682	150	832
Hospitals—			
Brisbane	68	15	83
Outside Centres	112	85	197
Totals	280	100	280
Total All Sources	1,322	..	1,322

AD HOC VENEREAL DISEASES CLINICS

Male Clinic—Colchester Street, South Brisbane.

Female Clinic—William Street, Brisbane.

With the condemnation of the old building housing the Male Clinic and the removal of the Health Department from William Street, it is hoped to establish a centre where the two clinics can have the advantage of a common laboratory service and where the clinician can interview both parties whilst having the sexes approach and receive treatment from two entirely different streets. This has been a long-felt want and would make for considerably greater efficiency.

Last year the main clinic project was an endeavour to find out what incidence—if any—there was of trichomonas infection in the male and cultures were performed on 100 consecutive cases of urethritis, with only one probable case, which is at variance with overseas reports. However, with better facilities in the proposed new centre the project will be repeated.

The immediate project for 1964-65 will be an investigation for the "Mimae" group of organisms and which may explain some of the alleged penicillin-resistant cases of gonorrhoea, and will be carried out by laboratory workers from the Laboratory Microbiology and Pathology in conjunction with the Male Clinic staff.

Tabulated figures for the two clinics are given and include patients examined and treated in the Women's Section of the Brisbane Prison, which service is provided from this clinic.

During the year Senior Male Nurse, Edward Reilly, died suddenly. He was a most competently trained medical attendant and his clear, neat handwriting and attention to statistical returns have left a gap which it will be hard to fill.

TABLE XXIII
WOMEN'S CLINIC, NOTIFICATIONS 1963-64

	Women's Clinic	H.M. Prison	Total
Gonorrhoea—			
Acute	99	24	123
Chronic	..	3	3
Treated	6	..	6
Syphilis—			
Primary	1	..	1
Secondary	..	2	2
Treated	3	..	3
Totals	109	29	138

TABLE XXIV
OTHER ACTIVITIES

	Women's Clinic	H.M. Prison
Total Interviews	712	..
New Cases	292	..
Notifications	109	29
Penicillin Injections	172	98
Smears taken	855	422
Bloods taken	292	137
Patients cultured	390	..
Cultures taken	782	..
Trichomonas	45*	40*
Monilia	21*	4*
Prisoners examined	..	211
	*Treated	*Treated

TABLE XXV

MALE CLINIC, 1963-64

New Cases	1,662
Highest Month—December	175
Lowest Month—July	108
Monthly Average	138.5
Visits	14,582
Highest Month—November	1,562
Lowest Month—August	855
Monthly Average	1,215.2
Notifications—	
Early Syphilis—Primary	14
Secondary	2
Latent	0
Late Syphilis—Late Latent	4
Acute Gonorrhoea	567
Venereal Warts	37
Soft Sore	21
Total Notifications	645
Injections—	
Penicillin	1,554
Streptomycin	265
Total	1,819
Investigations	
Dark Ground tests	40
Swabs examined at Clinic	5,347
Swabs submitted to Laboratory ..	1,161
Blood tests submitted to Laboratory ..	2,246
Urine Tests submitted to Laboratory ..	316
Total	9,110
Prophylactic Treatments	967

Any one who has been associated with the treatment and control of venereal disease since the pre-antibiotic era must ponder over the fact that, despite the advent of specific and rapidly effective remedies, the incidence remains still a major challenge to public health endeavour.

Certain facts are indisputable—

- (1) There is a greater incidence of venereal disease amongst the "teenager" group, and
- (2) Extra-marital conception and illegitimacy have greatly increased amongst the young.

Those who champion the cause of modern youth saying they are no worse than their forebears are contradicted by the above facts—obviously youth today is less inhibited and more promiscuous than their fathers and grandfathers.

The one time euphemism for venereal disease was "Social Disease" and this is a term which could well be revived in a wider sense. Youth today is being subjected to pressures which it cannot resist. Venereal disease is no longer a social disease in itself but a manifestation of a much wider concept and forms part of "the Social Disease Syndrome". Young people should be encouraged to attend sex clinics for advice and, where necessary, treatment. The old style ad hoc venereal disease clinic would then cease to be looked upon as some shameful refuge to be visited surreptitiously. Even now over half those attending the ad hoc clinics have genito-urinary problems and difficulties other than venereal diseases.

SECTION OF FOOD AND DRUGS

This section administers the food and drug sections of the Health Acts, the Food and Drug Regulations, the Milk-sellers Regulations, the Health (Food Supply) Regulations, the Poisons Regulations, the Insecticide Regulations, the Dangerous Substances Regulations and the Dispensary Regulations, whilst it proffers advice to local authorities and supervises their activities in the implementation of the Cafe Regulations and the Health (Food Hygiene) Regulations. The wide field of work covered by the section has entailed another very busy year for the staff and its activities are briefly recapitulated below.

MILK

Special attention was paid to the State's milk supply. Pasteurising factories and bottling plants which bottle bulk heat-treated milk are scattered all over Queensland and regular sampling of their products was carried out during the year. In this regard, it is pleasing to refer to the co-operation of Local Authorities in obtaining samples from bottling plants. The results indicate efficiency at these plants. Inspections of both pasteurising factories and bottling plants have been carried out and, in the few cases where improvement was found necessary, instructions have been given for the requisite work. The good spirit of co-operation which exists between factory personnel and official staff is indicated by the high degree of efficiency at such premises.

Legal sampling of milk at all avenues of its sale to the public, whether of pasteurised milk, heat-treated milk or raw milk, has been carried out through the year and a record number of samples were obtained. Details of these tests may be seen in the respective reports of the Government Chemical Laboratory and the Laboratory of Microbiology and Pathology. As a result of such sampling, sixteen (16) successful prosecutions for the sale of milk, adulterated with water, were undertaken, with the obtaining of £316 7s. in fines and costs. Percentages of adulteration varied from 4 per cent. to 29 per cent. with an average adulteration of 11.1 per cent. A further three (3) complaints for this offence were dismissed by magistrates. In one instance £10 10s. costs were awarded against the Department.

Four milk vendors were successfully prosecuted for the offence of selling milk, which was deficient in milk fat, magistrates inflicting a total of £49 1s. in fines and costs.

Inspections of milksellers' vehicles were carried out during sampling operations and instructions given for any necessary improvement. Failure to co-operate with instructions given in this regard led to three (3) successful prosecutions being undertaken for breaches of the Milk-sellers Regulations, resulting in the securing of £21 2s. in fines and costs.

MEAT

Minced meat and sausages form a large part of the sales of meat and a consistent campaign of sampling of these foods has been waged. Again I must refer to the fact that, despite the vigorous campaign carried out over a long period of years, there are still butchers prepared to commit breaches in respect of the use of preservative in minced meat. As a result of sampling operations, twenty-three (23) successful prosecutions were launched for this breach, magistrates inflicting a total of £346 8s. in fines and costs.

Samples of sausages were examined. As a result, fourteen (14) prosecutions were successfully undertaken in respect of meat deficiencies and/or excess preservative. Offenders were mulct to the extent of £426 17s. in fines and costs for these offences.

HOTELS, LIQUOR SALES, &c.

Wherever possible, liquor testing was carried out. As a result, three (3) publicans were successfully prosecuted on a total of ten (10) offences of having adulterated liquor in possession for sale, fines and costs obtained totalling £154 11s.

Conduct of bars at licensed premises, particularly in regard to glass washing facilities and the provision of a clean glass for each drink received attention from the staff. Licensees generally are co-operative in these matters but it was found necessary during the year to undertake seventeen (17) prosecutions for breaches of the "clean glass" regulation, and two (2) prosecutions for the offence of washing glasses other than by means of an approved glass washing machine. All prosecutions were successful with £120 6s. being obtained in fines and costs.

BREAD

A large number of samples of bread was analysed. In the relatively few instances where bread was found below standard, the necessary instructions were given for immediate correction of the breaches and subsequent sampling revealed a good measure of improvement. Samples of the various flours used in bread making were obtained from millers and submitted for analysis. Details of samples of breads and flours may be seen in the report of the Director of the Government Chemical Laboratory.

SOFT DRINKS

Approximately four hundred samples of soft drinks were submitted for analysis. Manufacturers were advised of defects in standards and labelling errors and again a very good measure of compliance was obtained. It was found necessary, however, to prosecute a persistent offender for failure to have the necessary proportion of fruit juice in a fruit drink and he was convicted and fined £3 and ordered to pay £1 4s. costs.

It is pleasing to report a general improvement in both the conduct and the structural condition of soft drink factories in the State.

ICE CREAM AND RELATED PRODUCTS

Regular check sampling of these products has been carried out and samples have been submitted for both chemical and bacteriological analysis. Results, details of which may be seen in the relevant laboratory reports, indicated a high degree of efficiency at the factories. Factories generally were found to be well constructed and well operated.

FISH

Officers stationed at the Fish Markets, South Brisbane, carried out their duties in their usual efficient manner and as a result of their activities, a total of 36 tons, 8 cwt. and 3 qr. of fish were condemned and destroyed during the year, in addition to 8 rabbits, 6 bottles of oysters and 2,576 crabs. These officers, in addition to their duties at the Fish Markets, also inspected the quality of fish sold at retail establishments.

District officers continued their close liaison with fish depots in their respective areas and, during the year, condemned a quantity of 1 ton 18 cwt. 3 qr. and 15 lb. of fish as unfit for human consumption.

FOOD FACTORIES

There has been a continuation of the work of inspecting food factories and as a result of these inspections, much improvement has been effected.

CHECK SAMPLING

The scope of this work has greatly increased during the year and Departmental activities resulted in the submission of some two and a half thousand samples to the analyst. Check sampling affords a quick means of ascertaining the quality of foods on the market and, where faults become obvious as the result of analysis, necessary corrective action has been taken. Details of these samples may be seen in the report of the Government Chemical Laboratory. They included soft drinks, beers, breads, confectionery, cream, dessert mixtures, fish, flour, ice cream, jams, meats, milks, pies, vegetables, wines and spirits. At the same time, corrective advice has been given on the labelling of foods and, in this connection, check sampling is of much value to this section in preventing false and misleading labelling.

Similarly, use has been made of the facilities of the Laboratory of Microbiology and Pathology for bacteriological checking of foods and results of samples submitted can be found in the report of the Laboratory.

UNHEALTHY FOODS, &c.

Particular attention is paid to the quality of food sold to the public and, as a result of these activities, a quantity of 17 tons 8 cwt. and 15 lb. of food, considered to be unfit for human consumption, was destroyed under departmental supervision. In addition, 12 gallons of ice cream, 50 packages of confectionery, 153 packets of pickled onions, 39 packets of smoked crackling, 1,346 bottles of olives, 1 x 45 gallon drum of pickled pigs' tails and 1 x 35 gallons of cherries in brine were similarly disposed of.

COMPLAINTS

This section receives a considerable number of complaints from the public in respect of food and wherever possible, all complaints receive prompt attention.

MISCELLANEOUS PROSECUTIONS

During the year, four (4) successful prosecutions were undertaken for various breaches, fines and costs totalling £33.

UNIFORM FOOD LEGISLATION

The Chief Inspector has attended meetings of the Uniform Food Standards Committee under the aegis of the National Health and Medical Research Council for the purpose of securing uniform food standards throughout the Commonwealth. Steady progress is being made by the committee and, as a result of recent activities, major amendments to the Food and Drug Regulations became possible during the year. The objective of this Committee, when attained, can be of nothing else but inestimable value both to industry and to administration.

GENERALLY

It has been a very busy year with much progress made and this report would not be complete without reference to the wholehearted co-operation and assistance of other Departments. Particularly do I refer to the Department of Weights and Measures, the Department of Primary Industries and the Brisbane Milk Board. Similar happy relations have existed with Commonwealth Departments and trade organisations and our work has been considerably assisted by this co-operation.

POISONS AND DRUGS

The implementation of the various laws dealing with the control of poisons and drugs is becoming more difficult because of the number of new drugs and poisons coming on to the market for medical, industrial, agricultural, and other purposes. Particularly does this occur because of the fiercely competitive nature of the chemical trade, where success by one firm with a new product sparks off production by other firms of their own products for similar purposes.

The importance of poisons and drug control necessitates constant supervision at the source of availability to the public. Checks are made of sales by wholesale druggists, licensed retailers of poisons, and pharmaceutical chemists; the handling of drugs in public and private hospitals and convalescent homes has been investigated to prevent misuse. Where breaches of the regulations have been detected, necessary instructions for their correction have been issued with a high percentage of compliance by the offenders. Where prosecution has been considered warranted in the case of continual offenders, or in the case of gross offences, such action has been taken, as a result of which seven successful prosecutions have been undertaken, with the securing of a total sum of £23 8s. in fines and costs. Included in these convictions was one of a medical practitioner who was successfully proceeded against on a charge of obtaining dangerous drugs by false pretences, whilst it is advised that at the end of the financial year a prosecution was pending against another medical practitioner for failure to keep records of his transactions in dangerous drugs.

The detection and correction of breaches of the packing and labelling provisions of the Poisons Regulations are important activities of this Section of the Department as these ensure the purchaser's appreciation of the nature of the substance he is buying and any risks involved in its handling and use. Local packers have co-operated by carrying out the law but difficulties have been encountered in packs from other States where different scheduling and labelling requirements obtain. However, some of the other States have now accepted the principle of the eight schedules and labelling requirements as recommended by the National Health and Medical Research Council, and the contents of the schedules will be so close to this State's that a large proportion of our difficulties with interstate packs will disappear. As States, which to date have not yet adopted the uniform schedules, are reported to be giving this their most earnest consideration, there is bright hope that in the near future our problems with interstate packs will disappear.

In this connection it is reported that the Chief Inspector has attended conferences in the south during the year in connection with the securing of uniform schedules, such conferences being necessary not only to clear up anomalies in

existing schedules but also to locate properly in the schedules the very many new poisons and drugs continually coming on to the market. It is in this regard that our definition for "new drug", gazetted last year, has proved of value. Their location in a restrictive schedule, pending a proper evaluation of the drugs as required by our regulation, has caused a ready submission of all the pharmacological data necessary to ensure a correct evaluation being made.

DISPENSARY REGULATIONS

With the availability of certain equipment which was either unavailable or in very short supply previously, further steps were taken to secure full compliance with all the provisions of these regulations. The officers have been very active in this regard during the past year and, as a result of their activities, there has been a satisfactory improvement in conditions at dispensaries. It must be emphasized that the purpose of these regulations is to ensure a good standard of premises, provided with the apparatus and books of reference necessary to enable the dispenser to dispense accurately and efficiently any prescription likely to be written by a medical practitioner for his patient. These regulations apply to every dispensary, whether it be at an hospital or conducted by a retail pharmaceutical chemist. Though it is pleasing to report a high measure of co-operation and compliance by chemists, it would appear that some chemists are reluctant to obtain certain equipment, which, they feel, may only be used sporadically by them. As stated above, the purpose of these regulations is to ensure the ability of the chemist to dispense any prescription with which he may be confronted and the lack of necessary equipment could be of serious consequence under certain circumstances. Fortunately, this is not the attitude of the majority of the profession, which generally desires to maintain high and worthy ethical standards.

DANGEROUS SUBSTANCES

A busy year has again been spent in the implementation of these regulations. Changing formulations and new products have ensured no relaxation in the task of checking types of containers and their labelling and, with the trends of chemistry in industry, it appears that we will be always confronted with this task. Difficulties with local packers are practically non-existent but, as, at present, there are only two other States with positive legislation in regard to dangerous substances, it can be appreciated that trouble is encountered with packs originating from the balance of the States. This is a matter which has been seriously considered by the Uniform Poisons Schedules Committee which has recommended that dangerous substances be included in the poisons schedules (as has been done in Western Australia) with cautionary labelling consistent with that obtaining in our Dangerous Substances Regulations. Such a move would solve the problem for those States presently without power in respect of these substances and, with the adoption of the schedules, would ensure the degree of uniformity which is desired. It is considered that, as these regulations have now been in force for a reasonable time, their assistance in the purpose for which they were designed, i.e., to decrease the incidence of accidental poisoning of children in the home—should now become apparent and it is proposed to secure information on this point for inclusion in next year's report.

SECTION OF ENVIRONMENTAL SANITATION

One of the fundamental requirements of a satisfactory standard of living is a good standard of environmental sanitation which can only be obtained by careful planning and constant supervision.

In Queensland, with its variations in climate and population concentrations, over a wide area, there are many problems to be faced in establishing a satisfactory standard of sanitation. But the sanitary provisions of the Health Acts have achieved this end, as is evidenced by the fact that not for many years has any widespread outbreak of disease occurred which could be directly attributed to a serious deviation from the standard of sanitation which our health laws require.

Credit must be paid to the Local Authorities of the State, and to their officers, for this satisfactory state of affairs can be attributed in part to their careful supervision and constant vigilance. At 30th June, distribution of health inspectors throughout the State was as follows:—

Brisbane City Council	42
Cities and Towns	53
Shires (not in Joint Areas)	40
Joint Areas (more than one Local Authority)	25
Total	160

This figure, an increase of 4 inspectors on the previous year's total, is augmented by our own Departmental Officers who act in a supervisory role to keep the Director-General informed on the standard maintained by Local Authorities in the execution of their health responsibilities. They also carry out general inspections in some isolated country Shires which either do not have the financial resources to employ a health inspector, or are too far removed from adjoining Local Authorities to combine with them in conjointly employing an Inspector.

SEWERAGE AND NIGHTSOIL

Forty-five cities and towns throughout the State now have sewerage treatment plants operating. The residents of these centres enjoy a standard of living that sets them apart, almost completely, from the dangers associated with the wide variety of fly-borne diseases common to man. More and more centres are evaluating the obvious advantages of sewerage and at the present time working plans are being drawn up, or installation work is actually proceeding, in another twelve (12) cities and towns.

It must be remembered that the disposal of human wastes by any system other than sewerage is a potential hazard to health. Most towns without sewerage use collection and earth burial and it requires constant policing by both Local Authority and State Health Inspectors to ensure that nuisances do not arise.

REFUSE COLLECTION, REMOVAL AND DISPOSAL

It must again be reported, as in previous years, that while the collection and removal of refuse has generally been carried out in a satisfactory manner, its disposal in many centres has left a good deal to be desired. Refuse that is not covered at the end of each day's tipping is a fly-breeding health menace, and it also provides an attractive feeding ground for rats and a breeding ground for mosquitoes.

The advantages to be gained from the use of heavy equipment on refuse tips is markedly evident in the Serpentine Area in Brisbane where perfect control, completely free of any nuisance or objection, is maintained over the huge volume of refuse deposited there.

RODENT CONTROL

The danger of bubonic plague erupting at a coastal port is ever present and because of it the war against rats is one which can never be relaxed. Plague is a disease which is very difficult to control once it has gained a foothold at any point. Because of this the work of the Commonwealth Health Department in controlling rat infestation on ships must be supported by wharf and port control measures, and Table XXVI shows rodents killed in coastal and near-coastal cities during the past year for this purpose:—

TABLE XXVI
SHOWING NUMBER OF RODENTS DESTROYED IN COASTAL AND NEAR-COASTAL CITIES, 1963-64

City	Rats	Mice
Brisbane	47,378	3,381
Bundaberg	282	..
Cairns	1,407	392
Gympie	259	..
Ipswich	792	..
Mackay	1,592	793
Maryborough	57	..
Rockhampton	561	..
Townsville	1,025	..
Totals	53,353	4,566
Total all rodents 1961-62	62,740	
Total all rodents 1962-63	65,238	
Total all rodents 1963-64	57,919	

Departmental officers also made regular surveys of wharf areas during the year to ensure that the rat population was not allowed to increase. As a result of these surveys several structural improvements have been undertaken to build out rats particularly at the Pinkenba grain wharf.

The rat is also responsible for the spread of murine typhus and therefore he is a danger to health in the inland areas as well as on the coast. It is pleasing to note the very low incidence of this disease in recent years and this can no doubt be attributed to the attention given by Local Authorities to rat prevention and destruction.

WATER SAMPLING

Although there is no standard specified in law for public water supplies the Department has always encouraged Local Authorities to submit samples for both chemical and bacteriological examination, to determine potability of the supply, and to ensure its freedom from pollutants of either chemical or bacteriological origin. 209 chemical samples and 709 bacteriological samples were received during the year for these examinations, an increase of nearly 27 per cent. on the previous year's figures.

WATER POLLUTION

The extent to which this Section of the Department is being called upon to advise on water pollution is increasing each year. In addition to the Brisbane River survey which has been continued since 1960, our officers during the past year surveyed the pollution of the North Pine River which receives the wastes of the Australian Paper Manufacturers Ltd. Mill at Petrie, and also collected samples from bayside beach areas in conjunction with a survey of the alleged pollution of these beaches by raw sewage discharges at Luggage Point.

This latter survey is of interest in that it disclosed that reported tests of pollution found at Cribb Island and Sandgate are probably not related to Luggage Point effluent. These investigations are continuing.

The pollution of Bulimba Creek also has been a cause for concern for several years. But it is not a problem which can be solved overnight. Factories in the area expended huge sums of money during the year to meet the effluent standards stipulated by the Brisbane City Council, under a recent By-law, for all wastes discharging into the Creek.

In all 329 samples of river waters were examined for the estimation of dissolved oxygen and 42 samples of trade effluents entering streams for the biochemical oxygen demand (B.O.D.). In addition, 87 samples were collected from beaches and 30 from rivers while 4 samples of sewerage effluent were submitted for bacteriological examination.

The results of examinations of the Brisbane River waters for dissolved oxygen indicate that river pollution is occurring but not to a dangerous degree. A committee consisting of representatives of Government Departments and the Brisbane City Council has this under review.

TOYS

Attention given in past years to the sale of toys painted with lead paint, or containing lead metal, was continued this year. Excellent co-operation now exists between toy distributors and this Department and most stores will not accept toys for sale from distributors who fail to supply a Queensland Analyst's certification that they are free of lead.

PAINT

Attention this year was focused on the use of leaded paint by professional painters. 44 samples were removed from paint pots at premises in the process of being painted and it is pleasing to report that none of these were found to contain lead.

At the same time, 45 samples from stock displayed for sale in retail stores were checked either for undeclared lead content or for compliance with other labelling requirements of the Health Acts. None were found to contain lead and labelling faults have been corrected where necessary.

Regular inspections were also made of the factories of furniture manufacturers and wrought iron manufacturers to ensure that lead paint was not being used.

In conjunction with investigations made into notified lead poisoning cases, 54 paint scrapings were removed from residences for examination and of these 33 were found to be leaded. These are invariably old residences painted many years ago. Suitable action was taken to have the lead paint removed.

CAMPING AREAS AND SEASIDE RESORTS

Departmental officers continued to supervise seaside resorts to ensure adequacy of sanitary and bathing facilities for both campers and day visitors.

A new problem has been met in unauthorised camps found on the outskirts of some townships. These camps, many of which are low-standard hovels, have often been erected unlawfully and some difficulty has been experienced in having them removed. They are a health hazard to residents of the townships they adjoin.

MISCELLANEOUS

Hotel and other licensed premises inspections were continued, and routine checks made of the efficiency of chlorine treatment in both public and school swimming pools.

Investigations were also made of footwear and textile branding but the manufacture of so many of these products in Southern States made policing of their labelling legislation most difficult. Local manufacturers were found to be co-operative in correcting faults brought to their attention.

A prosecution was brought against a Brisbane storekeeper for the sale of a nylon fabric as wool. He was fined £7 with Analyst's fee of £2 2s. and Costs of Court £1 4s. awarded against him.

HOOKWORM CONTROL CAMPAIGN

The staff consists of two health inspectors.

For the year a total of 6,299 specimens were examined of which 6,123 were from coloured persons. Of these 627 (or 10.2 per cent.) were positive. This shows a decrease of 3.1 per cent. on the previous year's figures.

Surveys were carried out at Weipa, Aurukun, Lockhart, Bloomfield, Hopevale, Gorge and Bethel Missions and Murray, Darnley and Stephen Island Settlements in the Torres Strait. Surveys were also extended to Mulgrave, Cardwell, Mareeba, Johnstone, Atherton, Herberton and Douglas Shires, to the Cairns City area and to the Gulf areas of Georgetown, Croydon, Normanton and cattle stations from Normanton to Mitchell River, thence to Wrotham Park.

The sanitary conditions have been inspected in each area visited and reported to the Department for the submission of corrective measures to the various authorities concerned. On the spot advice has also been rendered regarding hygiene and sanitation measures.

Alcopar (bephenium hydrochloride) is used generally in the treatment of hookworm infestations but tetrachlorethylene is sometimes given to pre-school children. The former anthelmintic has much to merit it in ease of administration

and lowered occurrence of side effects. Where a person has shown evidence of hookworm infestation he is re-examined after treatment and, if necessary, re-treated until negative specimens are returned.

Recently, preliminary trials were carried out using a combined treatment, i.e. 5 gm. of bephenium salt together with 5 ml. of tetrachlorethylene for adults. While results of these trials to date are not complete, indications are that this method will prove even more successful than the use of "Alcopar" itself. The treatment is well tolerated and side effects are not very marked.

Every effort should be made on Missions and Settlements to educate native children from an early age in the basic elements of hookworm disease and personal hygiene and of the connection between ground pollution and hookworm infestation. This would be rewarded by a lowered incidence and subsequent improvement in the general health of the inhabitants.

The assistance and co-operation received from the Director and Deputy Director of Native Affairs and the Superintendents and staffs of the Missions and Settlements visited is recorded with appreciation.

DIVISION OF TUBERCULOSIS

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

Assistant Director: CYRIL EVANS, M.B., B.S., D.T.M., M.R.C.P. (Lond.)

Chest Physician, Cairns: R. J. B. ANDERSON, M.B., Ch.B., T.D.D. (Wales)

Chest Physician, Townsville: R. S. NICHOLSON, M.R.C.S. (Eng.), L.R.C.P. (Lond.)

Chest Physician, Toowoomba: GWYN HOWELLS, M.D., M.R.C.P. (Lond.)

STAFF

Dr. R. S. Nicholson was appointed to the vacancy at the Townsville Chest Annexe and took up duty in November last.

Dr. R. D. Harland, joined the staff of the Brisbane Chest Clinic.

Dr. Cyril Evans is at present working at the Tuberculosis Chemotherapy Research Unit in Madras, India, as a World Health Organisation representative at this important research centre.

No medical officer has yet been obtained to fill the vacancy at Rockhampton.

BUILDINGS

With the exception of the Health and Welfare Building no building projects concerned with tuberculosis are at present being undertaken. When completed the Chest Clinic will transfer to the ground and first floors of the new building. The present Wickham Terrace building will be retained as a centre for mass radiography, for tuberculin testing school programmes and for the X-ray engineering section.

GENERAL

(Tables XXVII, XXVIII, XXIX and XXX)

During the year 857 cases of tuberculosis were notified. The maintained rate of notification affects chiefly the older age group in males and this is in keeping with experience in most Western countries. This total includes 24 cases of disease due to atypical organisms. These are all cases in whom the disease seen is considered to be active tuberculosis on clinical and radiological grounds and not merely persons from whom atypical acid-fast bacilli have been isolated.

ATYPICAL MYCOBACTERIA

The problems arising from the occurrence in Queensland of many mycobacteria other than *M. tuberculosis* have been referred to in previous reports with particular reference to the results of tuberculin testing.

It seems very probable that most of those children who react positively to tuberculin do so, not because of infection with *M. tuberculosis* but because of infection with other organisms, most probably other mycobacteria.

A review of cases of pulmonary disease from whom "atypical" mycobacteria have been recovered has been made for this report. This covers patients who have been under observation for some time, not only in 1963-64, as it is often only after a series of chest X-rays or bacteriological tests that an assessment of the clinical significance of the bacteriological findings can be made. This review covers 243 cases from whom "atypical" mycobacteria have been isolated at the Laboratory of Micro-Biology and Pathology, Brisbane. (Tables XXXI and XXXII.)

Patients classed as "significant" include those in whom there has been repeated isolation of an atypical organism and there are clinical symptoms of chest disease together with radiological evidence of pulmonary disease. If the organism has been isolated from post-mortem material or from operation specimens, the significance is regarded as proved but in a majority of cases the diagnosis is made on purely clinical grounds; 58 cases fulfil these rather rigid criteria. In 75 cases, though pulmonary disease was present, the role of the atypical mycobacterium was less certain. These have been grouped as "associated disease". In approximately half the cases the associated disease was true pulmonary tuberculosis while 29 (emphysema, pneumoconiosis, bronchitis and non-specific fibrosis) are associated with conditions which are generalised or which involve considerable volumes of lung. "Chance findings" (60) cover cases without symptoms or major pulmonary lesions in whom single or occasional isolations have been made. "Unclassified" cases are those in whom further investigation or observation is not possible and where insufficient information is available to place in one of the above groups and those called "incomplete" require further observation and investigation prior to classification. The majority of isolations came from men in the older age group. (Table XXXIII.)

An account of the bacteriological typing of organisms recovered is given in the report of the Division of Laboratory Services in the Report of Health and Medical Services for 1962-63. By far the largest number of organisms isolated are of the Group III or "Battey" type. This organism is also responsible for a majority of the cases considered clinically significant. (Table XXXIV.)

As many Group III organisms are not associated with clinical disease, the recovery of an organism of this type is of little diagnostic assistance in an individual patient.

The researches of Dr. Singer at the Queensland Institute of Medical Research have demonstrated the widespread occurrence of these mycobacteria. They occur in water, raw milk, tonsils from otherwise well children, swimming pools and the lymph nodes of animals. It seems likely that the infections which occur are from these free-living mycobacteria rather than, like true *Mycobacterium tuberculosis*, from person to person.

Non-pulmonary disease due to infection with these organisms is rare. Skin ulceration due to *M. ulcerans* occurs occasionally and a subcutaneous sinus has been seen due to *M. fortuitum*, while during the year a single case of cervical adenitis associated with a Group II organism was found at the Hospital for Sick Children.

Clinically, disease due to these organisms is rarely severe though some cases, corresponding in every way to acute progressive pulmonary tuberculosis and terminating fatally, have been seen.

In a majority of cases a low-grade chronic form of pulmonary tuberculosis results with very slowly progressive radiological and clinical findings—indistinguishable clinically from chronic bronchitis.

The significance of the occurrence of this condition in Queensland, with respect to the tuberculosis control campaign, is not easy to assess. The occurrence of false positive tuberculin tests which is most likely due to sub-clinical infection with acid-fast bacilli is of considerable nuisance value in diagnosis and in the use of the tuberculin test as an index of infection in the community and as an indicator of cases of infectious tuberculosis by school testing programmes. The following hypothesis of the epidemiology of this condition is proposed:—

Free living mycobacteria may, by routes and under circumstances as yet unknown, produce tuberculin type hypersensitivity. This phenomenon occurs commonly in warm and tropical regions and has fairly sharp geographical limits. Some degree of immunity to tuberculous infection accompanies this hypersensitivity.

Clinical disease due to these organisms occurs mainly as a result of their invading previously damaged lungs but in certain individuals disease closely resembling that produced by *M. tuberculosis*, and distinguishable from it only by bacteriological methods, is produced. These would appear to be those individuals who would develop disease due to *M. tuberculosis* if exposed to that infection. In its absence these people now develop the allied disease due to a less virulent organism. This could explain the increasing number of cases of this condition seen.

As true tuberculosis diminishes therefore we are likely to be faced with a small residue of cases of tuberculosis resistant both to conventional drugs and to conventional methods of tuberculosis control.

WORLD HEALTH DAY

This year, the World Health Organisation Day was held on 7th April with the theme "No Truce for Tuberculosis". With the co-operation of the Health Education Council, pamphlets and posters, together with teaching material, were distributed to secondary schools throughout the State.

A number of panel exhibits were also prepared for distribution during mass X-ray surveys and used initially during World Health Day displays, and radio and television interviews were also arranged on this theme.

Though the emphasis of the World Health Organisation publicity is towards under-developed countries where tuberculosis is much more prevalent than in Australia, the opportunity to emphasise that we still have a tuberculosis problem was welcomed.

TREATMENT

No major changes in treatment have occurred during the past year but interest has been renewed in a previously discarded drug—thiosemicarbazone—for use with isoniazid to prevent isoniazid resistance in the same way as para-amino salicylic acid (P.A.S.). Though a much more pleasant drug to take than P.A.S. this has not yet thoroughly established itself as its equal and so far it has been used only occasionally where P.A.S. is contra-indicated.

As previously, streptomycin, isoniazid and P.A.S. are the main drugs used and thiosemicarbazone merely takes its place with the other "second-line" drugs, pyrazinamide, ethionamide and cycloserine, as a useful adjunct to treatment when the original drugs are ineffective.

LUNG CANCER

(Table XXXV)

During the year 100 cases of cancer of the lung were diagnosed at the Chest Clinic. This, like last year, is slightly less than the previous year but is still 17 cases more than in 1960-61. Cases diagnosed at country tuberculosis annexes are not included in this total. In the Brisbane mobile survey the number of cases of carcinoma is approximately one-quarter the number of cases of tuberculosis. As the carcinomas come very largely from the middle-aged and elderly males, and this group also provides the majority of cases of tuberculosis, at the present time they constitute the most important section of the community as far as mass radiography surveys are concerned.

COUNTRY CLINICS

As in previous years, medical officers have visited country hospitals to conduct follow-up and diagnostic clinics. Though occupying much of the medical officer's time and involving many miles of travel, they provide a useful service to the patients concerned, and also provide consultant facilities for the doctors in the hospital and district concerned.

In all, 6,334 persons were interviewed at these clinics during the year.

MASS RADIOGRAPHY SURVEYS

(Tables XXXVI, XXXVII, XXXVIII, XXXIX, XL)

In country districts the following areas were covered by the compulsory mass X-ray survey during 1963:—

Aubigny, Lockyer, Toowoomba East, Toowoomba West, Balonne, Warrego, Gregory, Carnarvon, Cunningham, Warwick, Mourilyan, Hinchinbrook, Mulgrave, Cook, Tablelands.

The number of cases of lung cancer discovered by mass X-ray in city and country areas surveyed in 1963 is seen in Table XXXIX. The city figure of 42 is much higher than the country, from approximately the same number X-rayed. This disproportion is usually found between city and rural figures though almost all cases occur in those who smoke which suggests that city life carries an added risk, most probably air pollution.

In the Brisbane area, the survey of Redcliffe, Sandgate, Nudgee, Aspley, Wavell, Nundah, Clayfield, and Merthyr was completed by 31st December.

Conditions found are set out in Table XXXVII and include 280 cases of tuberculosis and 68 cases of carcinoma of the lung diagnosed as a direct outcome of this survey.

Figures are now available for the initial compulsory surveys from all country areas (Table XL) together with the first full year of the Brisbane survey. In all areas except Townsville figures are dissected into those of the city and those of the region surrounding it and served by the medical officers in it. The differences in the numbers of active cases of tuberculosis found in North and South Queensland (Table XL) are particularly noteworthy.

If Tables XXXVII and XL which set out the numbers found in the first and second compulsory surveys of the North, are compared, a very satisfactory drop from 6.88 to 1.2 per 1,000 films, is seen in the Cairns region.

The very large numbers of inactive cases detected, 5,406, is one aspect of the survey which deserves emphasis. Most of these persons have had symptomless tuberculous infection during earlier life and have successfully resisted it, being left with radiological evidence of this in their lungs. They constitute a group likely as they age to produce more than their share of new cases of disease and warrant close and continuing radiological supervision.

The system of checking rolls for defaulters is now working well. Table XXXIX sets out the results of roll-checking in areas so far completed. The necessity for this check is seen in the greatly increased number of cases of tuberculosis found among those X-rayed only after the check had shown that they had not been X-rayed in the initial survey.

Unfortunately a number of people refused X-ray despite many reminders, and 4 prosecutions were successfully launched. The penalty for non-compliance with the Regulations was changed during 1963 and a continuing penalty of £2 per day may be ordered by a magistrate if the Court's direction to a person to be X-rayed is not carried out.

DOMICILIARY VISITING

This most important aspect of the tuberculosis campaign is being pushed ahead vigorously. Visiting of contacts, combined with school tuberculin testing, has now become routine throughout the Brisbane region, as well as Brisbane city, and the coverage of the near rural areas from the regional thoracic annexes is being gradually extended. The number of children of school leaving age vaccinated with B.C.G. vaccine (Table XLI) is very satisfactory.

TUBERCULIN TESTING

Further investigation of the problem of high tuberculin reactor rates has been undertaken. During 1963 a survey undertaken in association with the Professor of Child Health was concluded. This survey, carried out at a Brisbane State School, had several aims. The most ambitious—to try and correlate the acquisition of a positive tuberculin reaction with some illness, skin sore or other recognisable incident in the child's life was unsuccessful as, despite clinical examination combined with tuberculin testing five times in 15 months, no such association could be found. Some interesting information was obtained by frequently tuberculin testing the children. Using Old Tuberculin by Heaf's method, of 392 children tested—

308 were negative throughout,
84 were positive at some stage;
of the 84 who reacted positively, when only initial and final tests were compared—
12 had lost hypersensitivity
26 were unchanged
46 had gained hypersensitivity
38 had converted from negative to positive
9 had reverted from positive to negative
of the 26 unchanged from first to last—
21 had varied upwards;
5 had varied downwards during the course of the study.

The overall picture is of a rapidly increasing percentage of reactors to the Heaf test, the conversion rate being 6.7 per cent. per annum which agrees with previous local studies. The degree of fluctuation is greater than anticipated and suggests repeated exposure to a sensitising agent, producing a fairly transient increase, which may be followed by a fairly rapid loss, of hypersensitivity. In no case was there clinical or radiological reason to suspect that a true tuberculous infection had occurred. It is obvious from this and other studies that a reaction to Old Tuberculin is not a specific indication, in this community, of infection by *M. tuberculosis*.

STATISTICAL

Tables XLIII, XLIV, XLV

During the year revision of the case register to eliminate inactive cases in keeping with the recommendations of the Commonwealth Department of Health has made good progress. Though many cases are still to be reviewed the substantial reduction in numbers as shown in Tables XLIII and XLV where it is reflected by a drop in the prevalence rate. When this check is complete only cases having treatment and those who have been active within 3 years will be retained on the active register. Inactive cases will continue under supervision.

DEATHS

Table XLVI

Since 1956 there has been little change in the number of deaths due to tuberculosis and the rate—this year of 5.1 deaths per 100,000 is probably as low as the rate is likely to attain. Some persons who die of tuberculosis are not diagnosed or treated prior to death—19 cases were first diagnosed by death certificate. Few patients die despite treatment, but in old persons, or those ill with other conditions, tuberculosis may still cause death.

TUBERCULOSIS ALLOWANCE

Table XLVII

The further shortening of the inpatient stay of most tuberculous patients is shown in the numbers of people in receipt of a tuberculosis allowance at the end of the financial year, and also by the fact that almost five-sixths of them had been receiving an allowance for less than a year. The period of convalescence before work can be resumed varies with the extent of disease and the type of work; but with the protection afforded by modern drugs even heavy work can be safely resumed, in the uncomplicated early case, within a few months of discharge.

The fact that only 15 of 301 patients required a tuberculosis allowance for three years is evidence of the very low failure rate of even advanced disease with modern treatment.

The failure of the Commonwealth Department of Health to extend eligibility for the allowance to all aborigines is still a source of dissatisfaction to those excluded.

Some dissatisfaction also arises from difficulties arising from the date on which patients become eligible for the allowance. The date upon which the calculation of the allowance is based is not from the date of stopping work or entering hospital but from the first Social Service payday after lodgment of the allowance claim form with the Director of Tuberculosis. This sometimes causes hardship where delays are not the responsibility of the patient. It is to be hoped that the Commonwealth Department of Health will give further consideration to these anomalies in an otherwise excellent scheme.

TABLE XXVIII

SHOWING SOURCE OF NOTIFICATIONS OF TUBERCULOSIS, FOR YEAR ENDED 30TH JUNE, 1964

Source	Pulmonary		No. of Non-Pulmonary Cases
	No. of Cases	Percentage of total Pulmonary Cases	
Mass Community Surveys ..	184	22.0	..
Private Medical Practitioners—			
(a) Direct ..	26		
(b) Via Chest Clinic ..	25		
General Hospitals ..	70	8.3	7
Chest Hospitals, Annexes and Sanatoria ..	249	29.7	9
Chest Clinics ..	164	19.6	1
Repatriation Clinics and Hospitals ..	39	4.6	1
Death Certificates ..	19	2.3	3
Transfers in ..	33	3.9	..
Special Groups—			
(a) Mental Hospital Surveys ..	25		
(b) Gaol Surveys ..	4		
(c) Ante-Natal Hospitals ..	Nil		
Totals ..	838	100.0	26

* Includes 7 cases of combined Pulmonary and Non-Pulmonary Tuberculosis.

TABLE XXVIII
NOTIFICATIONS OF TUBERCULOSIS FOR YEAR ENDED 30TH JUNE, 1964

Age Group	Males						Females						Persons						Total
	Minimal	Mod-erately Advanced	Far-Ad-vanced	Death Certificate	Primary	Pleu-ry with Effusion	Non-Pul-mon-ary	Minimal	Mod-erately Advanced	Far-Ad-vanced	Death Certificate	Primary	Pleu-ry with Effusion	Non-Pul-mon-ary	Death Certificate	Primary	Pleu-ry with Effusion	Non-Pul-mon-ary	
0-4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10
5-9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5
10-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13
15-19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
20-24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	45+2
25-29	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	40+4
30-34	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	64+8
35-39	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	91+14
40-44	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	72+4
45-49	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	95+2
50-54	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	82+3
55-59	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	57+1
60-64	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	85
65-69	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	79
70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9+4
75-79	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	833+33*
Not Stated	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	..
Totals ..	284+11	243+6	43+3	20	1	..	13	107+7	87+4	13+2	2	4	3	13	22	5	3	26	833+33*

Patients receiving treatment in other States, transferred to Queensland signified +33.
* Total includes 7 cases of both pulmonary and non-pulmonary tuberculosis and 2 cases of non-pulmonary tuberculosis notified by death certificate.

TABLE XXIX
NOTIFICATIONS DURING YEAR ENDED 30TH JUNE, 1964 SHOWING
BACILLARY STATUS OF PATIENTS

Age	Number of Patients Receiving Initial Treatment		Number of Retreatment Cases	
	Bacillary Positive	Bacillary Negative	Bacillary Positive	Bacillary Negative
0-4 ..	3	7	..	..
5-9 ..	3	2	..	..
10-14 ..	2	1	..	..
15-19 ..	5	7	1	..
20-24 ..	7	7	1	..
25-29 ..	21	26	..	..
30-34 ..	21	20	1	2
35-39 ..	32	39	1	..
40-44 ..	47	20	3	1
45-49 ..	47	43	3	..
50-54 ..	36	36	4	1
55-59 ..	49	44	2	1
60-64 ..	46	35	2	2
65-69 ..	24	27	4	3
70-74 ..	49	35	..	1
75- ..	44	32	1	2
Not Stated ..	5	8	..	..
Totals ..	441	389	23	13

Total includes 7 cases of both pulmonary and non-pulmonary tuberculosis and 2 cases of non-pulmonary tuberculosis notified by death certificate.

TABLE XXX
TUBERCULOSIS NOTIFICATIONS OF MIGRANTS—YEAR ENDED
30TH JUNE, 1964

Arrival in Australia	British		Non British	
	Total	Percentage of Total Notified Migrants	Total	Percentage of Total Notified Migrants
Within 1 year ..	8	8.3	8	9.9
Within 5 years ..	4	4.2	12	14.8
Within 10 years ..	4	4.2	11	13.6
10 years and over	80	83.3	50	61.7
Totals ..	96	100.0	81	100.0

Migrants (177) were 20.6 per cent. of all notified tuberculosis cases (857).

TABLE XXXI
CLINICAL GROUPING OF PERSONS FROM WHOM ATYPICAL
MYCOBACTERIA HAVE BEEN RECOVERED

Significant Clinically	Proved	Associated Disease	Chance Finding	Incomplete	Unclassifiable
50	8	75	60	41	9
Total	243				

TABLE XXXII
PULMONARY CONDITION INCLUDED IN TABLES AS
"ASSOCIATED DISEASE"

Previous Tuberculosis ..	37
Emphysema, pneumoconiosis, Bronchiectasis, and non-specific fibrosis ..	29
Other conditions ..	9
Total ..	75

TABLE XXXIII
CASES FROM WHOM ATYPICAL ORGANISMS
RECOVERED—AGE AND SEX

	Male	Female
0-39 ..	14	7
40-49 ..	15	13
50-59 ..	44	8
60-69 ..	42	12
70+ ..	56	32
Totals ..	171	72=243

TABLE XXXIV
BACTERIOLOGICAL AND CLINICAL GROUPING OF 131
STRAINS RECOVERED

Bacteriological Group	Significant Disease	Associated Pulmonary Disease	Chance Finding
I ..	..	..	4
II ..	4	8	8
III ..	28	26	14
IV ..	5	3	5
Untyped ..	10	11	5
Totals ..	47	48	36

TABLE XXXV
NUMBER OF NEW CASES OF CARCINOMA OF THE LUNG SEEN
AT THE CHEST CLINIC, BRISBANE

1st July, 1958 to 30th June, 1959 ..	56
1st July, 1959 to 30th June, 1960 ..	65
1st July, 1960 to 30th June, 1961 ..	83
1st July, 1961 to 30th June, 1962 ..	111
1st July, 1962 to 30th June, 1963 ..	109
1st July, 1963 to 30th June, 1964 ..	100

TABLE XXXVI
NUMBER OF X-RAY EXAMINATIONS CARRIED OUT—1ST JANUARY, 1963 TO 31ST DECEMBER, 1963

	Chest Clinic	Mobile Unit	North Brisbane Hospital	Princess Alexandra Hospital	Rockham- pton	Toowoomba	Cairns	Townsville	Thursday Island	Total
Micro films ..	45,152	250,858	8,426	25,239	3,298	4,262	5,757	5,365	..	348,357
Micro Re-Rays ..	11,001	2,887	679	484	34	65	..	414	..	15,564
Other large films	15,722	431	..	..	3,069	6,328	4,065	1,816	847	32,278
Totals ..	71,875	254,176	9,105	25,723	6,401	10,655	9,822	7,595	847	396,199

TABLE XXXVII

COMPULSORY MASS CHEST X-RAY SURVEY OF PERSONS OVER 14 YEARS OF AGE FROM 1ST JANUARY, 1963 TO 31ST DECEMBER, 1963

Locality	Estimated Number of Persons over 14 years of Age	Number of Micro Films Taken	Number of Active Cases Found	Number of Cases per 1,000 Micro Films Taken	Inactive Cases	Non-specific Fibrosis	Intercurrent or Pneumonic	Cardiac Abnormality	Carcinoma	Other Tumor	Pneumoconiosis	Bronchiectasis	Sarcoidosis	Other Disease	No Significant Abnormality After Investigation	Under Investigation
Cairns Division	34,030	36,729	46	1.2	423	28	10	50	10	2	3	5	2	28	84	574
Toowoomba Division	77,312	86,482	77	0.9	260	91	29	262	16	69	5	190	2	116	1,730	18
Brisbane Division ..	128,698	119,907	145	1.2	1,219	725	87	453	41	26	16	134	11	351	3,324	451
Special Surveys ..	8,550	7,740	12	1.6	48	10	3	6	1	..	..	9	..	3	162	14
Totals	248,590	250,858	280	1.1	1,950	854	129	771	68	97	24	338	15	498	5,300	1,057

TABLE XXXVIII

MASS X-RAY SURVEY FOR YEAR ENDED 31ST DECEMBER, 1963

Age	Number X-rayed	Per 1,000 Examined					
		Active and Prob. Active		Inactive		Suspect Active at 31-12-63	Other Conditions
0-14	7,537	(1)	0.1	(8)	1.1	(5)	0.7
15-19	26,469	(5)	0.2	(16)	0.6	(24)	0.9
20-24	19,088	(1)	0.05	(26)	1.4	(26)	1.4
25-29	16,819	(8)	0.5	(46)	2.7	(39)	2.3
30-34	17,009	(14)	0.8	(67)	3.9	(36)	2.1
35-39	18,168	(16)	0.9	(115)	6.3	(57)	3.1
40-44	17,513	(22)	1.3	(159)	9.1	(79)	4.5
45-49	16,481	(28)	1.7	(167)	10.1	(84)	5.1
50-54	15,035	(20)	1.3	(195)	13.0	(114)	7.6
55-59	12,272	(21)	1.7	(207)	16.9	(101)	8.0
60-64	10,331	(21)	2.0	(180)	17.4	(126)	12.2
65-69	8,222	(23)	2.8	(176)	21.4	(107)	13.0
70-74	6,552	(24)	3.7	(141)	21.5	(110)	16.8
75-	6,951	(17)	2.4	(173)	24.9	(126)	18.1
Not Stated	52,411*	(59)	1.1	(274)	5.2	(23)	0.4
Totals	250,858	(280)	1.1	(1,950)	7.8	(1,057)	4.2
							(2,794) 11.1

* Age groups not kept before 1-4-63. Actual cases in brackets.

TABLE XXXIX

COMPULSORY MASS CHEST X-RAY SURVEY—1ST JANUARY, 1963 TO 31ST DECEMBER, 1963

Attended Survey within the Specified Period	Number of Persons X-rayed	Number of Cases of Active Tuberculosis Discovered	Rate of Active Tuberculosis per 1,000 Micro Films Taken	Number of Cases of Carcinoma Discovered
Metropolitan	127,647	157	1.2	42
Country ..	123,211	123	1.0	26
Totals ..	250,858	280	1.1	68
Attended later following electoral roll check	Number of Persons X-rayed	Number of Cases of Active Tuberculosis Discovered	Rate of Active Tuberculosis per 1,000 Micro Films Taken	Number of Cases of Carcinoma Discovered
Metropolitan	3,743	9	2.4	1
Country ..	1,755	13	7.4	..
Totals ..	5,498	22	4.0	1

TABLE XL

COMPULSORY MASS CHEST X-RAY SURVEY BY DISTRICTS SURVEYED, FIRST ROUND FROM 9TH NOVEMBER, 1959 TO 31ST DECEMBER, 1963

Locality	Number of Micro Films Taken	Number of Active Cases Found	Number of Cases per 1,000 Micro Films Taken	Inactive Cases	Non-specific Fibrosis	Cardiac Abnormality	Carcinoma	Other Tumor	Sarcoidosis	Bronchiectasis	Pneumoconiosis	Intercurrent or Pneumonic	Other Diseases
Cairns—1959–1960—													
City	18,715	46	2.46	144	139	162	3	2	..	20	9	21	183
Region	24,709	170	6.88	399	258	271	12	2	1	23	40	31	55
Totals	43,424	216	4.98	543	397	433	15	4	1	43	49	52	238
Townsville—1960–1962—													
City	33,451	These figures not analysed											
Region	46,533												
Totals	79,984	186	2.33	714	448	463	17	10	1	83	103	55	32
Rockhampton—1962—													
City	33,311	45	1.35	398	104	62	6	7	..	15	12	15	72
Region	67,241	101	1.5	434	212	132	8	25	2	65	26	46	140
Totals	100,552	146	1.45	832	316	194	14	32	2	80	38	61	212
Toowoomba—1962–1963—													
City	34,839	22	0.63	89	28	79	8	25	..	68	2	9	41
Region	86,252	61	0.71	164	73	245	9	72	2	146	4	48	381
Totals	121,091	83	0.68	253	101	324	17	97	2	214	6	57	422
Brisbane—1960–1963—													
City	119,907	101	0.84	1,026	602	443	41	20	10	114	14	79	327
Region	219,207	129	0.58	1,966	1,307	824	61	89	13	258	88	257	465
Special Surveys	11,393	18	1.58	72	23	1	2	1	..	12	2	3	3
Totals	350,507	248	0.7	3,064	1,932	1,268	104	110	23	384	104	339	795
Queensland	695,558	879	1.26	5,406	3,194	2,682	167	253	29	804	300	564	1,699

TABLE XLI (a)

TUBERCULIN TESTS AND B.C.G. VACCINATIONS FOR YEAR ENDED 30TH JUNE, 1964

Locality	Number Tested	Did Not Return		Positive		Positive After Previous B.C.G.		Negative		B.C.G. Given		B.C.G. Not Given		B.C.G. Refused	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Metropolitan	10,520	254	2.4	2,969	28.2	3,041	28.9	4,256	40.5	2,295	53.9	1,843	43.3	118	2.8
Metropolitan and Brisbane Division Schools	18,677	459	2.4	5,192	27.8	983	5.3	12,043	64.5	10,542	87.5	1,309	10.9	192	1.6
Country	8,869	465	5.3	3,611	40.7	1,757	19.8	3,036	34.2	2,110*	69.5	1,065	35.1	12	0.4
Country Schools	15,084	383	2.5	4,415	29.3	2,983	19.8	7,303	48.4	6,239	85.4	977	13.4	87	1.2
Totals	53,150	1,561	2.9	16,187	30.5	8,764	16.5	26,638	50.1	21,186	79.5	5,194	19.5	409	1.5

* B.C.G. given to some infants without prior testing.

TABLE XLI (b)

TUBERCULIN TESTS AND B.C.G. VACCINATIONS OF MIGRANTS FOR YEAR ENDED 30TH JUNE, 1964

Locality	Number Tested	Did Not Return		Positive		Positive After Previous B.C.G.		Negative		B.C.G. Given		B.C.G. Not Given		B.C.G. Refused	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Metropolitan	499	8	1.6	280	56.1	84	16.8	127	25.5	51	40.2	69	54.3	7	5.5
Metropolitan and Brisbane Division Schools	1,099	31	2.8	286	26.9	61	5.6	721	65.6	695	96.4	14	1.9	12	1.7
Country	179	14	7.8	135	75.4	1	0.6	29	16.2	11	37.9	18	62.1	..	..
Country Schools	307	3	1.0	178	58.0	25	8.1	101	32.9	68	67.3	32	31.7	1	1.0
Totals	2,084	56	2.7	879	42.2	171	8.2	978	46.9	825	84.4	133	13.6	20	2.0

TABLE XLII

COMPLICATIONS FOLLOWING VACCINATIONS IN 10,182 PERSONS TESTED—YEAR ENDED 30TH JUNE, 1964

Age Group	Number Given B.C.G.	Local Ulcer		Enlarged Glands		Incised Glands		Total Complications	
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
0-2 years	1,500	12	0.8	55	3.7	2	0.1	69	4.6
3-14 years	7,218	9	0.1	1	0.01	..	..	10	0.1
Over 14 years	1,464	3	0.2	..	..	..	..	3	0.2
Totals	10,182	24	0.2	56	0.5	2	0.02	82	0.8

TABLE XLIII

CASE REGISTER AS AT 30TH JUNE, 1964

Activity	Minimal	Number on Register According to Extent of Lesions			Total
		Moderately Advanced	Far Advanced	Not Stated	
Active ..	396	339	51	..	786
Quiescent ..	248	244	59	25	576
Inactive ..	585	552	101	746	1,984
Totals ..	1,229	1,135	211	771	3,346
Non Pulmonary Tuberculosis ..					86
Pleural Effusion ..					4
Total					3,436

TABLE XLIV

MIGRANTS ON CASE REGISTER AS AT 30TH JUNE, 1964

Activity	Minimal	Number on Register According to Extent of Lesions			Total
		Moderately Advanced	Far Advanced	Not Stated	
Active ..	73	55	13	..	141
Quiescent ..	71	59	16	8	154
Inactive ..	139	110	26	123	398
Totals ..	283	224	55	131	693
Non Pulmonary Tuberculosis ..					24
Pleural Effusion ..					1
Total					718

TABLE XLV

NUMBER OF PATIENTS ON REGISTER AND PREVALENCE RATE (PER 100,000 MEAN POPULATION), QUEENSLAND

Year Ending	Cases on Register	Prevalence 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
30th June, 1956	4,263	311
30th June, 1957	4,731	343
30th June, 1958	5,371	378
30th June, 1959	5,983	398
30th June, 1960	6,702	462
30th June, 1961	7,363	505
30th June, 1962	8,048	531
30th June, 1963	7,131	463
30th June, 1964	3,346*	214

* The drop in the number of cases on Register is due to the setting up of the Active Case Register.

TABLE XLVI

NUMBER OF DEATHS FROM TUBERCULOSIS AND PREVALENCE RATE (PER 100,000 MEAN POPULATION),

Year	Deaths	Death Rate
1950	236	19.8
1951	226	18.4
1952	216	17.2
1953	162	12.6
1954	140	10.6
1955	137	10.2
1956	81	5.7
1957	92	6.6
1958	83	5.9
1959	78	5.4
1960	83	5.7
1961	72	4.7
1962	84	5.5
1963	80	5.1

TABLE XLVII

NUMBER OF TUBERCULOSIS ALLOWANCES BEING PAID IN QUEENSLAND AT 30TH JUNE, 1964

	Male	Female	Total
Number accommodated in Tuberculosis Institutions ..	87	15	102
Number not so accommodated	158	41	199
Totals	245	56	301

Period in Receipt of Allowance	Male	Female	Total
Under 1 year	193	49	242
1-2 years	28	5	33
2-3 years	10	1	11
3 years and over	14	1	15
Totals	245	56	301

DIVISION OF INDUSTRIAL MEDICINE

Director of Industrial Medicine: E. M. RATHUS, M.B., Ch.B. (Cape Town)

Radiation Health Physicist: K. A. STEVENS, B.Sc. (Q'ld)

Inspector in Charge—Weil's Disease Control: D. KENNEDY, M.R. San. I.

Industrial Health Inspector: J. W. MULCAHY, A.R. San. I.

The main activities of this Division are to investigate occupational health problems and hazards and to make recommendations arising out of the information gathered in relation to these problems.

Investigations are initiated through several avenues. An industry may be known to carry an intrinsic hazard or a query may be raised by a responsible union or by management itself.

A reflection of the liaison that exists between this Division and the Department of Labour and Industry and its Section of Occupational Safety is the fact that matters requiring complex investigation in the assessment of occupational hazards are referred to this Division for appraisal.

On occasions problems are brought to the attention of this Division by local organisations and through official channels. The range of scientific and technical data undertaken in any situation manifestly depends on the size of the problem. The full facilities of the Government Chemical Laboratories are available for this purpose in addition to the Industrial Hygiene Section which is routinely engaged in the assessment of physical, chemical and environmental problems.

The Laboratory of Microbiology and Pathology is utilised for the investigation of any occupational exposures where the characteristics of the hazard may be reflected in biochemical, haematological or other parameters.

X-Ray surveys of men in dusty trades or in individual situations where chest X-rays may be informative, are arranged through the Chest Clinic in the Department of Health.

STAFF

During the year an Industrial Health Inspector was appointed to assist in routine inspections and in follow-up studies. It is intended he will undertake industrial noise surveys and assist in hearing conservation programmes where this is indicated.

A cadet scientist has been appointed to the Radiation Health Physics Section of this Division to assist in the large volume of routine work now undertaken.

ROUTINE EXAMINATIONS

During the year 55 investigations of various occupational health problems were undertaken and 53 men were examined for various complaints associated with their work exposure. These included lead workers, agricultural workers, miners and men exposed to various hazardous chemicals.

The Industrial Health Inspector made 78 visits to industries ranging from foundries to chemical formulators and molten metal spraying. Exploratory surveys of noise levels in foundries and large engineering establishments were commenced but this work can only be adequately accomplished when the full range of equipment becomes available.

Wider surveys on an industrial basis are now possible and it is hoped that useful data may emerge.

ENVIRONMENTAL INVESTIGATIONS

Apart from routine investigations several projects are worthy of mention. These were the duplication of a solvent hazard in which a workman had been burned to death, the use of benzol in the dry-cleaning industry and zinc concentrations in metallising processes.

LEAD INDUSTRY

Routine supervision of workers in known lead exposures was carried out. About 140 visits were made to lead industries and an appropriate number of blood slides, haemoglobin estimations and coproporphyrin excretions were examined.

One man, a railway bridge painter, appeared to be getting into trouble after six (6) years exposure. Though he felt quite well his haemoglobin showed a steady drop over some six (6) months and stippled cells rose to 9,000 per million. A routine course of versenate therapy proved the clinical assessment and an average of 5 mg. of lead was excreted per day over five (5) days.

Control in this industry is generally very good and it is unusual to find a clear-cut case. The matter has been followed-up in the usual way.

RHODAMINE STUDIES

A large number of water samples were examined by this unit for surveys of dilution potential at sites of regional existing sewerage outfall and at sites of proposed future sewerage outfall or dispersion systems. The utility of the method is acceptable and the results may be interpreted with some confidence.

MISCELLANEOUS

An interesting investigation was the testing of lead-in-air concentrations in an enclosed room used as a pistol firing range. It was found that lead-in-air reached 1 mg. per cubic metre during the firing routine in the region of the targets. When the floor of the range was being swept a value of 5 mg. per cubic metre of lead was obtained.

A case of benzol poisoning of the acute type occurred in a dry-cleaning works. It would appear that the worker concerned was susceptible, a fact well known in the story of this toxic solvent, as no one else was affected.

Benzol in air estimations was not greatly in excess of the allowable concentrations but the clinical findings were certainly confirmatory. These were purpura, a bleeding time in excess of 80 minutes and the virtual disappearance of platelets. This man did remarkably well and his most recent blood count was entirely normal. The firm has now changed to a virtually non-toxic paint solvent.

HEAVY ENGINEERING

A typical case of zinc-fume fever occurred at a large engineering works where metallising is undertaken. Zinc oxide concentrations were found to be 9 times the maximum allowable concentration in the breathing zone of operators and 13 times the maximum allowable concentration 10 feet away. This latter figure is obviously due to dispersion in the direction of the air-sprayed molten metal.

A Code of Practice and Protection was agreed to as a result of this investigation.

It is interesting to report that at a very large foundry where full modern protection is provided zinc and lead concentrations in the galvanising shop were found to be less than 1/10th of the maximum allowable concentration.

A tragedy at an engineering firm making large stainless steel tanks resulted in a full scale duplication of the incident. In actual fact a volatile highly inflammable petroleum solvent was used to remove a rubberized protective coating inside the tank.

The workman involved died as a result of an explosion inside a tank while using the solvent. It was found that using standard precautions it was hardly possible to obtain explosive concentrations. The implications of the accident were that a failure in the system had taken place. As a result solvents of a low vapour pressure and high flashpoint are now substituted together with standard precautions as for lower boiling point fractions.

DUSTY TRADES

Two surveys were carried out during the year, one of a pottery and another of a foundry. In each of these firms one man had turned up with radiological evidence of silicosis. The exposure would adequately explain the rather minimal changes seen but no other men were found to be suspect.

With the co-operation of this Division and the Department of Mines, Dr. A. John Robertson of Liverpool who originally described stannosis, visited the Herberton Tin Smelters and examined X-rays of long-term employees. This was part of a world tour on the part of Dr. Robertson to establish the incidence of stannosis in the tin mining industry. However it is possible to report that this condition has not occurred in Australia as yet probably owing to the small-scale nature of operations as compared with the giant smelters in the U.K.

CHEST BOARD

Nine (9) cases of silicosis and anthracosilicosis were accepted during the year. One of these was a man aged 70 who had category 3 silicosis due to a minimum of 10 years exposure at Mt. Morgan.

One other man had category 3 silicosis occasioned by 14 years exposure at Mt. Isa Mines. Several cases of reasonably typical coal workers pneumoconiosis also received compensation.

AGRICULTURAL CHEMICALS

Many enquiries were received on problems relating to these chemicals and a number of blood cholinesterase determinations were done on exposed workers including agricultural workers, veterinarians and formulators. On the whole protection seems adequate in informed groups.

As a result of a large-scale survey of orchardists using organic phosphate sprays an article was published in the Queensland Agricultural Journal of September, 1963, entitled "Avoid Risks with Organic Phosphates" by E. M. Rathus.

Several addresses were given during the year to organisations interested in these chemicals.

The Australian Wheat Board was given advice on spraying of grain with ethylene dibromide as a result of an incident in which 12 men were involved. These men developed erythematous rash and vomiting after quite considerable exposure.

In addition it may be reported that as a result of the mushroom-like expansion in the use of aqua ammonia in Queensland, particularly in the sugar cane areas this Division has drawn up a table of installation standards for aqua ammonia tanks after detailed discussions with the Department of Local Government and the Queensland distributors of aqua ammonia.

Data on several cases of organic phosphate poisoning both accidental and suicidal has been collated and it is hoped that the observations will be published in the near future.

NORTHERN TRIP

During this year a visit was made by the Director of the Division to Mt. Isa, Townsville and the cane sugar areas of north Queensland.

The visit to Mt. Isa Mines was particularly interesting in view of the considerable amount of work done by this Division in the past in relation to the large-scale occupational health problems associated with this industry.

In summary it may be reported that tremendous advances and improvements have been accomplished.

It is pleasing to record that most of the recommendations made in the reports on the investigations into the industry in 1959 and 1961 have been accepted and forward studies into potential problems are being diligently pursued by the present highly geared Industrial Hygiene Section—the formation of which was considered a primary need in the reports referred to above.

A visit to the Copper Refineries in Townsville showed a lively awareness of occupational health problems. The visit to the sugar cane areas was useful for renewing contacts and ironing out problems that appear from time to time.

BOARDS, &c.

Official attendance was required at meetings of the Occupational Health Committee of the National Health and Medical Research Council, the Radiation Technical Committee of the National Health and Medical Research Council, the Health, Welfare and Safety Board of the Department of Labour and Industry, the Chest Board of the State Government Insurance Office and the Radiological Advisory Council of the Department of Health.

RADIATION HEALTH PHYSICS SECTION

This section has continued to deal with the technical problems associated with the administration of "The Radioactive Substances Act of 1958" and to be available for consultation on problems in the safe use of ionising radiation.

During the year 82 licenses were issued to possess, use, or sell radioactive substances; 42 licenses to possess and use irradiating apparatus and 435 registrations of X-ray equipment.

The work of this section has included investigations in the following fields:—

(a) Medical and Dental Use of X-rays

The Radiation Health Physicist has been consulted by public hospitals, Commonwealth departments and private practitioners on the design of X-ray departments and the assessment of protective barriers proposed or in use in such departments.

Visits have been made to country hospitals to investigate specific problems associated with their X-ray departments. Such visits highlight the need for further visits to such centres by trained personnel to give advice to the operators of the X-ray units in solving their radiographic problems.

(b) Medical Use of Radioactive Substances

Further radium plates have been withdrawn from use as tests have indicated that they were leaking. The Radiological Advisory Council, on the recommendation of the National Health and Medical Research Council have recommended the withdrawal of all such devices because of their potential danger and their replacement with strontium plates.

(c) The Industrial Use of X-rays and Radioactive Substances

The protection film service has shown that this field is the major source of occupational exposure to ionising radiation. Frequent visits to licensees carrying out this work, both in their laboratories and in the field have indicated the major radiation health problems associated with this work. This has enabled corrective measures to be implemented. In conjunction with workers in this use of ionising radiation, the Radiation Health Physicist is preparing a code of practice for such work.

The section was involved in the search for an iridium 192 source lost in the industrial use of radioactive material. Unfortunately the time delay of six weeks between the loss and notification made a successful search impossible. The Radiation Health Physicist made a complete survey of the site of loss, the neighbouring areas, and local rubbish dumps. It must now be assumed the source is in an inaccessible position.

(d) Use of Radioactive Sources in Research

Work in this field has been mainly confined to supervision of disposal of low-activity waste.

(e) Investigations

At the request of the Australian Atomic Energy Commission and the Commonwealth X-ray and Radium Laboratory, the Radiation Health Physicist worked in conjunction with a Health Physicist from the A.A.E.C. in doing an on-the-spot assessment of the degree of hazard associated with the use of radioactive material in the investigation of the ground water table in the Burdekin River delta.

Investigation on the possibility of a health hazard associated with processing and bagging of mineral sands is proceeding but further advance must await the acquisition of the proposed multi-channel pulse height analyser.

(f) Inspections

In addition to the routine inspections of medical and dental X-ray equipment and industrial X-ray establishments, the Radiation Health Physicist has been appointed to act as inspector by the Commonwealth Department of Health for the survey of cargoes of radioactive material imported to or exported from Queensland ports.

(g) Protection Film Service

This service extends to 150 centres throughout Queensland, New Guinea and Papua. It covers some 700 people, which is a major portion of workers who are occupationally exposed to ionising radiation in this year.

Analysis of the yearly accumulated dose as recorded by the films shows that 98 per cent. of workers receive less than 20 per cent. of the maximum permissible dose. The few that approach the maximum permissible level are confined to those workers who use relatively large quantities of radioactive material in medicine or in industry.

(h) Visits

During the year the Radiation Health Physicist visited the Australian Atomic Energy Commission's Research Establishment at Lucas Heights, Sydney. The purpose of this visit was to further the liaison between this Division and the Australian Atomic Energy Commission and to inspect equipment, in particular the multi-channel pulse height analysers. It is proposed that such an analyser be purchased for this Division. This instrument will be used not only to solve health physics problems but will be available to outside laboratories for investigating radiation problems.

WEIL'S DISEASE CAMPAIGN

The usual duties aimed at minimizing the incidence of leptospirosis (Weil's disease) amongst cane cutters were carried out during the year. Rat control supervision on farms was carried out in terms of the Regulations and home and barrack sanitation was covered in like manner.

Cane burns ordered for health reasons were considerably lower than for the previous year due in the main to a lighter than usual rat infestation and good harvesting conditions.

Mechanical cutters and loaders are becoming quite numerous with a consequent drop in the number of manual cutters. It is however interesting to report that some of the cases of leptospirosis that did occur were amongst operators and assistants associated with the machines when working under showery field conditions. There is a greater consciousness of harbourage eradication on the farms and roadsides, both mechanical mowers and sprays being used to achieve this end.

A total of 1,729 farms was inspected and 103 barn orders were issued. It may be recorded that at present there are 120 mechanical harvesters in the cane area and a total of 3,509 cane cutters was signed on during the year. It will be interesting to observe the relationship between mechanical harvesting and leptospirosis in the future, particularly so as very large areas are being opened up for sugar in nearly all areas. Some of this land is low lying and will be ideal for rodent populations and could provide a nidus for leptospirosis. Drainage of these areas would be of benefit for both economic and health reasons.

A considerable drop in the number of fever cases reported to this section appears in Table XLVIII below. District incidence is shown with the figures in parenthesis indicating the comparable incidence for the 1962-63 year (all sexes and occupations included).

TABLE XLVIII

District	Lepto- spiro- sis	Scrub Typhus	Q. fever
Babinda	11 (42)	5 (0)	1 (1)
Innisfail	6 (37)	1 (1)	1 (1)
Tully	4 (14)	1 (1)	1 (0)
Cairns (including Gordonvale)	16 (16)	3 (0)	3 (3)
Totals	37 (95)	10 (2)	5 (5)

Figures in parenthesis indicate cases occurring in the sugar industry.

DIVISION OF MATERNAL AND CHILD WELFARE

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

Deputy Director: J. McFARLANE, M.B., B.S.

Medical Officer: J. J. B. REFSHAUGE, O.B.E., MSc., M.B., B.S., Dip.Ed., D.P.H.

Superintendent: M. F. NIXON, F.C.N.A., S.R.N.

Deputy Superintendent: A. P. HERTWECK, S.R.N.

One of the major difficulties encountered in bringing the services offered by the Maternal and Child Welfare Section to new districts is lack of suitable accommodation; consequently it may be years before Child Welfare Centres are established in these areas.

The Mobile Clinic has been designed to overcome this difficulty and a van has been set up as a small clinic. Equipment in the van includes an interviewing desk, change table, scales, sink, stove and refrigerator. A nest of six stools is provided for waiting mothers who can sit under an awning which rolls up on the side of the van. Each day the Sister drives the van to a different district, parks at an advertised stop and conducts a baby clinic. This Mobile Clinic visits Skylark Street (Inala), Capalpa, Tingalpa, Arana Hills, Bunyaville, Bribie Island, Deception Bay and Moggill, and has been an unqualified success. When suitable accommodation becomes available in these areas the van will go on to a newer suburb and that has already happened in Skylark Street, Inala, where the response to this service has been such that it is not possible for the Mobile Clinic to cope with it and accommodation has been sought and found for this area.

Lessons in Mothercraft have been introduced into practically all high schools throughout the State. Three (3) Sisters have been appointed for the country districts and are stationed in the northern, central and southern districts. Each Sister has been provided with a car and visits the various high schools in her area. Where it is not possible for the mobile staff to visit a high school, resident staff in the district provides the service. Four (4) Sisters are necessary to cover the metropolitan area.

Commencing in 1963, 152 schools and homes, as listed below, will be given this service:—

Metropolitan State High Schools	36
Metropolitan Convents	17
State High and Church Schools in Country Districts	86
Rail Car	9
Salvation Army Girls Industrial School, Convent of the Good Shepherd, Spastic Centre and the Technical College	4
Total	152

Throughout the State there are now 265 Centres and Sub-Centres, 81 being in the metropolitan area and 184 in the country. In the metropolis, Centres were established at the Hospital for Sick Children, East Salisbury and the Mount Gravatt Drive-In Centre; three (3) Country Centres were established in Aitkenvale, Wallangarra and West Rockhampton.

A survey was made on 492 expectant mothers who attended the Inala Ante-natal Clinic and who had been confined between 30th June 1962 and 30th June, 1964. One interesting point that emerged was that the average birth weight of the babies whose mothers had attended for a post-natal examination was 7 lbs. 10 oz. This is 2 ounces higher than the average weight of babies born in Queensland as discovered in a previous State-wide survey in 1951. This may be fortuitous but suggests that another survey is necessary to ascertain if the average birth weight is increasing. Another interesting point arising from this survey is that in this area where the parity of the mother is high, the average duration of pregnancy is within the normal range and the lowest recorded haemoglobin value is higher than is usually seen in the ante-natal period. The reason for the high haemoglobin figure is not obvious. The result of this survey is shown elsewhere in this report.

From July, 1963, to December, 1963, 799 cases of rubella were notified, 518 being in the Metropolitan area and 281 in the Country districts. The peak of this infection was in October in both country and metropolitan areas.

All Maternal and Child Welfare Staff have been notified concerning this outbreak and have been advised to be most watchful for the possibility of the occurrence of congenital malformations in babies attending Centres. Should any such be encountered a full history, particularly of the mother's early pregnancy, is to be forwarded.

During the coming year a survey of the developmental progress of Queensland children in the first year of life will be carried out, and it is hoped the result will be available for next year's report.

The maternal mortality rate for Queensland for 1963 was the lowest ever recorded, being 0.25 per 1,000 live births; the previous best being in 1958 when the maternal mortality rate was 0.47 per 1,000 live births.

VITAL STATISTICS

For the year 1963 the infant mortality rate was 20.1 compared with 21.1 in the previous year.

During the year 1963, 35,934 births were registered, an increase of 244 on the previous year. There were 18,316 males and 17,618 females born, giving a masculinity rate of 104.0. The natural increase of 22,659 was equivalent to 1.5 per cent of the population. The birth rate for 1963 was 23.0 per 1,000 mean population compared with 23.2 in 1962.

MARRIAGES

Registration of marriages in 1963 numbered 11,431 giving a marriage rate of 7.3 per 1,000 mean population, comprising 425 males and 297 females, compared with 754 numbered 6,427, comprising 1,465 males and 4,962 females.

INFANTILE MORTALITY

Deaths of infants aged under one year numbered 722, comprising 425 males and 297 females, compared with 754 in 1962. Compared with the previous year, whilst the rate for the metropolitan area remained at 17.4, the rate for the sub-tropical (non-metropolitan) area decreased from 21.1 to 20.0, and the rate for the tropical area from 26.7 to 24.1 per 1,000 live births.

The total number of deaths due to prematurity (unqualified) was 144 compared with 131 in 1962. Deaths from prematurity since 1954 were as follows:—

1954	185
1955	137
1956	188
1957	163
1958	139
1959	118
1960	140
1961	141
1962	131
1963	144

Compared with 1962, the metropolitan area recorded 5 less deaths from immaturity (unqualified), whilst in the tropical and sub-tropical (non-metropolitan) areas the number of deaths increased by 16 and 2 respectively.

Deaths of children aged one year and under five years

(a) Deaths of children aged one year and under two years during the year 1963 numbered 64, representing a death rate of approximately 1.9 per 1,000 children in that age group. There were 55 deaths in 1962.

The chief causes of death were—

Accidents	12
Pneumonia—	
Other	3
Bronchopneumonia	11
Gastro-enteritis	13
Congenital malformations	7
Malignant neoplasms	3

Of the 12 deaths (3 males and 9 females) due to accidents, 3 were caused by burns and scalds, 2 by accidental poisoning and 1 by drowning.

(b) The deaths of children aged two and under five years during the year numbered 79, representing a death rate of approximately 0.8 per 1,000 children in that age group. Deaths in 1962 were 83.

The chief causes of death were:—

Accidents	24
Malignant neoplasms	13
Congenital malformations	6
Pneumonia (all kinds)	5
Gastro-enteritis	4
Appendicitis	4
Acute infectious encephalitis	2

Of the 24 deaths due to accidents, 5 were caused by motor vehicle accidents, 6 by drowning, 2 by accidental poisoning, and 2 by fire and explosion of combustible material.

MATERNAL MORTALITY

The maternal mortality rate was 0.25 per 1,000 live births, the lowest rate ever recorded in Queensland. There were 9 deaths during the year, caused by diseases and accidents of pregnancy and childbirth. Of these, 4 were due to complications of childbirth and 4 were due to diseases and accidents of pregnancy (excluding 1 abortion). The causes of the 4 deaths due to diseases and accidents of childbirth were as follows:—

Post-partum haemorrhage	3
Sepsis of childbirth and the puerperium	1

The cause of the 4 deaths due to diseases and accidents of pregnancy were as follows:—

Toxaemias of pregnancy	2
Ectopic pregnancy	1
Anaemia of pregnancy	1

TABLE XLIX

A COMPARISON OF MATERNAL MORTALITY, QUEENSLAND AND AUSTRALIA

Year	Maternal Deaths		Maternal Mortality Rate*	
	Queensland	Australia	Queensland	Australia
1911	98	615	5.77	5.03
1921	108	643	5.31	4.72
1931	108	650	6.06	5.48
1941	92	490	4.28	3.64
1951	35	203	1.18	1.05
1956	29	119	0.89	0.56
1957	21	138	0.62	0.63
1958	16	111	0.47	0.50
1959	21	104	0.59	0.46
1960	24	121	0.68	0.53
1961	28	107	0.76	0.44
1962	23	85	0.64	0.33
1963	9	64	0.25	0.27

* Per 1,000 live births

TABLE L

MATERNAL MORTALITY—AUSTRALIAN STATES
1961-1963

	1961		1962		1963	
	No. of deaths	Rate*	No. of deaths	Rate*	No. of deaths	Rate*
New South Wales ..	42	0.48	29	0.34	27	0.32
Victoria	21	0.32	12	0.18	14	0.21
Queensland	28	0.76	23	0.64	9	0.25
South Australia ..	6	0.26	13	0.61	6	0.28
Western Australia ..	7	0.41	5	0.29	4	0.23
Tasmania	3	0.33	3	0.34	2	0.24
Northern Territory ..	..	..	..	..	1	1.6
Australian Capital Territory ..	..	..	..	..	1	0.5
Australia	107	0.44	85	0.36	..	..

* Per 1,000 live births

.. No deaths

TABLE LI

ANALYSIS OF THE NEW PATIENTS SEEN AT THE CENTRES

	1961-62	1962-63	1963-64
Infants—			
Under one year ..	23,052	23,070	22,856
One to two years ..	6,566	6,277	6,313
Over two years ..	2,598	2,198	2,307
Totals	32,216	31,545	31,476
Expectant mothers ..	1,681	1,389	1,568
Total new cases ..	33,897	32,934	33,044

TABLE LII

VISITS TO NEWBORNS, SUBSEQUENT AND TOTAL VISITS

Year	Visits to Newborns	Subsequent and other Visits	Total Visits
1961-62	30,712	1,601	32,313
1962-63	29,986	2,266	32,252
1963-64	29,444	1,935	31,379

TABLE LIII

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

Metropolitan

	1961-62	1962-63	1963-64
Chermside and Sub-Centres (from 2-9-63)	..	..	7,969
Children's Hospital Clinic (from 8-6-64)	..	..	5
Fortitude Valley and Sub-Centres ..	26,962	25,281	22,875
Herschell Street and Sub-Centres ..	34,681	18,977	18,186
Inala and Sub-Centres ..	..	9,273	10,528
Mobile Clinic (from 19-2-64)	..	..	1,954
Moorooka and Sub-Centres (from 28-11-60)	14,426	12,533	12,183
Mount Gravatt and Sub-Centres ..	..	6,463	11,361
Nundah and Sub-Centres ..	15,450	16,329	10,742
Paddington and Sub-Centres ..	12,774	12,775	13,271
Sandgate and Sub-Centres ..	14,554	13,953	12,919
South Brisbane Sub-Centres (closed 1-2-63)	8,841	..	..
West End and Sub-Centres ..	8,963	9,241	8,095
Woolloongabba and Sub-Centres ..	22,018	24,603	23,440
Wynnum and Sub-Centres ..	9,728	10,816	12,302

Country

Atherton and Sub-Centres ..	4,152	3,870	4,121
Ayr and Sub-Centres ..	6,310	6,522	7,128
Barcaldine and Sub-Centres ..	2,753	2,851	2,265
Biloela and Sub-Centres ..	6,408	5,691	6,290
Bowen and Sub-Centres ..	6,234	5,618	5,478
Bundaberg and Sub-Centres ..	14,718	11,774	11,450
Cairns and Sub-Centres ..	24,888	18,817	18,410
Charleville and Sub-Centres ..	4,465	3,638	3,450
Charters Towers and Sub-Centres ..	3,397	2,778	2,904
Dalby and Sub-Centres ..	5,600	5,394	5,011
Emerald and Sub-Centres ..	3,996	4,379	4,044
Gayndah and Sub-Centres ..	6,315	5,660	5,844
Gladstone and Sub-Centres ..	4,716	4,479	4,145
Goondiwindi and Sub-Centres ..	5,642	5,751	5,858
Gympie and Sub-Centres ..	9,503	9,862	10,248
Ingham and Sub-Centres ..	5,612	5,085	5,613
Innisfail and Sub-Centres ..	10,625	9,479	9,244
Ipswich and Sub-Centres ..	20,598	19,540	19,001
Kingaroy and Sub-Centres ..	2,873	3,123	2,912
Longreach and Sub-Centres ..	2,503	3,329	3,822
Mackay and Sub-Centres ..	18,391	18,199	18,575
Mareeba and Sub-Centres ..	4,834	6,540	6,422
Maryborough and Sub-Centres ..	11,795	10,777	9,684
Mount Isa and Sub-Centres ..	6,800	6,651	7,118
Murgon and Sub-Centres ..	4,320	5,394	4,060
Nambour and Sub-Centres ..	7,268	6,638	6,285
Railway Car Sub-Centres ..	4,295	3,557	2,840
Rockhampton and Sub-Centres ..	19,715	20,597	18,823
Roma and Sub-Centres ..	5,211	5,565	4,792
Southport and Sub-Centres ..	9,572	9,565	8,930
Toowoomba and Sub-Centres ..	10,684	11,054	10,782
Townsville and Sub-Centres ..	19,910	20,290	18,885
Warwick and Sub-Centres ..	6,183	5,922	5,087
Social Welfare Services ..	4,531	4,160	4,946

Totals 453,214 432,793 430,297

TOTAL ATTENDANCES OF INFANTS AND CHILDREN AND EXPECTANT MOTHERS

1961-62	1962-63	1963-64
467,248	446,578	444,372

ANTE-NATAL SECTION

This year 958 mothers attended Ante-natal Clinics staffed by officers of the Department. The Clinics are held at Woolloongabba, Fortitude Valley and Caboolture. The nursing staff of this section also assist in an Ante-natal Clinic opened in June, 1964, and conducted at the Moorooka Baby Clinic by Dr. Eva Popper, employed by the North Brisbane Hospital Board.

The introduction of the Papanicoulou smear test for the detection of cervical cancer has made it necessary for an additional Clinic at both Fortitude Valley and Inala. So far two tests have been positive (243 tests have been performed). One post-natal patient has had radiation and surgery for an adeno-carcinoma of the cervix, and the other, who was in early pregnancy when the abnormal cells were detected, has had a cone biopsy and is continuing with the pregnancy, her fourth. In June, 1964, Dr. Robert Yule, Director of Cervical Cytology at the Brisbane Women's Hospital, gave a lecture (illustrated with slides and films) to the permanent nursing staff on the "Detection of Cervical Carcinoma by the Papanicoulou Smear Technique."

Attendances at the Mothercraft Lectures given by the sister-in-charge of the Fortitude Valley, Woolloongabba and Inala Clinics continue to be good, and 178 mothers have attended the 4 showings of selected films ("The Story of Menstruation," "To Janet a Son," "Hazards in the Home") given at the Fortitude Valley Clinic by the Queensland Health Education Council. This year the colour film, "To Janet a Son," has replaced the 2 black and white films, "Pre-natal Care" and "My First Baby."

TABLE LIV
SUMMARY OF ANTE-NATAL PATIENTS

	New Patients	Subsequent Visits	Post-natal Examination	Transfers	Total
Caboolture ..	33	196	30	..	259
Fortitude Valley	222	1,844	137	..	2,203
Woolloongabba	366	2,666	187	..	3,219
Inala ..	330	2,747	243	..	3,320
Moorooka ..	7	10	1	9	27

TABLE LVI
CORRESPONDENCE

	Year ending 30-6-64	Year ending 30-6-63
Number of Birth Notifications received	2,677	4,484
Number of Circulars posted—		
(1) Within reach of a Centre	723	1,638
(2) Not within reach of a Centre	1,910	2,846
Letters to correspondents in response to Circular Number 2	612	787
Letters of advice re feeding and management sent on request	2,006	1,713
Number of "Care of Mother and Child" sent on request	1,031	856
Number of pamphlets sent advising Immunisation	2,651	4,487
Number of Birthday Cards sent during the year	311	265
Number of telephone calls re feeding or management	987	901

PRE-SCHOOL HEALTH CENTRES

Six thousand and fourteen (6,014) toddlers were examined during the year. Three hundred and seventy-six (376) clinics were held during the year and the daily average attendance was 16.0. Twelve (12) Kindergartens are now visited and it is hoped to extend this service during the coming year. New clinics were opened at Chermiside, Mount Gravatt and Holland Park West.

Country Centres	Total	Daily average
Cairns	459	13.1
Townsville	306	14.5
Rockhampton	164	7.0

TABLE LV
MOTHERCRAFT HOMES

	Admissions		Daily Average	
	Mothers	Babies	Mothers	Babies
St. Paul's Terrace ..	86	228	2.45	12.8
Clayfield	50	171	1.76	10.73
Ipswich	101	160	3.4	8.5
Rockhampton	37	123	1.0	10.2
Toowoomba	30	121	1.49	11.5

SANDGATE HOME

Admissions during the year totalled 1,157, of whom 231 were babies, 262 toddlers, and 664 older children.

An outbreak of chickenpox and mumps in July, 1963, and October, 1963, forced closure of the Home.

In the Toddler's Section mumps and chickenpox were present from November, 1963, to March, 1964, and only those children who previously had infection were admitted.

DIRECTOR'S CONSULTANT CENTRE

Number of children and babies whose mother received advice	1,504
Number examined for admission to Sandgate Home	1,363
Number advised by telephone	1,024
Total	3,891

CORRESPONDENCE SECTION

There has been a reduction in the number of birth notifications forwarded from Centres.

Since a monthly report form is enclosed with each letter of advice, there has been an increase in the number of replies requesting advice on feeding and management.

An increase in the number of birthday cards indicates a rise in cases who keep in contact.

TABLE LVII
SOCIAL WELFARE SECTION

	1962-63	1963-64
Social Service Visits	4,165	4,946
Number of newborns visited in Home	791	711
Number of newborns visited in Brisbane Women's Hospital, St. Andrew's, Corinda	9,054	9,411
Maternity and Boothville	61	74
Number of test feeds given	501	600
Number of phenylketonuria tests		

TABLE LVIII

CAUSES OF DEATHS IN INFANTS UNDER ONE YEAR—QUEENSLAND, 1963

Cause	1962	1963				Increase or Decrease
		Metropolitan	Sub-Tropical (a)	Tropical	Total	
Immaturity (unqualified)	131	33	54	57	144	+ 14
Immaturity with mention of any other subsidiary condition	2	..	1	2	3	
Congenital Malformations	130	52	49	31	132	+ 2
Post-natal Asphyxia and Atelectasis	101	26	24	12	62	- 39
Intracranial and Spinal injury at birth	43	15	19	10	44	+ 1
Other birth injury	46	11	13	21	45	- 1
Haemolytic diseases of newborn (Erythroblastosis)	21	9	4	6	19	- 2
Pneumonia of newborn	23	5	9	9	23	..
Haemorrhagic disease of newborn	13	4	5	2	11	- 2
Neo-natal disorders arising from Maternal Toxaemia	10	..	1	4	5	- 5
Diarrhoea of newborn	4	..	..	2	2	- 2
Other diseases peculiar to early infancy	58	33	35	12	80	+ 22
Total of diseases peculiar to early infancy	582	188	214	168	570	- 12
Bronchopneumonia, other and unspecified Pneumonia	39	17	18	19	54	+ 15
Gastroenteritis and Colitis	27	2	4	9	15	- 12
Lobar Pneumonia	7	2	4	6	12	+ 5
Diseases of Pancreas	5	2	1	..	3	- 2
Meningitis, except Meningococcal and Tuberculosis	16	3	3	3	9	- 7
Accidents, Poisonings and Violence	26	5	6	3	14	- 12
All other Causes	52	16	15	14	45	- 7
Total Deaths under 1 year	754	235	265	222	722	- 32

(a) Excluding Metropolitan.

TABLE LIX

CAUSES OF DEATHS IN INFANTS UNDER ONE MONTH OF AGE—QUEENSLAND, 1963

Cause	1962	1963				Increase or Decrease
		Metropolitan	Sub-Tropical (a)	Tropical	Total	
Immaturity (unqualified)	131	33	54	57	144	+ 12
Immaturity with mention of any other subsidiary condition	1	..	..	..	..	
Congenital Malformations	78	34	29	20	83	+ 5
Post-natal Asphyxia and Atelectasis	97	26	24	12	62	- 35
Intracranial and Spinal injury at birth	43	15	19	19	44	+ 1
Other birth injury	46	11	13	21	45	- 1
Haemolytic disease of newborn (Erythroblastosis)	21	9	4	6	19	- 2
Pneumonia of newborn	23	5	9	9	23	..
Haemorrhagic disease of newborn	13	4	5	2	11	- 2
Neo-natal disorders arising from Maternal Toxaemia	10	..	1	4	5	- 5
Diarrhoea of newborn	3	..	..	2	2	- 1
Other diseases peculiar to early infancy	51	33	31	10	74	+ 23
Total of diseases peculiar to early infancy	517	170	189	153	512	- 5
All other causes	19	9	4	7	20	+ 1
Totals	536	179	193	160	532	- 4

(a) Excluding Metropolitan.

TABLE LX

CAUSES OF DEATHS IN INFANTS MORE THAN ONE MONTH BUT LESS THAN TWELVE MONTHS OF AGE—QUEENSLAND, 1963

Cause	1962	1963				Increase or Decrease
		Metropolitan	Sub-Tropical (a)	Tropical	Total	
Immaturity (unqualified)	..	..	..	..	..	+ 2
Immaturity with mention of any other subsidiary condition	1	..	1	2	3	
Congenital Malformations	52	18	20	11	49	- 3
Post-natal Asphyxia and Atelectasis	4	..	..	..	..	- 4
Other diseases peculiar to early infancy	8	..	4	2	6	- 2
Total of diseases peculiar to early infancy	65	18	25	15	58	- 7
Bronchopneumonia, other and unspecified Pneumonia	39	17	18	19	54	+ 15
Gastroenteritis and Colitis	27	2	4	9	15	- 12
Lobar Pneumonia	7	2	4	6	12	+ 5
Diseases of Pancreas	4	1	1	..	2	- 2
Meningitis, except Meningococcal and Tuberculosis	10	3	2	3	8	- 2
Accidents, Poisonings and Violence	24	5	5	2	12	- 12
All other causes	42	8	13	8	29	- 13
Total Deaths 4 weeks and under 1 year	218	56	72	62	190	- 28

(a) Excluding Metropolitan.

TABLE LXI
DEATHS OF INFANTS UNDER ONE YEAR OF AGE FROM CONGENITAL MALFORMATIONS*

Congenital Malformations	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Monstrosity	4	7	11	7	8	6	8	4	6	10
Spina bifida and meningocele ..	18	13	14	17	10	18	20	16	14	19
Congenital hydrocephalus	8	10	13	11	14	12	8	16	15	5
Nervous system	4	5	3	3	5	2	5	5	..	5
Circulatory system	51	54	47	59	47	73	72	77	56	59
Cleft palate and harelip	..	1	2	1	2	2	..	2	1	1
Digestive system	28	24	25	26	16	18	16	11	17	10
Genito-urinary system	2	5	7	2	3	6	9	7	4	7
Bone and joint	..	4	1	..	2	3	1	2	..	4
Unspecified	6	5	12	6	6	15	12	9	17	12
Totals	121	128	135	132	113	155	151	149	130	132
Congenital malformations as a percentage of total infant deaths under one year of age	18.8	19.5	18.3	18.0	17.2	21.5	20.4	20.3	17.2	18.3

*Excluding congenital mental deficiency, hernia, mucoviscidosis.

TABLE LXII
CAUSES OF DEATHS OF PREMATURE (IMMATURE) INFANTS

	1961	1962	1963
Immaturity unqualified	141	131	144
Ill-defined diseases peculiar to early infancy, with immaturity	45	42	60
Post-natal Asphyxia and Atelectasis, with immaturity	46	56	38
Intracranial and Spinal injury at birth, with immaturity	17	8	13
Other birth injury, with immaturity	18	32	28
Neo-natal disorders arising from Maternal Toxaemia, with immaturity	5	10	5
Pneumonia of newborn, with immaturity ..	6	4	6
Haemorrhagic diseases of newborn, with immaturity	7	2	2
Haemolytic disease of newborn, with immaturity	1	11	8
Nutritional Maladjustment, with immaturity	..	1	1
Immaturity with mention of any other subsidiary condition	6	2	3
Umbilical Sepsis, with immaturity	..	..	1
Other Sepsis of newborn, with immaturity ..	1	..	3
Diarrhoea of the newborn, with immaturity ..	..	2	1
Totals	293	301	313
Total under one year, with immaturity ..	293	301	313
Total under one month, with immaturity ..	291	296	308

TABLE LXIII
ACCIDENTAL DEATHS OF CHILDREN (AGED 1 AND UNDER 15 YEARS)

	1958		1959		1960		1961		1962		1963		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
Road Accidents	18	13	24	11	17	13	16	19	26	12	25	10	204
Firearms	3	1	6	..	2	1	1	..	4	3	2	1	24
Drowning	13	13	19	7	11	6	18	3	13	4	19	5	131
Falls	1	1	1	2	2	1	..	..	3	..	..	2	13
Other Accidents	21	9	22	14	19	22	31	4	27	14	26	11	220
	56	37	72	34	51	43	66	26	73	33	72	29	592
Totals	93	..	106	..	94	..	92	..	106	..	101	..	592

Accidental deaths of children aged one and under fifteen years

Accidental deaths of children in this age group numbered 101 in 1963 compared with 106 in 1962 and an average of 94 in the ten years 1954 to 1963 inclusive. The total deaths of children in this age group from all causes were 283, of which 35.7 per cent., were caused by accident.

TABLE LXIV
ANALYSIS OF MOTHERS ATTENDING INALA ANTE-NATAL CLINIC—GROUPED ACCORDING TO ATTENDANCES

Attendances at Inala Ante-natal Clinic between 30th June, 1962 and 30th June, 1964	Number	Average Parity	Average number of Pregnancies	Average Duration of Pregnancy	Lowest Average Haemoglobin value (ante- natal)	Average Birth Weight
TOTAL	492	3.7	4.0	279 (472) Days	12.5 (493) grammes per 100 ml.	..
Ante-natal Attendance Only ..	215	3.9	4.1	276 (208) Days	12.3 (188) grammes per 100 ml.	..
Ante-natal and Post-natal Attend- ance	277	3.5	4.0	282 (262) Days	12.6 (251) grammes per 100 ml.	7 lb. 10 oz. (264)

Figures in brackets represent number of values considered to obtain the results.

TABLE LXV
FURTHER ANALYSIS OF MOTHERS WHO HAD ATTENDED THE INALA ANTE-NATAL CLINIC FOR ANTE-NATAL AND POST-NATAL CARE

	Birth Weight under 5 lb.	Birth Weight 5 to 6 lb.	Birth Weight 6 to 7 lb.	Birth Weight 7 to 8 lb.	Birth Weight 8 to 9 lb.	Birth Weight 9 to 10 lb.	Birth Weight greater than 10 lb.
Total with Ante-natal and Post- natal attendance	7	9	60	93	68	31	9
Average duration of Pregnancy (in days)	261 (5)	281 (9)	279 (59)	282 (89)	283 (62)	290 (29)	290 (9)
Lowest average Ante-natal Haemo- globin Value (in Grammes per 100 ml.)	13.0 (6)	12.6 (8)	12.6 (46)	12.7 (85)	12.4 (63)	12.4 (27)	12.9 (8)
Average Post-natal Haemoglobin Value (in Grammes per 100 ml.)	14.7 (2)	15.9 (3)	14.1 (25)	14.2 (48)	14.2 (35)	14.4 (19)	13.9 (3)
Average Haemoglobin Value in baby (in Grammes per 100 ml.)	12.0 (2)	12.2 (4)	11.8 (25)	12.0 (48)	12.5 (35)	12.8 (19)	12.1 (3)
Average parity	3.1 (7)	3.3 (9)	3.2 (60)	3.6 (93)	3.6 (68)	3.7 (31)	5.0 (9)

Figures in brackets represent number of values considered to obtain the result

DIVISION OF SCHOOL HEALTH SERVICES

Chief Medical Officer: G. M. S. MAY, M.B., B.S. (Melb.)

Medical Officer: V. M. O'HARA, M.B., B.S. (Syd.)

Chief Dental Officer: T. D. PUGH, L.D.S. (Eng.), L.D.Q.

OUTLINE OF ACTIVITIES

The routine medical examinations of school children in primary schools continued. School Sisters visited State schools and convents. The School Dental Officers visited schools throughout the State except in centres where a Hospital Dental Clinic was established. Portable high speed air rotor dental engines were introduced and the four Rail Dental Clinics were converted from 32-volt to 240-volt systems. Fluorescent lighting was installed.

At the Teachers' Training Colleges, new trainees on admission were examined and monthly visits to the Colleges were continued by the School Medical Officer. A comprehensive Survey of Heights and Weights of school children in the metropolitan area was made. Fourth year nurses visited and observed our work, and in May, 1964, the first School Health Services Seminar was held.

STAFF

Dr. V. M. O'Hara was appointed to the position of School Medical Officer on 1st July, 1963, in a temporary capacity, and has visited schools, giving particular consideration to emotional disturbances. Dr. Mervyn Patterson has continued to give valuable assistance to School Sisters in the Ipswich area, in a part-time capacity.

The position of School Medical Officer at Townsville has remained vacant, and with the resignation of the dentist, Gympie district, for personal reasons, the dental staff has remained under strength. The large increase in development and therefore population in the outer metropolitan and South Coast areas has increased the duties of the Sister in this area by nearly 30 per cent. This increase, together with that of the metropolitan area, has stressed the need for an additional Sister. For several months the Rockhampton (Western) and Townsville (Western) areas have been vacant through resignations. New appointees have now commenced in these areas.

SCHOOL VISITS

In the metropolitan area, the nine Sisters, who have the assistance of the School Medical Officers, visited 93 schools and examined 31,172 children. Interruptions to itineraries included an increased intake of teacher trainees, and the Heights and Weights Survey. In the country, a total of 701 schools were visited and 64,991 children examined, making a total of 794 schools and 96,163 children for the State. Of these children, 3,938 (4.1 per cent.) were found to have defects, some multiple, a total of 4,220 defects, which were notified to parents, advising further investigation and treatment. This does not include those children who had defects of a mild nature, which did not warrant immediate action and treatment, but it was felt that parents should be made aware of the condition. These defects were notified on a new form (IVA). Previously such conditions would have been noted and reviewed on subsequent visits. In the short period of use, 192 children were notified in this way.

TABLE LXVI

DETAILS OF ROUTINE SCHOOL HEALTH EXAMINATIONS

Particulars	Metro-politan	Country	Total
Schools visited	93	701	794
Children examined	31,172	64,991	96,163
Children examined by School Medical Officer	6,311	1,370	7,681
Children with defects requiring notification	1,261 (4.0%)	2,677 (4.1%)	3,938 (4.1%)
Defects notified	1,331	2,889	4,220
Defects notified on Form IVA	31	161	192
Colour vision defects notified	150	140	290
Colour vision defects (mild)	42	24	66
Not notified			
Dental defects notified (by Sisters)	384	648	1,032
Percentage responding to notification within two months	83.8%	85.3%	84.9%

The number of routine notifications has decreased by 0.3 per cent. Of those notified, 84.9 per cent. sought further advice within two months, a small improvement. Of those taking no action, one-fifth transferred to other schools, and follow-up advice was not available. Where no action is taken, after initial reminders, then the Sisters may make home visits where conditions permit. This is very restricted and a Sister trained in Social Welfare would be invaluable in following up such cases, particularly where children have marked defective vision and no action is taken.

TABLE LXVII

DETAILS OF APPARENT DEFECTS NOTIFIED

Defect	Metro-politan	Country	Total
Hearing Loss	167	313	480
Defective Vision	659	1,285	1,944
Defective Vision %	2.1%	1.9%	2.0%
Squints (latent and manifest)	66	140	206
Other Eye Defects	70	236	306
Inflamed and enlarged Tonsils	46	231	277
Scrotal and Groin Swellings	110	153	263
Postural Defects	27	77	104
Lower Limb Defects	71	62	133
Cardiac Murmurs	19	4	23
Other Defects	96	338	484

As in previous years, eye disabilities predominated, a total of 2,456 cases were notified, representing an incidence of 2.55 per cent. Defective vision alone was found in 1,944 children (2 per cent.). During the year, seventeen (17) children had severe visual loss and were referred to the Research and Guidance Branch of the Education Department, for inclusion in the Register of Partially Sighted Children. The criterion for referral is a vision which cannot be improved beyond 6/24 in both eyes. After psychological appraisal, some of these are enrolled at the School for the Blind, while many remain in their own school if they are coping with normal educational methods. This year, School Health Services examined children at the Blind School, for physical defects other than their visual condition. Postural faults were a common association of partial sightedness. Facilities for an adequate physical education programme for these children must be given serious consideration as an important part of their learning and training.

Hearing loss occurred next in frequency and 480 children were notified (0.5 per cent), of whom 265 were referred to the Commonwealth Acoustic Laboratory. Pure Tone Audiometers loaned by the Commonwealth Acoustic Laboratory, are used in most centres, but in some districts where an audiometer is shared by two Sisters, then whisper testing must be used in some schools, but the likelihood of additional audiometers will extend efficient screening towards a more complete coverage. If bilateral deafness of moderate degree or worse is found, a referral to the Acoustic Laboratory is made, because the use of a hearing aid may eventually become necessary. Otherwise, notification is made in the usual manner. In such cases of deafness, the teacher is advised of class placement, and asked to ensure that the hearing loss does not interfere with schooling.

The attitude to tonsillar enlargement continues to become more conservative, and only 277 children were notified, mainly if repeated infection or nasopharyngeal obstruction was associated.

The incidence of remaining defects varies little from previous years.

In country areas School Sisters receive valuable assistance from the Bush Children's Health Scheme, which arranges the movement and accommodation of children from isolated areas to enable them to receive specialist attention and to enable debilitated children to enjoy recuperative therapy, usually at a seaside resort.

As well as the detection of physical and emotional defects, School Sisters promote Health Education, receiving much assistance from the Queensland Health Education Council. The reappearance of the book "Subject Health", the first volume in a new edition, will be of great value in this regard. The new format will greatly facilitate the teaching of this important subject.

In the supervision of a suitable environment, School Sisters paid close attention to the classroom lighting and seating, the condition of the grounds, and sanitation generally. It is distressing to find many dismal and unsatisfactory earth closets, particularly in the metropolitan area, where sewerage or septs should be the general rule.

EMOTIONALLY DISTURBED CHILDREN

In the metropolitan area emotional problems, whether associated with the school or the home situation, are referred to the Welfare and Guidance Division for further investigation. Altogether 69 children were referred and many showed considerable benefit, although some failed to report. Where indifference is anticipated, or in purely social problems, referrals are made to the Division of Social Work. This involved 33 cases. Where impaired school progress was associated and perhaps causative, in 44 cases, referrals were then made to the Research and Guidance Branch of the Education Department.

In several instances, School Health Services has been advised by the Institute of Child Health of children who have shown an emotional reaction to school, and require special consideration. Teachers are made aware of such problems and asked to assist in rehabilitating the child in the classroom and among his peers.

QUEENSLAND AGRICULTURAL COLLEGE

Tetanus immunisation and reinoculations were again given to students and staff. All students, including those attending under the Colombo plan, are immunised.

FOURTH YEAR NURSING TRAINEES

The scope of the nursing curriculum was widened to include a knowledge of Public Health bodies, and so visits to School Health Services are made. So far, 88 nurses have been shown the work of a school nurse, particularly in the examination of children. Nurses in country centres have made their visits with the School Sister of the particular district. Approximately 300 nurses each year will make such visits, a wise addition to their training.

COLOMBO PLAN VISIT

In April, two Sisters from the Philippine Islands spent three weeks with School Health Services as observers. Mrs. P. Gudani and Miss C. Panganiban were shown this work in metropolitan schools, and visited schools in the South Coast, Maroochy and Crow's Nest areas, and two School Dentists in the Toowoomba-Warwick area. They showed tremendous interest and a deep appreciation of our problems, which are similar to those in their own country. Visits to the various special schools were made, and later, they returned to attend the Seminar.

SURVEYS

Heights and Weights

As mentioned earlier over 10,000 children were weighed and measured, and the results show that in every age group, children are again heavier and taller than those surveyed in 1951 by Dr. Patrick and in 1911 by Dr. Bourne. However, the rate of increase is steadier, and statistical data is being prepared.

A longitudinal study is being conducted where groups of children at three schools are being measured quarterly throughout their school life. Those leaving the school are omitted, while newcomers are not included. Some Sisters are conducting their own survey. For example, one Sister is correlating data in regard to lower extremity deformities and footwear.

HIGH SCHOOLS

Following correspondence from the Secretary, Queensland Branch of the Ophthalmological Society of Australia (A.M.A.) regarding the visual screening of High School Students, and the incidence of defective vision found at the Teacher Trainee examinations, visits were made to a State High School and a Christian Brothers' School. All pupils of these schools were tested in vision and hearing.

At the High School where most of the 1,309 students examined would have been seen at a State Primary School 6 per cent. had unsuspected defective vision and 7.3 per cent. wore glasses, a total of over 13 per cent. Of the 1,024 pupils at the Christian Brothers' School, 6.5 per cent. were unaware of eye defects, while 5.2 per cent. wore glasses. This incidence is far worse than the 2 per cent. rate at primary schools.

Hearing loss rates of 1.3 per cent. and 1.1 per cent. respectively also exceeded the 0.5 per cent. rate found in primary schools.

TABLE LXVIII
VISUAL AND HEARING DEFECTS SECONDARY SCHOOLS

Particulars	State High School	Christian Brothers' College
Number of students examined ..	1,309	1,024
Number with Hearing loss over 35 db. ..	17 (1.3%)	11 (1.07%)
Number wearing glasses ..	95	53
Glasses need rechecking ..	15	..
Vision worse than 6/12 in one or both eyes ..	48 (3.7%)	48 (5%)
Mild uneven vision with symptoms ..	23 (1.8%)	8 (1%)
Strabismus only ..	3	10
Total visual defects requiring attention ..	89 (6.8%)	66 (6.5%)

SCHOOL HEALTH SEMINAR

The Seminar on School Health was held during the May vacation, and attended by Sisters from all areas. Many Sisters from other branches of the Department of Health, as well as other bodies, attended various sessions and evinced a deep interest. The Honourable the Minister for Health, Mr. S. D. Tooth, M.L.A., officially opened the Seminar, assisted by the Director-General of Health and Medical Services and the Adviser in Nursing.

The programme covered the many phases of school health work and stimulated considerable interests. The subjects discussed included orthopaedic, visual, auditory, and other medical and surgical conditions, and papers dealing with psychiatric and social problems, the importance of a statistical approach, sanitation and other matters were given by a specialist in each subject.

The instruction gained was of undoubted value to those attending, particularly in making decisions in borderline cases.

COMMUNICABLE DISEASES IN SCHOOL CHILDREN

Infective hepatitis has shown an increased incidence, and is more widespread. In the metropolitan area, 180 cases were notified with 377 cases in country areas. School children are being encouraged to take more care in hand-washing. Ablution facilities are constantly improving, particularly by including taps in all new lavatory blocks. However, soap is not issued for the use of the children.

There were no cases of poliomyelitis, and the childhood infectious diseases did not produce any medical problems.

During the year, the tuberculin testing of school children was continued by officers of the Division of Tuberculosis. In the metropolitan area, 147 schools were visited to test 11,923 children, while in 153 country schools, 5,305 children were tested. In addition 3 schools and 1,449 children were included in special surveys from the Chest Clinic.

From these tests 27.8 per cent. gave a positive reaction, with 5.3 per cent. positive after previous B.C.G. inoculation. In those showing negative reactions, most parents permitted B.C.G. inoculation.

In the infant grades, questionnaires to parents revealed that 92.5 per cent. of children had received diphtheria immunisation, and 92 per cent. had tetanus courses as well. Only 50 per cent. received reinforcing injections. In the second half of the year, poliomyelitis figures were requested, revealing that 88 per cent. had received injections of poliomyelitis vaccine.

TABLE LXIX
INOCULATIONS OF INFANT GRADES

	Metro-politan	Country	Total
Number checked ..	4,930	12,438	17,368
Diphtheria (or in Triple Antigen) ..	4,638	11,471	16,109
Tetanus (or in Triple Antigen) ..	4,603	11,377	15,980
Booster Diphtheria ..	2,134	5,949	8,083
Booster Tetanus ..	2,787	6,180	8,967
<i>Poliomyelitis:</i>			
Number checked ..	2,607	4,375	6,982
Poliomyelitis injections (1964 only)	2,292	3,951	6,243

MEDICAL EXAMINATIONS OF TEACHER TRAINEES

The School Health Service continued the routine medical examinations of applicants for teachers' college scholarships. This year 864 were examined. A further 164 were examined by other Government Medical Officers in the country, of whom 7 were referred either by the Department of Education or the Principal of the College for review by School Health Services medical officers.

In view of the awakening interest in Student Health as evidenced by the formation of a Student Health Association of the Universities of Australia and New Zealand in 1961, this year, for the first time, an attempt has been made to categorise the various defects and disabilities found among the teacher trainees. School Health Services has been doing these examinations for years, but apart from numbers examined, no other statistics have been presented in these reports.

The figures shown should be regarded in the nature of an interim report, for there are ninety-nine students who are still under assessment by various specialists, and 134 for whom chest X-ray results have not been obtained. It is anticipated that very few of these trainees will be failed for medical reasons.

So far, 624 students have been passed as medically fit. Only 7 have been rejected on medical grounds, to date (deafness 2, epilepsy 2, nephritis 2, cerebral pathology 1).

TABLE LXX
TYPES AND INCIDENCE OF DEFECTS FOUND AMONG TEACHER TRAINEES

Type	Number	Percentage
"Adjustment"	53	6.2
Allergy	15	1.7
Asthma	13	1.5
Chest	10	1.2
Diabetes	11	1.3
Epilepsy	2	.2
E.N.T. conditions	22	2.5
Eye Defects	53	6.2
Genitourinary	14	1.6
Headaches	11	1.3
Hearing Loss	6	.7
Heart Murmur	7	.8
Hypertension	8	.9
Nephritis	2	.2
Orthopaedic	60	6.9
Overweight	5	.6
Pigmented moles	13	1.5
Skin	11	1.3
Speech defect (slight)	3	.3
Teeth defects	30	3.4
Miscellaneous	23	2.7
Totals	362	41.9

It is to be realised that many students had more than one defect, e.g., one had several pigmented moles which were subsequently removed; defective vision which was soon corrected by glasses; and an emotional problem severe enough to refer to the Psychiatric Clinic.

It is interesting to note that the highest number of defects found were of an orthopaedic nature, however only 8 of the 60 needed referral for a specialist's opinion.

Dr. Murray Williams, Director of Student Health Service, University of Queensland, in his report in the University of Queensland Gazette, No. 53, 1963, categorises a group under the heading "adjustment problems."

Similar problems were next in order of frequency among the teacher trainees. Of the 53 noted, 21 were referred to the Psychiatric Clinic, while the others have been reviewed regularly throughout the year.

Eye defects were found to be equally prevalent (6.2 per cent.), which is much higher than found by School Health Services in the primary schools, but approximates the results found in the High School Survey.

Thirty trainees were found by the School Dental Officers to be in need of extensive dental treatment, and these trainees will not be passed as medically fit until this has been completed.

Routine monthly visits are made to both Teachers' Colleges, when students may seek medical advice, or be reviewed by the medical officer. This service is believed to be very worth while for 257 students availed themselves of the opportunity.

Teacher Trainees have free access to the medical officers of the School Health Services—one afternoon a week is set aside for this purpose—but students may come at any time by appointment. Both Principals of the Colleges have been most sympathetic towards facilitating access to the Medical Officers, and in many instances have themselves referred students for advice.

Fourteen second-year students were referred by the Principals because of frequent absenteeism. Three were already under psychiatric treatment (awaiting reports) and two were referred to the Psychiatric Clinic. The other 9 were believed to have legitimate reasons for their absenteeism.

One final aspect of the liaison between the Department of Education and School Health Services is the number of teachers who have been referred for reassessment of their fitness in view of frequent absenteeism during their College years. Twelve were so referred. All but two gave satisfactory explanations which were verified by contact with local practitioners. Two were referred to the Psychiatric Clinic, and an opinion has not yet been formed on their fitness. This aspect of our work should diminish as the Principals refer more trainees before graduation.

The interest and co-operation shown by the Principals and staff of both Colleges has made the work at the Colleges medically most rewarding. With improved accommodation at the Colleges and if more time and/or medical staff were available, this Service would prove of even greater benefit to the physical and mental health of the teachers and children of the future.

SCHOOL DENTAL SERVICES

Dental Officers of the School Health Service continue in their important duties and comprise a Chief Dental Officer with eighteen Dental Officers, one of whom is at present on loan to the Dental Clinic at Thursday Island. Three dental officers require a total of six months sick leave during the year. While awaiting the completion of the conversion to 240 volts of the Rail Dental Clinics, the dental officers attached to the Clinics carried out survey work, required by the Honourable the Minister for Health.

Despite this time lost, the work output has increased in that 6,400 more operations were done, and over 3,000 more children were seen. This is very commendable as the standard of work remains high. Good liaison with the Education Department affords every assistance in such specialist work with children. This close co-operation enables the dental officers in the field to cope with the work with little interruption and delay.

A return to the full complement of 25 dental officers allowed in 1952 would allow the examination and supervision of all primary school children outside the metropolitan area. Practically all schools beyond the area of the Hospital Dental Clinics have been visited in the past 2½ years, but additional staff would give a desirable reduction in this interval. The appointment of a new dentist was approved, and he was allocated to the Mackay area.

In the past year, over 34,000 children in the country areas were inspected, 11,400 received treatment and on these over 73,000 operations were performed.

During the 50 years of existence of the Service—

1,465,294 children have been examined.

686,127 children have been treated.

3,184,895 operations were completed.

Progress in oral health can be seen in the comparison of extractions and fillings.

In the year 1912 the ratio was 1 extraction to 1 filling.

In the year 1942 the ratio was 1 extraction to 1.5 fillings.

In the year 1952 the ratio was 1 extraction to 2 fillings.

In the year 1962 the ratio was 1 extraction to 3 fillings.

There has been a great advance in dental equipment in 1964, by the introduction of portable high speed air rotor equipment. This is greatly appreciated by the children, being less painful and requiring less time for this unpleasant aspect of treatment.

This modern approach was extended to the four Rail Dental Clinics, by the conversion to a 240-volt system. The diesel-powered generators have an adequate output to power the air compressors, the orthodox dental motors, and fluorescent lighting in the surgeries. All this dental equipment is also portable, and can be transported to off line schools by means of the vehicle carried on the Clinic trailer.

During the year surveys were made by School Dental Officers to ascertain the number of dental defects prevalent in pupils attending infant, primary and secondary schools and Teacher Training Colleges. To do this, care was taken in standardising techniques of dental officers and fixing criteria, using principles recommended in two reports of the World Health Organisation Expert Committee in Dental Health. Dental officers studied these recommendations and arrangements were made to give uniformity in examination of the teeth, by having four groups of pupils. Each group was examined in turn by the dentists, observations made and a second inspection made to ensure uniformity of marking. Approximately 10,000 children were examined.

The rating of the temporary teeth of pupils of Grades I and II of the ages 6-9 years is expressed in the ratio of diseased, extracted and filled teeth (the d.e.f. rate). The d.e.f. rate was 5.6.

In older children the ratio of diseased, missing and filled permanent teeth was recorded (D.M.F. rate).

At the ages 10-14 years—D.M.F. was 3.2 per child

At the ages 14-17 years—D.M.F. was 10.6 per child

At the ages 16-24 years—D.M.F. was 11.4 per child (Gatton College)

At the ages 18-24 years—D.M.F. was 15 per child (Teachers' Training Colleges)

The deterioration of the number of sound mouths observed ranged as follows:—

At the age of 6-9 years—16 per cent.

At the age of 10-13 years—4.5 per cent.

At the age of 14-18 years—2.3 per cent.

At the age of 18-24 years—0.1 per cent.

At the examination of a High School, 1,000 pupils were dentally inspected and it was noted that 8,000 permanent teeth had fillings, fourteen pupils had more than 20 teeth filled and more seriously ten pupils of the age of 14-18 years had lost from 10-18 permanent teeth out of a possible complement of 28 teeth.

The above data is an indication of the serious situation in the state of dentition of school children. The result of the year's inspection and operative work is appended.

TABLE LXXI

DETAILS OF SCHOOL DENTAL EXAMINATIONS

Number of children examined	34,007
Number notified for professional attention ..	5,409
Number of children under regular dental care—	
Clinic	1,034
School Dental Officer	9,793
Private Dentist	14,290
Number with sound mouths—	
Natural	1,792
Operatively restored	7,597
Caries permanent teeth (saveable) ..	38,595
Caries permanent teeth (unsavable) ..	4,629
Caries temporary teeth	41,823
Permanent teeth lost or extracted ..	13,483
Six year molars extracted	10,699
Permanent teeth filled	75,753
Temporary teeth filled	21,143
Percentage of children with dirty mouths ..	1.30
Total number of defective permanent teeth	43,588
Average number of defective permanent teeth, per child	1.28

TABLE LXXII

TOTAL DENTAL TREATMENT

Number of schools visited	478
Number of children examined	34,007
Number of children treated	11,451
Number of extractions—permanent ..	2,236
Number of extractions—temporary ..	8,904
Number of fillings	29,054
Number of other treatments	30,898
Number of operations	73,144

DIVISION OF PSYCHIATRIC SERVICES

Director of Psychiatric Services: B. F. R. STAFFORD, M.B., B.S. (Melb.), A.B.P.S.

Deputy Director of Psychiatric Services: G. S. URQUHART, M.B., B.S. (Qld.), D.P.M. (Melb.)

Medical Superintendent, Brisbane Special Hospital: C. R. BOYCE, M.B., Ch.M. (Syd.)

Medical Superintendent Toowoomba Special Hospital: J. H. B. HENDERSON, M.B., B.S. (Syd.)

Medical Superintendent Ipswich Special Hospital: R. A. ATHERTON, L.R.C.P. (Edin.); L.R.C.S. (Edin.); L.R.F.P.S. (Glasgow)

Psychiatrist, Psychiatric Clinic: I. W. W. CHARLES, M.B., B.S. (Melb.), D.P.M. (Melb.)

Visiting Medical Officer, Mosman Hall, Charters Towers: I. CSEREY, M.B., B.S. (Melb.)

Superintendent, Epileptic Home: Vacant

Administration Officer: A. C. MCALLISTER, B.Com.

The integration of mental health with the Health and Hospital Services of this State was expected to produce definite effects on the population of the Special Hospitals.

The integration policy aimed at two important results:—

- (i) that the development of psychiatric services in our general hospitals would enable patients to be treated at community level, and so reduce the number requiring care and treatment in special hospitals;
- (ii) the provision of care and treatment for handicapped children and geriatric patients in more appropriate areas.

Two graphs have been included in this report and they show that in spite of the steadily increasing population of the State of Queensland the number of patients in our special hospitals has decreased.

Until 1955 the increase of patients was approximately parallel to the increase of the population of the State. From 1957 there has been a sharp decline of patient population. If this decline had not occurred and patient increase had remained parallel with the State population, increased accommodation would have been necessary for an additional 1,700 patients, in other words, equal to the present number of patients resident in Brisbane Special Hospital. This has resulted from a number of causes; for example, the more specific drug therapies have reduced the acute phases of mental illnesses. In so doing many patients can now be treated in ordinary hospital wards without restraint or custody. This in turn encourages public acceptance of mental illness.

The trend of reduced patient population is seen in the graphs showing the male and female population of each hospital.

In the Brisbane Special Hospital there has been a most remarkable reduction in the number of female patients.

The steep curve of reduction must level out and eventually form some fixed ratio to the State's population. In other words, the number of patients requiring special care and treatment will reach a certain level and then gradually increase.

The full effects of the integrated policy will probably not be fully operative for some time.

The reduction of patients in Special Hospitals is not the only aim of the Integration Policy, but also to expose, as it were, the regressed patients to active medical and social therapies.

FORWARD POLICIES

1. There is an urgent need to further develop psychiatric units in some of our major hospitals, e.g. the Princess Alexandra Hospital, Townsville, Toowoomba, Ipswich and Rockhampton General Hospitals.

2. There is urgent need to expand the services and facilities for the mentally subnormal person so that his whole life is provided for in a co-ordinated manner.

There is no need for the majority of mentally subnormal persons to be in our Special Hospitals. They should be accommodated in areas suited to their mental and physical capacities.

During the ensuing months there must be a policy of consolidation and development. The development must be in these areas:—

- (1) care and training of the mentally subnormal;
- (2) care and treatment of mentally ill prisoners;
- (3) provision of additional psychiatric facilities in general hospitals;
- (4) provision of a geriatric assessment unit to obviate the need for admission to a Special Hospital for assessment.

On 14th May, 1964, the Hon. S. D. Tooth, Minister for Health, opened the Henry Winston Noble Neuropsychiatric Wards at Chermide. This unit has excellent accommodation and facilities and will fulfil a long needed want.

During the year the Prisons Act was amended to enable a security patients' hospital to be established for the care of mentally ill prisoners, under the administration of the Prison Department.

This will enable a number of dangerous prisoners presently accommodated in the Ipswich Special Hospital to be cared for in a manner where the therapist will not be jailer and physician at the same time.

THE MENTAL HEALTH REVIEW TRIBUNAL

The Tribunal has investigated 55 applications for release from detention. It is significant that no application to the Tribunal was from a relative, whereas before the Tribunal was created it was very common for the administration to be accused directly, or indirectly, of unnecessary detention.

There is room for further development of social services in the Division of Psychiatric Services to assist in placement. This is particularly important in regard to the long-stay patient who has become over adjusted to institutional life. His behaviour is usually exemplary in the hospital, but his dependence is such that he would require substantial economic and social support to re-establish himself in the community.

It is hoped that the Mental Health Federation of Queensland will find it possible to proceed with its plans for an After-care Hostel.

The Department of Works has undertaken extensive repairs and renovations in all the Special Hospitals.

Appreciation is extended to the Chaplains at the Brisbane Special Hospital and to the Clergy who visit the other Hospitals. It is now very apparent that this Chaplaincy Service has been of very decided spiritual and social benefit to patients and their relatives.

OVERSEAS VISITS

During the past financial year the Director visited New Zealand for three weeks. He attended sessions of the Australasian Association of Psychiatrists in Wellington for one week. Dr. Blake-Palmer, Director of Mental Health, N.Z., very generously arranged a full and instructive itinerary for two weeks. We wish to thank him and his officers for their many courtesies.

Dr. G. S. Urquhart left for overseas in May last. He will be away for six months and during that time he will visit the United Kingdom, Europe and North America. He has arranged a very full itinerary and on his return will have much information in both clinical and administrative fields.

CHERMIDE CENTRE FOR HANDICAPPED CHILDREN

This excellent Centre has been hindered by limited accommodation. Additional accommodation for 60 children is practically complete and this will enable the service to be extended to a greater number of children.

A specially trained kindergarten teacher was appointed during the year and has proved a great asset.

Appreciation is extended to the Medical Superintendent, the Matron, and their staffs for the co-operation that is always forthcoming.

This Division appreciates the help of the Bowen Hills Centre of the Queensland Association for the Welfare of the Mentally Subnormal for its co-operation during the past year, and particularly for providing the facilities for the training of special teachers for the subnormal.

The nursing staff and the teachers at Farm Colony are combining to achieve an active training centre, but as has been mentioned before they are in urgent need of more classroom accommodation.

GOWRIE HALL

This unit is designed for the investigation and treatment of all mentally ill patients who are suffering from pulmonary tuberculosis. The number of active cases is fortunately very few in number. It is hoped that with the special accommodation, special facilities for treatment and specially experienced staff this disease will become very rare. Gowrie Hall is staffed and administered by the Toowoomba Special Hospital. The Commonwealth Government reimburses the State for the cost of tuberculosis treatment, but the State is responsible for the cost that the care of these patients would amount to if they did not also have tuberculosis.

THE SPECIAL HOSPITALS (MENTAL HOSPITALS)

The Brisbane Special Hospital

The principal effect of "The Mental Health Act of 1962" on this hospital has been the simplification of admission and discharge and the increased number of informal patients.

There have been several changes in the character and use of various wards brought about by the continued liberalisation, and the admission of old folk to Eventide Homes, Senile Annexes as well as to Church Homes and Convalescent Homes.

Female Wards 2 and 8 remain unoccupied and Female Ward 9 is now the Hospital Sewing and Mending Centre.

Female Ward 7 is also unoccupied and in the process of extensive renovations by the Department of Works.

Female Ward 11 is being used for female admissions. This is an open ward and although it has not been functioning for long, promises to be most successful.

The "self-management" ward is now a beautifully renovated small building where some twelve female patients conduct their own affairs without any nursing staff posted to this ward.

The Inebriates' Institute at Marburg will be re-sited at Wacol and includes the old Farm Ward building. These patients were able to be accommodated in Male Ward 15 which, in turn, was vacated by the transfer of its patients to Gowrie Hall, Toowoomba.

Lowering the fences of most wards has increased the number of abscondences, but with continuing increase of ward activities it is confidently expected that these will decrease.

It has been found necessary to provide for a security section in the hospital consisting of Ward 14 and probably this will later include Ward 15.

Patients' therapeutic activities have advanced during the year. The development of the "Therapeutic Community" has been highly successful and endeavours are being made to develop patients' ward committees.

Appreciation is expressed to the Mental Health Federation of Queensland and its affiliated bodies for their continued interest and support. Combined with the Farm Colony Welfare Association they purchased a Minibus to provide for picnics and outings. The finance for this was made possible by a generous donation from the "Courier-Mail" Find the Ball Competition.

Socials, concert parties, afternoon teas and other entertainments have been provided by individuals and organisations too numerous to mention separately. Nevertheless their interest and support is a most valued contribution to the patients' welfare.

The hospital will be 100 years old on the 10th January, 1965. This is the Centenary of the transfer of 80 patients from Brisbane to a hospital then known as Woogaroo.

Repatriation Pavilion

This provides accommodation and treatment services for ex-servicemen whose mental disability has been accepted as the responsibility of the Repatriation Department.

An experiment has been made with four rooms which have been painted and carpeted and equipped with special furniture. The purpose of these rooms is to provide an additional incentive to social rehabilitation.

Toowoomba Special Hospital

"The Mental Health Act of 1962" has been responsible for a further increase in our number of admissions, yet the informal percentage has remained much the same, indicating that perhaps we are approaching saturation point for these.

Of a total number of admissions of 428 for the year, 324, or approximately 75 per cent., were informal. Experience has proved that informal patients require a more extensive therapeutic approach than formal patients; hence the appointment of a fifth medical officer has been sought for the next financial year.

Gowrie Hall also offers a considerable amount of clinical work but quite possibly this is already on the decline since its patient population figure has been slowly decreasing over the past few months. Quite a number of its admissions have been returned to their original hospitals or to our wards or have been discharged. The hospital has been functioning smoothly and efficiently apart from some prolonged trouble with the heating apparatus during the cold months.

The new recreation room in Female Ward 1 has been occupied and provides a very comfortable and entertaining portion of the ward. Cubicles for the patients upstairs in Female Ward 5 have been completed and afford much more privacy and warmth for the occupants. The vestibule of Male Ward A has just recently been laid with Vinyl tiles and all the male wards have been supplied with minor articles of furniture such as more comfortable chairs, pictures, pot stands, &c. Installation of curtains in the various wards is steadily proceeding.

More fences have been lowered and gardens and parks improved to further enhance the attractiveness of the hospital.

Occupational therapy has been somewhat hampered by our inability to replace our second therapist, but the woodwork class conducted by an efficient male nurse has been highly successful.

Entertainments for the patients have been numerous and an innovation of this year has been a series of trips to the Gold Coast altruistically provided by the members of the Willowburn Social Club.

Both staff and patients joined in very enthusiastically with the indoor and outdoor floral displays during Carnival of Flowers Week and also in the artistic displays in the Main Hall.

The Annual Sports Day and the Fancy Dress Ball were very successful.

Clinical work at the Out-patients' Department, Toowoomba General Hospital, has increased very considerably and it is hoped that it will be better organised when a fifth medical officer is appointed when we shall be able to maintain some psychiatric beds at the General Hospital.

Ipswich Special Hospital

This hospital has been gradually changing in character over the past years and now the majority of the patients belong to the more serious grades of mental subnormality. The chief clinical activities associated with this group are primarily concerned with diagnoses, then nursing care and habit training.

For some time this hospital has had the care and treatment of certain mentally ill prisoners. These patients are a group requiring custodial care, but they present a variety of psychiatric illnesses.

The social and group activities of the hospital play an important role in the treatment of both the mentally subnormal and the mentally ill prisoner.

This hospital provides the medical and nursing staff for "Karrala House". This facility exists for the care and treatment of recalcitrant girls in the care of the State Children Department. In this unit social rehabilitation is an important part of treatment. Considerable emphasis is placed on vocational domestic work.

The Medical Superintendent, assisted by Dr. G. Waga from Brisbane Special Hospital, has established a weekly psychiatric session at the Ipswich General Hospital.

Small clinical studies concerning the efficacy of drugs are taking place continually throughout the year with the main purpose of finding a drug that will "tranquillize" behaviour episodes of some mentally subnormal patients. The number of patients concerned in these studies has been too small on which to base definite conclusions, but it would appear that the behaviour episodes exhibited by a mentally subnormal patient who also had organic brain damage are resistant to rational dosages of the "tranquillizing" drugs.

Thanks are extended to the various organisations who so willingly gave of their time to entertain the patients.

Mosman Hall, Charters Towers

During the year under review patient population increased slightly and for the first time the annual daily average exceeded 200. The highest number in Hospital on any day was 221 and the lowest 194.

The appointment of Dr. R. D. Rae as Assistant Visiting Medical Officer during the year has enabled a greater number of patients to receive Electro Convulsive Therapy by modern methods. The two Visiting Medical Officers now enable this type of treatment to be administered in conjunction with the use of anaesthetics and skeletal muscular relaxants.

The equipment needed for this form of treatment has been lent by the Charters Towers Hospitals Board, but provision has been made for the purchase of suitable equipment by this hospital during 1964-65.

For a number of patients who pass through this hospital to the point of recovery and discharge, one of the most pressing problems is of employment and accommodation. It has been found that a patient discharged without any prospect of employment or accommodation not infrequently returns to the hospital, or is committed to a prison.

A few selected patients in whom it was felt great benefit would accrue have been helped to secure local employment, at the point of discharge, and have remained accommodated in this hospital until their first payment of wages was received, usually within two weeks. The results to date have been very heartening and it is felt that an extension of this scheme could be beneficial.

In addition there are in this hospital a few patients who are capable of working outside the precincts of the Hospital but who, for various reasons, are in need of some form of institutional care and supervision and could not be discharged completely. A scheme whereby these patients could live in the hospital but go daily to their employment could be greatly beneficial to them and ultimately lead to the discharge of some of them.

General maintenance of buildings has continued as required and improved water services have been installed in both Fraser House and Clark House.

Work has continued in the beautification of the gardens and lawns. Ward yard areas are now as pleasant as is possible in this climate and overall the area is in excellent condition. The grounds now attract numbers of visitors and it is not rare to see tourist coaches travel through the grounds. However, a great deal still remains to be done in the beautification of those areas to the rear of the Administration Building and adjacent to the wards and kitchen in the areas farthest removed from the entrance.

Epileptic Home

The Home continues to provide a peaceful refuge where mentally retarded epileptics can lead as full a life as clinically possible, free from worry and anxiety.

As in previous years, young children made up a large percentage of our admissions. This continuing trend could in time bring about a change in the status of the Home with the extension of facilities necessary for the care and treatment of younger patients. At present there are six children under the age of 15 years in residence.

The health of the patients has generally been good. Dental treatment is provided by the Toowoomba Hospitals Board.

The Visiting Medical Officer, Dr. J. B. Henderson, visits regularly and his advice and support are much appreciated.

The School, under the dedicated direction of Miss D. King, is an important service. There are 27 pupils on the roll at present. This number does not include the children from the Toowoomba Special Hospital, who, with their newly-appointed teacher, are now accommodated in a separate school-room in the grounds of the Home. This new arrangement is working out very well, and the children continue to enjoy the advantages of mixing, during play periods, with children from outside their own rather limited circle, whilst benefiting from the increased individual instruction made possible by the reduced numbers.

Psychiatry Clinic

The Psychiatry Clinic met the challenge of the year 1963-64 with a significant strengthening of most aspects of its functioning.

Despite a change of full-time psychiatrist and difficulties in maintaining the strength of the part-time consultants, a full-time social worker was appointed to the staff and extended psychologist services to Her Majesty's Prison added to the forensic potential. In the latter direction a small scale research programme was initiated. Speech therapy conducted by one full-time and two part-time therapists continued at a sound level. The Clinic fulfilled its usual role in undergraduate instruction and nurses' examinations.

A forward step, the effect of which will be evident in the years ahead, was the opening of the Chermide Neuro-psychiatric Unit.

It is particularly gratifying that, despite the unavailability for many weeks of a replacement of the Psychiatrist-in-Charge, the total numbers of patients newly attending, continuing in therapy and returning after an absent period all show an increase.

There is evidence of an upward trend in the volume of psychiatric work connected with the prison and criminals in general.

DIVISION OF PSYCHIATRIC SERVICES—SOCIAL WORK SECTION

In October, 1962, a social worker with wide experience in psychiatric social work was appointed to initiate and develop under the direction of the Director of Psychiatric Services, social work services for patients and their families coming within the ambit of the Division.

Since then two more social workers have joined the Division, one based at the Brisbane Special Hospital, Goodna, and the other in the Psychiatric Clinic, Mary Street, Brisbane.

An emergency service is offered to the Ipswich Special Hospital and Toowoomba Special Hospital, but distance precludes this being satisfactory as far as Toowoomba is concerned. It is hoped to appoint a social worker for the Toowoomba area within the next year.

Brisbane Special Hospital

The referrals to the social worker at Brisbane Special Hospital mainly concern problems with regard to rehabilitating patients, such as assisting them to find accommodation and employment, supporting them in the post-hospital period and seeing that they continue treatment. Some referrals concern help with family problems resulting from illness and admission.

Psychiatric Clinic

The work at the Psychiatric Clinic has been in assisting patients solve personal and social problems, assisting their families and helping with rehabilitation problems and also in helping patients benefit from treatment and at times arranging admission to hospital. Much of the work involves helping with material needs and in giving supportive counselling during the time that the patient attends the Clinic.

Mental Health Advisory Service

A new and expanding service is that offered to patients and their families before the patient attends the Clinic or is admitted to hospital. This involves advising the family of treatment facilities, explaining compulsory procedures, forms of treatment, &c., and in some cases assessing the person's need for admission and arranging this, either formally or informally.

This service, it is felt, is very valuable and necessary. It will result in patients being treated earlier and will lessen the burden and stress on the family to some extent.

The number of referrals has made the need obvious to increase the staff of social workers, especially at the Brisbane Special Hospital. There are a number of long-stay patients who could be rehabilitated if we had sufficient staff.

With the knowledge spreading that an advisory service is available to families with a mentally ill member, the number of referrals has increased this year and will continue to do so.

The Senior Social Worker has given talks to a few voluntary organisations as well as to social workers in other Divisions and Departments on the Mental Health Service and recent legislation.

Four social work students from the University of Queensland have spent a period of practical training within the Division during the year.

Statistics

Number of patients dealt with in different sections—New patients in brackets—

Brisbane Special Hospital	160 (91)
Psychiatric Clinic	116 (89)
Community Care	65 (47)
Ipswich Special Hospital	8
Toowoomba Special Hospital	3
Ipswich General Hospital	1

Total cases dealt with *311

*Some patients dealt with in more than one section and by more than one social worker.

Interviews with Patients and Relatives—

In Office (Hospital or Clinic)	982
In other places	120
In patients' and relatives' homes	238
Total	1,340

Total mileage by the social workers during year—5,483 miles.

Admissions

Eight arranged direct by social worker and support and advice given to family in nine cases during admission.

STAFF CHANGES

During the year the following staff changes occurred throughout the hospitals.

Medical staff appointed included Doctors G. N. Bianchi, Y. G. Bianchi, D. R. Burns, P. G. Mitchell, R. C. Stinton and W. J. Wilson to the Brisbane Special Hospital, Dr. John Howell as Consultant Physician to the Toowoomba Special Hospital and Dr. R. D. Rae as Assistant Visiting Medical Officer to Mosman Hall, Charters Towers.

Dr. J. Alexander retired from Toowoomba Special Hospital and Dr. O. E. Orford was appointed in her stead.

Mrs. D. G. Finney was appointed School Teacher to the children at Toowoomba Special Hospital.

Dr. F. C. Turnbull and Mr. R. Kennedy retired as Official Visitors to Brisbane and Ipswich Special Hospitals and their

duties were taken over by Dr. S. McDonnell and Mr. A. J. Pearce.

Chief Male Nurse J. McKee retired from the Ipswich Special Hospital after a long illness on the 21st May, 1964, and the vacancy thus created was filled by Mr. D. D. Harper who was transferred from the Toowoomba Special Hospital.

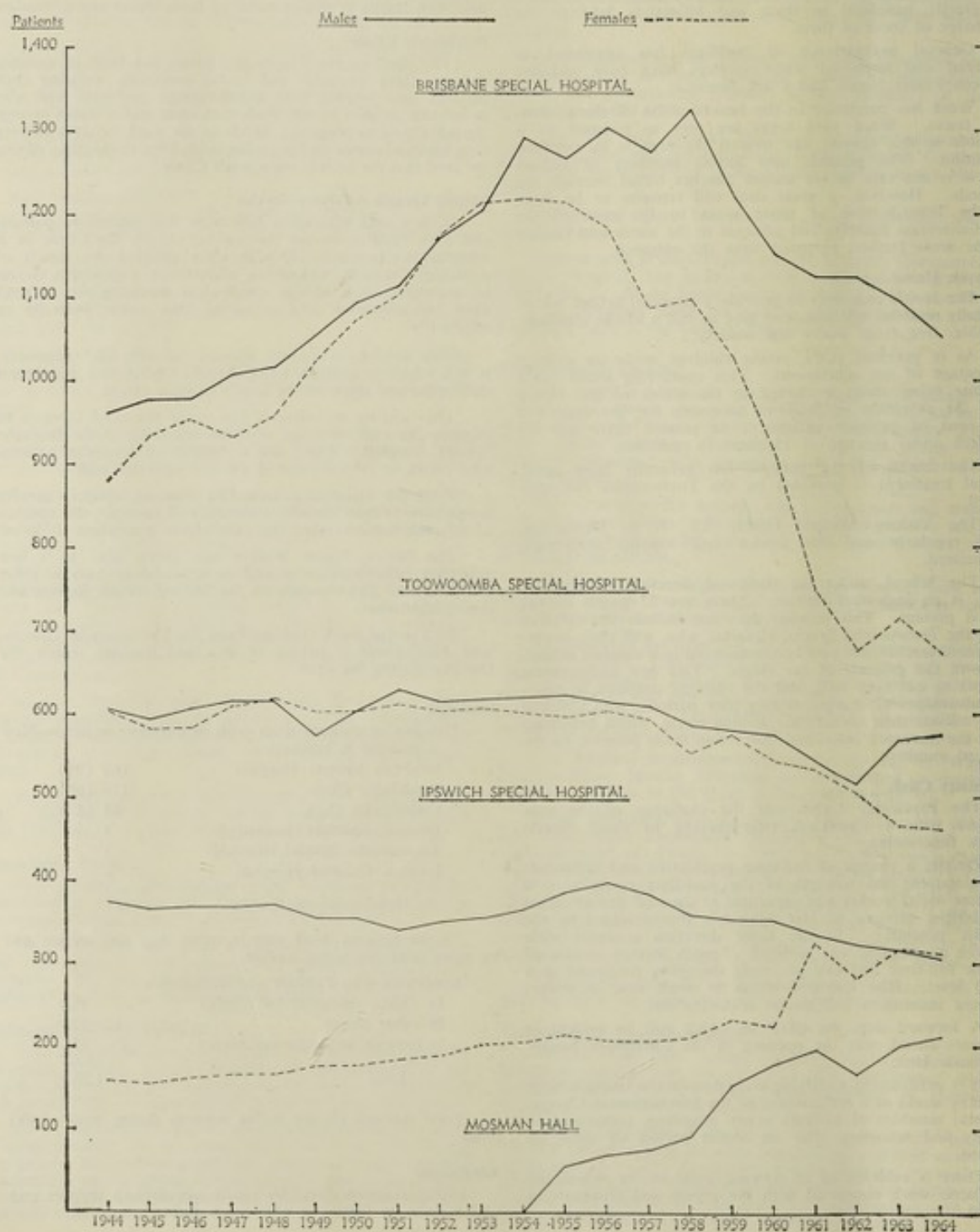
Miss N. M. Reis was appointed to the position of Assistant Matron at Ipswich Special Hospital on 25th November, 1963.

We regret to record that Mr. C. E. J. Richards, Managing Secretary, Brisbane Special Hospital, passed away on 7th March, 1964.

Dr. Ralph Daniel is absent on Study Leave.

Dr. B. Klug has been appointed to the Welfare and Guidance Clinic.

PATIENTS IN RESIDENCE IN QUEENSLAND SPECIAL (MENTAL) HOSPITALS
AT 30th JUNE OF EACH YEAR



TOTAL PATIENTS IN RESIDENCE IN QUEENSLAND SPECIAL (MENTAL) HOSPITALS
AT 30th JUNE OF EACH YEAR IN RELATION TO STATE POPULATION

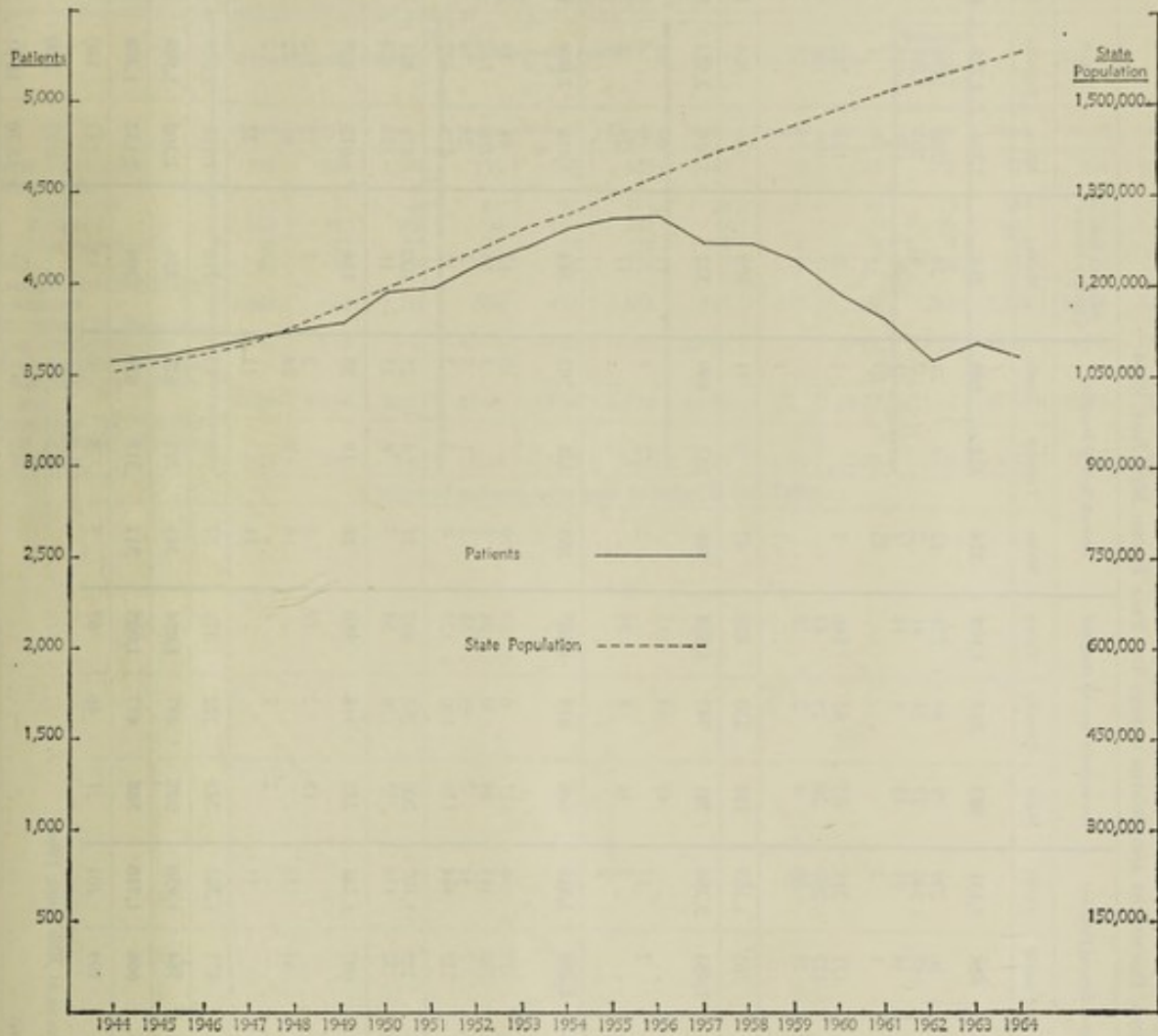


TABLE LXXIII
PATIENT POPULATION

	Patients Resident at 30th June, 1963			Patients Resident at 30th June, 1964		
	Females	Males	Total	Females	Males	Total
Brisbane Special Hospital	716	1,097	1,813	675	1,074	1,749
Toowoomba Special Hospital	468	569	1,037	451	576	1,027
Ipswich Special Hospital	319	318	637	312	306	618
Mosman Hall, Charters Towers	..	201	201	..	211	211
Totals	1,503	2,185	3,688	1,438	2,167	3,605

TABLE LXXIV
QUEENSLAND SPECIAL HOSPITALS
SHOWING ADMISSIONS, RE-ADMISSIONS, DISCHARGES AND DEATHS DURING THE YEAR ENDED 30TH JUNE, 1964

	Brisbane Special Hospital		Toowoomba Special Hospital		Ipswich Special Hospital		Mosman Hall, Charters Towers		Totals	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
On the Books of the Hospital on 1st July, 1963										
Admitted for the first time—										
Informal admissions	1,243	888	583	517	324	324	214	1,729	2,364	4,093
Regulated admissions (Sections 18, 19 and 22)	153	86	79	99	12	9	36	194	280	474
Admissions under Hospital Orders	173	167	17	24	2	..	9	191	201	392
Part IV admissions	61	34	13	1	1	..	46	121	121	156
Re-admitted—	1	1	..	..	25	..	..	26	26	27
Informal admissions	88	131	65	81	1	..	8	212	162	374
Regulated admissions (Sections 18, 19 and 22)	79	123	20	23	..	..	2	146	101	247
Admissions under Hospital Orders	43	23	4	2	..	..	7	54	54	79
Part IV admissions	..	..	..	..	1	..	..	25	1	1
Total Admissions	598	565	198	230	42	9	108	804	946	1,750
Totals on Books and Admissions—All Hospitals	1,841	1,453	781	747	366	333	322	2,533	3,310	5,843
Transferred from Brisbane	..	..	49	64	..	..	11	64	60	124
Transferred from Toowoomba	15	2	..	..	2	2	..	4	17	21
Transferred from Ipswich	2	..	16	8	..	..	11	8	29	37
Transferred from Mosman Hall	2	..	..	..	..	..	..	..	2	2
*Total number under care during the year	1,860	1,455	846	819	368	335	344	2,609	3,418	6,027
Discharged—										
Recovered	9	27	17	6	10	..	12	33	48	81
Relieved	253	292	44	50	5	..	54	342	356	698
Not Improved	25	7	5	46	2	1	2	34	34	88
Informal patients	265	229	134	190	4	3	32	435	435	857
Total Discharges	552	555	200	292	21	4	100	851	873	1,724
Died	82	52	32	26	7	6	16	84	137	221
Total Number Discharged and Died	634	607	232	318	28	10	116	935	1,010	1,945
Transferred to Brisbane	..	..	15	2	2	..	2	2	19	21
Transferred to Toowoomba	49	64	..	..	16	8	..	72	65	137
Transferred to Ipswich	..	..	2	2	..	..	..	2	2	4
Transferred to Mosman Hall	11	..	..	..	11	..	..	..	22	22
Total number discharged, died, &c., during year	694	671	249	322	57	18	118	1,011	1,118	2,129
Remaining on Books of Hospitals on 30th June, 1964	1,166	784	597	497	311	317	226	1,598	2,300	3,898
Average Number Daily Resident	1,044	666	588	477	311	315	209	1,458	2,152	3,610
Number on leave of absence on 30th June, 1964	92	109	21	46	5	5	15	160	133	293
Proportion of number of patients remaining on books to each 1,000 of population as at 30th June, 1964	..	..	..	..	..	..	..	2.85	2.85	2.52
Proportion of Admissions per 10,000 of population for year ended 30th June, 1964	..	..	..	..	..	..	..	11.70	11.70	11.02

* These totals include interhospital transfers.

TABLE LXXV

ADMISSIONS, DISCHARGES, AND DEATHS, WITH THE PROPORTIONS OF RECOVERIES AND DEATHS PER CENT. DURING THE YEAR ENDED 30TH JUNE, 1964

	Brisbane Special Hospital			Toowoomba Special Hospital			Ipswich Special Hospital			Mosman Hall, Charters Towers	Totals		
	Males	Females	Totals	Males	Females	Totals	Males	Females	Totals	Males	Males	Females	Totals
Total Admissions ..	598	565	1,163	198	230	428	42	9	51	108	946	804	1,750
*Discharged—													
Recovered ..	15	31	46	81	92	173	10	..	10	12	118	123	241
Relieved ..	461	497	958	96	145	241	7	..	7	79	643	642	1,285
Not Improved ..	76	27	103	23	55	78	4	4	8	9	112	86	198
Died ..	82	52	134	32	26	58	7	6	13	16	137	84	221
Average Number Daily Resident ..	1,044	666	1,710	588	477	1,065	311	315	626	209	2,152	1,458	3,610
Percentage of Recoveries on Admissions ..	2.51	5.49	3.95	40.91	40.00	40.42	23.81	..	19.61	11.11	12.47	15.3	13.77
Percentage of Patients Relieved on Admissions ..	77.09	87.96	82.37	43.48	63.04	56.30	16.66	..	13.72	73.15	67.97	79.85	73.43
Percentage of Deaths on Average Number Resident ..	7.85	7.80	7.83	5.44	5.45	5.45	2.25	1.90	2.08	7.68	6.37	5.76	6.12

* Informal patients have been included in this Table.

TABLE LXXVI

FORMS OF MENTAL DISORDERS IN PATIENTS ADMITTED DURING THE TWELVE MONTHS ENDED 30TH JUNE, 1964

	Brisbane Special Hospital			Toowoomba Special Hospital			Ipswich Special Hospital			Mosman Hall Charters Towers	Totals		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Males	Females	Totals
300 Schizophrenic disorders—													
300-0 Simple type	61	39	100	12	14	26	13	13	24	110	53	163	
300-1 Hebephrenic type	47	9	56	38	22	60	2	2	4	87	31	118	
300-2 Catatonic type	2	3	5	1	1	2	1	1	2	4	3	7	
300-3 Paranoid type	62	82	144	4	6	10	1	1	2	78	88	166	
300-4 Acute schizophrenic reactions	5	5	10	1	1	2	1	1	2	5	5	10	
300-5 Latent schizophrenia	2	5	7	1	1	2	1	1	2	2	5	7	
300-6 Schizo-affective psychosis	2	10	12	1	1	2	2	2	4	5	11	16	
300-7 Other unspecified	7	64	71	1	1	2	1	1	2	7	64	71	
301 Manic-depressive reaction—													
301-0 Manic and circular	8	11	19	15	14	29	1	1	2	28	25	53	
301-1 Depressive	12	14	26	12	65	77	1	1	2	30	79	109	
301-2 Others	2	2	4	1	1	2	1	1	2	2	2	4	
302 Involutional Melancholia	3	3	6	1	1	2	1	1	2	3	3	6	
303 Paranoia and Paranoid states	8	11	19	3	3	6	1	1	2	11	11	22	
304 Senile Psychosis—65 years of age and over	39	42	81	14	13	27	1	1	2	58	55	113	
305 Pre-senile psychosis	4	3	7	2	4	6	1	1	2	6	7	13	
306 Psychosis with cerebral arterio-sclerosis	7	4	11	1	1	2	1	1	2	11	4	15	
307 Alcoholic psychosis	14	3	17	5	4	9	1	1	2	28	7	35	
308 Psychosis of other demonstrable etiology—													
308-0 Resulting from brain tumour	1	1	2	1	1	2	1	1	2	1	1	2	
308-1 Resulting from epilepsy and other convulsive disorders	2	2	4	1	1	2	1	1	2	2	2	4	
308-2 Other	14	3	17	1	1	2	1	1	2	15	3	18	
309 Other and unspecified psychosis—under 65 years of age	1	3	4	4	2	6	1	1	2	5	5	10	
310 Anxiety reaction without mention of somatic symptoms	13	21	34	5	18	23	1	1	2	18	39	57	
311 Hysterical reaction without mention of anxiety reaction	2	6	8	1	1	2	1	1	2	2	7	9	
312 Phobic reaction	1	2	3	1	1	2	1	1	2	1	2	3	
313 Obsessive compulsive reaction	3	4	7	3	3	6	1	1	2	3	7	10	
314 Neuritic depressive reaction	35	42	77	13	23	36	1	1	2	48	65	113	
315 Psychoneurosis with somatic symptoms affecting circulatory system—													
315-2 Other circulatory manifestations of psychotic origin	1	1	2	1	1	2	1	1	2	1	1	2	
316 Psychoneurosis with somatic symptoms affecting digestive system—													
316-2 Gastric neurosis	1	1	2	1	1	2	1	1	2	1	1	2	
317 Psychoneurosis with somatic symptoms affecting other systems—													
317-0 Psychogenic reactions affecting respiratory system	1	1	2	1	1	2	1	1	2	1	1	2	
317-4 Psychogenic reactions affecting musculoskeletal system	1	1	2	1	1	2	1	1	2	1	1	2	
317-5 Psychogenic reactions affecting other systems	1	2	3	1	1	2	1	1	2	1	2	3	
318 Psychoneurotic disorders, other, mixed and unspecified—													
318-0 Hypochondriac reaction	1	3	4	1	1	2	1	1	2	2	3	5	
318-4 Mixed	4	8	12	1	1	2	1	1	2	4	8	12	
318-5 Other and unspecified types	1	2	3	1	1	2	1	1	2	1	2	3	
320 Pathological personality—													
320-0 Schizoid Personality	1	1	2	1	1	2	1	1	2	1	1	2	
320-1 Paranoid personality	1	1	2	1	1	2	1	1	2	1	1	2	
320-3 Inadequate personality	6	6	12	1	1	2	1	1	2	6	6	12	
320-4 Antisocial personality	4	4	8	4	4	8	1	1	2	9	4	13	
320-5 Asocial personality	2	1	3	4	4	8	1	1	2	6	1	7	
320-6 Sexual deviation	3	3	6	1	1	2	1	1	2	3	3	6	
320-7 Other and unspecified	1	1	2	1	1	2	1	1	2	1	1	2	
321 Immature personality—													
321-0 Emotional instability	1	1	2	7	2	9	1	1	2	8	2	10	
321-1 Passive dependency	1	3	4	1	1	2	1	1	2	1	3	4	
321-4 Other symptomatic habits except speech impediments	1	2	3	1	1	2	1	1	2	1	2	3	
321-5 Other and unspecified	2	2	4	1	1	2	1	1	2	2	2	4	
322 Alcoholism—													
322-0 Acute	1	1	2	1	1	2	1	1	2	5	6	11	
322-1 Chronic	116	39	155	31	18	49	2	2	4	36	185	242	
323 Other drug addiction	11	26	37	6	6	12	1	1	2	11	32	43	
324 Primary childhood behaviour disorders	2	2	4	2	2	4	1	1	2	2	4	6	
325 Mental Deficiency—													
325-0 Idiocy	3	4	7	1	1	2	8	3	11	12	7	19	
325-1 Imbecility	6	10	16	3	3	6	2	5	7	9	18	27	
325-2 Moron	27	15	42	6	1	7	4	4	8	37	16	53	
325-3 Borderline intelligence	1	7	8	1	1	2	1	1	2	7	8	15	
325-4 Mongolism	1	1	2	1	1	2	2	1	3	4	2	6	
325-5 Other and unspecified types	3	1	4	1	1	2	1	1	2	4	1	5	
326 Other and unspecified character, behaviour and intelligence disorders—													
326-4 Other and unspecified	2	2	4	1	1	2	1	1	2	2	2	4	
327 Not yet diagnosed	1	1	2	1	1	2	1	1	2	1	1	2	
353 Epilepsy—													
353-0 Petit mal	1	1	2	1	1	2	1	1	2	1	1	2	
353-1 Grand mal	13	23	36	1	1	2	1	1	2	13	23	36	
353-2 Status epilepticus	1	1	2	1	1	2	1	1	2	1	1	2	
353-3 Other and unspecified	5	4	9	4	4	8	1	1	2	9	8	17	
355 Other diseases of the brain	8	3	11	4	4	8	1	1	2	12	3	15	
760 Birth injury—Intra cranial and spinal injury at birth	1	1	2	1	1	2	1	1	2	1	1	2	
780 Certain symptoms referable to nervous system and special—													
780-2 Convulsions	1	1	2	1	1	2	1	1	2	1	1	2	
780-5 Disturbance of co-ordination	1	1	2	1	1	2	1	1	2	2	2	4	
794 Senility without mention of psychosis	10	11	21	1	1	2	1	1	2	10	12	22	
026 Other syphilis of the nervous system	1	1	2	1	1	2	1	1	2	1	1	2	
Totals	598	565	1,163	198	230	428	42	9	51	108	946	804	1,750

TABLE LXXVII

CAUSES OF DEATHS WHICH OCCURRED DURING PERIOD ENDED 30TH JUNE, 1964

	Brisbane Special Hospital			Toowoomba Special Hospital			Ipswich Special Hospital			Mosman Hall Charters Towers	Totals		
	Males	Fe-males	Total	Males	Fe-males	Total	Males	Fe-males	Total	Males	Males	Fe-males	Totals
<i>Infective and Parasitic Diseases—</i>													
002 Pulmonary Tuberculosis	1	..	1	1	1	2	..	..	..	..	2	1	3
<i>Neoplasms—</i>													
151 Malignant neoplasm of stomach	..	1	1	..	..	..	1	..	1	..	1	1	2
153 Malignant neoplasm of large intestine, except rectum	..	..	..	1	..	1	..	..	..	1	2	..	2
157 Malignant neoplasm of pancreas	1	..	1	..	..	..	..	..	..	1	1	..	1
162 Malignant neoplasm of lung specified as primary	1	..	1	..	..	..	..	..	..	..	1	..	1
163 Malignant neoplasm of lung unspecified as to whether primary or secondary	..	..	..	2	..	2	..	..	..	..	2	..	2
171 Malignant neoplasm of cervix uteri	..	1	1	..	..	..	..	..	..	..	..	1	1
181 Malignant neoplasm of bladder and other urinary organs	1	..	1	..	..	..	..	..	..	..	1	..	1
193 Malignant neoplasm of brain and other parts of nervous system	1	..	1	..	..	..	..	..	..	..	1	..	1
237 Neoplasm of unspecified nature of brain and other parts of nervous system	1	..	1	..	..	..	..	..	..	..	1	..	1
<i>Allergic, Endocrine System, Metabolic and Nutritional Diseases—</i>													
241 Asthma	..	..	..	1	1	2	..	..	..	..	1	1	2
274 Diseases of adrenal glands	1	..	1	..	..	..	..	..	..	..	1	..	1
<i>Diseases of the Blood and Blood Forming Organs—</i>													
290 Pernicious and other hyperchromic anaemias	..	..	..	..	..	..	..	..	..	1	1	..	1
<i>Mental, Psychoneurotic, and Personality Disorders—</i>													
306 Psychosis with cerebral arteriosclerosis	..	2	2	..	..	..	..	..	..	..	..	2	2
<i>Diseases of the Nervous System and Sense Organs—</i>													
331 Cerebral Haemorrhage	3	..	3	..	2	2	..	..	..	..	3	2	5
332 Cerebral embolism and thrombosis	..	3	3	1	1	2	..	..	..	..	1	4	5
334 Other and ill-defined vascular lesions affecting central nervous system	4	..	4	..	..	..	..	..	..	..	4	..	4
351 Cerebral spastic infantile paralysis	2	..	2	..	..	..	..	..	..	..	2	..	2
353 Epilepsy	2	..	2	..	..	..	..	..	..	..	2	..	2
355 Other diseases of the brain	1	..	1	..	..	..	1	1	2	..	2	1	3
<i>Diseases of the Circulatory System—</i>													
411 Diseases of the aortic valve specified as rheumatic	..	1	1	..	..	..	..	..	..	..	..	1	1
420 Arterio-sclerotic heart disease, including coronary diseases	..	..	..	..	..	..	1	2	3	5	6	2	8
(a) Arteriosclerotic disease so defined	5	2	7	..	..	..	..	..	..	..	5	2	7
(b) Heart disease specified as involving coronary arteries	3	2	5	..	..	..	..	..	..	..	3	2	5
422 Other myocardial degeneration	..	7	7	3	1	4	1	1	2	1	5	9	14
(a) Fatty degeneration	5	..	5	1	..	1	..	..	..	..	6	..	6
(b) With arteriosclerosis	1	1	2	3	..	3	..	..	..	..	4	1	5
(c) Other	2	5	7	..	..	..	..	..	..	..	2	5	7
430 Acute and sub-acute endocarditis	..	..	..	1	1	2	..	..	..	..	1	1	2
431 Acute myocarditis not specified as rheumatic	..	..	..	1	2	3	..	..	..	..	1	2	3
434 Other and unspecified diseases of the heart	..	..	..	1	3	4	..	..	..	1	2	3	5
440 Essential benign hypertensive heart disease	1	..	1	1	2	3	..	..	..	..	2	2	4
441 Essential malignant hypertensive heart disease	1	..	1	..	..	..	..	..	..	..	1	..	1
442 Hypertensive heart disease with arteriolar nephrosclerosis	1	..	1	..	..	..	..	..	..	..	1	..	1
447 Other hypertensive disease	1	..	1	..	..	..	..	..	..	..	1	..	1
450 General arteriosclerosis	..	..	..	1	..	1	..	..	..	..	..	1	1
451 Aortic aneurysm, non-syphilitic and dissecting aneurysm	1	..	1	..	..	..	..	..	..	..	1	..	1
454 Arterial embolism and thrombosis	..	1	1	7	2	9	..	..	..	..	7	3	10
465 Pulmonary embolism and infarction	..	1	1	1	1	2	..	..	..	..	1	2	3
<i>Diseases of the Respiratory System—</i>													
490 Lobar pneumonia	3	3	6	..	..	..	1	2	3	4	3	3	6
491 Bronchopneumonia	9	7	16	7	8	15	..	..	..	..	21	17	38
493 Pneumonia, other and unspecified	11	12	23	..	..	..	..	..	..	3	14	12	26
518 Empyema	..	..	..	..	..	..	1	..	1	..	1	..	1
522 Pulmonary congestion and hypostasis	3	1	4	..	..	..	..	..	..	..	3	1	4
527 Other diseases of the lung and pleural cavity (including emphysema without mention of bronchitis)	1	..	1	..	..	..	..	..	..	..	1	..	1
<i>Diseases of the Digestive System—</i>													
540 Ulcer of stomach	1	..	1	..	..	..	..	..	..	..	1	..	1
541 Ulcer of duodenum	1	..	1	..	..	..	..	..	..	..	1	..	1
570 Internal obstruction without mention of hernia	..	..	..	1	..	1	..	..	..	..	1	..	1
576 Peritonitis	1	..	1	..	..	..	..	..	..	..	1	..	1
578 Other diseases of intestine and peritoneum	1	..	1	..	..	..	..	..	..	..	1	..	1
580 Acute and sub-acute yellow atrophy of liver	1	..	1	..	..	..	..	..	..	..	1	..	1
<i>Diseases of the Genito-Urinary System—</i>													
600 Infections of kidney	1	1	2	..	..	..	..	..	..	..	1	1	2
<i>Congenital Malformations—</i>													
752 Congenital hydrocephalus	..	..	..	..	..	..	1	..	1	..	1	..	1
<i>Symptoms, Senility and Ill-defined Conditions—</i>													
782 Symptoms referable to cardio-vascular and lymphatic system	2	..	2	..	..	..	..	..	..	..	2	..	2
794 Senility without mention of psychosis	2	..	2	..	..	..	..	..	..	..	2	..	2
<i>Accidents, Poisoning and Violence—</i>													
878 Accidental poisoning by other and unspecified drugs	..	1	1	..	..	..	..	..	..	..	..	1	1
921 Inhalation and ingestion of food causing obstruction or suffocation	1	..	1	..	..	..	..	..	..	..	1	..	1
976 Suicide and self-inflicted injury by firearms and explosives	1	..	1	..	..	..	..	..	..	..	1	..	1
Not determined	3	..	3	..	..	..	..	..	..	..	3	..	3
Totals	82	52	134	32	26	58	7	6	13	16	137	84	221

TABLE LXXVIII

BODILY HEALTH AND CONDITION OF PATIENTS ADMITTED DURING THE YEAR ENDED 30TH JUNE, 1964

	Brisbane Special Hospital			Toowoomba Special Hospital			Ipswich Special Hospital			Mosman Hall Charters Towers	Totals		
	Males	Fe-males	Totals	Males	Fe-males	Totals	Males	Fe-males	Totals	Males	Males	Fe-males	Totals
In apparently good health and condition	362	382	744	115	129	244	35	9	44	56	568	520	1,088
In indifferent health and reduced condition	203	162	365	61	75	136	6	..	6	46	316	237	553
In bad health and exhausted condition	33	21	54	22	26	48	1	..	1	6	62	47	109
Totals	598	565	1,163	198	230	428	42	9	51	108	946	804	1,750

TABLE LXXIX
BIRTH PLACES OF PATIENTS ADMITTED DURING PERIOD ENDED 30TH JUNE, 1964

	Brisbane Special Hospital			Toowoomba Special Hospital			Ipswich Special Hospital			Mosman Hall, Charters Towers	Totals		
	Males	Fe-males	Totals	Males	Fe-males	Totals	Males	Fe-males	Totals	Males	Males	Fe-males	Totals
Queensland	318	364	682	141	165	306	24	7	31	44	527	536	1,063
Other Australian States—													
New South Wales	76	77	153	25	33	58	6	..	6	14	121	110	231
Victoria	24	23	47	6	8	14	2	..	2	6	38	31	69
South Australia	6	4	10	3	1	4	1	..	1	2	12	5	17
Western Australia	..	..	..	..	..	..	..	..	..	2	2	..	2
Tasmania	5	2	7	2	2	4	2	..	2	1	10	4	14
Northern Territory	..	1	1	..	..	..	..	..	..	..	..	1	1
Total Australia	429	471	900	177	209	386	35	7	42	69	710	687	1,397
New Zealand	5	5	10	4	1	5	..	..	..	1	10	6	16
Pacific Islands and New Guinea	2	..	2	..	..	..	..	..	..	..	2	..	2
Great Britain and Ireland	58	38	96	9	13	22	1	..	1	11	79	51	130
Europe (other)	47	38	85	5	3	8	6	..	6	20	78	41	119
Asia—													
China	..	..	..	..	..	..	..	..	..	..	..	..	..
India, Pakistan, Ceylon	..	1	1	..	..	..	..	..	..	..	1	1	2
Other	..	..	..	..	2	2	..	..	..	1	1	2	3
North America	3	2	5	2	..	2	..	..	..	2	7	2	9
Africa (South)	2	..	2	..	..	..	..	..	..	1	3	..	3
Unknown	52	10	62	1	2	3	..	2	2	3	56	14	70
Totals	598	565	1,163	198	230	428	42	9	51	108	946	804	1,750

TABLE LXXX
DISTRICTS WHENCE PATIENTS WERE RECEIVED DURING THE YEAR ENDED 30TH JUNE, 1964

	Brisbane Special Hospital			Toowoomba Special Hospital			Ipswich Special Hospital			Mosman Hall, Charters Towers	Totals		
	Males	Fe- males	Totals	Males	Fe- males	Totals	Males	Fe- males	Totals		Males	Fe- males	Totals
Northern and North- Western	10	15	25	..	1	1	13	2	15	106	129	18	147
Central	46	11	57	..	3	3	1	..	1	1	48	14	62
Southern and South- Western	542	539	1,081	198	226	424	28	7	35	1	769	772	1,541
Totals ..	598	565	1,163	198	230	428	42	9	51	108	946	804	1,750

TABLE LXXXI
GENERAL CLASSIFICATION OF OCCUPATIONS OF PATIENTS ADMITTED DURING THE YEAR ENDED 30TH JUNE, 1964

Occupations	Brisbane Special Hospital			Toowoomba Special Hospital			Ipswich Special Hospital			Mosman Hall, Charters Towers	Totals			
	Males	Fe- males	Totals	Males	Fe- males	Totals	Males	Fe- males	Totals		Males	Fe- males	Totals	
Rural Industries ..	21	..	21	40	..	40	6	..	6	21	88	..	88	
Secondary Industries, Trades, &c.—														
Building Con- struction ..	29	..	29	5	..	5	1	..	1	4	39	..	39	
Machinery and Electrical ..	15	..	15	19	..	19	4	..	4	8	46	..	46	
Foodstuffs, Meat, &c.	20	9	29	8	..	8	2	..	2	2	32	9	41	
Clothing, Retail, &c.	3	5	8	..	..	..	1	..	1	1	5	5	10	
Mining	1	..	1	..	..	..	1	..	1	1	3	..	3	
Transport	10	..	10	9	..	9	..	..	..	3	22	..	22	
Clerical	20	20	40	10	4	14	..	..	..	6	36	24	60	
Domestic Employ- ment	..	319	319	..	179	179	..	..	..	..	..	498	498	
Private Employ- ment	..	..	..	..	..	..	..	..	..	4	4	..	4	
Miscellaneous Em- ployment ..	212	12	224	51	..	51	11	..	11	26	300	12	312	
No Occupation, and Pensioners ..	234	178	412	49	38	87	1	..	1	28	312	216	528	
Professions	12	17	29	1	5	6	..	..	..	1	14	22	36	
Children	21	5	26	5	4	9	15	9	24	1	42	18	60	
Unknown	..	..	..	1	..	1	..	..	..	2	3	..	3	
Totals	598	565	1,163	198	230	428	42	9	51	108	946	804	1,750	

TABLE LXXXII

AGE GROUPS OF PATIENTS WHOSE ADMISSIONS, DISCHARGES OR DEATHS OCCURRED DURING THE YEAR AND THOSE WHO REMAINED ON BOOKS OF HOSPITAL ON 30TH JUNE, 1964

BRISBANE SPECIAL HOSPITAL

Age Group	Admissions			Discharges*									Deaths			Remaining		
				Recovered			Relieved and Not Improved											
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.			
5 years and under 10 years	11	2	13	..	..	..	2	1	3	..	..	..	29	27	56			
10 years and under 15 years	8	5	13	..	..	..	8	2	10	..	..	..	62	36	98			
15 years and under 20 years	35	26	61	..	4	4	33	33	66	1	..	..	66	52	118			
20 years and under 25 years	43	32	75	..	1	1	47	34	81	..	..	..	64	33	97			
25 years and under 30 years	38	40	78	2	..	2	36	38	74	2	..	..	59	34	93			
30 years and under 35 years	58	58	116	..	2	2	52	61	113	1	1	2	89	40	129			
35 years and under 40 years	65	55	120	1	6	7	77	51	128	4	3	7	98	56	154			
40 years and under 45 years	83	80	163	4	6	10	74	87	161	4	3	7	125	97	222			
45 years and under 50 years	64	65	129	3	6	9	59	60	119	6	3	9	141	94	235			
50 years and under 55 years	48	55	103	2	..	2	41	48	89	5	2	7	118	87	205			
55 years and under 60 years	37	43	80	..	3	3	24	36	60	11	2	13	119	77	196			
60 years and under 65 years	30	24	54	1	2	3	27	24	51	8	5	13	90	54	144			
65 years and under 70 years	16	27	43	2	1	3	18	16	34	7	8	15	48	34	82			
70 years and under 75 years	13	21	34	..	..	..	15	14	29	11	7	18	29	22	51			
75 years and under 80 years	17	14	31	..	..	..	12	5	17	10	5	15	14	23	37			
80 years and under 85 years	8	11	19	..	..	..	2	7	9	7	11	18	8	9	17			
85 years and under 90 years	3	4	7	..	..	..	3	6	9	4	1	5	5	5	10			
90 years and under 95 years	2	2	4	..	..	..	..	1	1	1	1	2	2	3	5			
95 years and under 100 years	..	1	1	..	..	..	..	..	..	..	..	..	..	1	2			
Not known	19	..	19	..	..	..	7	..	7	..	..	..	5	..	5			
Totals	598	565	1,163	15	31	46	537	524	1,061	82	52	134	1,166	784	1,950			

TOOWOOMBA SPECIAL HOSPITAL

5 years and under 10 years	1		1				1		1							4	3	7
10 years and under 15 years	4	4	8				3	1	4							11	11	22
15 years and under 20 years	6	3	9				5	1	6							17	16	33
20 years and under 25 years	15	16	31				13	8	21							20	15	35
25 years and under 30 years	18	31	49				18	9	27							34	20	54
30 years and under 35 years	20	24	44				19	11	30							35	35	70
35 years and under 40 years	18	21	39				17	7	24							44	45	89
40 years and under 45 years	20	29	49				20	13	33							50	57	107
45 years and under 50 years	26	22	48				22	17	39							67	51	118
50 years and under 55 years	20	22	42				18	8	26							80	78	158
55 years and under 60 years	9	27	36				6	17	23							84	76	160
60 years and under 65 years	17	18	35				11	9	20							65	38	103
65 years and under 70 years	7	14	21				4	6	10							32	24	56
70 years and under 75 years	9	7	16				3	7	10							29	10	39
75 years and under 80 years	4	6	10				2	3	5							17	12	29
80 years and under 85 years	2	3	5					5	5							4	5	9
85 years and under 90 years	2	1	3					1	2							1	1	2
90 years and under 95 years								1	1							1	1	2
Unknown																2		2
Totals	198	230	428	81	92	173	119	200	319	32	26	58	597	497	1,094			

IPSWICH SPECIAL HOSPITAL

Under 5 years	5	5	10				2		2				2	2		5	10	15
5 years and under 10 years	8	4	12				1		1				1	1		34	16	50
10 years and under 15 years	2	2	4													23	20	43
15 years and under 20 years	6		6				3		3							23	27	50
20 years and under 25 years	5		5				2		2							21	24	45
25 years and under 30 years	5		5				3		3							14	18	32
30 years and under 35 years	5		5				3		3							21	17	38
35 years and under 40 years	2		2				1		1							13	27	40
40 years and under 45 years																15	26	41
45 years and under 50 years	3		3				1		1				1	1		22	32	54
50 years and under 55 years	1		1										2	2		22	23	45
55 years and under 60 years	2		2													21	18	39
60 years and under 65 years													1	1		17	17	34
65 years and under 70 years	1		1				1		1							13	13	26
70 years and under 75 years													1	1		8	5	13
75 years and under 80 years																4	3	7
80 years and under 85 years													1	1		1	1	2
85 years and under 90 years																		
90 years and under 95 years																		
Totals	42	9	51	10		10	11	4	15	7	6	13	311	317	628			

MOSMAN HALL, CHARTERS TOWERS

5 years and under 10 years																1		1
10 years and under 15 years																8		8
15 years and under 20 years																3		3
20 years and under 25 years																14		14
25 years and under 30 years																12		12
30 years and under 35 years																23		23
35 years and under 40 years																26		26
40 years and under 45 years																22		22
45 years and under 50 years																26		26
50 years and under 55 years																37		37
55 years and under 60 years																20		20
60 years and under 65 years																12		12
65 years and under 70 years																9		9
70 years and under 75 years																7		7
75 years and under 80 years																5		5
80 years and under 85 years																		
85 years and under 90 years																		
90 years and under 95 years																		
Totals	108		108	12		12	88		88	16		16	226		226			

* Informal patients have been included in this Table.

TABLE LXXXIII

MARITAL STATUS OF PATIENTS WHOSE ADMISSIONS, DISCHARGES AND DEATHS OCCURRED DURING THE YEAR
AND OF PATIENTS WHO REMAINED IN HOSPITAL ON 30TH JUNE, 1964

Marital Status	Admissions			Discharges*						Deaths			Remaining		
				Recovered			Relieved and not Improved								
	Males	Fe- males	Total	Males	Fe- males	Total	Males	Fe- males	Total	Males	Fe- males	Total	Males	Fe- males	Total
BRISBANE SPECIAL HOSPITAL															
Single	286	156	442	7	7	14	295	154	449	33	11	44	876	423	1,299
Married	225	291	516	7	19	26	181	278	459	30	19	49	233	244	477
Widowed	25	97	122	..	4	4	18	75	93	10	22	32	28	97	125
Divorced	18	21	39	1	1	2	21	17	38	2	..	2	13	20	33
Unknown	44	..	44	..	..	..	22	..	22	7	..	7	16	..	16
Totals, Brisbane Special Hospital	598	565	1,163	15	31	46	537	524	1,061	82	52	134	1,166	784	1,950
TOOWOOMBA SPECIAL HOSPITAL															
Single	93	44	137	32	15	47	70	62	132	18	13	31	506	309	815
Married	94	151	245	43	64	107	42	111	153	10	7	17	62	152	214
Widowed	8	27	35	3	11	14	6	21	27	1	5	6	11	19	30
Divorced	3	8	11	3	2	5	1	6	7	3	1	4	6	13	19
Unknown	..	..	..	..	..	..	..	..	..	..	..	..	12	4	16
Totals, Toowoomba Special Hospital	198	230	428	81	92	173	119	200	319	32	26	58	597	497	1,094
IPSWICH SPECIAL HOSPITAL															
Single	38	9	47	9	..	9	11	4	15	7	5	12	273	241	514
Married	2	..	2	1	..	1	..	..	..	..	1	1	23	43	66
Widowed	1	..	1	..	..	..	..	..	..	..	..	..	6	20	26
Separated	..	..	..	..	..	..	..	..	..	..	..	..	1	3	4
Divorced	1	..	1	..	..	..	..	..	..	..	..	..	4	9	13
Unknown	..	..	..	..	..	..	..	..	..	..	..	..	4	1	5
Totals, Ipswich Special Hospital	42	9	51	10	..	10	11	4	15	7	6	13	311	317	628
MOSMAN HALL															
Single	65	..	65	5	..	5	60	..	60	10	..	10	164	..	164
Married	30	..	30	4	..	4	20	..	20	5	..	5	40	..	40
Widowed	6	..	6	2	..	2	4	..	4	..	..	..	9	..	9
Divorced	4	..	4	1	..	1	3	..	3	..	..	..	4	..	4
Unknown	3	..	3	..	..	..	1	..	1	1	..	1	9	..	9
Totals, Mosman Hall, Charters Towers	108	..	108	12	..	12	88	..	88	16	..	16	226	..	226
Grand Totals, all Hospitals	946	804	1,750	118	123	241	755	728	1,483	137	84	221	2,300	1,598	3,898

* Informal patients have been included in this Table.

TABLE LXXXIV

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, 1964

	Discharges*						Deaths			Remaining		
	Recovered			Relieved and not Improved								
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
BRISBANE SPECIAL HOSPITAL												
Under 1 month	3	4	7	125	88	213	19	6	25	46	48	94
1 month and under 3 months	2	14	16	159	203	362	8	11	19	104	81	185
3 months and under 6 months	5	7	12	79	79	158	9	10	19	74	87	161
6 months and under 9 months	1	3	4	32	41	73	2	5	7	57	55	112
9 months and under 12 months	3	1	4	19	30	49	4	2	6	31	27	58
1 year and under 2 years	..	2	2	53	37	90	10	8	18	103	99	202
2 years and under 3 years	..	..	..	20	13	33	5	2	7	69	44	113
3 years and under 5 years	..	..	..	18	16	34	3	4	7	119	105	224
5 years and under 7 years	1	..	1	10	4	14	3	1	4	101	29	130
7 years and under 10 years	..	..	..	9	2	11	6	..	6	96	38	134
10 years and under 12 years	..	..	..	3	2	5	2	..	2	69	22	91
12 years and under 15 years	..	..	..	4	..	4	3	1	4	75	42	117
15 years and under 20 years	..	..	..	3	3	6	4	..	4	80	42	122
20 years and over	..	..	..	3	6	9	4	2	6	142	65	207
Totals, Brisbane Special Hospital ..	15	31	46	537	524	1,061	82	52	134	1,166	784	1,950
TOOWOOMBA SPECIAL HOSPITAL												
Under 1 month	25	22	47	38	28	66	5	5	10	12	16	28
1 month and under 3 months	33	34	67	18	42	60	5	..	5	17	22	39
3 months and under 6 months	11	21	32	14	30	44	2	1	3	12	22	34
6 months and under 9 months	5	7	12	6	6	12	1	..	1	11	3	14
9 months and under 12 months	2	1	3	2	5	7	..	..	..	12	3	15
1 year and under 2 years	1	5	6	8	10	18	2	..	2	8	11	19
2 years and under 3 years	2	..	2	..	4	4	1	..	1	9	16	25
3 years and under 5 years	2	2	4	4	8	12	3	2	5	34	29	63
5 years and under 7 years	..	..	..	1	8	9	1	..	1	30	31	61
7 years and under 10 years	..	..	..	4	3	7	2	2	4	41	50	91
10 years and under 12 years	..	..	..	..	4	4	2	4	6	33	21	54
12 years and under 15 years	..	..	..	3	5	8	1	1	2	52	34	86
15 years and under 20 years	..	..	..	3	6	9	..	1	1	80	62	142
20 years and over	..	..	..	18	41	59	7	10	17	246	177	423
Totals, Toowoomba Special Hospital	81	92	173	119	200	319	32	26	58	597	497	1,094
IPSWICH SPECIAL HOSPITAL												
Under 1 month	..	..	..	2	1	3	..	..	..	2	2	4
1 month and under 3 months	1	..	1	..	..	..	..	..	..	12	3	15
3 months and under 6 months	..	..	..	2	..	2	..	..	..	10	2	12
6 months and under 9 months	3	..	3	1	1	2	..	..	..	6	2	8
9 months and under 12 months	1	..	1	..	..	..	..	1	1	6	..	6
1 year and under 2 years	3	..	3	3	2	5	..	2	2	26	51	77
2 years and under 3 years	1	..	1	1	..	1	..	..	..	14	14	28
3 years and under 5 years	..	..	..	2	..	2	2	..	2	28	98	126
5 years and under 7 years	..	..	..	..	..	..	1	..	1	26	18	44
7 years and under 10 years	1	..	1	..	..	..	..	..	..	25	17	42
10 years and under 12 years	..	..	..	..	..	..	..	1	1	28	14	42
12 years and under 15 years	..	..	..	..	..	..	1	..	1	24	16	40
15 years and under 20 years	..	..	..	..	..	..	..	1	1	30	24	54
20 years and over	..	..	..	..	..	..	3	1	4	74	56	130
Totals, Ipswich Special Hospital ..	10	..	10	11	4	15	7	6	13	311	317	628
MOSMAN HALL												
Under 1 month	6	..	6	22	..	22	2	..	2	9	..	9
1 month and under 3 months	1	..	1	33	..	33	..	..	..	6	..	6
3 months and under 6 months	1	..	1	6	..	6	1	..	1	7	..	7
6 months and under 9 months	..	..	..	9	..	9	..	..	..	10	..	10
9 months and under 12 months	..	..	..	2	..	2	1	..	1	6	..	6
1 year and under 2 years	2	..	2	4	..	4	5	..	5	22	..	22
2 years and under 3 years	1	..	1	5	..	5	1	..	1	11	..	11
3 years and under 5 years	1	..	1	2	..	2	2	..	2	18	..	18
5 years and under 7 years	..	..	..	3	..	3	2	..	2	28	..	28
7 years and under 10 years	..	..	..	..	..	..	..	..	..	34	..	34
10 years and under 12 years	..	..	..	..	..	..	..	..	..	17	..	17
12 years and under 20 years	..	..	..	2	..	2	2	..	2	26	..	26
20 years and over	..	..	..	..	..	..	..	..	..	32	..	32
Totals, Mosman Hall, Charters Towers ..	12	..	12	88	..	88	16	..	16	226	..	226
Grand Totals, all Hospitals	118	123	241	755	728	1,483	137	84	221	2,300	1,598	3,898

* Informal patients have been included in this Table.

TABLE LXXXV

SHOWING ADMISSIONS, DISCHARGES, AND DEATHS AT THE WACOL REPATRIATION PAVILION DURING THE YEAR ENDED 30TH JUNE, 1964

Total number of patients on books as at 30th June, 1963	110	Total number of patients on books as at 30th June, 1964	99
Transferred from Brisbane Special Hospital	50	Total number of patients on leave as at 30th June, 1964	9
Transferred from Toowoomba Special Hospital	3	Total number of patients absent without leave as at 30th June, 1964	1
	163	Total number of patients in residence as at 30th June, 1964	89
Discharged, not improved	2	Average number of patients daily resident	94
Discharged, recovered	3		
Discharged, relieved	28		
Informal patients left	1		
Died	7		
Transferred to Brisbane Special Hospital	23		
	64		

TABLE LXXXVI

EXPENDITURE TABLE FOR THE FINANCIAL YEAR ENDED 30TH JUNE, 1964

	Brisbane Special Hospital	Toowoomba Special Hospital	Ipswich Special Hospital	Mosman Hall, Charters Towers	Total and Average Costs
Average Number Daily Resident	1,710	1,065	626	209	3,610
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Total Expenditure	1,324,072 14 6	609,257 8 4	473,039 0 5	179,696 19 2	2,586,066 2 5
Sales	7,881 8 11	1,086 18 9	1,985 18 10	719 13 4	11,673 19 10
Collections	90,272 14 5	6,183 1 11	887 6 0	263 10 10	97,606 13 2
Net Expenditure	1,225,918 11 2	601,987 7 8	470,165 15 7	178,713 15 0	2,476,785 9 5
					Average Costs
Gross Cost per Patient per annum	774 6 3	572 1 3	755 13 1	859 15 11	716 7 5
Net Cost per Patient per annum	716 18 3	565 4 11	751 1 4	855 18 0	686 18 0
Gross Cost per Patient per week	14 16 2	10 18 10	14 9 1	16 8 11	13 14 0
Net Cost per Patient per week	13 14 3	10 16 3	14 7 3	16 7 1	13 2 5

TABLE LXXXVII

DEPARTMENT OF WORKS (STATE)

STATEMENT SHOWING EXPENDITURE BY THE DEPARTMENT OF WORKS (STATE) AT SPECIAL HOSPITALS AND THE EPILEPTIC HOME DURING THE FINANCIAL YEAR 1963-64

Place	Expenditure 1963-64		
	Revenue Fund	Loan Fund	Total
	£ s. d.	£ s. d.	£ s. d.
<i>Special Hospitals—</i>			
Brisbane (excluding Expenditure at the Repatriation Hospital),			
Goodna	39,126 13 2	19,428 12 11	58,555 6 1
Mosman Hall, Charters Towers	3,658 0 7	522 11 8	4,180 12 3
Ipswich	6,671 10 2	6,107 0 3	12,778 10 5
Toowoomba	4,359 17 10	26,811 8 2	31,171 6 0
<i>Epileptic Home—</i>			
Toowoomba	1,219 11 9	1,747 18 0	2,967 9 9
Totals	£55,035 13 6	£54,617 11 0	£109,653 4 6

DETAILS OF EXPENDITURE ON MAJOR WORKS

		Special Hospitals	Expenditure 1963-64
			£ s. d.
Brisbane	Renovation of Buildings—Male Wards 9 and 10		10,442 16 4
	Repairs and Painting—Female Wards 3, 4, 11 and 12		6,994 10 3
	Alterations and Improvements—Male Ward 14		4,611 13 4
	Repairs and internal repainting—Female Wards 3 and 4		4,498 13 2
	Repairs and Repainting Female Ward 10		3,281 13 5
Charters Towers	Resealing Existing Roads		3,175 0 0
Ipswich	Provision of Gardener's Shed and Storeroom		2,215 11 6
	Provision of new Roof and Gutters		2,173 7 9
Toowoomba	Erection of T.B. Ward		5,779 5 10
	Provision of Low Voltage Reticulation		4,927 1 4
	Repairs and repainting Various Wards		3,210 6 4
	Provision of Dressing Room, &c., Ward E and partitions, &c., Ward 5		2,793 7 7
	Construction of Retaining Walls		2,077 17 11
	Shelter Shed—Female Ward 1		1,551 5 0

TABLE LXXXVIII

PSYCHIATRIC CLINIC

1. SUMMARY OF NEW PATIENTS REGISTERED DURING THE YEAR 1963-1964

	Under 18		18-19		20-29		30-39		40-49		50-59		60 and Over		Total		Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
300 <i>Schizophrenic disorders—</i>																	
300-0 Simple type	1	1	..	3	6	1	4	3	..	..	..	..	..	..	11	8	19
300-1 Hebephrenic type	1	..	..	..	4	1	1	1	1	2	..	2	..	..	7	6	13
300-2 Catatonic type	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1
300-3 Paranoid type	..	1	1	1	3	2	4	7	7	15	1	2	1	1	17	29	46
300-4 Acute schizophrenic reaction	..	..	..	..	1	1	..	..	1	..	..	..	..	..	2	1	3
300-5 Latent schizophrenia	..	..	3	..	3	5	..	4	2	3	..	1	..	..	8	13	21
300-6 Schizo-affective psychosis	..	..	1	..	1	1	..	2	1	2	..	..	1	..	3	6	9
300-7 Other and unspecified	..	..	1	..	1	3	..	5	1	1	..	..	..	..	3	9	12
301 <i>Manic-depressive reaction—</i>																	
301-0 Manic and circular	..	..	..	..	1	..	1	..	1	..	..	..	..	..	2	1	3
301-1 Depressive	..	..	..	..	..	..	..	..	..	1	..	1	..	..	2	..	2
302 <i>Involitional melancholia</i>	..	..	..	..	..	..	..	..	2	..	1	..	..	..	..	3	3
303 <i>Paranoia and paranoid states</i>	..	..	..	..	1	..	1	2	..	..	2	1	..	..	3	4	7
304 <i>Senile psychosis</i>	..	..	..	..	..	..	..	..	1	..	..	2	..	..	1	2	3
306 <i>Psychosis with cerebral arteriosclerosis</i>	..	..	..	..	..	..	..	..	..	2	..	2	..	..	2	..	2
307 <i>Alcoholic psychosis</i>	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	1	2
308 <i>Psychosis of other demonstrable etiology—</i>																	
308-1 Resulting from epilepsy and other convulsive disorders	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
308-2 Other	..	..	..	..	..	..	1	..	..	..	1	..	..	1	2	1	3
301 <i>Anxiety reaction without mention of somatic symptoms</i>	1	1	4	10	1	12	3	14	8	16	4	2	1	2	22	57	79
311 <i>Hysterical reaction without mention of anxiety reaction</i>	..	1	..	..	1	..	2	..	2	2	1	..	1	2	8	8	10
313 <i>Obsessive-compulsive reaction</i>	..	..	1	..	2	1	..	..	3	2	..	..	..	4	5	9	9
314 <i>Neurotic-depressive reaction</i>	..	3	..	3	4	13	7	16	8	13	6	10	1	10	26	68	94
315 <i>Psychoneurosis with somatic symptoms affecting circulatory system—</i>																	
315-0 Neurocirculatory asthenia	..	..	..	..	1	..	1	..	..	..	..	..	..	..	1	1	2
315-2 Other	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1
317 <i>Psychoneurosis with somatic symptoms affecting other systems—</i>																	
317-1 Psychogenic reactions affecting genito-urinary system	..	..	..	..	..	..	1	..	1	..	1	..	..	..	..	3	3
317-2 Pruritus of psychogenic origin	..	..	..	..	1	..	..	1	..	..	..	..	..	..	2	..	2
317-4 Psychogenic reactions affecting musculoskeletal system	..	..	1	..	..	..	..	..	1	..	..	..	..	..	1	1	2
318 <i>Psychoneurotic disorders, other, mixed and unspecified—</i>																	
318-0 Hypochondriacal reaction	..	..	..	..	..	..	..	1	1	..	..	..	..	..	1	1	2
318-3 Asthenic reaction	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	1
318-4 Mixed	..	..	..	..	1	1	..	2	..	4	..	..	..	..	1	7	8
320 <i>Pathological personality—</i>																	
320-0 Schizoid personality	3	..	4	1	1	2	1	..	..	..	..	..	..	..	9	3	12
320-1 Paranoid personality	..	..	..	..	2	1	1	..	..	..	..	..	..	..	3	1	4
320-3 Inadequate personality	..	..	..	..	4	..	1	1	..	..	..	..	..	..	5	1	6
320-4 Antisocial personality	2	1	1	..	4	1	1	..	..	..	..	..	..	..	8	2	10
320-5 Asocial personality	1	..	..	..	..	1	..	1	..	..	..	..	..	..	3	..	3
320-6 Sexual deviation	..	..	1	..	2	1	3	..	1	..	1	..	..	..	8	1	9
320-7 Other and unspecified	1	..	..	..	7	1	3	3	2	..	..	..	..	..	13	4	17
321 <i>Immature personality—</i>																	
321-0 Emotional instability	..	5	..	1	..	..	1	..	1	..	..	..	..	..	1	7	8
321-1 Passive dependency	..	..	..	1	..	1	1	1	2	3	1	..	..	..	6	6	12
321-2 Aggressiveness	..	1	2	..	1	..	..	1	..	..	..	..	..	..	3	2	5
321-5 Other and unspecified	1	..	..	1	3	3	2	1	2	..	..	1	..	..	9	5	14
322 <i>Alcoholism—</i>																	
322-1 Chronic	..	..	..	..	1	..	9	1	14	3	9	1	1	..	34	5	39
322-2 Unspecified	..	..	..	..	..	..	3	..	9	..	7	..	..	..	19	..	19
323 <i>Other drug addiction</i>	..	..	..	..	2	..	..	1	2	1	..	..	..	..	2	4	6
324 <i>Primary childhood behaviour disorder</i>	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3
325 <i>Mental deficiency—</i>																	
325-2 Moron	3	3	2	1	4	..	1	2	..	..	1	1	..	..	11	7	18
325-3 Borderline intelligence	4	3	1	..	3	..	1	..	2	..	1	..	..	..	9	6	15
326 <i>Other and unspecified character, behaviour and intelligence disorders—</i>																	
326-3 Acute situational maladjustment	1	..	..	..	1	..	1	1	..	..	..	..	..	..	1	3	4
326-4 Other and unspecified	1	..	..	..	1	1	..	..	..	..	..	..	..	..	2	1	3
334 <i>Cerebral palsy</i>	..	..	..	..	..	..	1	..	1	..	..	..	..	..	2	..	2

TABLE LXXXVIII—continued

	Under 18		18-19		20-29		30-39		40-49		50-59		60 and Over		Total		Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
353 <i>Epilepsy</i> —																	
353-0 Petit mal						1	1	1							1	2	3
353-1 Grand mal			1		2											3	3
353-3 Other and unspecified					1	3									1	3	4
355 Other diseases of the brain					1	1									1	1	2
760b Organic brain condition	1														1		1
780 Convulsions											1				1		1
Stammer	1		5	1	4	1									10	2	12
Aphasia													1	2	1	2	3
Dysarthria			1	1	1	1									2	1	3
Dysphonia					1	1			1				1		2	2	4
Hyperrhinophonia			1	1											2		2
Laryngectomy									1						1		1
No psychiatric abnormality	5	2	1	2	2		1	1							11	5	16
Not yet diagnosed		2	1	3	2	4	2	3	1		2	1			8	13	21
Totals	27	29	31	30	72	72	58	75	72	79	45	27	11	20	316	332	648

SOURCES OF REFERRAL OF PATIENTS TO PSYCHIATRIC CLINIC, YEAR ENDED 30TH JUNE, 1964

	Male	Female	Total
Self referrals	64	86	150
Special Hospitals—			
Ex and on leave	56	105	161
In-patients	22	9	31
Medical Practitioners—			
Psychiatrists	10	17	27
Others	16	32	48
Commonwealth Departments	7	1	8
State Departments—			
Health	15	23	38
Youth Welfare and Guidance	8	25	33
Marburg Home	47		47
Justice	52	4	56
Other	2	4	6
Public Hospitals	4	19	23
Other	13	7	20
Totals	316	332	648

TABLE LXXXIX

PSYCHIATRIC CLINIC

2. SUMMARY OF PATIENTS CONTINUING IN TREATMENT FROM THE PREVIOUS YEAR, 1962-1963, INTO THE CURRENT YEAR, 1963-1964

	Under 18		18-19		20-29		30-39		40-49		50-59		60 and Over		Total		Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
300 <i>Schizophrenic disorders</i> —																	
300-0 Simple type			1		4	6	3	4	1	4	4	2	1	13	17		30
300-1 Hebephrenic type		1			2	4	2	4	4	9	3	10	10	11	38		49
300-2 Catatonic type							2	1						2	1		3
300-3 Paranoid type			1		6	1	17	11	15	24	7	12	4	50	50		100
300-4 Acute schizophrenic reaction		2			4		1	4		2		3		5	11		16
300-5 Latent schizophrenia	1				1	1	4	7	1	4	1	1		8	13		21
300-6 Schizo-affective psychosis					1		1	3	2	2		1		1	4	7	11
300-7 Other and unspecified					1		2	3	1	7	2	3		1	6	14	20
301 <i>Manic-depressive reaction</i> —																	
301-0 Manic and circular							1		1	1	5	2	1	4	7		11
301-1 Depressive							2	1	1	3	6	9	4	10	13	23	36
301-2 Other											1	1	1	1	1	2	3
302 Involutional melancholia									1	2		1		9	1	12	13
303 Paranoia and paranoid states									1	3	1	1		1	2	5	7
304 Senile psychosis													3	7	3	7	10
305 Presenile psychosis													2		2		2
306 Psychosis with cerebral arteriosclerosis									1				1		2		2
307 Alcoholic psychosis											1		1		2		2
308 <i>Psychosis of other demonstrable etiology</i> —																	
308-1 Resulting from epilepsy and other convulsive disorders					1	1		1						2	1		3
308-2 Other					1				1					1			1
309 Other and unspecified psychoses									1		1	2		2	2		4
310 Anxiety reaction without mention of somatic symptoms		1			2	5	12	3	6	5	5	1	2	14	28		42
311 Hysterical reaction without mention of anxiety reaction							2		8		2		1		13		13
312 Phobic reaction									1		1			2			2
313 Obsessive-compulsive reaction					1	2	2	2	1	2	1		1	5	5		10
314 Neurotic-depressive reaction					1	3	4	20	3	22	5	23	5	12	18	80	98

TABLE LXXXIX—continued

	Under 18		18-19		20-29		30-39		40-49		50-59		60 and Over		Total		Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
316 <i>Psychoneurosis with somatic symptoms affecting digestive system—</i>																	
316-1 Irritability of colon specified as of psychogenic origin				1											1		1
316-2 Gastric neuroses									1				1		2		2
316-3 Other digestive manifestations							2			1					1	2	3
317 <i>Psychoneurosis with somatic symptoms affecting other systems—</i>																	
317-0 Psychogenic reactions affecting respiratory system								1							1		1
317-1 Psychogenic reactions affecting genito-urinary system									1						1		1
317-2 Pruritus of psychogenic origin					1										1		1
317-3 Other cutaneous neuroses							1				1				2		2
317-4 Psychogenic reactions affecting musculoskeletal system							1								1		1
317-5 Psychogenic reactions affecting other systems							1		3	1	1		1	1	6		7
318 <i>Psychoneurotic disorders, other, mixed and unspecified—</i>																	
318-0 Hypochondriacal reaction										1					1		1
318-3 Asthenic reaction													2		2		2
318-4 Mixed					1	2		1	4		1				3	6	9
318-5 Other and unspecified							1		2						3		3
320 <i>Pathological personality—</i>																	
320-0 Schizoid personality			2	1	5	1	2	1	3						12	3	15
320-1 Paranoid personality							1			1					2		2
320-2 Cyclothymic personality					1				1	1					3	1	4
320-3 Inadequate personality			1				1								2		2
320-4 Antisocial personality			1	1	1		1								2	2	4
320-5 Asocial personality				1			1								1	1	2
320-6 Sexual deviation					4	1	2		1	2					9	1	10
320-7 Other and unspecified					1	2		2	1						1	5	6
321 <i>Immature personality—</i>																	
321-0 Emotional instability							1		1						1	1	2
321-1 Passive dependency					1		1	3							2	3	5
321-2 Aggressiveness				1		1										2	2
321-3 Enuresis characterizing immature personality						1										1	1
321-5 Other and unspecified					1	1		1		1					1	3	4
322 <i>Alcoholism—</i>																	
322-1 Chronic							2		1	1	2	1			5	2	7
322-2 Unspecified									1		1				1	1	2
323 Other drug addiction									1							1	1
324 Primary childhood behaviour disorders	1			1											1	1	2
325 <i>Mental deficiency—</i>																	
325-1 Imbecility				1	1	1	3		2						4	4	8
325-3 Borderline intelligence						1										1	1
325-5 Other and unspecified types				1		1	1		1						3	1	4
343 Post Encephalitic behaviour disorder		1														1	1
351 Cerebral spastic infantile paralysis							1								1		1
353 <i>Epilepsy—</i>																	
353-1 Grand mal						1	2		1	4	1	1			4	6	10
353-3 Other				1		1									2		2
Stammer				1		9									10		10
Laryngectomy												2			2		2
Aphasia					1				2		1	1			4	1	5
Totals	2	5	9	8	47	30	66	88	52	120	50	89	25	66	251	407	658

TABLE XC
PSYCHIATRIC CLINIC

3. SUMMARY OF PATIENTS DISCHARGED IN PREVIOUS YEARS WHO HAVE RECEIVED TREATMENT IN THE CURRENT YEAR, 1963-1964

	Under 18		18-19		20-29		30-39		40-49		50-59		60 and Over		Total		Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
300 <i>Schizophrenic disorders—</i>																	
300-0 Simple type		1			2	4	4	4	3	2	1	1			10	12	22
300-1 Hebephrenic type				1	3	1	2	3	1	3	1	2		1	7	11	18
300-2 Catatonic type						1	1		1						2	1	3
300-3 Paranoid type					2	2	8	9	4	8	5	7			19	26	45
300-4 Acute schizophrenic reaction					5		1	1		3	1				7	4	11
300-5 Latent schizophrenia			1		1		5	1							7	1	8
300-6 Schizo-affective psychosis							1		1						2		2
300-7 Other and unspecified					1	1	1	2		1		2			2	6	8

TABLE XC—continued

	Under 18		18-19		20-29		30-39		40-49		50-59		60 and Over		Total		Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
301 <i>Manic-depressive reaction—</i>																	
301-0 Manic and circular	..	..	..	..	..	..	1	..	2	1	2	..	1	1	1	6	7
301-1 Depressive	..	..	..	..	..	..	1	2	2	1	..	1	1	4	4	8	
302 Involutional melancholia	..	..	..	..	..	..	..	..	2	..	2	1	..	1	4	5	
303 Paranoia and paranoid states	..	..	..	..	..	..	..	..	1	..	1	..	..	..	2	2	
307 Alcoholic psychosis	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1	
308 <i>Psychosis of other demonstrable etiology—</i>																	
308-1 Resulting from epilepsy and other convulsive disorders	..	..	..	..	..	..	1	..	1	1	..	..	..	..	1	2	3
309 Other and unspecified psychoses	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1	
310 Anxiety reaction without mention of somatic symptoms	..	..	..	..	2	1	3	1	..	3	1	3	..	..	6	8	14
311 Hysterical reaction without mention of anxiety reaction	..	..	..	..	..	1	..	1	..	2	..	1	..	..	..	5	5
312 Phobic reaction	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	2	2
313 Obsessive-compulsive reaction	..	..	..	..	..	..	1	..	..	..	1	..	..	..	1	1	2
314 Neurotic-depressive reaction	..	..	..	..	1	5	1	4	3	5	1	3	..	2	6	19	25
316 <i>Psychoneurosis with somatic symptoms affecting digestive system—</i>																	
316-0 Mucous colitis specified as of psychogenic origin	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
317 <i>Psychoneurosis with somatic symptoms affecting other systems—</i>																	
317-3 Other cutaneous neuroses	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	1
317-5 Psychogenic reactions affecting other systems	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	1
318 <i>Psychoneurotic disorders, other, mixed and unspecified—</i>																	
318-0 Hypochondriacal reaction	..	..	..	..	..	..	..	..	..	1	..	1	..	..	2	..	2
318-4 Mixed	..	..	..	..	..	3	..	..	1	..	2	..	..	..	1	5	6
318-5 Other and unspecified types	..	..	..	..	..	..	..	..	2	..	1	..	..	..	3	..	3
320 <i>Pathological personality—</i>																	
320-0 Schizoid personality	1	..	3	1	4	..	2	1	1	..	..	..	..	..	11	2	13
320-1 Paranoid personality	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	1
320-2 Cyclothymic personality	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
320-3 Inadequate personality	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
320-4 Antisocial personality	..	..	..	..	1	..	1	..	..	1	..	..	..	..	3	..	3
320-5 Asocial personality	..	1	..	1	..	1	1	..	1	..	..	..	..	..	2	3	5
320-6 Sexual deviation	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
320-7 Other and unspecified	..	..	..	..	1	..	1	..	..	..	1	..	..	..	2	1	3
321 <i>Immature personality—</i>																	
321-0 Emotional instability	..	..	1	..	..	..	1	..	1	..	..	..	..	..	1	2	3
321-1 Passive dependency	..	..	..	..	1	2	..	1	..	1	..	..	..	..	1	4	5
321-2 Aggressiveness	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
321-3 Enuresis	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
321-4 Other symptomatic habits except speech impediments	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
321-5 Other and unspecified	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
322 <i>Alcoholism—</i>																	
322-1 Chronic	..	..	..	..	..	1	3	1	1	..	2	1	..	..	6	3	9
322-2 Unspecified	..	..	..	..	1	..	..	1	1	1	..	..	..	..	3	1	4
323 Other drug addiction	..	..	..	..	..	1	1	..	1	..	..	..	..	..	1	2	3
325 <i>Mental deficiency—</i>																	
325-1 Imbecility	1	..	..	..	3	..	2	..	1	..	..	..	..	..	7	..	7
325-2 Moron	..	..	..	..	3	..	..	1	..	1	..	..	..	..	3	2	5
325-3 Borderline intelligence	1	..	1	..	..	..	..	..	1	..	..	..	..	..	2	1	3
325-5 Other and unspecified types	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1
326 <i>Other and unspecified character, behaviour and intelligence disorders—</i>																	
326-4 Other and unspecified	..	..	2	..	..	..	1	1	..	..	..	..	..	..	1	3	4
353 <i>Epilepsy—</i>																	
353-0 Petit mal	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	1
353-1 Grand mal	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	2	2
353-3 Other and unspecified	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
355 Huntington's chorea, organic cerebral condition, &c.	1	..	..	..	1	..	..	..	..	1	..	..	..	..	2	1	3
Stammer	..	..	2	1	1	2	..	..	..	..	..	1	..	..	4	3	7
Dyslalia	3	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3
Totals	8	3	9	6	33	29	39	39	23	48	20	33	4	5	136	163	299

TABLE XCI

4. FORENSIC CASES (ALREADY INCLUDED IN PREVIOUS TABLES)

	Under 18		18-19		20-29		30-39		40-49		50-59		60 and Over		Total		Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Probation Office and Police Referrals																	
300 Schizophrenic disorders—																	
300-0 Simple type					1		1								2		2
300-1 Hebephrenic type					1										1		1
300-4 Acute schizophrenic reaction				1											1		1
303 Paranoia and paranoid states											1				1		1
310 Anxiety reaction without mention of somatic symptoms							1								1		1
320 Pathological personality—																	
320-0 Schizoid personality			3												3		3
320-4 Antisocial personality		1					1	1							2	1	3
320-5 Asocial personality		1													1		1
320-6 Sexual deviation											1				1		1
321 Immature personality—																	
321-5 Other and unspecified					1										1		1
326 Other and unspecified character, behaviour and intelligence disorders—																	
326-4 Other and unspecified							1								1		1
Totals	2		3	1	3		4	1			2				14	2	16
Her Majesty's Prison Classification Committee																	
320 Pathological personality—																	
320-0 Schizoid personality	1		1												2		2
320-1 Paranoid personality					1		1								2		2
320-3 Inadequate personality					1										1		1
320-4 Antisocial personality					2		1								3		3
320-5 Asocial personality								1							1		1
320-6 Sexual deviation					1		1		1		1				4		4
320-7 Other and unspecified	1				5			1							7		7
321 Immature personality—																	
321-5 Other and unspecified	1				1		1								2	1	3
325 Mental deficiency—																	
325-3 Borderline intelligence	1														1		1
No psychiatric abnormality					1										1		1
Not yet diagnosed					1		1								2		2
Totals	4		1		13		4	1	3		1				26	1	27
District Court Pre-Sentence Reports																	
300 Schizophrenic disorders—																	
300-5 Latent schizophrenia							1								1		1
320 Pathological personality—																	
320-0 Schizoid personality					1										1		1
321 Immature personality—																	
321-5 Other and unspecified												1			1		1
322 Alcoholism—																	
322-2 Unspecified					1										1		1
325 Mental deficiency—																	
325-2 Moron					1										1		1
Totals					3		1						1		5		5
Parole Board																	
320 Pathological personality—																	
320-7 Other and unspecified .. Total							1								1		1
Research Programme—Homosexuality																	
320 Pathological personality—																	
320-6 Sexual deviation .. Total			1				1								2		2
Examined by Order of Executive Council																	
300 Schizophrenic disorders—																	
300-3 Paranoid type								1		1					2		2
300-5 Latent schizophrenia								1							1		1
301 Manic-depressive reaction—																	
301-1 Depressive												1			1		1
308 Psychosis of other demonstrable etiology—																	
308-2 Other					1										1		1
320 Pathological personality—																	
320-4 Antisocial personality					1										1		1
320-6 Sexual deviation							1								1		1
325 Mental deficiency—																	
325-1 Imbecility					1	1									1	1	2
325-3 Borderline intelligence					1										1		1
353 Epilepsy—																	
353-3 Other and unspecified					1										1		1
Totals					4	1	2	1	1		1		1		9	2	11

TABLE XCI—continued

	Under 18		18-19		20-29		30-39		40-49		50-59		60 and Over		Total		Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
<i>Public Defender</i>																	
300 Schizophrenic disorders—																	
300-3 Paranoid type	..	..	..	..	..	..	..	..	1	..	..	..	1	..	2	..	2
300-6 Schizo-affective psychosis	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
303 Paranoia and paranoid states	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1
308 Psychosis of other demonstrable etiology—																	
308-1 Resulting from epilepsy and other convulsive disorders	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1
320 Pathological personality—																	
320-0 Schizoid personality	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
320-4 Antisocial personality	..	..	1	..	1	..	..	..	..	..	..	..	..	..	2	..	2
320-5 Asocial personality	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
320-7 Other and unspecified	..	..	..	..	1	..	1	..	..	..	..	..	..	..	2	..	2
321 Immature personality—																	
321-0 Emotional instability	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
321-5 Other and unspecified	..	..	1	..	1	..	..	..	..	..	..	..	..	..	2	..	2
322 Alcoholism—																	
322-1 Chronic	..	..	..	..	1	..	..	..	..	1	..	..	..	..	2	..	2
325 Mental deficiency—																	
325-1 Imbecility	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
325-2 Moron	..	..	..	..	1	..	1	..	..	..	..	..	..	..	1	1	2
353 Epilepsy—																	
353-3 Other and unspecified	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1
355 Huntington's Chorea	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
780 Convulsions	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	1
No psychiatric abnormality	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	1
Totals	..	..	3	..	6	1	4	1	3	..	2	1	2	..	20	3	23
Grand totals	6	..	8	1	29	2	17	4	7	..	6	1	4	..	77	8	85

Number of Consultations at Her Majesty's Prison ..	75
Number of Consultations at Psychiatric Clinic ..	121
Number of Consultations at Special Hospitals ..	17
Total	<u>213</u>

TOTAL NUMBER OF ALL PATIENTS WHO HAVE RECEIVED TREATMENT DURING THE YEAR 1963-1964

TABLE LXXXVIII	648
TABLE LXXXIX	658
TABLE XC	299
Grand Total	<u>1,605</u>

Number of Psychiatric Consultations	6,623
Number of Speech Therapy Consultations— (excluding those at Welfare and Guidance Clinic)	237
Number of Social Work Consultations	394
Total	<u>7,254</u>

REFERRAL OF PATIENTS FROM CLINIC TO OTHER PSYCHIATRIC UNITS DURING THE YEAR 1963-1964

Special Hospitals	42
North Brisbane Hospital—	
Lowson House	22
Ward 16	22
Total	<u>86</u>

TABLE XCII
MENTAL HEALTH REVIEW TRIBUNAL
STATISTICS FOR YEAR ENDED 30TH JUNE, 1964
Applications to the Mental Health Review Tribunal by—

Patients	63
Other Persons	..
Total	63

Disposal of Applications—

Applications heard by Tribunal—

Refused	44
Recommendations made for conditional discharge	5
Other recommendations	2
Patients discharged by hospital before decision made by Tribunal	1
Adjourned	3
	55

Applications not heard—

Applications withdrawn	1
Patients discharged by hospital before application heard	2
Awaiting hearing	5
	8
Total	63

The first hearing of the Mental Health Review Tribunal was on 17th September, 1963, at Toowoomba Special Hospital.

TABLE XCIII
POPULATION CHANGES AT EPILEPTIC HOME DURING THE YEAR 1963-64
PATIENTS AT 30TH JUNE, 1963: MALES 48; FEMALES 58; TOTAL 106
FOR YEAR ENDED 30TH JUNE, 1964

Aged	Admitted		Discharged		Special Hospital		Deaths		Remaining		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total
Under 5 years	..	..	..	..	..	..	..	..	..	..	..
5 years and under 10 years	..	..	..	..	..	..	..	..	..	1	1
10 years and under 15 years	1	1	..	..	..	..	..	..	2	3	5
15 years and under 20 years	..	..	..	1	..	..	..	..	4	5	9
20 years and under 25 years	..	2	..	..	..	..	1	10	8	18	15
25 years and under 30 years	..	..	..	..	..	..	..	9	6	15	6
30 years and under 35 years	..	..	..	..	..	..	..	3	3	6	10
35 years and under 40 years	..	..	..	..	..	..	..	8	2	10	7
40 years and under 45 years	..	..	..	..	..	..	1	1	6	7	10
45 years and under 50 years	..	..	..	..	..	..	..	2	8	10	10
50 years and under 55 years	..	..	..	..	..	..	..	5	5	10	9
55 years and under 60 years	..	..	..	..	..	..	..	3	6	9	4
60 years and under 65 years	..	..	..	..	..	..	..	1	3	4	2
65 years and under 70 years	..	..	..	..	..	..	..	..	2	2	1
70 years and under 75 years	..	..	..	..	..	..	..	..	1	..	..
Totals	1	3	..	1	..	..	..	2	49	58	107

Patients' Residence—

Under 5 years	26
5-10 years	22
10-15 years	14
15-20 years	16
Over 20 years	29

Cause of Death—

Female aged 40 years—

- (a) Acute myocardial failure
- (b) Status epilepticus
- (c) Mental deficiency

Female aged 21 years—

- (a) Congenital heart disease
- (b) Epilepsy
- (c) Mongolism

EXPENDITURE TABLE, EPILEPTIC HOME, FOR THE TWELVE MONTHS ENDED 30TH JUNE, 1964
Average Number Daily Resident—98

	£	s.	d.
Gross Expenditure	49,523	9	0
Collections	19,614	3	1
Net Expenditure	29,909	5	11
Gross Cost per patient per annum	505	6	10
Net Cost per patient per annum	305	3	11
Gross Cost per patient per week	9	13	4
Net Cost per patient per week	5	16	9

DIVISION OF WELFARE AND GUIDANCE

Senior Medical Director: B. J. PHILLIPS, M.B., B.S. (Qld.), D.P.M. (Lond.)

Medical Director: B. NURCOMBE, M.B., B.S. (Qld.), D.P.M. (Melb.)

Medical Officer: J. FOLEY, M.B., B.S. (Qld.)

Medical Officer: M. I. LAMB, M.D., Ch.B. (Edin.)

Medical Officer: A. B. SHEARER, M.B., B.S. (Qld.), M.R.C.P. (Lond.)

The amount of work done during the year 1963-64 as indicated by the number of new families admitted to the clinics for treatment showed a small increase on the previous year. An increase in the number of part-time medical officers towards the end of the last financial year helped to cope with the numbers seeking treatment but what was gained in this direction was lost through staff shortages in other directions.

Drs. I. Charles, J. Lowrey, and W. Leggat resigned and were replaced by Drs. J. Foley, M. Lamb, and A. B. Shearer. Dr. B. Klug will take up duty early in the new financial year.

The Toowoomba Welfare and Guidance Clinic is as yet not staffed and a doctor from Brisbane goes there once a week. Recently this has been reduced to once per fortnight due to staff shortages.

The Speech Therapy section of the Mary Street Clinic suffered seriously from staff shortages. There was only one

speech therapist available. In other fields too, it was not possible to treat all patients because of lack of staff.

The Welfare and Guidance Clinics will have been functioning approximately five years from November, 1964. During that time approximately 6,000 families have been interviewed, examined, and treated. The work done by such clinics as the Mary Street Clinic is an important part of preventive health and welfare.

The number of cases appearing before the Children's Court dropped by 17 per cent. in the metropolitan area. The preventive work done by the Welfare and Guidance Clinics may have contributed to this.

The amount of work done by the Division during the year 1963-64 is reflected in the grand total of interviews, examinations, treatment sessions, &c., which was approximately 17,652 for the year. It is impossible to record all the work done by staff members in figures. Such things as ward rounds, teaching, consultations, &c., are sometimes difficult to record.

TABLE XCIV
SHOWING AMOUNT OF WORK DONE BY STAFF MEMBERS OF THE DIVISION OF WELFARE AND GUIDANCE

Centre	Number of Examinations, Treatments, &c., by Various Professions					
	Psychiatrist	Psychologist	Social Worker	Speech Therapist	Medical Consultant	Occupational Therapist
Mary Street Centre	5,519	3,090	1,381	1,055	496	97
Wilson Hospital	1,477	420	372	12	5	1,420
Toowoomba Clinic	246	21	1	1	1	..
Westbrook Farm Home	249	..	..	..	..	..
Children's Hospital Clinic ..	1,352	243	..	..	..	..
Woolloowin	180	14	..	..	..	..
Totals	9,023	3,788	1,754	1,068	502	1,517
Grand Total	17,652					

It has often been pointed out that in child guidance the child is not the only patient in the family who is interviewed. The parents and sometimes other children in the family have to be interviewed, counselled, and possibly treated.

MARY STREET WELFARE AND GUIDANCE CENTRE

The number of new cases admitted during the year, to this Centre for treatment, was 715. This, of course, means 715 families. Of the 715 admitted, 218 were girls.

The ages of the children treated at the Mary Street Centre, are seen in Table XCV and are compared with the ages of the children at Wilson Hospital, Toowoomba Clinic and Westbrook Farm Home.

TABLE XCV
SHOWING AGES OF NEW PATIENTS ATTENDING VARIOUS CENTRES OF THE WELFARE AND GUIDANCE DIVISION

Age Group	Mary Street Centre	Wilson Hospital	Toowoomba Clinic	Westbrook Farm Home
0 to under 2 years	3	3	0	0
2 to under 3 years	20	6	3	0
3, 4 under 5 years	107	13	5	0
5, 6 under 8 years	184	27	15	0
8, 9 under 10 years	127	20	18	0
10, 11 under 12 years	101	32	18	0
12, 13 under 15 years	118	130	18	10
15 to under 17 years	51	110	12	74
17 years and over	4	16	0	17
Totals	715	357	89	101

The source of referral of the patients seen at Mary Street and at the other centres, is shown in Table XCVI. It will be noted that at Mary Street most of the children are referred by their parents or from medical sources such as the family

doctor, public hospitals or Department of Health divisions. At Wilson Hospital, for obvious reasons, the sources of referral are from the Children's Court or the State Children Department.

TABLE XCVI
SHOWING SOURCES OF REFERRAL OF NEW PATIENTS

Sources	Mary Street Centre	Wilson Hospital	Toowoomba Clinic	Westbrook Farm Home
Parents or guardian. Relatives	359	48	33	..
Family Doctor or Private Specialists (Medical)	144	6	23	..
Public Hospitals	34	..	15	..
Department of Health—				
School Health	30	1	..	..
Maternal and Child Welfare	14	..	..	..
Social Work Division and other	5	..	..	..
Children's Court, Court Reports, Police, &c.	5	76	4	..
Public Defender's Reports	..	..	..	101
Referral by State Children Department of State Child, i.e., committed and probation	11	121	3	..
Referral of State Children from Church Homes, Woolloowin and other State Children for assessment, &c.	5	84	5	..
Speech Therapist's, &c., Clergyman, other referrals	20	4	5	..
Educational Sources, i.e., Education Department—Research and Guidance Clinic	23	1	..	..
Education Sources, i.e.—other, i.e. Private Schools	22	3	..	..
Commonwealth Department—C.A.L., Vocational Guidance, Rehabilitation, &c.	10	..	..	..
Other agencies, i.e. Pre-school, Kindergartens, Institutions, Spastics, Sub-normal, &c., Legacy, Remedial Education, Bush Children	33	13	1	..
Totals	715	347	89	101

TABLE XCVII
SHOWING REASONS FOR REFERRAL OF PATIENTS TO THE CENTRES

Reasons	Mary Street Centre	Wilson Hospital	Toowoomba Clinic	Westbrook Farm Home
Associated with aggressive antisocial conduct, breaking and entering, car stealing and U.U.M.V.	117	113	6	..
Temper tantrums, sibling rivalry, assault, vandalism	7	15	2	..
Sexual problems	33	..	8	..
Nervous habits or symptoms, night terrors, fear of dark	35	35	3	..
Uncontrollable at home or school, running away, neglected child	..	..	..	..
Other abnormal behaviour, petty stealing and lying, mixed symptoms, hyperactive-difficult behaviour, poor mixers, attempted suicide	230	65	35	..
Truancy and fear of school	25	12	..	..
Other educational problems	29	4	11	..
Employment problems	6	2	1	..
Speech disorders	156	..	7	..
Psychosomatic and sensory disorders, enuresis	24	5	8	..
Organic brain disorders, fits, &c.	13	1	2	..
Mental deficiency, backwardness, retardation	16	6	1	..
For assessment only of personality, also for discharge from Institution, intelligence, &c., for certification, for Court report, referral only Psychologist	18	100	..	101
Miscellaneous—unexplained eye defects, advice to parents, &c.	6	..	5	..
Totals	715	357	89	101

At Wilson Hospital, apart from the ones referred for assessment only, most of the children were referred with the more serious aggressive anti-social behaviour disorders such as breaking and entering, &c.

At Mary Street Centre the behaviour disorders were much less serious and comprised such disorders as difficult

behaviour, petty stealing, lying, &c. There were also a large number of speech problems referred to Mary Street Centre.

At Westbrook Farm Home most of the children were referred for assessment.

The areas in which patients who came to the clinics lived, were studied again this year. The results of this survey are seen in Table XCVIII.

TABLE XCVIII
SHOWING AREAS FROM WHICH PATIENTS COME TO MARY STREET CENTRE AND OTHER CENTRES

Area of Residence	Mary Street Centre	Wilson Hospital	Toowoomba Clinic	Westbrook Farm Home
Brisbane—				
Central City	29	18	(City of	10
North Side, Inner Suburbs	42	5	Toowoomba	5
North Side, Outer Suburbs	188	125	66)	7
Western Suburbs	87	41	..	6
South Side, Inner Suburbs	24	8	(Country Areas	3
South Side, Outer Suburbs	142	44	23)	10
Bayside Suburbs	47	20		8
Rural	18	4		8
Outside City of Brisbane (Redcliffe and Pine)	23	5		..
South Queensland—				
North Coast Line	20	11		6
South Coast Line	16	6		2
Western Line	48	20		6
North and Central Queensland	13	28		12
Other States	..	21		18
Address not known	18	1	..	..
Totals	715	357	89	101

It is sometimes difficult to obtain accurate information about the family of some children attending Child Guidance Clinics, but Table XCIX shows the parental state of children attending the various Centres as far as is known. The figures show that quite a large number of children come from "broken homes" or are adopted or fostered.

TABLE XCIX
SHOWING PARENTAL STATE OF CHILDREN ATTENDING VARIOUS CENTRES

Parental State	Mary Street Centre	Wilson Hospital	Toowoomba Clinic	Westbrook Farm Home
Natural father and natural mother	561	173	59	66
Step-father	20	9	3	8
Step-mother	8	8	..	2
De facto father	6	8	1	..
De facto mother	3	..	..	4
Fostered	13	8	2	2
Adopted	31	12	6	2
Father deceased	21	17	5	2
Mother deceased	..	7	3	8
Father deserted; To include case of mother leaving home and taking children; Father goaled, &c.	22	28	5	2
Mother deserted	6	13	2	3
Mother and father both deserted or divorced, separated and children abandoned	3	23	3	2
Orphaned (mother and father dead), parental state unknown, &c. One parent deserted, and one deceased, &c.	21	51	..	..
Totals	715	357	89	101

The disorders from which children attending the Centres were suffering were not necessarily closely related to the reasons for referral by the parent or agency. Another factor of importance is that children can be suffering from more than one clinical disorder. Table C shows the diagnoses of the cases attending Mary Street Centre, Wilson Hospital, Toowoomba Child Guidance Clinic and Westbrook Farm Home. In some cases, even after exhaustive investigation, a firm diagnosis cannot be made.

TABLE C
SHOWING DIAGNOSES OF CASES ATTENDING THE VARIOUS CENTRES

Diagnostic Categories	Mary Street Centre	Wilson Hospital	Toowoomba Clinic	Westbrook Farm Home
<i>Organic Brain Disorders</i>				
Epileptic States	27	9	2	..
Mental Retardation—				
I.Q. 1-20	2	..	..	..
I.Q. 21-50	14	5	1	..
I.Q. 51-70	31	30	6	6
I.Q. 71-80	47	44	7	10
Developmental Dyslexia	14	1	1	..
Secondary Dyslexia	8	..	..	..
Dyscalculia	4	..	..	..
Speech Disorders—				
Mutism-deaf mutism	..	1	..	..
Dyslalia	43	1	..	..
Delayed onset and retarded development of speech ..	12	..	9	..
Disorders of phonation	9	..	..	..
Stammering	24	1	1	..
Aphasia and Apraxia	5	..	..	..
Mixed speech disorders	25	4	..	..
"Minimal Cerebral Dysfunction"	36	4	3	..
Diseases of the Central Nervous System	31	16	8	..
Psychological reactions to physical diseases, i.e. deformity, visual defects, &c.	13	8	..	..
Psychosomatic Disorders	28	4	6	1
<i>Transient Situational Adjustment Reactions</i>				
Adjustment Reactions of infancy	21	1	..	..
Adjustment Reactions of Childhood—				
Habit Disorders—				
Manipulations	3	1	..	..
Thumbsucking	..	..	2	..
Nail-Biting	1	..	1	..
Other miscellaneous habits	7	..	..	..
Behaviour Disorders—				
Eating	2	..	..	..
Sleeping	3	..	..	..
Scholastic Performance	37	5	10	..
Exceptional Child	2	2	..	..
Sex behaviour	4	4	..	17
Conduct Disorders—				
Stealing	16	108	..	64
Disobedience—lying, truancy and absconding, refusing to go to school.	16	12	..	..
Aggressive, destructive; Murder	6	7	3	4
Situational Emotional and Neurotic Trait Reactions	27	4	3	2
Other and Mixed Situational Adjustment Reactions of Childhood	100	70	64	23
Adjustment Reactions of Adolescence	43	131	14	96
<i>Personality Disorders</i>				
Inadequate, Immature	30	66	30	12
Schizoid	40	11	10	1
Cyclothymic	2	..	..	..
Paranoid	7	3	5	..
Emotionally unstable, "hysterical"	21	3	5	3
Passive dependent	18	..	..	2
Passive aggressive	22	2	..	2
Aggressive	8	4	..	..
Compulsive obsessional	18	1	..	..
Sociopath (anti-social), i.e. "Psychopath"	3	4	..	1
Dys-social personality	1	6	..	4
Mixed types of personality disorder	35	18	..	..
<i>Psychoneuroses</i>				
Anxiety State	44	1	..	1
Dissociative Reaction	..	1	..	..
School Phobia	10	..	4	..
Other Phobia reactions	4	1	..	..
Obsessive Compulsive reaction	1	..	..	..
Depressive Reaction	1	1	..	..
Mixed psychoneurotic reactions	2	1	..	..
<i>Psychoses</i>				
Schizophrenic Disorder	2	..	..	..
Childhood Schizophrenia	2	..	..	..
Early Infantile Autism	3	..	..	..

THE E.E.G. SECTION—MARY STREET CENTRE

There has been an increase of 241 E.E.G.'s over the number done in the previous year. Table CI shows the number of tracings done for various centres.

TABLE CI

SHOWING NUMBERS OF E.E.G.'s DONE AT DIFFERENT CENTRES
TOTAL NO. OF E.E.G.'s—803

Welfare and Guidance Clinic, Mary Street (Selected Patients)	420
Wilson Youth Hospital Outpatients' Clinic (Selected Patients)	122
Wilson Youth Hospital Inpatients (All boys committed)	95
Children's Hospital Child Guidance Outpatients (Selected Patients)	78
Toowoomba Child Guidance Clinic (Selected Patients)	19
Diamantina Receiving Depot, Woolloowin (Selected Patients)	15
Westbrook Farm Home for Boys (Selected Patients)	6
Treatment Centre for Handicapped Children (Selected Patients)	5
Adult Psychiatric Clinic (Selected Patients)	43
Total	803

The tracings showed a high percentage of epileptic tendencies focal abnormalities, excess slow wave activity, diffuse and brainstem abnormalities and other rarer conditions. Thanks are due to Dr. M. Eadie for supervising the E.E.G. Section and for reading the majority of the tracings.

A photic stimulator has recently been acquired and is being used as an activation technique. Work has also been done in the field of local abnormalities with the activation by intravenous injections of the drug—Tolbutamide.

THE BRISBANE CHILDREN'S HOSPITAL—CHILD GUIDANCE CLINIC

Two hundred and forty-six new cases were examined. Of the 1,352 interviews conducted by the psychiatrists, 1,106 were with old patients.

In addition to carrying out a large number of psychological tests the psychologists conducted 169 test sessions and 74 group play sessions.

WOOLLOOWIN CHILDREN'S HOME

The children of the State Children Department Home at Woolloowin are examined by medical officers of the Welfare and Guidance Clinics. During the year 114 new cases were examined.

The babies at Woolloowin Home are tested mentally and advice is given concerning their suitability for fostering or adoption. Sixty-five cases were brought back to Woolloowin Home for follow-up treatments or subsequent interviews. The total number of initial interviews, subsequent interviews, treatments, &c., was 180. Psychologists also conducted 14 test sessions at Woolloowin Home.

WILSON YOUTH HOSPITAL

The number of new cases seen (including inpatients and outpatients) was 357. Of this number 99 were girls. Tables XCV, XCVI, XCVII, XCVIII, XCIX and C give information concerning these patients. It will be seen from Table XCIX that a large number of these delinquent children came from "broken homes".

Of the children attending Wilson Hospital, 244 boys were admitted as inpatients and there were 28 patients remaining in the hospital from the end of the previous year. The children stayed an average length of 42 days and the daily average number in the hospital was 29.

The new Remand Section was built during the year and this probably accounts for the increased number of admissions last year. In the Remand Section, children are remanded in custody for psychiatric assessment.

WESTBROOK FARM HOME FOR BOYS

A psychiatrist goes from Brisbane weekly to the Westbrook Farm Home. During the year staff shortages made it necessary to reduce this to once per fortnight. It is hoped that, when the Toowoomba Welfare and Guidance Clinic is fully staffed, more work can be done at Westbrook Farm Home. During the year 101 boys were seen by the visiting psychiatrist for assessment and recommendations concerning their rehabilitation. The ages, the areas from which the boys came, sources of referral, and the diagnoses are seen in Tables XCV, XCVI, XCVIII and C.

TOOWOOMBA WELFARE AND GUIDANCE CLINIC

The Toowoomba Welfare and Guidance Clinic also suffered from lack of staff. Psychiatrists from Brisbane who visit the Westbrook Farm Home also visit the Child Guidance Clinic. Eighty-nine children were seen during the year and information about them appears in Tables XCV, XCVI, XCVII, XCVIII, XCIX and C. New patients seen, together with subsequent visits, brought the total number of interviews to 246.

SERVICES TO KINDERGARTENS, CHURCH HOMES, &c.

A medical officer visited kindergartens in the metropolitan area once per week. This is considered important preventive work and has been commented upon favourably by overseas visitors.

The number of visits for the year was 31. At the centres discussion groups with mothers were conducted and some mothers were interviewed about behaviour problems in their children. Some children were referred to their family doctors and some were brought to the clinics at Mary Street for treatment.

It is felt that the visits to kindergartens are proving useful in the early detection and treatment of behaviour problems, emotional maladjustment, and mental retardation, and this is a valuable aspect of preventive mental hygiene.

Medical officers visit most Church homes in the metropolitan area. There are a certain number of behaviour problems in each home and the doctor can help with treatment and advice.

TEACHING ACTIVITIES

Students of the various professions related to child welfare and guidance have been given lectures by the staff as in previous years. Most students with the exception of medical students attend Mary Street Centre for teaching. Various staff members delivered papers and wrote articles in journals during the year.

As a result of his overseas visit, the late Minister, Dr. H. W. Noble, approved of the building of a welfare and guidance unit for residential treatment at the Children's Hospital. This unit will cater for outpatients, inpatients and day hospital patients. Similar units have been promised for Townsville, Toowoomba, and Rockhampton in due course.

DIVISION OF LABORATORY SERVICES

LABORATORY OF MICROBIOLOGY AND PATHOLOGY

Director: J. I. TONGE, M.B., B.S. (Syd.), D.C.P. (Syd.), M.C.P.A.

Deputy Director: M. J. J. O'REILLY, M.B., B.S. (Syd.), M.C.P.A.

Pathologist: A. DAVISON, M.B., B.S. (Qld.), M.C.P.A.

Technical Supervisor: D. J. W. SMITH, M.Sc. (Melb.).

GENERAL

During this financial year 304,000 tests have been performed in the laboratory, an increase of 18,000 over the total for the previous twelve months. The increased volume of work has occurred mainly in haematology, biochemistry and in the tuberculosis section.

The new laboratories and animal house in the Health and Welfare building should be ready for occupation early in 1965, and this will relieve the acute congestion in the existing premises. Details of new equipment necessary when the transfer is made have been prepared.

At present the staff consists of 3 medical officers, a graduate technical supervisor, 3 senior bacteriologists, 8 graduate bacteriologists, 8 technical assistants, 9 cadets, 4 attendants, a clerical staff of 7, and 7 cleaners. At the Institute of Forensic Pathology there is a technical assistant and 2 attendants. There is a necessity for the appointment of an additional pathologist due to the steady increase in the number of post-mortems and referred histopathology from country centres. A virologist will be needed as soon as the move to the new laboratories is completed together with certain additional technical and attendant staff.

Good progress is being made in the construction of the new animal breeding station at the Normanby. This new building should prove functional and will replace the present archaic buildings where animal breeding is at present carried out.

The standardisation of techniques has continued and regular quality controls are employed as far as possible. The laboratory participated in a biochemical evaluation trial conducted by the College of Pathologists of Australia and in similar trials in haematology, microbiology and biochemistry organised by the College of American Pathologists.

The Director is the Queensland representative of the Traffic Injury Research Sub-committee of the National Health and Medical Research Council and attended two interstate

meetings during the year. The Director represents the Department of Health on the Council of the Queensland Institute of Medical Research. The Deputy Director is a member of the Red Cross Blood Transfusion Committee. An active part has been played by the Director and Deputy Director as members of the Examination Council of the Australasian Institute of Medical Laboratory Technology.

The Medical staff have continued as lecturers in Forensic Medicine in the University of Queensland and conduct regular lecture demonstrations for fifth year medical students. In addition certain lectures in Microbiology have been given to medical students and a course in histology for the Institute of Medical Laboratory Technology.

The Deputy Director visited North Queensland during the year for the Post-Graduate Medical Education Committee of the A.M.A., and gave two lectures in each of three centres. Two papers were also delivered to the Queensland branch of the College of Pathologists of Australia at a recent meeting.

One of the bacteriologists was seconded to assist in a dysentery survey of aborigines on Palm Island, North Queensland. Active collaboration with the Queensland Institute of Medical Research has continued in several projects and assistance has been provided to the Princess Alexandra hospital in a survey of hospital infections. The medical staff have played an active part in a Traffic Injury Research project in conjunction with Dr. Jamieson of the Brisbane General Hospital.

A retrospective study of Traffic Accident Fatalities in Brisbane over the years 1935-63 has been completed in association with Dr. Derrick. The Director has been appointed convenor of an Interdepartmental Committee on Traffic Accident Research.

Assistance has been received from the Brisbane General Hospital, the Princess Alexandra Hospital, the Queensland Institute of Medical Research and the Institute of Medical and Veterinary Science, Adelaide, and this is gratefully acknowledged.

STATISTICAL SUMMARY, 1963-64

TABLE CII

1. BACTERIOLOGY

A (1). Specimens of Human Origin (Non-Tuberculous)

Specimen	Examination			Totals
	Culture	Microscopy	Antibiotic Sensitivity	
Swabs—				
Throat and Nose	133	52	47	232
Urethra, Cervix, Anus, Bartholin's Glands	908	2,906	42	3,856
Ear	74	4	53	131
Eye	20	5	8	33
Other	80	26	43	149
Pus	270	22	246	538
Pleural Fluid	18	16	2	36
Cerebrospinal Fluid	46	86	..	132
Serous Exudate	..	1,098	..	1,098
Sputum	346	52	114	512
Blood	..	31	1	32
Urine	2,530	3,932	681	7,143
Faeces	540	171	25	736
Miscellaneous	19	10	6	35
Totals 1963-64	4,984	8,411	1,268	14,663
Total 1962-63	..	..	..	13,401

A (2). Tuberculosis Section

Specimen	Examination			Totals
	Culture	Microscopy	Animal Inoculation	
Sputum	16,704	16,704	261	33,669
Sputum (Medi-Haler)	1,629	1,629	7	3,265
Gastric Aspiration	2,285	..	591	2,876
Urine	509	..	203	712
Pus	42	42	39	123
Pleural Fluid	74	74	61	209
Cerebrospinal Fluid	16	16	16	48
Miscellaneous Fluid	9	9	6	24
Bronchial Washing	5	5	..	10
Laryngeal and Tracheal Washing	27	27	..	54
Lung Tissue	30	30	31	91
Cultures	121	23	..	144
Tissue	28	28	32	88
Miscellaneous	10	10	7	27
Total	21,489	18,597	1,254	41,340
Culture	Identification (atypical strains)			333
	Sensitivity test (Streptomycin, P.A.S., I.N.A.H.)			356
	Sensitivity test (Viomycin, Pyrazinamide, Cycloserine and Ethionamid)			313
	Total 1963-64			42,342
	Total 1962-63			33,567

B. Foods and Waters

Specimen	Examination			Totals
	Culture	Plate Count	Reductase	
Water	846	841	..	1,687
Milk	789	789	773	2,351
Cream	36	36	36	108
Other Milk Products	50	46	..	96
Meats and Fish	75	47	1 (precipitation tests)	123
Miscellaneous	81	13	..	94
Totals 1963-64	1,877	1,722	810	4,459
Total 1962-63	..	..	..	3,313

TABLE CII—continued
C. Various Materials

Specimen	Object of Examination	Number
Disinfectants and Antiseptics	Rideal-Walker Co-efficient	40
Bottles	Sterility	52
Miscellaneous	Sterility	61
Water Deposit	Iron Bacteria	1
Bacterial Cultures	Identification	7
Skin and Nail Scrapings	Culture	67
	Direct Smear	45
	Antibiotic Sensitivity Test	4
	Total 1963-64	277
	Total 1962-63	308

2. PHAGE TYPING

	Number
Cultures Prepared	3,769
Coagulase Tests	2,108
Antibiotic Sensitivity Tests	3,251
Cultures Phage Typed at R.T.D.	4,959
Cultures Phage Typed at 1,000 X R.T.D.	1,321
Total 1963-64	15,408
Total 1962-63	16,858

3. SEROLOGY

	Number		Number
Serum Agglutination (Screen)—		Brought forward	114,950
<i>Salmonella typhosa</i> (O)	15	Complement Fixation Tests—	
<i>Salmonella typhosa</i> (H)	4,926	<i>Coxiella burneti</i> (Phase I)—	
<i>Salmonella paratyphi</i> (H)	4,926	Routine	51
<i>Salmonella schottmulleri</i>	4,926	Quantitative	11
<i>Proteus OX19</i>	4,954	<i>Coxiella burneti</i> (Phase II)—	
<i>Proteus OXK</i>	4,954	Routine	5,145
<i>Proteus OX2</i>	2	Quantitative	451
<i>Brucella abortus</i>	4,929	Typhus Fever Murine (Soluble)—	
<i>Leptospira icterohaemorrhagiae</i>	5,037	Routine	32
<i>Leptospira canicola</i>	5,037	Quantitative	3
<i>Leptospira broomi</i>	5,037	Typhus Fever Murine (Washed Rickettsiae)—	
<i>Leptospira zanonii</i>	5,037	Routine	1
<i>Leptospira robinsoni</i>	5,037	Typhus Fever Epidemic (Washed Rickettsiae)—	
<i>Leptospira australis</i>	5,037	Routine	1
<i>Leptospira bratislava</i>	5,037	Mumps Antigen—	
<i>Leptospira pomona</i>	5,037	Routine	2
<i>Leptospira grippityphosa</i>	5,037	Quantitative	1
<i>Leptospira medianensis</i>	5,037	Psittacosis (E.A.E. Virus)—	
<i>Leptospira kremastos</i>	5,037	Routine	5,112
<i>Leptospira mini</i>	5,037	Quantitative	280
<i>Leptospira hyos</i>	5,037	<i>Rickettsia akari</i> —	
<i>Leptospira celledoni</i>	5,037	Routine	4
<i>Leptospira autumnalis</i>	5,037	Kolmer Wasserman (Serum)—	
<i>Leptospira javanica</i>	19	Routine	11,558
<i>Leptospira sumneri</i>	1	Quantitative	78
<i>Leptospira ballum</i>	19	Reiter Protein—	
<i>Leptospira sentot</i>	1	Routine	673
<i>Leptospira djasiman</i>	1	Quantitative	6
<i>Leptospira bataviae</i>	19	Kolmer Wassermann (C.S.F.)	458
<i>Coxiella burneti</i> (Standard agglutination test)	11	Reiter Protein (C.S.F.)	2
<i>Streptococcus MG</i>	1	V.D.R.L.	11,562
Cold Agglutinins	1		
Serum Agglutination Tests (Quantitative)	2,040	Total 1963-64	150,381
Paul Bunnell Tests	4,999	Total 1962-63	163,698
Histoplasim Latex Agglutination Test	2		
Leptospiral Strains Typed (40)—			
Agglutination Tests Performed in Typing	2,500		
Absorption Tests Performed in Typing	124		
Antisera Prepared	25		
Carried forward	114,950		

TABLE CII—continued

4. BIOCHEMISTRY

Specimen	Examined For	Number
Whole Blood	Urea	1,406
	Glucose	310
	Uric Acid	605
	Pigments	30
	Bromide	2
Plasma	Protein	2
	Fibrinogen	2
Serum	Protein	2,174
	Cholesterol	488
	Bilirubin	1,254
	Chloride	88
	Calcium	241
	Inorganic phosphate	163
	Acid phosphatase	112
	Alkaline phosphatase	1,268
	Thymol turbidity	1,164
	Thymol flocculation	1,164
	Zinc sulphate turbidity	1,164
	Paper electrophoresis	1,537
	Amylase	26
	Cholinesterase	54
	Sodium	106
	Potassium	104
	Serum Glutamic Oxalacetic Transaminase	219
	Serum Glutamic Pyruvic Transaminase	720
	CO ₂ Combining power	46
	Copper Oxidase	5
	C. reactive protein	2
Cerebrospinal Fluid	Protein	85
	Globulin	45
	Chloride	73
	Glucose	62
	Bilirubin	1
	Colloidal Gold Reaction	1,068
Pleural Fluid	Protein	8
	Paper electrophoresis	1
Urine	Albumin	3,930
	Sugar	3,941
	Bilirubin	16
	Urobilin	3
	Urobilinogen	15
	Diastase	5
	Calcium	8
	Coproporphyrins	23
	Porphyrins	9
	Protein	1
	Bence Jones Protein	6
	Bilirubinuria	1
	Phenylketonuria	2
	Ketone bodies	1
Faeces	Total, Split and Unsplit Fats	90
	Occult blood	83
	Trypsin	1
Renal Calculi	Chemical constitution	38
Functional Tests	Glucose tolerance tests	250
	Urea clearance tests	40
	Urea concentration tests	40
	Fractional test meals	29
	Histamine test meals	1
	Total 1963-64	24,332
	Total 1962-63	20,125

TABLE CII—continued

5. HAEMATOLOGY

	Number
Cell Counts—	
Red Cells (Total)	186
Red Cells (Stippled)	75
Reticulocytes	49
White Cells (Total)	4,519
White Cells (Differential)	5,085
Platelet Count	101
Haemoglobin	11,972
Haematocrit	8,121
Sedimentation Rate	1,093
Coagulation Time	61
Bleeding Time	60
Prothrombin Time	486
Red Cell Fragility	4
L.E. Cells	46
Latex Slide Test	133
Blood Grouping (A.B.O.)	3,836
Blood Grouping (Rh)	3,836
Blood Grouping (M and N)	11
Rh Antibodies	1,292
Coombs Test	9
Marrow Smears	164
Thyroglobulin Autoprecipitin Test	1
Total 1963-64	41,140
Total 1962-63	36,951

6. PARASITOLOGY

Specimen	Object of Examination	Number
Faeces	Amoebae (Cysts and Vegetative)	596
	Helminth ova	787
Pus	<i>Trichomonas vaginalis</i>	98
Blood	<i>Plasmodium</i> spp.	27
Helminth	Identification	12
	Total 1963-64	1,520
	Total 1962-63	575

7. VARIOUS TESTS

	Number
Male Toad Test (Pregnancy)	759
Male Toad Test (Pregnancy) (Quantitative)	8
Haemagglutination Test (Pregnancy)	1,214
Haemagglutination Test (Pregnancy) (Quantitative)	13
Casoni Skin Test	3
Sweat Test	2
Seminal Fluid Assessment	10
Total 1963-64	2,009
Total 1962-63	2,435

8. HISTOLOGY

Tissue Sections Prepared	Number
Human—	
Biopsy (specimens received 6,686)	10,172
Medico-Legal Tissues	459
Animal Tissues	11
Total 1963-64	10,642
Total 1962-63	10,167

TABLE CII—continued
9. EXFOLIATIVE CYTOLOGY

Specimen	Number
Sputum	2,089
Bronchial or Tracheal Washing	24
Pleural Fluid	65
Miscellaneous	24
Total 1963-64	2,202
Total 1962-63	1,490

10. MEDICO-LEGAL

Specimen	Object of Examination	Number
Clothing and Various Articles	Blood	261
	Spermatozoa	175
Vaginal Smears	Spermatozoa	79
Tissue	Histopathology	459
Blood	Grouping	22
Bloodstains and Scrapings	Presence of Blood	10
	Determination of Blood Group	38
Hair	Identification	8
	Total 1963-64	1,052
	Total 1962-63	1,027

11. POST-MORTEM

	Number
Post-Mortem Examinations—	
Total 1963-64	881
Total 1962-63	791

12. INSTITUTE OF FORENSIC PATHOLOGY

HISTOLOGY

Specimen	Examination	Number
Tissue	Post-Mortem	2,598
	Frozen Sections	14
	Fat Stains	21
	Other Special Stains	18
	Total 1963-64	2,651
	Total 1962-63	4,011

BIOCHEMISTRY

Specimen	Examination	Number
Whole Blood	Specific Gravity	10
	Chlorine	10
	Pigments	1
Cerebrospinal Fluid	Glucose	3
	Urea	13
Urine	Microscopy	1
	Bile	1
	Sugar	5
	Total 1963-64	44
	Total 1962-63	94

TABLE CII—continued
BACTERIOLOGY

Specimen	Examination	Number
Swabs—		
	Lung	
	Culture	49
	Microscopic	49
Bronchus	Culture	30
	Microscopic	30
Bowel	Culture	38
	Microscopic	38
Spleen	Culture	1
	Microscopic	1
Brain and Ear	Culture	30
	Microscopic	30
Vagina	Spermatozoa	2
Cerebrospinal Fluid	Culture	3
Heart blood	Culture	19
Lung Juice	Diatoms	1
	Total, 1963-64	331
	Total, 1962-63	151

13. MATERIAL SUPPLIED

<i>To hospitals, private practitioners and local authorities</i>			
Diagnostic kits for tuberculosis			226
Diagnostic kits for bacteriology			1,224
Diagnostic kits for haematology and serology			6,867
Diagnostic kits for biochemistry			443
Total 1963-64			8,760
Total 1962-63			11,880

14. MEDIA

Slopes	104,091
Plates	36,658
Tubes and bottles	75,008
Total 1963-64	215,757
Total 1962-63	168,554
Chemical Solutions	1,539 litres
Stains	209 litres
Total	1,748 litres

Q FEVER

(a) Incidence: geographic and occupational

During the year, 1st July, 1963 to 30th June, 1964, 186 recent infections with Q fever were diagnosed from Queensland and 31 from New South Wales. A complement fixation titre for *Coxiella burnetii* of 1:64 or greater in a single specimen or a fourfold rise in titre in paired sera is regarded as indicative of recent infection. The geographical distribution of the cases is set out in Table CIII. All but ten of the patients were males. The 31 cases diagnosed from New South Wales indicate the wide geographic distribution of the disease, but give no measure of the incidence since comparatively few sera are received from interstate. The occupational distribution of the cases is set out in Table CIV.

TABLE CIII
GEOGRAPHICAL DISTRIBUTION OF Q FEVER CASES DIAGNOSED
IN THE LABORATORY
(1st July, 1963, to 30th June, 1964)

QUEENSLAND					Number
District					
Metropolitan	..	..	..	..	41
Moreton	..	..	..	..	38
Maryborough	..	..	..	..	6
Downs	..	..	..	..	34
Cairns	..	..	..	..	18
Townsville	..	..	..	..	6
Rockhampton	..	..	..	..	8
Roma	..	..	..	..	15
North-West	..	..	..	..	3
Central West	..	..	..	..	8
Far West	..	..	..	..	1
South-West	..	..	..	..	8
Total	..	..	..	..	186

NEW SOUTH WALES					Number
Northern Rivers	..	..	..	..	5
Tenterfield	..	..	..	..	23
Broken Hill	..	..	..	..	1
Newcastle	..	..	..	..	2
Total	..	..	..	..	31

TABLE CIV
OCCUPATIONAL DISTRIBUTION OF Q FEVER CASES
(1st July, 1963, to 30th June, 1964)

QUEENSLAND					Number
<i>Meat Industry—</i>					
Abattoir workers	..	..	..	..	93
Occupations associated with abattoirs	..	..	..	..	17
Total	..	..	..	..	110
<i>Sheep Industry—</i>					
Shearers and woolclassers	..	..	..	..	11
Station hands and graziers	..	..	..	..	22
Total	..	..	..	..	33
<i>Dairying Industry—</i>					
Dairy farmers	..	..	..	..	24
Total	..	..	..	..	24
<i>Other occupations—</i>					
Hide handlers	..	..	..	..	2
Kangaroo Shooters	..	..	..	..	2
Students	..	..	..	..	3
Labourers	..	..	..	..	4
Housewife	..	..	..	..	1
Office Workers	..	..	..	..	2
Unstated	..	..	..	..	5
Total	..	..	..	..	19

NEW SOUTH WALES					Number
Abattoir workers	..	..	..	..	27
Sheep station hands	..	..	..	..	1
Dairy farmers	..	..	..	..	2
Housewife	..	..	..	..	1
Total	..	..	..	..	31

(b) Q fever endocarditis

Blood from four patients suspected of having endocarditis due to *Rickettsia burneti* was inoculated into mice and guinea pigs but no infective agent was recovered. In three of these patients Phase I antibody had been found, two in high titre, in repeated sera.

Lymph nodes from a patient who died suddenly with a subarachnoid haemorrhage, were inoculated into guinea pigs since he had had Q fever three years previously. He was found to have a bicuspid aortic valve and hypertensive heart disease but there was no evidence of endocarditis. No rickettsiae were recovered.

LEPTOSPIROSIS

(a) Incidence and geographical distribution

During the period 1st July, 1963 to 30th June, 1964, 213 patients showed serological evidence of recent leptospiral infection. This is a marked reduction from the number, 305, recorded during the previous twelve months. One hundred and eighty-six cases occurred in Queensland and 27 in New South Wales including *pomona* infection at Broken Hill. Sporadic infections occurred in western Queensland; *pomona*

was recorded from Blackall, Winton, Charleville, St George, Dalby and Chincilla, and *hyos* from Julia Creek and Roma. The geographical distribution of cases and the probable causative serotypes are set out in Table CV. It is to be noted that only *icterohaemorrhagiae*, *pomona* and *hyos* have been proved by isolation to occur in Australia outside of north Queensland.

(b) The WHO/FAO Leptospirosis Reference Laboratory

The laboratory has maintained its routine diagnostic service for leptospirosis during the year and distributed type strains, on request, to a number of laboratories and institutions. A number of cultures were received from Bogota, Colombia for typing.

The Commonwealth Health Laboratory at Cairns submitted eight strains from human infections during the year. These were classified as *australis* 5, *pomona* 1, and *mankarso* 2.

Fewer cultures have been received for identification than in previous years but the laboratory maintains a large collection of strains isolated during the years of active research into leptospirosis in north Queensland by the Queensland Institute of Medical Research. Many of the strains of human origin were classified, at the time, on a provisional basis and these are now being studied in detail. Identification of all strains from animal sources has been completed and the results embodied in two papers submitted for publication.

A study of *icterohaemorrhagiae* group strains isolated from patients in north Queensland was begun during the year. Three strains isolated near Cairns were found to belong to the serotype *mankarso*, now reported for the first time from Australia. Two strains were recent isolates from the Commonwealth Health Laboratory in Cairns, the third had been isolated earlier by field staff of the Queensland Institute of Medical Research. The animal carriers of this serotype will be sought in future investigations. Other *icterohaemorrhagiae* group strains from north Queensland are being investigated.

Serotype *esposito* reported from Queensland in 1955 and serotype *bratislava* described previously from eastern Europe have been found to be identical. The latter name has priority and is in current usage.

TABLE CV
GEOGRAPHICAL DISTRIBUTION AND CAUSATIVE SEROTYPES IN
213 LEPTOSPIRAL INFECTIONS
(1st July, 1963, to 30th June, 1964)

Serotype	Number
Coastal area of Queensland, North of Rockhampton—	
<i>icterohaemorrhagiae</i> Group	4
<i>canicola</i> group	6
<i>pyrogenes</i> group	17
<i>australis</i> group	16
<i>pomona</i>	16
<i>grippotyphosa</i>	1
<i>hebdomadis</i> group	6
<i>hyos</i>	4
<i>celledoni</i>	..
Indeterminate (? mixed infection)	4
Total	74
Coastal area of Queensland, Rockhampton to New South Wales border—	
<i>icterohaemorrhagiae</i> Group	3
<i>canicola</i> group ?	1
<i>pyrogenes</i> group ?	..
<i>australis</i> group ?	13
<i>pomona</i>	56
<i>grippotyphosa</i> ?	1
<i>hebdomadis</i> group ?	3
<i>hyos</i>	12
<i>celledoni</i> ?	..
Indeterminate (? mixed infection)	5
Total	92
Darling Downs and Western Queensland—	
<i>pomona</i>	17
<i>grippotyphosa</i> ?	1
<i>hyos</i>	2
Total	20
New South Wales—	
<i>australis</i> group ?	1
<i>pomona</i>	22
<i>hyos</i>	4
Total	27

A new serotype, *perameles* of the *hebdomadis* group has been described recently at the Amsterdam Reference Laboratory from a strain isolated from a bandicoot *Perameles nasuta* captured at Etty Bay Road, Innisfail, in 1958. This serotype has not been recognised as yet amongst strains from human patients. Seventeen serotypes have now been recorded from Australia.

(c) The Epidemiology of Leptospirosis in North Queensland

In conjunction with the Queensland Institute of Medical Research the results of the examination of 5 monotremes, 463 marsupials, 1,350 rodents, 67 bats, 295 domestic animals, 30 birds, 28 reptiles and 21 amphibians from North Queensland for leptospirosis have been submitted for publication. In addition a report on further observations on the hosts in the Mossman area recorded last year has been prepared for publication.

TYPHUS

During the year three murine typhus and 17 scrub typhus cases were diagnosed in the laboratory by the Weil-Felix test. In each there was a typical clinical history and occupational association. Two of the murine typhus patients were from Atherton and one from Chinchilla. In two of these the diagnosis was confirmed by finding complement fixing antibodies to *Rickettsia mooseri*.

The distribution of the scrub typhus patients was, 14 from the Cairns area, and one each from Mackay, Port Moresby and Townsville.

In sera submitted from patients with pyrexia of unknown origin significant titres for *Proteus OXX* were found in 16. These patients were not from areas where scrub typhus occurs and their clinical history was not suggestive. It is considered that these titres with *Proteus OXX* are probably due to *Proteus* urinary infections. It is of interest that 8 patients were infected with leptospirosis and one with Q fever.

No cases of Queensland Tick Typhus were encountered and as yet no satisfactory complement fixation test antigen for *R. australis* is available.

BRUCELLOSIS

There has been an upward trend in the number of infections due to brucella diagnosed in the laboratory from both Queensland and New South Wales over the last two years. The geographical distribution of the 46 cases is set out in Table CVI. A significant (fourfold) change in titre in paired sera or a titre of 1 in 128 or greater in a single specimen was regarded as diagnostic. No attempts at isolation of the organism were successful during the year owing to delays between collection of the specimens and their arrival at the laboratory.

TABLE CVI
BRUCELLOSIS INFECTIONS ON SEROLOGICAL EVIDENCE
(1st July, 1962, to 30th June, 1964)

Locality	Number	
	1962-63	1963-64
Queensland—		
Brisbane	3	8
Ipswich	2	2
Beaudesert	..	1
Caboolture	..	1
Cooroy	2	..
Gympie	..	3
Gladstone	1	1
Rockhampton	..	2
Townsville	2	..
Cairns	1	1
Crow's Nest	1	..
Toowoomba	..	1
Warwick	..	1
Dalby	1	1
Totals	13	22
New South Wales—		
Murwillumbah	1	1
Lismore	1	3
Grafton	..	2
Tarce	..	1
Tenterfield	..	1
Tamworth	1	..
Totals	3	8

PHAGE TYPING OR STAPHYLOCOCCI

Most of the cultures referred for phage typing came from the Princess Alexandra Hospital where a systematic survey of infections is still in progress. Cultures were also received from various centres outside the metropolitan area, but it is felt that more use could be made of the service provided.

The predominant phage type is still 80/81 and related Group I strains although there is an increasing number of Group III strains. A strain which has been isolated from all hospitals from which specimens have been received and the incidence of which is increasing, is designated N.T.-I. This strain is non-typable with the routine test dose (R.T.D.) and also with 1,000 R.T.D. With phages at 1,000 R.T.D., however, there is a pattern of inhibition with 6 Group III phages.

This strain is resistant to penicillin, streptomycin, terramycin, and tetracyclines and sometimes also resistant to chloramphenicol and erythromycin. This year 6 per cent. of the coagulase positive *S. aureus* cultures submitted were of this type. New phages are being isolated in an endeavour to find one which will lyse this strain, but so far this has proved unsuccessful.

DYSENTERY SURVEY AT PALM ISLAND ABORIGINAL SETTLEMENT

In March, 1964, a bacteriologist from the laboratory, together with a parasitologist from the Queensland Institute of Medical Research and a technical assistant from the University visited the Palm Island Aboriginal Settlement to investigate the cause of dysentery amongst the children. Outbreaks of dysentery had occurred during the summer months each year and there had been deaths of young children from this cause. It was thought that *Entamoeba histolytica* was the most probable infecting agent. A total of 322 specimens from 297 persons was examined. The faeces were examined microscopically for protozoan and helminthic infestation and cultures were made from the faeces of children under the age of three who either had diarrhoea or gave a history of recent attacks. Whenever possible the specimens were examined within 30 minutes of the stool being passed.

The protozoa found were—

<i>Entamoeba histolytica</i>	
Trophozoites	64
Cysts	5
<i>Giardia lamblia</i>	
Trophozoites	22
Cysts	66
Trophozoites and cysts	33
<i>Entamoeba coli</i>	8
<i>Endolimax nana</i>	4
<i>Dientamoeba fragilis</i>	19
<i>Iodamoeba butschlii</i>	26
<i>Trichomonas hominis</i>	23

Of the 176 children under three years of age 14 per cent. were infected with *E. histolytica* and 48 per cent. with *G. lamblia*. Amongst 121 contacts 36 per cent. were infected with *E. histolytica* and 31 per cent. with *G. lamblia*.

Helminths detected were:—

<i>Ascaris lumbricoides</i>	29
<i>Enterobius vermicularis</i>	1
<i>Hymenolepis nana</i>	24
<i>Trichuris trichiura</i>	140

A total of 143 bacteriological cultures was made and forwarded to Brisbane for examination. *Shigella flexneri* was isolated from 2 children and a pathogenic coliform from one.

The aboriginal population of Palm Island is approximately 1,300 and 23 per cent. of these were examined. The results suggest that infestations with *E. histolytica* and *G. lamblia* are the most probable causes of outbreaks of dysentery.

SALMONELLA ISOLATIONS

Seven salmonella strains were isolated during the year, six being from infants with gastroenteritis. Four strains from Charleville were *S. chester* (1) and *S. give* (3). The two Brisbane isolates were *S. typhi-murium* and *S. anatum*. *S. typhi-murium* was also isolated from a young infant at Biloela.

Three salmonella cultures referred from Port Moresby were respectively *S. london*, *S. virchow* and *S. infantis*.

Five further cultures from patients in Port Moresby were found to be *S. typhi* phage type E1.

S. FLEXNERI FROM SAGO

An adult male native from near Port Moresby was admitted to hospital with severe pain and vomiting for 24 hours. On admission he was found to have marked haemoglobinuria. Despite treatment he died the day after admission. It was considered that his death was due to Blackwater Fever until the night after his death when two relatives arrived at hospital, one with haemoglobinuria and the other with a severe haemolytic anaemia. The only common factor appeared to be the consumption of some old sago two days previously. This sago was referred to Brisbane for culture and *S. flexneri* was isolated.

THE TUBERCULOSIS LABORATORY

An additional 9,000 investigations were made over the total for the previous year. Much of the work is due to the activity of the mobile X-ray units. An increasing number of cultures are referred from other laboratories for animal inoculation and typing. The laboratory is regarded as a reference centre and many anonymous mycobacteria are received from various centres for investigation.

Three cases of human pulmonary tuberculosis due to bovine strains were found during the year, one each from Cairns, Rockhampton and Brisbane.

A culture was referred from a leg ulcer on a man in Melbourne. After prolonged investigation and numerous inoculations in mice it was considered to be *Mycobacterium balnei*.

(a) The anonymous or unclassified mycobacteria

Since 1959 the anonymous mycobacteria have been grouped according to Runyon's classification, in the absence of any better and generally accepted system. This grouping has been carried out only when the organism grew on two or more of the twelve tubes of media inoculated from three consecutive specimens. In some cases the mycobacteria have been isolated from all three specimens but only one culture has been grouped in these patients. Repeated isolations when referred to hereunder, indicate that the organism has been isolated from a new series of specimens. The classification of the anonymous mycobacteria isolated from 239 patients between 1st July, 1963 and 30th June, 1964, is as follows:—

Group	Number of Patients
I	4
II	40 with 1 isolation
II	1 with 2 isolations
III	106 with 1 isolation
III	18 with 2 isolations
III	2 with 3 isolations
IV	19 with 1 isolation
IV	1 with 2 isolations
IV (<i>M. fortuitum</i>)	14 with 1 isolation
IV (<i>M. fortuitum</i>)	1 with 2 isolations
I and III	1 with 1 isolation
I and IV	1 with 1 isolation
I and <i>M. fortuitum</i>	1 with 1 isolation
I, II, III	1 with 1 isolation
II, III	13 with 1 isolation
II, IV	5 with 1 isolation
II, (<i>M. fortuitum</i>)	3 with 1 isolation
II, III, IV	2 with 1 isolation
II, III, (<i>M. fortuitum</i>)	1 with 1 isolation
III, IV	4 with 1 isolation
III, (<i>M. fortuitum</i>)	1 with 1 isolation

(b) Primary Resistance of *Mycobacterium tuberculosis*

Recently the prevalence of primary drug resistance of *M. tuberculosis* has been causing concern throughout the world. By primary resistance is meant resistance to one or more of the "first line" drugs (Streptomycin, P.A.S. and I.N.A.H.), by organisms cultured from new cases of tuberculosis who have had no previous treatment. These patients could have been infected by organisms having an acquired or a natural resistance. Information concerning the incidence of primarily resistant *M. Tuberculosis* in Australia is somewhat limited.

It has been the practice in the laboratory to perform resistance tests as a routine on all newly isolated cultures using the resistance ratio method. The "resistance ratio" is the ratio of the minimal inhibitory concentration of a drug for the test strain to that of the standard H37RV strain. A resistance ratio of less than 4 indicates sensitivity, a ratio of 4 indicates that the strain is probably resistant and the test should be repeated, whilst a ratio of 8 or greater is indicative of definite resistance.

The results of sensitivity tests on cultures from untreated patients and a series of treated patients, for comparison, are set out hereunder. All these cultures were isolated during the year.

A. Untreated patients—

Total	211
Resistant to Streptomycin, P.A.S., I.N.A.H.	0
Resistant to Streptomycin, P.A.S.	0
Resistant to Streptomycin, I.N.A.H.	1 = 0.5%
Resistant to P.A.S., I.N.A.H.	4 = 1.9%
Resistant to Streptomycin only	3 = 1.4%
Resistant to P.A.S. only	3 = 1.4%
Resistant to I.N.A.H. only	3 = 1.4%

B. Treated patients—

Total	69
Resistant to Streptomycin, P.A.S., I.N.A.H.	4 = 5.8%
Resistant to Streptomycin, P.A.S.	0
Resistant to Streptomycin, I.N.A.H.	4 = 5.8%
Resistant to P.A.S., I.N.A.H.	5 = 7.2%
Resistant to Streptomycin only	5 = 7.2%
Resistant to P.A.S. only	1 = 1.5%
Resistant to I.N.A.H. only	8 = 11.6%

(c) *Pfeifferella whitmori*

Pus from an empyema of the lung of a male aged 31 years was received from a metropolitan hospital for culture for *M. tuberculosis*. The pus was treated with 4 per cent. NaOH and after the normal homogenisation, neutralisation and centrifugation four Lowenstein-Jensen slopes were inoculated. A guinea-pig was inoculated after the pus had been processed.

The guinea-pig died after one week with small lesions in the spleen and lung, having the histological appearance of small granulomas. A yellowish-pink confluent growth appeared on the L-J medium after 1 week of incubation at 37°C. The organisms were not acid-fast but gram negative pleomorphic bacilli with many ovoid forms showing bipolar staining.

Further guinea-pigs were inoculated from the L-J culture and these died within 2-3 days with numerous granulomatous lesions in the spleen, liver, lungs and at the site of inoculation. Intraperitoneal injection of a further guinea-pig produced the typical Straus reaction within 3 days. The guinea-pig tissues were recultured and grew rapidly on blood agar, agar and S.S. media.

The organism produced acid, but no gas, in glucose, maltose, lactose, mannite, sucrose and dulcitol after 48 hours. Gelatin was liquefied within 48 hours. On blood agar plates there appeared round, low, convex greyish colonies which developed a rough appearance after 48 hours. There was slight haemolysis at 24 hours.

The organism was identified as *Pfeifferella whitmori*. It was of interest that this organism survived the rigorous processing used for the specimens submitted for culture of *M. tuberculosis*.

PREGNANCY TESTS

During the year immunological tests for the detection of chorionic gonadotrophin in urine have become available commercially. These have advantages over the male toad test which has been widely used in this laboratory and in Australia for many years. The main advantages are standardised reagents, simpler and less time-consuming manipulations, and ready availability at all seasons of the year.

Two of these commercial products—"Pregnosticon" and "U.C.G."—have been tested in this laboratory and compared with the male toad test by a follow-up questionnaire sent to hospitals and medical practitioners submitting specimens. These specimens came from all parts of the State including Thursday Island and as the trials were conducted during the summer months the conditions were far from favourable. In all, 521 specimens were tested in duplicate, either with the male toad test and Pregnosticon, the male toad test and U.C.G., or with Pregnosticon and U.C.G. Although the response of hospitals and doctors to the follow up was very satisfactory, a number of patients did not return or for other reasons a final diagnosis could not be made. However a final diagnosis was given in 300 cases and on this information the three tests were evaluated. The results are shown in Table CVII. It will be seen that both of the immunological tests give greater overall accuracy than the male toad test and this latter method has now been replaced. The incidence of false positive reports given by the newer methods has been a cause of some concern but we and others have found that this is largely due to the misinterpretation of an occasionally encountered precipitation pattern. It is possible that in some cases the follow-up diagnosis may have been in error and an early abortion interpreted as menstruation.

More recently a rapid slide method of pregnancy testing using immunological principles has been marketed under the name "Gravindex". A trial of this product has been carried out on 163 specimens in parallel with the "U.C.G." test. A follow-up has not yet been done but the results indicate a close agreement of the two tests, "Gravindex" being somewhat less sensitive than "U.C.G."

TABLE CVII
COMPARISON OF MALE TOAD, "U.C.G." AND "PREGNOSTICON" PREGNANCY TESTS

Test	Result	Follow-up		Totals
		Correct	Incorrect	
Male Toad	+ve	61	0	61
	-ve	57	22 (15.7%)	79
	Totals	118 (84.3%)	22 (15.7%)	140
U.C.G.	+ve	133	4 (1.7%)	137
	-ve	90	13 (5.4%)	103
	Totals	223 (92.9%)	17 (7.1%)	240
Pregnosticon	+ve	145	10 (4.0%)	155
	-ve	88	4 (1.6%)	92
	Totals	233 (94.4%)	14 (5.6%)	247

COMPARISON OF "GRAVINDEX" AND "U.C.G." PREGNANCY TESTS

Test	Result	"Gravindex" Results			
		+ve	-ve	Doubtful	Totals
"U.C.G." Results	+ve	95	15	1	111
	-ve	0	49	1	50
	Doubtful	2	2	0	4
	Totals	97	66	2	165

HELMINTHOLOGY

Surveys for helminths have been carried out on faecal specimens submitted from one of the male wards at the

Brisbane Special Hospital and also from groups of aborigines at Beaudesert and St. George. Only the Beaudesert survey is complete but the results to date indicate an undesirable incidence of infection. The results are set out hereunder:

Locality	Specimens Examined	Hookworm ova	Ascaris ova	Giardia lamblia Cysts	Hymenolepis nana
Special Hospital, Brisbane	85	7 (8%)	Nil	Nil	Nil
St. George	109	Nil	11 (10%)	18 (16%)	1 (1%)
Beaudesert	151	17 (11%)	54 (36%)	5 (3%)	Nil

Treatment of the infected individuals in the Beaudesert area has commenced and specimens will be submitted for later check.

Random specimens from aborigines residing at O.P.A.L. House and other near Brisbane localities indicate a high incidence of Ascaris infection.

THE USE OF DRUG SENSITIVITY TESTS IN GENERAL PRACTICE

In recent years attempts have been made by some to encourage the use of a bacteriological sensitivity test kit by medical practitioners in areas where laboratory facilities are not readily available.

These "do-it-yourself" kits are not to be recommended. The selection of the single medium provided is inadequate to support the growth of the entire range of organisms from a wide variety of lesions. No attempt is made to identify the organisms before performing the sensitivity tests and many sites would commonly yield mixed bacterial growth. In a mixed culture at five hours the fastest growing organism will outgrow the slow growers, thus cocci will tend to be overgrown by coliform bacilli. The sensitivity pattern obtained at five hours will be that of the overgrown bacilli, rather than necessarily the true pathogen in a lesion. The media is unlikely to support growth of the more fastidious organisms and all anaerobes would automatically be overlooked. Normal bacterial flora could easily be mistaken for pathogens by the inexperienced and in vitro sensitivity tests performed on mixed cultures might prove so inaccurate that it is probably better to abandon this method of testing altogether.

It has been said rightly that any confidence in antibiotic prescribing which may be gained by this method is nothing more than a sense of false security based on numerous inaccuracies. Reliable bacterial sensitivity tests can only be performed by experienced bacteriologists with adequate facilities and under properly controlled conditions.

FATAL TRAFFIC ACCIDENTS IN BRISBANE (1935-63)

A retrospective survey of 2,214 traffic accident fatalities occurring in Brisbane between June 1935 and 1963 has been completed and a report has been submitted for publication. The fatalities consisted of 910 pedestrians, 312 car passengers, 300 car drivers, 287 motor cyclists, 181 pedal cyclists, 132 truck, tram and bus passengers, 57 pillion passengers, 21 motor scooterists and 14 others. The distribution of the fatalities according to age, sex and participant type in 5-year periods and the frequency of accidents by time of day were recorded.

Details of the distribution of injuries for the whole 2,214 cases and for each individual category were listed. Brain damage was present in 71.2 per cent. of the whole group and in only 60.2 per cent was there an associated skull fracture.

Fractures of the ribs occurred in 42.8 per cent. of the total participants, the highest incidence being in car passengers (55.1 per cent.) and car drivers (53.7 per cent.). The lungs were injured in 22.5 per cent. and the heart in 9.6 per cent. of the whole group.

Of the abdominal organs, the liver was injured in 18.5 per cent., the spleen in 12.7 per cent. and the kidney in 5.2 per cent. Retroperitoneal haemorrhage was found in 15.8 per cent., generally associated with fractures of the pelvis.

The frequency of spinal fractures was, cervical 8.6 per cent., thoracic 5.4 per cent. and lumbo-sacral 1.2 per cent. Spinal fractures and fractures of the lower limbs were more frequent in pedestrians than in other categories.

The number of injuries per victim in each participant category and the changes in the degree of injury over the period 1935-63 were recorded. A steady upward trend in the multiplicity of injuries was observed in most categories.

Over this period there has been a significant decrease in the incidence of uncomplicated extradural haemorrhage together with an increase in the incidence of uncomplicated subdural haemorrhage. An increasing incidence of fractures of the cervical vertebrae and of lower limb fractures was noted in pedestrians.

Contributing causes of death such as haemorrhages, suffocation, pulmonary oedema, pneumonia, fat embolism and shock were discussed.

No deaths due to carbon monoxide were found. Burning was a cause of death in 1.3 per cent. and drowning in 0.3 per cent. of car occupants.

Blood alcohol estimations are recorded from 561 fatal accident fatalities between 1955 and 1963. Of these 33.7 per cent. had a blood alcohol of 0.1 G per cent. or greater. This level of alcohol was found in 41.9 per cent. of all car drivers and in 62 per cent. of drivers in car accidents where no other car was involved and for which the deceased driver was responsible.

In the 774 vehicle occupants information concerning ejection was obtained in all but 69. Complete or partial ejection occurred in 46.5 per cent. of car drivers and 44.3 per cent. of passengers and 78.8 per cent. of truck, tram and bus passengers. There was no significant trend in the incidence of ejection over the 28 years of this study.

Certain important implications arise from this investigation.

(a) Accident units in hospitals must obviously be capable of coping with many severe injuries in a single patient, and these may be the concern of several different specialists.

(b) Suffocation from inhaled blood or vomitus is an important cause of death from asphyxia before patients reach hospital. The maintenance of a clear airway should be uppermost in the mind of all who handle casualties from the roadside to the operating theatre or ward.

(c) The enforcement of the wearing of crash helmets for motor cyclists, pedal cyclists and motor scooterists, of whom 76 per cent., 80 per cent. and 95 per cent. respectively suffered brain damage, is obvious. Legislation has been in force in Victoria requiring the use of helmets by motor cyclists since 1961 and has proved both effective and easily enforceable.

(d) There is abundant evidence to support the use of safety belts for car occupants and undoubtedly many severe injuries in our series could have been avoided by their use.

(e) Disease only rarely causes severe traffic accidents. Proposals such as the regular medical examination of all drivers of sixty years or over are thus not likely to be profitable even if they were feasible.

(f) Of any single human factor causing traffic accidents, the consumption of alcohol has been most thoroughly demonstrated.

(g) There is an urgent need for research into all aspects of traffic accidents and this will involve people in many disciplines. Money will be needed for this purpose.

"COT DEATHS"

The term "cot death" is used as synonymous for sudden unexpected death in infants and presents one of the most tantalising problems for the forensic pathologist. These deaths of apparently healthy infants occur regularly in every large community. In Brisbane there were 14 "cot deaths" in 1962, 18 in 1963 and so far 10 have occurred during the first six months of 1964.

In the past these deaths have been attributed to mechanical suffocation but the available evidence points to death being due to some disease process. Inflammatory changes in the respiratory tract are almost invariably found but just how death is caused remains obscure. There seems to be no means of predicting which children are at risk and even if one could predict this, there appears to be no means of preventing these deaths.

The ratio of males to females of 2 to 1 which has been noted in Queensland holds universally. There is a marked peak at 3-4 months of age and practically no cases occur before the age of 6 weeks. In the United States of America, England and Melbourne there is a definite preponderance of these deaths in the early winter months. In Brisbane this seasonal variation has not been marked and it is not uncommon to have these deaths occurring in small groups, often associated with epidemics of "flu" in the community. The largest single outbreak was recently, in June, 1964, when seven deaths occurred.

At the Institute of Forensic Pathology these "cot deaths" are investigated thoroughly at necropsy, together with detailed bacteriological and histopathological examination. Virological studies have been made at the Queensland Institute of Medical Research.

When these deaths occur, the parents, and particularly the mothers, inevitably undergo overwhelming and persistent emotional stress. The suspicion that the death has been caused by suffocation frequently causes self-reproach and guilt and occasionally has even resulted in suicide.

To counteract the harmful and shattering effects on parents of a belief or even suspicions that they have been responsible in some way for the death of their child the parents must be contacted as soon as possible after the necropsy and an explanation given for the delay in issuing a certificate. It is also necessary to assure the parents that the investigations will almost certainly prove that the child died from natural causes. It has been found that the most effective way to establish this contact is through the Social Worker attached to the Health Department. She has been of great assistance and has been of tremendous help to the parents she has visited. Her co-operation is gratefully acknowledged.

THE INSTITUTE OF FORENSIC PATHOLOGY

As was predicted there has been a steady increase in the number of coronial necropsies. In the twelve months 1962-63, 791 necropsies were performed whilst in the last year this number has increased to 881. It is fortunate that the excellent facilities at the Institute allow for this increase without embarrassment. The necessity for an additional medical officer has, however, become apparent since many of the necropsies require most time-consuming histopathological investigation. A high standard of pathological service is at present provided and this must not be allowed to deteriorate from pressure of work.

The laboratory at the Institute was for some months without a technician but this difficulty has now been overcome and the ancillary laboratory services are extensively used. Radiological facilities within the Institute have on occasions proved to be of great value.

Copies of all coronial necropsy reports performed in Queensland are now forwarded to the Institute and these have been carefully perused and indexed according to district and cause of death. In the past twelve months 868 reports have been received from 72 centres. These reports include 234 coronary occlusions, 188 traffic fatalities, 6 deaths in pregnant women, 20 deaths in children under 12 months of age and 5 due to asthma. Drowning was responsible for 45 and electrocution for 9. One death due to poisoning from cassava root was of particular interest.

This centralisation of coronial necropsy reports makes it possible to detect possible faults in interpretation as well as providing a most valuable source of pathological data. Instructions have been prepared regarding various aspects of medico-legal investigation and these have been circulated to Government Medical Officers. It is hoped that this will play a part in raising the general standard of the coronial necropsies throughout the State. One effect has been that an increasing number of specimens from country necropsies are referred for histopathological examination.

One great problem in forensic work is the necessity for the senior staff to attend courts away from the metropolitan area. During the last year senior staff members had to attend district courts on 32 occasions. On 17 occasions this necessitated journeys of over 1,000 miles to reach the court. The disruption of the normal work of the laboratory by these visits needs no emphasis.

A number of research projects are being carried out at the Institute, as far as time permits. An application has been made to the National Heart Foundation for a research fellow to investigate the problem of myocarditis as a cause of sudden death. Abundant material and good facilities are available for such an investigation.

HISTOPATHOLOGY

During the year 6,686 biopsy and post-mortem specimens were received from metropolitan practitioners and country centres and from these 10,642 histopathology slides were prepared and examined.

Amongst the routine biopsy material examined the following are of epidemiological and pathological interest: Chromoblastomycosis (6 cases), Maduromycosis (1 case), Sporotrichosis (1), Pulmonary torulosis (1), Leprosy (9), Granuloma venereum (3), Milkier nodule (2), Malignant melanoma (46), Carcinoma of the cervix (30) (13 of which were *in situ*), "Cat scratch" lymphadenitis (5), Necrotising jejunitis (3), Renal papillary necrosis (4).

An increase of 800 specimens have been submitted for exfoliative cytology, making a total of 2,202 for the year. The examination of the specimens has been most time-consuming for the medical officer performing this work. Fortunately a technician is being trained as a scanner and, when competent, will relieve the task greatly.

PUBLICATIONS

- BATTEY, Y. M., and SMITH, D. J. W. (with BARROW, G. J.), (1964): "The epidemiology of Leptospirosis in North Queensland, II Further observations on the hosts in Mossman District" (in the press).
- SMITH, D. J. W. (with EMANUEL, M. L., and MACKERRAS, I. M.), (1964): "The epidemiology of Leptospirosis in North Queensland, I General Survey of the Animal Hosts" (in the press).
- SMITH, D. J. W. (1964): "Leptospirosis in Queensland" (in the press).
- STALLMAN, N. D. (with DWYER, R. St. C.), (1963): "A serological survey for Antibodies to the Ornithosis-Lymphogranuloma group of viruses in Queensland", *Med. J. Aust.*, 2, 1043.
- TONGE, J. I. (with ABRAHAMS, E. W.), (1964): "*Mycobacterium ulcerans* infection in Queensland", *Med. J. Aust.*, 1, 334.
- TONGE, J. I. (1964): "Safety belts in motor vehicles", *Med. J. Aust.*, 2, 1014.
- TONGE, J. I., O'REILLY, M. J. J., DAVIDSON, A. (with DERRICK, E. H.), (1964): "Fatal Traffic Accidents in Brisbane (1935-1963)" (in the press).

QUEENSLAND GOVERNMENT CHEMICAL LABORATORY

Director, Government Analyst and Chief Inspector of Explosives: I. L. B. HENDERSON, B.Sc., A.R.A.C.I.

Deputy Director and Inspector of Explosives: V. R. CUNDITH, B.Sc., A.R.A.C.I.

The Government Chemical Laboratory provides a chemical, analytical, and advisory service for State Government Departments, a complete service in Queensland for the Commonwealth Departments of Customs and Excise and of Primary Industry, and carries out analytical work for other Commonwealth Departments and for the Territory of Papua and New Guinea.

A record number of 31,993 samples was examined for the twelve month period and the following table (Table CVIII) indicates the number of samples submitted by the various departments:—

TABLE CVIII

SHOWING SOURCE AND NUMBER OF SAMPLES	
Source	Number
State Departments—	
Health	6,974
Police	1,029
Mines	11
Geological Survey	1,485
Coal Board	1,300
Harbours and Marine	180
Postmaster	2,786
Irrigation	1,675
Local Government	279
Main Roads	101
Railways	77
State Stores	572
Works	1,271
Housing Commission	7,075
Microbiology and Pathology	553
Government Medical Officer	439
Industrial Medicine	188
Others	952
Commonwealth Departments—	
Primary Industry	2,038
Customs and Excise	2,031
Others	32
Hospital Boards	304
Medical Profession	234
Public	407
Total	31,993

The work demand has been heavy on all sections of the Laboratory during the year as is evidenced by the record number of samples examined. Special effort was made to meet the needs of the Queensland Housing Commission, in regard to paint samples, with the result that 7,075 samples of paint were examined for the Commission as compared to 3,128 last year and 1,542 in the preceding year.

Lack of laboratory space has made it difficult to meet the rising demands for analytical services from several State Departments and from the Commonwealth Department of Primary Industry which, in keeping with Australia's increasing export activity, also requested additional analytical work in maintaining the standards of export primary products. To afford some relief a major portion of the present darkroom is now being converted to a laboratory suitable for general analytical purposes and a small section of the ore crushing room is undergoing reconstruction. Early in 1965 it is hoped two large laboratories will become available in the building on the corner of William and Alice Streets at present occupied by the University of Queensland Physiology School. It is intended to transfer the Waters and Paints sections to these laboratories, thus easing the position in the main laboratory. Such separate laboratories are not regarded favourably, but there is no alternative at present and the transfer of the Water section from South Brisbane to a site closer to the main laboratory will be an advantage.

The Laboratory, through the Mines Department, has been associated with the search for oil in Queensland since very early days. In 1900 the first analysis of a Queensland natural gas was made and in 1927 petroleum oil fractions were extracted from the Roma bore gas by J. B. Henderson and A. S. Hurwood. During the increased prospecting activities of more recent years the laboratory has played its analytical part, and now, with commercial quantities of oil discovered,

together with large quantities of natural gas, more and more time and attention has been required for this work and provision of additional equipment has been sought for the coming year. The laboratory also has been actively associated with the development and export of Queensland's coal resources through its work for the Geological Survey and the Queensland Coal Board and the recent acquisition of a high frequency induction furnace will facilitate these services.

As from the 13th January, 1964, control of the four Government bulk explosive magazines at Helidon, Bajool, Brookhill and Queerah was transferred from The Treasury to the Department of Health and thus the bulk storage, in addition to the testing for safe storage, transport and use of all industrial explosives entering the State and the issue of all licenses under The Explosives Acts and Regulations, is administered by this Laboratory. A report on the administration of "The Explosives Acts, 1952 to 1963," is appended.

Sectional reports which follow show in some detail the work of the Laboratory.

SECTION 1

FOODS, DRUGS AND WATERS

H. G. DUNSTAN, B.Sc., A.R.A.C.I.—Officer in Charge

Table CIX gives the source and number of the samples examined.

TABLE CIX

Department	Number of Samples
Health	6,790
Irrigation and Water Supply	1,675
Other Government Departments	801
Local Government	279
Public	224
Total	9,769

TABLE CX

SUMMARY OF SAMPLES OF FOODS AND DRUGS EXAMINED FOR THE DEPARTMENT OF HEALTH

Nature of Sample	Number of Samples
Beverage or cordial	387
Bread	272
Cereal	91
Condiment	51
Confectionery	9
Fish	41
Fruit	11
Meat	269
Milk—official	3,209
Milk—unofficial	54
Milk product	110
Spirit, wine or beer	44
Vegetable	20
Disinfectant or insecticide	31
Drug or medicine	275
Paint or paint scraping	177
Pencil	215
Tobacco	421
Toilet preparation	126
Toy	22
Miscellaneous	392
Total	6,227

The miscellaneous samples include adhesive, bait, bleach, cake mix, conveyor belt, crown seal, drinking-straw, fabric, floor polish, ginger, hypodermic syringe, marking ink, model aeroplane fuel, paint stripper, preservative, soil, vegetation.

TABLE CXI

DETAILS OF LEGAL SAMPLES TAKEN BY INSPECTORS IN ACCORDANCE WITH THE PROVISIONS OF "THE HEALTH ACTS, 1937 TO 1962"

Nature of Sample	Number Examined	Passed	Failed
Milk	3,209	2,992	217
Minced meat	160	130	30
Sausage	79	51	28
Paint scraping	54	21	33
Paint	38	38	0
Toy	13	0	13
Cream	12	11	1
Spirituous liquor	6	1	5
Bread	3	2	1
Fabric	1	0	1
Miscellaneous	6	1	5
Totals	3,581	3,247	334

MILK

Legal samples for the year were 3,209, a record number. Comparison with the preceding three years shows some consistency.

—	1960-1	1961-2	1962-3	1963-4
Total samples	2,176	3,147	3,080	3,209
Passed (per cent.)	94.0	95.0	94.2	93.2
Deficient in fat	4.2	3.2	3.4	2.9
Watered	0.5	0.5	0.5	0.5
*Naturally poor	1.3	1.3	1.9	3.4
Average fat	3.89	3.88	3.92	3.89

* Where "Naturally poor" means deficient only in solids not fat.

The watered milks (15) were taken at Brisbane (5), Gladstone (4), Quilpie (2), Stanthorpe (1) and Toowoomba (3).

Bottled milk satisfied the prescribed chemical test for pasteurisation and few complaints were received concerning dirty bottles.

Pasteurised milks from ten factories were tested for chlorinated pesticides (such as D.D.T. and gammexane) and only small proportions were found.

One sample of milk with a pronounced taint was contaminated by a sterilizing compound used in milk factories.

Flavoured milks, examined in relation to a new regulation, conformed with the standard.

MEAT

The preservative, sulphur dioxide, was found present in 30 of the 160 legal samples of minced meat although its use in minced meat is prohibited.

In sausages it is permitted to use sulphur dioxide provided not more than 3.5 grains per pound is present. Excess sulphur dioxide was found in 11 of the 79 legal samples. Of these 79 samples 17 were deficient in meat content (prescribed minimum—75 per cent.).

Meat pies are now required to contain 25 per cent. of meat. A survey of the pies on the market has been initiated but, as yet, has not advanced sufficiently to justify comment.

FLOUR

Samples taken from the flour mills were mainly satisfactory. The wholemeal content of a few of the meals for baking wholemeal bread was slightly low and one sample of protein-enriched flour was a little low in protein.

White flour, with a range of 11.3 to 12.3 per cent. of protein, was again of good quality and suitable for bread baking.

BREAD

Examination of 272 samples of bread showed good conformity with the prescribed standards of composition and the quality of these samples was satisfactory.

Dry solids content of 65 loaves and milk solids content of 9 loaves were determined for the Department of Weights and Measures.

DRUGS AND MEDICINES

A survey of tinctures of iodine revealed only small deficiencies of iodine or potassium iodine in a few of the samples.

Proprietary medicines were investigated. The presence of restricted drugs prevented the open sale of some and failure to conform with the required standard condemned another. Extravagant claims were challenged.

The number of drugs submitted by hospitals was higher this year. These drugs were tested for conformity with the requirements of the British Pharmacopoeia. An investigation of bottles showed some to be unsuitable for containing eye-drops.

Deteriorated drugs were forwarded from hospitals and chemists for official destruction.

FRUIT AND VEGETABLES

An ever-increasing list of pesticides makes the determination of residues more difficult. During the year samples of strawberries, oranges, apples, grapes and cabbages were examined and residues were found to be well below the tolerated proportions.

Methods using gas chromatography have assisted this work and it is hoped by this means to expand the investigation considerably in the coming year.

COSMETICS

Explosion of a small number of hair-spray cans demanded a full inquiry into the safety of these preparations. The fault was attributed to the inclusion of water which caused hydrolysis of the propellant, generating acid, and consequently causing corrosion of and weakening of the metal cans.

A comprehensive study, involving 57 samples representing 30 brands, showed that only one batch of one brand was faulty. Withdrawal of this batch from sale removed the danger.

A preparation for hair bleaching consisted of two bottles, one of which contained a strong solution of hydrogen peroxide (35 per cent.).

Strong solutions of peroxide are dangerous and in this concentration not only blister the skin but can cause explosion and fire.

NEW REGULATIONS

Amendments of "The Poisons Regulations of 1958" were published in December, 1963, and include Poisons Schedules which differ from the previous schedules.

Amendments of "The Food and Drug Regulations, 1957" were adopted on 1st February, 1964. This brings into effect a number of food standards and regulations which are now common to all States of Australia.

MISCELLANEOUS

Soft drinks and cordials (387 samples) were checked thoroughly and few faults were observed. Excess preservative was present in a few drinks. Artificial colours in soft drinks were regularly tested and conformed with the regulations.

Pencils and crayons (215) were tested for lead content and only two contained lead.

Surveys of vinegar (15), dessert mixes (7), cornflour (6), arrowroot (3) and soaps (27) showed all samples meeting the required standard and only few minor faults in labelling.

Paints (38) were analysed particularly for compounds added for fungicidal purposes.

Imported foods condemned on account of spoilage by insects or mould included nutmegs, figs, and fig and almond bars.

Pickled onions contained a great excess of sulphur dioxide. Pickled gherkins contained dissolved iron (160 parts per million). Olives were fermented and mould affected and unfit for human consumption.

Strawberry jam (one brand) was far below the required fruit content.

Home-made mandarin jam contained a toxic proportion of zinc (0.14 per cent.) suggesting the use of a galvanized container.

Two samples of sugar, received ten months apart, from Brisbane and Gympie respectively, were each contaminated with citric acid.

Foreign objects in food were—razor blade in beer and glass in bread.

Of 16 samples of toothpaste tubes three were made of lead in contravention of the regulations and the remainder were aluminium.

Eggs from fowls running on ground sprayed with gammexane contained one part per million of this insecticide and were highly tainted and inedible.

Dress material with a name suggesting the presence of wool was entirely nylon. The offender was prosecuted.

Many preparations were checked for the purposes of "The Dangerous Substances Regulations"—detergents, adhesives, paint strippers, inks in the modern marking devices and polishes.

Samples from Government Departments other than Health included bread, sausages, minced meat, tea, pepper, tobacco and cigarettes, drinking straws, detergents, washing powders, insecticides, hypodermic syringes and sulphur dioxide medihaler.

Legal samples of soft drinks were received from The Territory of Papua and New Guinea.

WATERS SUB-SECTION

Samples of water, sewage, and industrial waste examined during the year totalled 3,333.

Various State and Commonwealth Government Departments and the general public submitted the samples. The sources and corresponding numbers of these samples are given in Table CXII.

TABLE CXII

Source	Number of Samples
Water—	
Department of Health	557
Irrigation and Water Supply Commission ..	1,675
Department of Local Government	279
Department of Harbours and Marine	180
Miscellaneous State Government Departments ..	212
Miscellaneous Commonwealth Government Departments ..	62
Public	213
Sewage and Industrial Waste	155
Total	3,333

Over 200 more samples of water were analysed for the Irrigation and Water Supply Commission this year, and the number of samples submitted by the Commission will doubtless increase in the future, as a result of increased activity by a National Water Resources Committee. Four officers are fully occupied at present analysing samples for the Commission.

There was also a considerable increase in the number of samples examined for the Department of Local Government. These were mainly of sewage from various points in sewage treatment plants in provincial cities and towns and were submitted to check the efficiency of the treatment.

Water samples from bores drilled in search of oil are still being forwarded to the laboratory in considerable numbers. Many of these contain a large proportion of drilling mud and this makes satisfactory analyses more difficult and time-consuming.

SECTION 2

TOXICOLOGY, BIOCHEMISTRY AND INDUSTRIAL HYGIENE

G. LAHEY, M.Sc., A.R.A.C.I.—Officer in Charge

A total of 2,913 specimens was examined by this section during the year.

TOXICOLOGY

Of the 846 specimens examined, 746 were in connection with 266 post-mortem examinations. The majority of these were at the request of Coroners throughout Queensland.

Poisons were found in specimens from 179 of these post-mortem examinations. The remaining 87 examinations did not reveal any poison, but were considered necessary to exclude this as a possible cause of death. Barbiturate drugs, in excess quantity, were again most commonly found (118 cases) and included pentobarbitone (51 cases), carbital (23), amylal (13). In a number of instances, alcohol was found together with barbiturate and the synergistic effect of alcohol on the action of barbiturate drugs was evident. Other poisons found included Ethyl Alcohol (5), Chloral (4), Strychnine (4), Arsenic (4), Chlordane (2), Paraldehyde (2), Medicinal Iron Compounds, Organic phosphate, Glutethimide, Methanol, Nicotine.

Marihuana was detected in a number of samples of cigarettes and cigarette butts.

Specimens of charred material, in connection with several suspected arson attempts, were received. In these, trace residues of petroliferous substances were detected using the gas chromatograph recently acquired by this section.

Other specimens received included pig and dog viscera, suspected poison baits, foodstuffs, anaesthetics, drugs.

Evidence was given in court on 25 occasions.

BIOCHEMISTRY

Biochemical specimens were examined for the Laboratory of Microbiology and Pathology, Government Medical Officers throughout Queensland, Police Department, Director of Industrial Medicine, Hospitals and Medical Practitioners. The nature, significance and number of such specimens are shown in Table CXIII.

TABLE CXIII

Nature of Specimen and Significance	Number of Specimens
Blood and Urine for alcohol	1,245
Urine, Blood and Bone for lead	502
Hair, Nail and Urine for arsenic	97
Blood, Urine and C.S.F. for drugs	41
Stomach Washings for drugs	47
Blood for carbon monoxide	23
Miscellaneous	52
Total	2,007

The miscellaneous item included estimations of lead, zinc and arsenic in water; mercury and thallium in biological material; bromide in blood to check exposure of workers to methyl bromide fumigant; specimens received in connection with the suspected administration of drugs to a race horse.

Determinations of alcohol in blood and urine were carried out for Government Medical Officers (chiefly in connection with charges against motorists); for the Police Department (chiefly in connection with road accident investigations); and for Government Pathologists who submitted post-mortem specimens in appropriate cases.

INDUSTRIAL HYGIENE

Excluding biochemical specimens the number of samples examined for the year was 60.

Twelve (12) investigations were undertaken during the year. Some of these dealt with hazards associated with:—

The operation of a fumigation chamber using ethylene dibromide.

The internal cleaning of stainless steel tanks with trichlorethylene and petroleum solvent, subsequent to a fatal accident.

Cyanide case hardening process at the premises of two engineering firms and a chain manufacturer.

Lead in air at a pistol firing range.

Benzene in air at a dry cleaning establishment.

SECTION 3

MINES, MINERALOGY, METALLURGY AND EXPLOSIVES

V. R. CUNDITH, B.Sc., A.R.A.C.I.—Officer in Charge

Table CXIV shows the sources of work done by this Section and the number of samples from each to account for the total of 6,126 samples.

TABLE CXIV

Department	Number of Samples
Geological Survey and Mines Department ..	1,496
Coal Board	1,300
Portmaster (Explosives)	2,786
Other Departments	328
Commonwealth Departments	66
Public	150
Total	6,126

GENERAL

In addition to the usual assays for gold and silver, amalgamation and cyanidation tests were carried out.

Samples of ore were examined for estimation of copper, molybdenum, cobalt, antimony, nickel, tin, arsenic, lead, chromium, manganese, zinc, graphite, &c.

ANALYSES

A number (16) of rock samples were submitted for full analysis. A sample of Bunya Phyllite taken from a cutting at Taringa Railway Station showed—

	Per cent
Silica (SiO ₂)	63.6
Alumina (Al ₂ O ₃)	15.0
Ferric Oxide (Fe ₂ O ₃)	3.18
Ferrous Oxide (FeO)	2.40
Magnesia (MgO)	3.20
Calcium Oxide (CaO)	0.5
Sodium Oxide (Na ₂ O)	2.5
Potassium Oxide (K ₂ O)	3.5
Barium Oxide (BaO)	trace
Titania (TiO ₂)	0.72
Carbon dioxide (CO ₂)	1.47
Carbon (C)	0.48
Phosphorus Pentoxide (P ₂ O ₅)	0.14
Manganese Oxide (MnO)	0.13
Lead Oxide (PbO)	0.003
Sulphur (S)	0.016
H ₂ O+	4.05
H ₂ O-	0.05

Chromite—

Chromium Oxide (Cr ₂ O ₃)	30.3
Alumina (Al ₂ O ₃)	30.0
Ferrous Oxide (FeO)	11.5

Chrysoprase

	Per cent.	Per cent.	Per cent.
Moisture	0.16	0.10	1.3
Loss on ignition	1.60	0.90	2.7
Silica (SiO ₂)	94.84	97.86	95.2
Nickel (Ni)	2.38	0.65	0.16
Chromium (Cr)	nil	nil	nil
Totals	98.98	99.51	99.36

The samples were from Marlborough (N. Qld.). They consisted of quartz or chalcedony in various shades of green due to the presence of nickel. Jade is an entirely different mineral.

CRUDE OIL AND NATURAL GASES

Samples of mine air were received from the collieries, and bore gases, oil and sludges were received in connection with the "Search for Oil" projects.

Visits to collieries were arranged by the Chief Inspector of Coal Mines and tests were made for the presence of CH₄, H₂S, CO, CO₂, SO₂, and nitrous fumes. No harmful proportions were found proving that ventilation conditions were satisfactory.

NATURAL GASES

One hundred and eighteen samples of natural gas and 39 samples of crude oil were received for examination. This was a considerable increase in the number compared to last year, and shows the intensity of effort directed to the "Search for Oil." Of interest is the presence of Helium in the gas from Rolleston No. 1; 12th December, 1963.

Analysis—

	Moles per cent.
Methane	85.9
Ethane	4.1
Propane	1.34
Iso Butane	0.46
n- Butane	0.46
Iso Pentane	0.21
n- Pentane	0.19
Hexanes+	0.22
N ₂ +O ₂	4.3
CO ₂	2.7
Helium	0.2

Details of analysis follow:—

	Sample A
Floats at Sp. Gr. 1.8—	
Weight (per cent.)	74.8
Ash (per cent.)	21.2
Sinks at Sp. Gr. 1.8—	
Weight (per cent.)	25.2
Ash (per cent.)	79.5

Proximate analysis (floats)—

Moisture-105°C	1.6
Volatile matter	26.9
Fixed Carbon	50.3
Ash	21.2

100.0

B.Th.U per lb.	11,590
Sulphur (per cent.)	0.78
Specific Gravity	1.435
Coking test—	
Classification	C.M.
Swelling Index	6

Crude Oil (Moonie)—

Odour	Sweet
Colour	Dark-brown
S. Gr. 60/60°F	0.805 equiv. to 44.2 A.P.I.
	Gravity at 60°F
Kinematic Viscosity	
at 100°F	4.876
Flash point—less than	50°F
Sulphur—less than	0.1%
Cal. value	19,900 B.Th.U. per lb.

Distillation Range IP/ASTM—

First drop off at	85°C
5 per cent. off at	100°C
10 per cent. off at	110°C
20 per cent. off at	130°C
30 per cent. off at	151°C
40 per cent. off at	194°C
50 per cent. off at	230°C
60 per cent. off at	280°C
70 per cent. off at	311°C
80 per cent. off at	356°C
Residue: viscous at room temp.	

COAL

The coal and coke work is derived from the continuing activities undertaken by the Mines Department in exploratory drilling and proving reserves.

Calorific value, proximate and ultimate analyses, ash analyses, fusion point of ash, specific gravity, sulphur, swelling indices and washability tests are usually required.

In addition to the above, large scale washability tests are carried out for the Coal Board to determine amenability of coal to treatment and checks are made for maintenance to quality of colliery and open cut output.

Concerning shipments of washed coal to Japan, the quality consistently conformed with the contract limits.

A typical analysis shows (air dried basis)—

	Per cent.
Moura Coal—	
Moisture	2.0
Volatile matter	26.5
Fixed Carbon	65.8
Ash	5.7
	100.0

Swelling Index

74

Washability Tests (coal samples ex Ipswich Coal field)—

	Coal Sample A	Coal Sample B
Ash per cent.	37.2	29.2
Specific Gravity	1.605	1.550

Samples A and B represent coals not suitable for industrial fuel because of the high proportions of ash yielded.

However, these coals can be treated by washing to yield a better quality product acceptable to industry.

This process involves immersion and agitation of the coal, of selected particle size, in solutions of suitable specific gravity. The higher ash coal, shale and stone sink under these conditions, leaving the cleaned better quality coal to float as a layer on the surface.

The improvement in quality of the floated coal is shown in the following results:—

	Sample A	Sample B
Ash content of original coal (%)	37.2	29.2
Proportion of cleaned coal recovered (%)	74.8	71.9
Ash content of cleaned coal (%)	21.2	16.4

Floats at Sp. Gr. 1.6—

Weight (per cent.)	64.6
Ash (per cent.)	13.5

Floats at Sp. Gr. 1.8—

Weight (per cent.)	7.3
Ash (per cent.)	39.9

Sinks at Sp. Gr. 1.8—

Weight (per cent.)	28.1
Ash (per cent.)	74.6

Proximate analysis (composite floats)—

Moisture-105°C	2.3
Volatile matter	28.8
Fixed Carbon	52.5
Ash	16.4

100.0

B.Th.U per lb.	11,630
Sulphur (per cent.)	0.26
Specific Gravity	1.418
Coking test—	
Classification	Ag/Cw
Swelling Index	14

On occasions sink and float tests over narrower ranges are requested, the specific gravities required being 1.35 to 1.85 in rises of 0.05, and involving much detailed work.

CLAY

Most of the clays examined were found to be suitable for brick, tiles, &c. Some so-called fire bricks failed at 1,400°C because of deformation and flowage of iron silicate compounds.

OTHER DEPARTMENTS

The consultative and analytical work from Government Departments, covered a range of industrial products, solder, concrete, fibrous plaster, cement, cement additive, corrosion products, reactivity of aggregate tests, metals, Golden Casket discs, slaked lime, cutlery, scissors, aviation kerosene, aviation oxygen, producer gas, solvents, &c.

Aviation Oxygen

Oxygen supplied to the R.A.A.F. is regularly sampled and sent by the Directorate of Quality Control to the Laboratory for test.

The specification calls for a product conforming with—

Odour	..	..	nil
Oxygen	..	..	not less than 99.0%
Moisture	..	..	not greater than 0.020 Gram per cubic metre

All samples conformed with the specification.

Aluminium Boiler

This had been used to sterilise cutlery, stainless steel dishes, and other articles, using boiling water.

A black deposit on the inside of the boiler was found to consist of a thin layer of iron and aluminium oxides.

Explosion at a Garage

Vapour from pipe vents leading from underground petrol tanks had gained access to a duct used to house lighting and power cables in the building. The pipe vents were about 6 feet above the roof decking and with the advent of a calm day, petrol vapour was able to gain entrance to the duct entry sited below the vents. Apparently sparking had occurred along an electric cable and initiated an explosion.

Betel Nut Chewing (New Guinea)

Of interest is the receipt of a sample of slaked lime forwarded from the Queensland University Dental College for analysis.

	Per cent.
Insolubles (chiefly quartz)	13.6
Calcium Carbonate	39.2
Calcium Hydroxide	32.4
Potassium Carbonate	8.2
Sodium Carbonate	0.4
Magnesia	0.4
Iron Oxide }	
Alumina }	2.6
Sulphates	0.2
Free moisture	2.4
Organic material	0.9

This product is prepared from Casuarina bark burnt direct, by the natives of Papua, New Guinea and is used for chewing with betel nut. This habit of betel nut chewing is thought to give rise to prevalence of cancer of the mouth among the natives.

Bulk Sugar Terminals

In last year's Annual Report mention was made of the detection of explosive mixtures of hydrogen and carbon dioxide gas subsequent to the quelling of the fire at the Townsville Sugar Terminal. As a sequel in August, 1963, an investigation was made at Bundaberg, Mackay, and Mourilyan terminals by an Officer of this Department in association with a C.S.R. Research Chemist.

No explosive mixtures of these gases were detected but both gases were found in all three terminal areas indicating that the bacteria "Clostridium butyricum" responsible for the conversion of dissolved sugar to these gases, are present in these soils. Hence all sugar spillage and solutions should be flushed into open drains. It was recommended that this precaution should be observed in any bulk installation handling sugar.

SECTION 4

FEDERAL DEPARTMENTS, PUBLIC WORKS, HOUSING COMMISSION, STATE STORES, &c.

R. S. POTTER, A.R.A.C.I., Chief Chemist—
Officer in Charge

A detailed list of the samples examined by this Section is set out in Table CXV.

TABLE CXV

Customs and Excise	1,223
Primary Industry (Federal)	2,038
Queensland Housing Commission	7,075
Public Works Department	1,271
State Stores Board	532
Main Roads Department	101
Other Government Departments	130
Public	21
Fireworks	808
Total	13,199

This number constitutes a record year for this Section being 3,800 above the previous record figure obtained last year.

The Customs and Excise division, although the numbers show a decrease as compared with last year, is still fully occupied in keeping up with the ever changing tariff classifications. More detailed work than previously is now required on a greater number of samples and the present trend is likely to continue. The use of the infra-red spectrophotometer is helping considerably to differentiate the unknowns, particularly plastics, detergents, oil additives, &c.

The work carried out for the Commonwealth Department of Primary Industry has increased during the period, the chief items being egg pulp, butter, cheese and milk products. The determination of whey protein in dried skim milk powder, and the amylase test for liquid whole egg pulp has received special attention. Special investigation was also carried out on the determination of pesticide residues, particularly in meat, by Gas Chromatography. The usual coverage of jams, honey, canned fruits and Army Storage Supplies was also maintained.

The examination of tender and delivery samples submitted by the State Stores Board has been carried out, the numbers being rather similar to previous years. The items submitted included detergents, soap and soap powders, textiles of all varieties, disinfectants, floor polish, &c.

Paint samples examined for the Queensland Housing Commission and the Public Works Department reached an all time high, a total of 8,346 samples, of which 7,075 were submitted by the Queensland Housing Commission. This increase of over 3,500 examinations on the previous best year has been managed by increased staff in this section. Methods have been slightly streamlined and extra apparatus obtained to give a maximum output without decreasing efficiency. The overall quality of the paint used was good and over 95 per cent. of the paint examined conformed with the Departmental specifications.

The work for the Main Roads Department consisted of the examination of bitumen and tars and road materials and a few paints.

Several samples were examined for other Government Departments, including bandages and dress materials for hospital requirements and serge and pocketing for the Railway Department.

The examination of fireworks, although included in the total, is now carried out by the Explosives Section of the laboratory.

"THE EXPLOSIVES ACTS, 1952 TO 1963"

LEGISLATION

On 13th December, 1963, an Act was assented to amending "The Explosives Acts, 1952 to 1961" and "The Queensland Marine Acts, 1958 to 1963," each in certain particulars, in effect transferring administration of The Explosives Acts from the Treasury Department to the Department of Health, and making the Chief Inspector of Explosives the Officer in Charge of Government Magazines. The magazines referred to are the Bulk Explosives Magazines at Helidon, Bajool, Brookhill and Queerah, which serve the southern, central and northern areas of the State.

Control of the storage and use of explosives in connection with the exploration for and production of petroleum also was transferred from "The Explosives Acts" to "The Petroleum Acts, 1923 to 1962."

"The Explosives Regulations, 1955" were amended in conformity with the amended Acts.

The following additional explosives were classified by Order in Council and authorised for use in Queensland:—

E. I. Du-Pont de Nemours & Co.—Toval;
Pelletol S;
Water Work Boosters.

Imperial Chemical Industries of Aust. & N.Z.
Ltd.—Nobel Explosive No. 704.

In addition the name of an explosive previously authorised as Wincoal "AA" was changed to Mipkol "AA" at the request of the British Ministry of Power. This explosive is now approved by the Mines Department for use in Queensland underground coal mines.

IMPORTATION

A total number of 149,284 cases of commercial explosives was imported into Queensland during the twelve month period, of which 127,174 cases were of Australian manufacture. This is slightly less than the number of cases imported during the previous twelve months, but stocks held in Government magazines on 30th June, 1964 were less than at the corresponding time last year. Ammonium nitrate—fuel oil explosive continued in wide usage and one big company has almost completed a large mixing plant for this explosive. Enquiry has also been received concerning the use of liquid oxygen explosives.

The quality of explosives imported into the State has been good and has shown improvement over previous years. Packaging generally has been good and the use of polythene liners in the cases has proved most satisfactory. Fibreboard cases are now almost universally used, and are satisfactory, provided they can be kept dry. Should the cases become wet, either on ship board or through leaking railway vans as sometimes happens in transit, they deteriorate rapidly and are unsatisfactory.

No explosives had to be destroyed during the year.

The Brisbane River was closed to the entry of explosives during 1963. Industrial establishments, including a bulk grain loading installation, a large power station, oil storage tanks and two oil refineries have been or are about to be established in the area of the Pinkenba explosives wharf and it was considered too great a risk to unload large shipments of explosives at this wharf. No alternative site is available in the Port at present and overseas shipments have recently been unloaded at Port Alma.

MAGAZINES

In February, 1964, the Queensland Government acquired from the Commonwealth the former R.A.A.F. and Army Explosives Depot near Helidon, in which some magazines had been used under lease during the previous twelve months. The old bulk magazine at Dakabin was closed and all stock transferred to Helidon. This new Helidon explosives reserve comprises 640 acres of timbered country in the foothills of the range about 1½ miles from Helidon township. It contains 21 magazines, 2 houses and ancillary buildings, is served by a good road and is adjacent to the Brisbane-Toowoomba railway line, a spur from which enters the magazine area. Total capacity is in excess of 600 tons and the acquisition of the magazine area is the culmination of many years effort to obtain suitable and safe bulk explosives storage in South Queensland. The railway spur line is now being rebuilt for traffic and unloading of railway wagons will be soon undertaken in the reserve area.

The railway line into Brookhill (Townsville) bulk magazine is also being relayed at present. It will be strengthened to carry diesel locomotives and will conform with the re-location of the Townsville-Mount Isa railway line.

The magazines at Bajool (Rockhampton) have been repaired and strengthened and their capacity has been substantially increased.

LICENCES AND FEES

The following licences were issued or renewed and the following fees were collected during the 1963-64 period:—

	Licences	Fees		
	No.	£	s.	d.
Import and Export	54	1,766	16	0
Manufacture (ammonium nitrate—fuel oil)	55	165	0	0
Carry	28	84	0	0
Store—Category I	129	129	0	0
Category II	17	51	0	0
Category III	33	330	0	0
Category IV	15	45	0	0
Sell	82	164	0	0
Fruit Ripening	39	92	10	0
	(185 rooms)			
Importation of Ammunition		614	3	0
Importation of Fireworks		635	15	0
Magazine Storage Charges (13-1-64 to 30-6-64)		3,555	7	6
Heat Testing Charges		207	0	0
Miscellaneous Collections		87	0	0
Total		£7,926	11	6

FIREWORKS

The annual fireworks night in Queensland has now been transferred from the traditional 5th November to the 24th May, Commonwealth Day, a time of the year when the fire hazard is considered to be lessened.

All importations of fireworks, both from interstate and overseas, were sampled and tested, and retail shops were inspected in regard to safe storage.

The quality of fireworks generally has improved. Two lines of overseas fireworks were prohibited entry into the State for not having satisfactory wicks or touch papers and advice was given to importers that several other types would not be permitted.

DIVISION OF GERIATRICS

1963-64

Director of Geriatrics: P. G. LIVINGSTONE, M.B., B.S. (Qld.), M.R.C.P. (Ed.)

Medical Officer: M. CHEONG, M.B., B.S. (Qld.)

GERIATRIC UNIT, PRINCESS ALEXANDRA HOSPITAL

The Unit has expanded during the past year. An admission ward was opened on 21st July, 1963. This ward was renovated some years ago for paraplegic patients but with minor modifications was suitable as an admission ward for the Geriatric Unit. It has 28 beds for female patients. This has meant an increase in the number of female beds in the Geriatric Unit from 64 to 91. The male beds have remained at 38.

Female patients are admitted to this new ward, assessed from a medical and rehabilitation point of view. Early treatment is commenced and if the patient shows prospects of improvement they are then transferred to the main Female Rehabilitation Ward, S. 4. Patients who are bed or chair fast are eventually transferred from the Admission Ward to the Chronic Section.

Following are details of admissions and discharges from the Geriatric Unit for the period 1st July, 1963 to 30th June, 1964—

TABLE CXVI
SHOWING ADMISSIONS AND WHERE FROM

Sex	Total	Princess Alexandra Hospital (Acute) Section	Princess Alexandra Hospital (Chronic) Section	Brisbane Hospital	Private Homes	Other Hospitals	Convalescent Homes	Country Hospitals	Repatriation General Hospital	Eventide Sandgate
Males ..	295	159	2	73	48	9	..	1	2	1
Females ..	547	290	3	127	94	15	7	11	..	..
Totals ..	842	449	5	200	142	24	7	12	2	1

TABLE CXVII
DISCHARGES—TRANSFERS—DEATHS

Sex	Total	Home	Princess Alexandra Hospital (Acute) Section	Princess Alexandra Hospital (Chronic) Section	Eventide Sandgate	Brisbane Hospital	Other Hospitals	Died	Convalescent Homes
Males	284	167	17	40	18	4	3	23	12
Females	512	237	32	56	20	6	9	77	75
Totals	796	404	49	96	38	10	12	100	87

The number of admissions to the Geriatric Unit during the past year has risen from 497 in 1962-63 to 842 during the past year. Some of this increase could have been expected from the addition of 28 admission beds. There has been a marked increase in the number of admissions to the Male Geriatric Section from 178 to 295 even though the number of male beds has remained constant. Fifty per cent. of the patients have come from the acute section of Princess Alexandra Hospital. This percentage includes 108 patients transferred from the orthopaedic wards. The number of patients admitted from the Brisbane Hospital has also increased. This has been due mainly to regular visits carried out by the Medical Officer in the Division of Geriatrics. The number of admissions from private homes has decreased. This is disappointing as one would have expected more patients to be referred directly to the Unit as the work of the Unit became more firmly established. Excellent relations have been built up with many general practitioners in the South Brisbane area, but still very few patients are referred directly to the Unit.

The number of patients transferred from the chronic section of the Princess Alexandra Hospital to the Geriatric Unit has decreased. This is because there is a much more careful assessment of patients before admission. Patients who were in the chronic section before the Unit was established who would benefit from treatment have already received such treatment.

In respect to discharges it will be noted that proportionally more male patients are discharged to their home or home of their relatives. Many more female patients are admitted to Convalescent Homes and other Institutions. The number of patients transferred from the Geriatric Unit to the chronic section has decreased proportionally. Twelve per cent. of patients admitted to the Geriatric Unit are unable to be rehabilitated. It is important to remember that many patients are sent direct to the chronic section so that the overall percentage of failures would be much higher if every patient was first admitted to the Geriatric Unit. The number of transfers to Eventide, Sandgate, has increased.

Every patient referred to the Unit is visited by one of the Medical Officers so that a careful assessment can be made of the patients requirements. Many home visits have been carried out both as a pre-admission assessment and as follow-up of past patients.

Admission to the chronic wards has increased markedly over the past year, 320 admissions as against 200, yet the number of chronic beds has remained unchanged.

TABLE CXVIII
ADMISSIONS TO CHRONIC WARDS AND WHERE FROM

Sex	Total	Brisbane General Hospital	Princess Alexandra Hospital (Acute) Section	Geriatric Unit	Other Hospitals	Home
Males ..	187	58	78	36	12	3
Females ..	133	21	54	48	5	5
Totals ..	320	79	132	84	17	8

Seventy per cent. of admissions have come either from the acute section of Princess Alexandra Hospital or the Geriatric Unit. Only a very small number of patients have been transferred direct from their homes to a chronic ward. Three of the chronic wards are very old and require extensive repairs. New buildings are being built to house patients who are now accommodated in the older sections. It is hoped that within the next six months this building programme will be completed.

The Geriatric Out-Patient Clinic is held each Friday. The numbers attending remain fairly constant. Discharges from the Day Hospital are expected to increase, this will throw an extra load on the Out-Patients Clinic. This Clinic is conducted by the Consultant Physician.

The Day Hospital has shown tremendous expansion during the past year. The average daily attendance has risen from 25 to 45. This has thrown a considerable burden on the Q.A.T.B. which provides the transport to and from the hospital for most of the patients. The Geriatric Unit is extremely grateful for the help and co-operation that it receives from the Ambulance Authorities. Many of the patients attending the Day Hospital have been past patients in the Geriatric Unit. Considerable difficulties have occurred in discharging patients from the Day Hospital. For many this is the only outing that they have during the week and without the treatment and activity that they receive their condition would deteriorate if they remained inactive in their homes. There is a great need for the development of special centres for elderly patients which provide transport to and from the Centre. The Day Hospital is a treatment centre and therefore patients who are not receiving active treatment must be discharged.

The staff in the Unit has been increased during the year to cater for the increased demands on in-patient beds and out-patient facilities. The part-time speech therapist has been very busy during the past year. Seventy-six patients have received treatment and 32 patients are receiving treatment at the present time. Most of these patients require 15 to 20 minutes of individual treatment at least twice a week. The average number of new cases referred is 5 each month and the overall treatment lasts from 6 months to 2 years. It is hoped in the near future to have a full-time junior speech therapist and a part-time senior.

The Splint Department at the hospital has again supplied a large number of splints to geriatric patients. Most of these have been for hemiplegic patients with foot drop. Details of calipers supplied are as follows:—

Capener Wires	19
Double below knee irons	72
Long non-weight-bearing calipers	3
Extensions to double below knee irons	2
Knee cage	2
Long non-weight-bearing calipers with knee lock	1
Spinal braces	2
Hand splints	8
Total	109

Twenty-one calipers have been repaired and altered during the year and 195 separate pieces of equipment have been made by the Splint Department for the Geriatric Unit. Special types of canvas slings have been designed and 25 have been made in the year.

An investigation has been carried out into the use of Merino "Medi Rugs" to aid in the nursing of elderly patients. These rugs have proved of considerable assistance to the nursing staff and are now in general use in the Unit. Difficulties are still being encountered when the rugs are heavily soaked in urine. This tends to cause deterioration of the hide. A survey of hemiplegic patients admitted to the Geriatric Unit over an 18 months period has been carried out by two fifth year medical students. Information obtained has been of assistance in assessing hemiplegic patients in the early weeks of their treatment. 16-mm.

colour movie film was produced by the Photographic Department of the University of Queensland for the Geriatric Unit. This film deals with the problems in the rehabilitation of the elderly double amputee. The film will be used to instruct medical and ancillary staff in the best methods of treating such patients.

"EVENTIDE", SANDGATE

The Director visits Eventide each month to advise on many aspects of patients' care. A close relationship has been developed between the Home and the Geriatric Unit.

MEDICAL CONFERENCES

The Director presented a paper "The Prevention of Pressure Sores" at the North Queensland Medical Conference, Cairns, in June, 1964. The material for this paper was collected from work recently carried out in the Geriatric Unit.

PYLONS FOR ELDERLY AMPUTEES

Fourteen patients were provided with pylons. Their ages ranged from 58 to 84. Most patients were in the 70 to 80 age group. Further development has occurred in this field. The wooden foot piece has been replaced by a sach foot. Many female patients complain of the unattractiveness of the pylon, so the development of some type of artificial calf has proceeded. The Repatriation Artificial Limb and Appliance Centre has produced a fibre-glass calf which has proved very satisfactory. Ten patients have been provided with fully articulated prostheses. Their ages have ranged from 50 to 75. Most of the patients are in the 60 to 70 age group. It has been found that even the very elderly patients with a below knee amputation can manage a prosthesis. Very few of these patients require a pylon.

WHEELCHAIRS ON PERMANENT LOAN

Nine patients who were treated at the Geriatric Unit have been provided with wheelchairs on permanent loan. These patients had been trained in the use of a wheelchair but were unable to walk. It was presumed that they would require a wheel-chair for the rest of their lives. The supply of these chairs has enabled the patients to be discharged from hospital and to return to their own homes or the homes of their relatives. The Director has examined many other patients referred to the Department for the supply of a wheelchair. These patients are very carefully assessed as to their particular needs. Some have been admitted to the Geriatric Unit for treatment and others required a wheelchair without further assessment. The establishment of this service has enabled many patients to live as independent a life as possible.

PLANS FOR THE FUTURE

It is hoped that progress will be made on the Geriatric Unit at Chermide Hospital. This Unit will be associated with a senile assessment ward where elderly senile patients will be assessed, treated and returned if possible to the community. A new ward is being built at the Princess Alexandra Hospital for chronic patients. Further development is planned in the Public Health aspects of a geriatrics service. The appointment of a public health nurse and the establishment of an Advisory Co-ordination Section headed by a social worker is planned.

DIVISION OF NURSING

Adviser in Nursing: E. W. S. SULLIVAN, R.A.N.F.

LEGISLATION

"The Hospitals Acts, 1936 to 1962," have been amended to include the approval by the Director-General of Health and Medical Services to the appointment of matrons of public hospitals.

GENERAL NURSING CURRICULUM

The revised curriculum for general nurse training has been implemented and the nurses took the examination in April, 1964. The new subjects on which the nurses were examined were Elementary Psychology, Elementary Psychiatric Nursing, Principles and Practice of General Nursing Advanced, and Nutrition and Hygiene.

COLOMBO PLAN STUDENTS

Two programmes were arranged for trained nurses from Manila to study public health in all aspects and the nurses spent periods of observation with the Department of Maternal and Child Welfare, School Health, and Tuberculosis Clinic. The second programme was for Tuberculosis services. The nurses divided their time between the Chermide Chest Hospital and the Tuberculosis Clinic. Both these programmes provided observation in the country and the city.

VISITS TO HOSPITALS

Visits were paid to hospitals at Emerald, Springsure, Clermont, Alpha, Barcaldine, Longreach, Winton, Ayr, Home Hill, Bowen, Proserpine, Rockhampton and Gympie. A visit was paid to Maryborough Hospital for the graduation ceremony and together with the Director-General of Health and Medical Services to Southport Hospital for their graduation ceremony.

COLLEGE OF NURSING, AUSTRALIA

The first courses conducted by the Queensland branch of the College of Nursing Administration, and Ward Management and Teaching, were completed in December, 1963. The successful students received their diplomas at the annual meeting of the Fellows which was held in Brisbane this year. This academic year the Queensland branch is conducting courses for nursing administrators and sister tutors. It is to be regretted that more nurses are not interested in teaching. The Department of Health provides 6 scholarships for each course, but so far these have not been taken up. Next year the Queensland branch intends to conduct courses for the Diploma in Nursing Education (which will replace the Sister Tutor Diploma) and Ward Sisters Diploma. Again scholarships will be available for nurses from public hospitals.

INTERSTATE CONFERENCES

The Adviser, together with a qualified sister tutor, attended a meeting of representatives from all States called to discuss nurse education. The conference decided on certain trends and recommended that these form a basis for planning. All States agreed that it would take some time before the full plan could be adopted but the plan would have to be carefully considered to see that it filled the needs of each individual State.

GENERAL NURSING COUNCIL OF ENGLAND AND WALES

Further advice has been received from the General Nursing Council regarding each individual training school in Queensland. It is regretted that only four hospitals in this State will receive recognition as training schools from which nurses can register with the Council without further training or experience. The requirements of the Council is that the nurse must train in a hospital of 300 beds with a daily average of 240. Four other hospitals may receive recognition if they can comply with certain stipulations regarding experience in extra specialties. The principal specialties required are gynaecology or obstetrics.

MATRONS' CONFERENCE

In the unavoidable absence of the Hon. Mr. S. D. Tooth, Minister for Health, Dr. P. R. Patrick officially opened the conference of Hospital and Institutional Matrons which was held in Townsville. Sixty-six matrons attended. Lectures were given regarding Sub-normal Children, Road Safety, Tuberculosis, Dark room procedures in relation to X-ray films, and Hazards of Modern Anaesthesia. One session was devoted to discussing a proposal to include some maternity training in the general nursing programme.

Visits were paid to the sub-normal school and the crippled children's home, Charters Towers Hospital, and Mossman Hall. The matrons were entertained by Townsville Hospital Nursing Staff, Townsville Hospitals Board, Charters Towers Hospitals Board, and the Manager, Mossman Hall.

The conference concluded on Friday with an afternoon tea given by the Mayor, Mr. A. Smith, and the Aldermen of the City Council, which was much enjoyed by the matrons.

WASTAGE OF STUDENT NURSES

The annual survey was continued by the Division on the student nurse wastage. It is to be regretted that there seems to be no improvement in this situation. It was hoped that, now that preference is being given to nurses with higher education, the wastage caused by failure in examinations would improve, but this is not so. Although it must be recognised that wastage occurs in all trades and professions, it was hoped that the better educated girl would pass her examinations and remove one reason for wastage. There are sufficient applications for girls wishing to make nursing their career. If we could eliminate some of the wastage we would not be so short of trained staff. Although numerous trained nurses are coming to Queensland from overseas countries, the shortage of trained staff continues. The National Nursing Education Division is now conducting a survey into the wastage of trained nurses and the report is eagerly awaited.

Table CXIX contains information supplied by the matrons of public hospitals regarding wastage of student nurses in 1963.

TABLE CNIX
WASTAGE OF STUDENT NURSES—QUEENSLAND HOSPITALS FOR THE YEAR 1963

Hospital	Daily Average	Student Enrolment					Total Year 1963	Wastage of Students					Per-centage of Total	Age Groups					Educational Standard					Reasons Given for Leaving					Others **		
		1st	2nd	3rd	4th	5th		1st	2nd	3rd	4th	Total		17 and under	18	19	20	21+	Not known	8th and under	Sub. Jnr.	Jnr.	Above Jnr.	Not known	Not suited	Fall Exams	Per-sonal	Health		Dom-estic	Mar-riage
Atherton	68.6	15	9	10	9	..	43	2	2	3	1	8	2	4	..	..	..	1	1	6	..	..	..	3	1	1	..	..	..	..	..
Ayr	61.3	9	5	2	4	..	20	5	2	1	1	9	3	3	..	..	..	..	..	3	..	..	..	4	..	..	..	..	..	..	..
Bacalline	15.7	..	..	..	..	3	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Biloela	27.6	7	3	4	3	..	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Blackall	19.25	8	3	2	1	..	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bonmah	20.5	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bowen	22.3	3	4	1	..	..	11	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Brisbane General	1,033.55	588	149	106	94	..	937	95	43	15	9	162	1	59	27	17	10	..	17	18	103	20	4	15	33	7	13	2	14	74	5
Brisbane Women's	249.05	254	26	13	32	..	324	18	5	..	..	23	49	..	..	..	..	..	..	..	..	..	2	2	..	1	1	..	..	..	..
Bundaberg	158.16	36	38	13	31	..	107	7	5	1	2	15	14	6	3	2	5	..	1	5	8	1	3	3	2	3	1	2	4	4	2
Caerns	178.2	46	10	7	7	..	128	17	13	..	2	32	10	12	2	3	..	..	6	7	17	2	12	2	2	2	2	2	4	4	1
Charleville	53.2	6	10	7	3	..	27	2	1	1	..	4	7	1	1	1	..	..	2	2	2	1	..	..	..	..	..	..	..	..	..
Chinchilla	33.1	10	7	7	3	..	27	2	1	1	..	4	7	1	1	1	..	..	2	2	2	..	..	..	..	..	..	..	..	..	..
Clermont	31.4	7	4	7	3	..	21	..	..	..	..	8	3	1	..	..	..	..	1	2	5	..	1	1	1	4	..	..	..	..	..
Collinsville	21.3	10	4	3	2	..	19	3	5	..	..	8	3	1	..	..	..	..	2	1	3	2	1	2	2	2	2	2	1	1	1
Dalby	17.2	7	4	4	2	..	17	7	2	..	..	9	2	2	..	..	..	..	1	2	3	5	3	3	2	2	2	2	1	1	1
Gladesville	45.3	15	11	4	5	..	37	7	2	..	..	9	8	2	3	1	..	..	4	4	4	2	3	3	2	2	2	2	1	1	1
Gladstone	51.3	7	8	10	3	..	28	1	1	..	5	1	2	1	..	..	..	..	3	1	3	3	3	4	4	1	1	1	1	1	1
Gympies	51.3	15	12	19	7	..	53	1	..	5	1	2	7	2	3	..	..	..	3	3	3	3	3	3	4	1	1	1	1	1	1
Herberton	108.15	13	19	17	20	..	69	1	3	3	2	10	3	1	3	1	..	..	6	1	3	1	4	3	3	1	2	2	2	2	2
Ingham	19.7	6	4	1	8	..	21	2	1	..	..	4	2	1	3	..	..	..	3	1	3	1	3	3	1	1	1	1	1	1	1
Innisfail	51.5	8	4	1	8	..	21	2	1	..	..	4	2	1	3	..	..	..	3	1	3	1	4	3	3	1	2	2	2	2	2
Ipswich	100.35	30	17	17	16	..	80	10	6	7	23	23	5	3	4	2	1	8	..	..	..	..	..	..	..	..	..	..	..	..	..
Isis	202.0	70	31	17	24	..	142	8	6	2	..	16	4	4	5	2	1	..	4	3	7	2	2	2	1	3	1	1	1	1	1
Kingaroy	19.8	3	1	..	..	3	5	1	..	..	..	1	1	1	..	..	..	..	4	3	7	2	2	2	1	3	1	1	1	1	1
Longreach	67.14	10	6	6	10	..	32	..	..	..	..	3	3	5	2	1	..	..	..	3	7	2	2	2	2	1	1	1	1	1	1
Longreach	24.0	9	1	1	2	..	12	..	..	..	..	1	1	1	..	..	..	..	4	3	3	3	1	1	2	1	1	1	1	1	1
Mackay	127.22	32	24	13	18	..	87	15	14	..	..	32	5	17	5	3	..	..	..	17	17	1	1	1	4	4	4	4	6	14	3
Marree	68.0	9	3	12	10	..	34	..	..	..	..	..	..	..	..	..	..	..	11	3	4	1	1	1	1	1	1	1	1	1	1
Maryborough	186.3	46	25	14	25	..	110	10	9	7	4	30	5	14	6	2	..	..	27	7	16	2	4	1	2	1	1	1	1	1	1
Miles	22.56	2	3	4	4	..	13	1	1	1	..	3	1	1	..	..	..	..	27	7	16	2	4	1	2	1	1	1	1	1	1
Mitchell	19.5	1	2	1	2	..	6	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1
Monto	20.8	2	2	2	3	..	9	1	4	..	..	3	1	1	..	..	..	..	1	1	3	1	1	1	1	1	1	1	1	1	1
Mossman	26.6	5	2	6	3	..	16	..	..	..	..	1	2	1	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1
Mount Isa	62.29	2	8	3	14	..	27	..	..	..	..	1	2	..	..	..	..	..	1	1	4	1	1	1	1	1	1	1	1	1	1
Mount Morgan	34.1	10	4	12	5	..	31	2	2	..	..	11	3	..	4	1	..	..	6	2	4	1	1	1	1	1	1	1	1	1	1
Nambour	75.3	12	12	11	10	..	45	6	2	2	3	13	1	3	3	2	..	..	..	4	5	1	1	1	1	1	1	1	1	1	1
Princess Alexandra	1,069.91	203	158	91	202	..	654	41	23	14	10	88	19	23	15	16	14	1	..	5	52	23	1	17	6	17	11	5	10	22	3
Proserpine	22.18	5	3	5	4	..	17	2	3	..	..	5	2	1	..	..	..	..	7	3	1	1	1	1	1	1	1	1	1	1	1
Rockhampton	23.8	43	40	20	42	..	145	22	9	2	4	37	2	16	7	4	3	..	13	2	18	1	3	3	3	3	3	3	3	3	3
Rockhampton	76.5	19	7	12	10	..	48	2	2	..	..	6	7	1	..	..	..	..	13	2	18	1	3	3	3	3	3	3	3	3	3
Southport	42.2	11	4	7	19	..	26	1	3	1	1	14	..	..	..	..	..	..	3	5	1	1	1	1	1	1	1	1	1	1	1
Stanley	198.6	41	37	27	60	..	166	1	3	1	1	14	..	..	..	..	..	..	3	1	11	2	2	2	2	2	2	2	2	2	2
Townsville	322.45	67	59	47	43	..	216	15	12	5	1	33	9	4	6	9	1	..	3	4	19	7	6	6	6	6	6	6	6	6	6
Townsville	30.85	9	3	4	14	..	26	2	3	1	..	6	3	1	..	..	..	..	3	4	19	7	6	6	6	6	6	6	6	6	6
Tully	88.1	17	19	10	14	..	60	6	8	..	..	15	3	3	1	..	..	..	3	4	19	7	6	6	6	6	6	6	6	6	6
Warwick	15.3	2	6	5	10	..	29	2	..	..	..	4	2	1	..	..	..	..	3	4	19	7	6	6	6	6	6	6	6	6	6
Winton	66.39	8	6	5	10	..	29	2	..	..	..	4	2	1	..	..	..	..	3	4	19	7	6	6	6	6	6	6	6	6	6
Wondal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	..	1,739	800	575	787	7	3,908	205	331	103	52	691	162	209	129	93	83	15	145	82	377	63	24	90	96	83	47	39	138	198	198

** Dissected as follows—

Left without notice
Left the district
Family illness
Homesick
Another Position
Transfer
Can't cope
Retired or Dismissed
Madameanour
Insubordination
Standard of Education unsatisfactory

Unsettled, unhappy
No reason given
Differenced
Daily study
Train elsewhere
Asked to discontinue
Miscellaneous

5
22
14
11
4
2
198

** Dissected as follows—

Left without notice .. 29
Left the district .. 16
Family illness .. 9
Homesick .. 9
Another Position .. 20
Transfer .. 12
Can't cope .. 8
Retired or Dismissed .. 41
Misadventure .. 10
Insubordination .. 1
Standard of Education unsatisfactory .. 1

Unsettled, unhappy
No reason given
Disinterested
Can't study
Train elsewhere
Asked to discontinue
Miscellaneous ..

198

DIVISION OF SOCIAL WORK

Senior Social Worker: M. K. WHILEY, B.A., Dip. Soc. Stud. (Melb.)

This Division is responsible for studying, and where possible assisting with, social problems in the community which are closely linked with health and medical problems. Last year in the Annual Report an attempt was made to review the development of social work services in the health field, and although concern was expressed at the difficulties in obtaining suitably qualified staff for this work, it has been encouraging to note that, each year since its inception, services have been initiated in several areas where the needs were most urgent.

During the past year, the difficulties in securing sufficient staff have persisted so that again little extension has been possible, but there has been time for services previously initiated to become better established. In the Child Guidance Clinics and the Mental Health Services, in several of the Hospitals and in the Health Department, social workers working in co-operation with medical officers are providing a direct service to patients and families.

NEW DEVELOPMENTS

Of special interest this year has been the extension of social work in the Mental Health Services. In the previous year a senior psychiatric social worker was appointed to survey the social needs of psychiatric patients, to consider ways of meeting these needs and to develop social work within the Division. In October this year this service was extended when the first full-time social worker was appointed to work in the Brisbane Special Hospital, and in January, another social worker, a recent graduate in Social Work from the University of Queensland, took up an appointment in the Psychiatric Clinic in Mary Street.

In the Psychiatric Services the work of the social worker falls mainly into three areas. First, at the point of the patient's entry into treatment, the social worker may help with an understanding of those social factors which are causing distress either for the patient or his family and which might possibly have contributed to his illness. During treatment, the patient may need help with these difficulties if his recovery is to be a lasting one. When the patient is ready to be discharged from the clinic or the hospital, the social worker helps with his rehabilitation, offering support and assistance as he again takes his place in the community.

As soon as it is possible, it is hoped to extend this kind of service to the Special Hospital at Toowoomba and to other aspects of the Mental Health Services. The Chermide Hospitals Board also proposes to appoint social workers to assist with the social problems of patients under the care of the new neuro-psychiatric hospital.

Another new appointment of special interest this year has been the appointment of a part-time social worker to the Mount Isa Hospital, thus making a total of four social work departments in hospitals outside Brisbane.

SOCIAL WORK IN HOSPITALS

Social Work Departments in the Brisbane General Hospital, Brisbane Women's Hospital, Cairns, Toowoomba and Townsville Hospitals and in the Geriatric Unit of Princess Alexandra Hospital continue to play an important part in the patients' care. Unfortunately it has still not been possible to obtain staff for the Social Work Departments at the Princess Alexandra Hospital and the Chermide Chest Hospital.

CHEST CLINIC

The vacancy for a new position of social worker at the Brisbane Chest Clinic still remains unfilled. To help meet this need it has been possible for a limited number of patients from the Chest Clinic to be helped through the social worker in the Health Department. Noticeable among these cases are the difficulties experienced by patients who are unable to return to their former occupation following their illness, and who require skilled and sympathetic understanding and assistance as they learn to adjust to a new way of life. Some assistance has also been possible for parents who needed help in arranging suitable care for their children so that they could be relieved of this worry during their treatment.

RECRUITING

Since it has proved so difficult to obtain sufficient staff, special attention has been given to any activities which are likely to assist in interpreting the importance of this work to the community and in interesting young people in considering training for social work as a possible profession. In co-operation with the Guidance services of the Education Department and the Commonwealth Employment Service, a

morning was set aside during the school vacation when a group of senior High School students were invited to visit the Department and meet social workers engaged in work in the Welfare and Guidance Clinics, Mental Health and Public Health Services. The occasion proved to be an interesting and helpful one and it is hoped that it can be repeated in school vacations next year.

SCHOLARSHIPS

This year four scholarships were awarded—two for men and two for women—to enable students to undertake University education for social work with a view to their working later as social workers in the State Public Service. This brings the total number of social work scholarships awarded by the State Public Service over the past three years to seven, in addition to three officers being seconded for full-time social work training. At the end of 1964 the first of these students will graduate and be available to take up an appointment.

STUDENT TRAINING

This year the Department has continued to make facilities available to the University Social Studies Department, so that social work students may gain practical experience under supervision during their University training.

LIAISON WITH OTHER DEPARTMENTS

State Children Department.—The Child Welfare Legislation Committee, of which the Senior Social Worker has been an active member, completed its study and submitted its report to the Minister early in the year. The report has since been tabled in Parliament and it is understood that the Minister concerned hopes to introduce a Bill for new legislation in this field in the near future. The work of the Committee has also had an important function in facilitating co-operation between the various health and welfare activities serving families and children and so it is proposed that the Senior Social Worker will continue to take some responsibility in this field.

Department of Native Affairs.—The legislation relating to the affairs of Aborigines and Torres Straits Islanders is at present under review by a Committee set up to advise the Minister. As a member of this Committee, the Senior Social Worker has visited a number of Missions and Government Settlements for Aborigines in North Queensland to observe the work which is being done and to gain a deeper understanding of the problems of aboriginal integration in the Australian community. Some aboriginal families who are no longer in touch with the Department of Native Affairs have been faced with health, housing and employment problems. A small group of these families was referred to this Division when there were some indications that the general health of the family might be endangered, and a social worker has taken a special interest in trying to understand the family's needs and in assisting them where possible with their social problems. For effective work with aboriginal families whose health and social problems are closely linked, close co-operation between the Department of Native Affairs and the Department of Health has been necessary. It is proposed that the Senior Social Worker will continue as a member of the Committee and that through this channel ways of helping these families by co-operative effort can be further explored.

SOCIAL WORK AND PUBLIC HEALTH

In addition to the responsibilities for surveying social problems and for consultation and liaison outlined above, the Division has continued to offer a direct service to patients and families. The nature of the requests to the Division for personal assistance has changed as social work services have become better established in other Divisions and Departments. For example, it would be unusual now for a request for assistance for a psychiatric patient to come direct to this Division since it is usually possible for a social worker in the Mental Health Services to work more closely with the patient or his family and with the psychiatrist in charge of treatment. In the general hospitals, patients who are worried about social difficulties would normally be referred to the social work department in the hospital. Also as the State Children Department is able to accept more responsibility for work in the preventative social welfare field many more families with young children will receive help through that Department with the social problems threatening family stability.

There are, however, some social problems which can be most effectively dealt with through a social work service which is an integral part of a general health service. Families and patients requiring such a service would not normally be receiving medical treatment through one of the hospitals or psychiatric clinics although they may be under the care of a private medical practitioner or perhaps be in touch with a home-nursing service or a health inspector. The stresses of illness at home may often be as acute as those of a patient who is undergoing treatment in hospital, and skilled assistance will frequently be required if the patient is to be successfully rehabilitated or helped to live more adequately with his disability in the community. Where the patient is frail, elderly, or chronically ill or disabled, the burden on the patient's family may be extremely heavy.

Although much of the Senior Social Worker's time has necessarily been devoted to activities which will promote the general well-being of families in this community, a limited service for this group of patients has been made available through the Division since it was set up four years ago. Care has been taken, however, to avoid overlapping with any similar service offered through other Divisions such as the Welfare and Guidance Clinics and Psychiatric Services or by other Departments or Hospitals. In the future as new social work services are established and other services extended, it should be possible to develop a more specific casework service within the general health services.

The following analysis of this section of the Division's work is of interest:—

Number of Cases—	
Total	230
New requests	200
Carried forward from previous year	30
Currently receiving attention on 30th June, 1964	61
Sources of Referral—	
Inter-departmental	80
Other Government Departments—	
State Government	4
Commonwealth	6
Municipal	3
	13
Client or associate direct to social worker	36
Hospitals	44
Voluntary Social Agencies	19
Other (including medical practitioners, solicitors, &c.)	8
Service Given—	
* 1. Social investigation relating to—	
(a) Mental illness or defect	22
(b) Physical illness or disability	84
(c) Care of aged	35
(d) Family and child welfare	97
(e) Unmarried mother	9
(f) Accommodation	43
(g) Employment	15
(h) Financial circumstances	36
(i) Other (including medical aids, assistance to migrant family, &c.)	25
† 2. Casework service related to—	
(a) Family and child welfare and marital problems	54
(b) Physical or mental illness or disability (including rehabilitation)	19
(c) Care of aged	8
(d) Other (including support to family following sudden death of child—13)	17

* Some families required help with more than one problem.

† Casework service extending over a fairly long period or of an intensive nature.

3. Social Reports—

(a) Inter-departmental	52
(b) To other State Government Departments	10
(c) To hospitals	7
(d) To other Social Agencies	11
(e) Other (private medical practitioners)	2

4. Referral to other Departments or Social Agencies for service—

(a) Family and child welfare	15
(b) Care of aged	9
(c) Financial or material aid	14
(d) Medical or psychiatric care, treatment or assessment	12
(e) Employment	4
(f) Accommodation	7
(g) Other social casework service	6
(h) Other	4

5. Other Service—

In another 28 cases, a consultation service only was offered where another organisation was taking the primary responsibility for direct service to the client.

CHILD HEALTH

Some priority has been given this year to work with families whose children's health problems have come to the notice of the School Health Services. In some cases social problems causing stress within the family made it difficult for parents to seek the necessary medical attention for their children. Some other families required assistance to enable handicapped children to make the best use of any special educational facilities available to them. In all, 33 cases were referred to the social worker for consultation and in 24 of these cases a direct service to the family was made available. Some other cases were referred to the Welfare and Guidance Clinics or to the State Children Department, or the social worker worked in co-operation with the Research and Guidance Branch of the Education Department.

SERVICE TO PARENTS

This year for the first time one of the social workers in the Department has worked closely with medical officers in the Laboratory of Microbiology and Pathology offering a supportive service to a small group of parents who were very distressed following the sudden death of a young child.

In 13 of the cases referred to the social worker, the child, usually a very young infant, had died suddenly apparently from an unknown cause, and subsequent investigations revealed an acute infection to be the cause of death. Normally when a child dies in hospital, or at home under medical care, the parents have opportunities for discussion with their own medical practitioner or with a member of the hospital staff, possibly the hospital social worker. When a young child dies suddenly at home, some parents suffer considerable distress, partly because of their fears linked with the necessary investigations and the amount of publicity which the event is likely to attract, but more particularly because of their own feelings of guilt and uncertainty as to whether they could have personally prevented the baby's death. Where possible a social worker has tried to see the parents as early as possible, explaining procedure, and offering assistance and emotional support, as they come to accept their loss and the conditions under which it occurred. Since this kind of service is not available elsewhere in this community and can in fact most appropriately be offered from within the Health Department, it is planned that this work should continue in the coming year.

FLYING SURGEON SERVICE

Flying Surgeon: CHRISTOPHER CUMMINS, F.R.C.S. (Edin.), F.R.A.C.S.

Anaesthetist: WALTER BIGGS, M.B., B.S. (Q'ld.)

Pilot (to June, 1964): Captain JOHN WHITING

The first five years of this service have now been completed. There has been still a slight upward trend in the volume of work being done but this would appear to have reached its peak now as the figures below show.

Year	Miles Flown	Patients Seen	Routine Operations	Emergency Operations
1959 (7 months)	42,246	862	173	39
1960	68,086	1,192	271	68
1961	91,052	930	284	94
1962	99,661	1,128	358	82
1963	100,942	1,296	361	81
1964 (1st 6 months to 30th June)	50,665	578	194	82

During the year regular monthly visits have been paid to the following towns—Aramac, Barcaldine, Blackall, Clermont, Cloncurry, Collinsville, Emerald, Hughenden, Julia Creek, Mount Isa, Murrumbidgee, Quilpie, Richmond, Roma, Surat and Winton.

Occasional calls have been made to Alpha and one each to Charleville, Isisford and Bowen. The Springsure airfield is still unsuitable for this aircraft and patients from there have been seen at Emerald.

Dr. John Greer did the locum tenens for the surgeon for a month's vacation leave in January, 1964, and Dr. Wylie Gibbons did the locum for two weeks in May, 1964 while the surgeon attended the Royal Australasian College meeting in Hobart.

Six of the hospitals now visited have their own anaesthetic machines, and as recent graduates are receiving training in the use of combined anaesthesia in addition to open ether, it is to be hoped that more of the hospitals will

budget for their own machines. These anaesthetic machines also represent a superior and far easier method of applying artificial respiration than the large cabinet type respirators currently carried by western hospitals.

No undue anaesthetic problems were encountered during the year apart from one case of prolonged post operative respiratory insufficiency which responded to three hours of assisted respiration on the anaesthesia machine. It is felt that the anaesthesia equipment as carried currently is adequate for the needs of the Service, and no major equipment expenditure would seem likely in the future.

The wide variety of cases presented for anaesthesia continues to provide interest and excellent experience.

Dr. Margaret Howitt from the Brisbane Hospital filled the position of locum tenens most adequately for one month in March, 1964, and in August, 1963, Dr. Eric Gee, Anaesthetic Registrar at the Brisbane Hospital exchanged jobs with the present Medical Officer of the Flying Surgeon Service to the advantage of both.

The 100 hourly servicing of the aircraft is done regularly by the contracting firm at Cairns and this occurs approximately every two months. During this servicing the aircraft is not available for a period which should be only forty-eight hours but is invariably between three and five days and during this time a single-engined aircraft is substituted as a standby.

In the last year the present twin-engined Cessna 310 has given quite a bit of trouble mechanically and there has been a marked increase in the number of occasions when a single-engined aircraft has had to be used by the Service. Apart from the fact that a single-engined aircraft is limited to daylight flying, this type of plane is usually slower and has not the safety factors of a twin-engined plane. It is vital that this system be changed and that a twin standby aircraft be available to this Service at all times.

LEGISLATION

An Act relating to the prevention and minimising of air pollution and for purposes connected therewith was assented to on 9th December, 1963. This Act, cited as "The Clean Air Act of 1963," is yet to be proclaimed.

An Act relating to the addition of fluorine to public water supplies was assented to on 16th December, 1963. A Proclamation published in the *Government Gazette* of 18th January, 1964, fixed that day as the date on which this Act, cited as "The Fluoridation of Public Water Supplies Act of 1963," should come into operation.

"The Fluoridation of Public Water Supplies Regulations of 1964" were also gazetted on 18th January, 1964.

The Food and Drug Regulations of 1957 were amended. Standards for certain foods were replaced by other standards accepted by all States on a uniform basis.

The Health (Food Hygiene) Regulations were amended to clarify certain provisions and to ensure the effective wrapping of contaminable foodstuffs with clean unprinted material.

The Poisons Regulations were amended in respect of certain regulatory powers. The schedules of poisons, restricted and dangerous drugs, were replaced with new schedules.

ACKNOWLEDGMENTS

I have much pleasure in recording my gratitude to all members of the staff for their loyal service, support, and conscientious attention to duty.

Acknowledgment is also made to the Agent-General for Queensland and his officers for the assistance given me whenever it was asked for, and to other Government Departments for their co-operation, particularly the Government Statistician who, as usual, has been of great assistance in preparing the vital statistics section of this report and has supplied other statistical details from time to time throughout the year. I would particularly thank the Commissioner of Police and his officers for their co-operation in the road accident research project.

Every assistance has been given by the President (Dr. H. W. Anderson) and members of Council of the Australian Medical Association, Queensland Branch, and I am indebted to them for the help they have given me. I also acknowledge the co-operation I have received from my colleagues in the profession.

I would also thank the members of the various expert committees who have given so freely of their time and advice.

I desire to acknowledge the co-operation I have received from the Medical Superintendents of the base hospitals and would particularly thank Dr. A. D. D. Pye, General Superintendent of the Brisbane Hospital, and Dr. O. W. Powell, Medical Superintendent of the Princess Alexandra Hospital for the assistance they have given during the year.

APPENDIX

ANNUAL REPORT OF THE NATIONAL MOSQUITO CONTROL COMMITTEE, 1963-1964

The Committee has continued to provide advice on mosquito problems, identification of specimens, and assistance to other mosquito workers, and to conduct research into the systematics, biology, and distribution of Queensland mosquitoes.

1. FIELD WORK

Collections were made in the following areas: Southport, July 16; Murphy's Creek, September 15; Camp Mountain, October 13; N.S.W. localities, January; Lamington National Park, February 12-13; Coochie Mudlo, April 18.

Southport

Aedes vigilax, *Culex sitiens* and *Anopheles amictus hilli* were breeding in the brackish swamps at Coombabah.

Murphy's Creek

At least one third of the *Anopheles annulipes* larvae taken were infected with hermitid worms which are lethal to the larvae. Dr. J. Pearson of Department of Parasitology unsuccessfully endeavoured to transmit the infection from these larvae to others which were collected at Camp Mountain for the purpose.

Coochie Mudlo

Fresh water swamps were heavily stocked with *Gambusia*. No mosquito larvae were found in ground pools; one species was breeding in a treehole.

New South Wales

Collections from rain forest in the Nowra area comprised species found also in south Queensland. *Aedes monocellatus* (known principally from laboratory reared specimens) was taken biting man.

2. PUBLICATIONS

The following paper and notes were published during the year:—

MARKS, E. N. and NYE, E. R. 1963. The Subgenus *Ochlerotatus* in the Australian Region (Diptera: Culicidae) VI.—The New Zealand Species. *Trans. Roy. Soc. N.Z. (Zool.)* 4: 49-60.

MARKS, E. N. 1964. *Orthopodomyia andamanensis* Barraud—a correction. *J. ent. Soc. Qd* 3: 74.

MARKS, E. N. 1964. Gynandromorphs of *Aedes pseudo-scutellaris* (Theobald) and *Tripteroides solomonis* Edwards. *J. ent. Soc. Qd* 3: 78.

The following paper, published in April 1963, was not noted in the last annual report:—

MARKS, E. N., MACKERRAS, I. M., LEE, D. J. and IYENGAR, M. O. T. 1963. *Bironella gracilis* Theobald, 1905 (Insecta, Diptera): Proposed validation under the Plenary Powers Z.N.(S)1244 *Bull. Zool. Nomen.* 20: 206-209.

The following papers were completed during the year and are in the press:—

MARKS, E. N. Notes on the Subgenus *Chaetocruiomyia* Theobald (Diptera: Culicidae). *Proc. Linn. Soc. N.S.W.*

MARKS, E. N. The Subgenus *Ochlerotatus* in the Australian Region (Diptera: Culicidae). VII. Four new species. *Pap. Dep. Ent. Univ. Qd.*

The paper on *Chaetocruiomyia* includes the description of one new species, and one new life history, and of the first known eggs of a species in this subgenus.

3. IDENTIFICATIONS

Valuable specimens and records have been obtained from specimens submitted for identification.

QUEENSLAND: J. E. C. Aberdeen (Manly); M. Hawken (Aughthella); A. Macqueen (Toowoomba); W. D. McKenzie (Condamine); H. Standfast (Innisfail); J. L. Wassell (Port Stewart); E. J. Reye (Yeronga); K. Korboot (Tamborine Mountain); G. Monteith (Dunwich); A. B. Cribb (Wilson Island, Capricorn Group); T. E. Woodward (Blackall).

NEW SOUTH WALES: M. J. Mackerras, E. J. and M. B. Reye.

VICTORIA: M. J. Mackerras.

WESTERN AUSTRALIA: E. J. Britten.

NORTHERN TERRITORY: R. Story.

NEW GUINEA: J. Barrett, S. H. Christian.

4. PUBLIC HEALTH

Collections of mosquitoes were received for identification through the Department of Public Health from—

Mulgrave Shire Council (3 collections).

Warwick City Council (2 collections).

Identifications were also made for—

Mackay City Council (4 collections).

Brisbane City Council.

Toowoomba City Council (2 collections).

Government Medical Officer, Stanthorpe.

Officer Commanding, Headquarters, R.A.A.F. Base, Amberley (29 specimens from Port Moresby, 220 specimens from Townsville).

Blow-fly and Dermestid larvae were identified for—

Ballone Shire Council.

In addition enquiries regarding mosquitoes, biting midges, and cockroaches were answered for—State Health Department, Gold Coast City Council, Richmond Shire Council, Southport Lions Club, industrial companies, and private individuals.

5. MOSQUITOES IN A BRISBANE SUBURB

Mr. J. T. Brooks has continued his regular collections at Taringa, submitting 263 mosquitoes for identification during the year. These collections showed that mosquito infestation was at no time severe. There were moderate invasions of *Aedes vigilax* mid-monthly from November to April. *Culex annulirostris* was more frequent in the late summer and autumn but, despite the extended wet season, large numbers were not taken. *Aedes notoscriptus* persisted in small numbers throughout the year, biting both indoors and out, and by day and night. *Culex fatigans* was also present throughout the year. Other species taken were *Culex sitiens*, *Culex orbostiensis*, *Aedes procax*, *Aedes vittiger*, and *Mansonia uniformis*.

6. USE OF GAMMEXANE BRICKS FOR MOSQUITO CONTROL

In June 1963 newspaper publicity was given to the Gold Coast City Council's project of controlling mosquito breeding by the use of gammexane-impregnated bricks. As a result, numerous enquiries were received from conservation bodies and others as to the hazard these might present to wild life. With the co-operation of the Gold Coast City Council and officers of its Health Department, Dr. E. N. Marks, together with Mr. H. Standfast, Entomologist, Queensland Institute of Medical Research, visited Southport on 16th July, 1963, to gain first hand knowledge of the project. Council officers pointed out that the project was still in the experimental stage. Sites were examined where bricks were in use in a street gully-trap at Labrador, salt marshes at Coombabah, and borrow-pits in Southport. It was concluded that detailed larval and adult density surveys covering the entire summer period would be necessary before an assessment of the usefulness of these bricks in mosquito control could be made; and that the exact extent of breeding places in salt marsh areas should be determined so that bricks were not placed in parts of the marsh which do not breed mosquitoes, both for the sake of economy and the sake of other susceptible animals. The bricks were unlikely to be more dangerous than routine mosquito control measures using insecticide which had been employed in this area for many years, but their effects should be carefully evaluated, and the possibility of BHC-resistance developing in the mosquitoes should be borne in mind.

7. SYSTEMATICS

Two taxonomic papers were completed (see publications) and a paper on the subgenus *Geoskusea* is in an advanced stage of preparation. Preliminary studies were made for papers on several other groups. There are now approximately 4,000 specimens with correlated larval and/or pupal skins in the slide collection.

8. MISCELLANEOUS

Dr. Marks gave an interview on ABC News Review concerning sandfly (Simuliid) infestation in north Queensland, and also addressed a youth group on aspects of the Committee's work. Checking and criticism of manuscripts on mosquitoes were undertaken by request of the authors concerned.

ATTACH

ANNUAL REPORT OF THE GOVERNMENT OF THE DISTRICT OF COLUMBIA

THE DISTRICT OF COLUMBIA

The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union.

The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union. The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union.

The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union. The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union.

The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union. The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union.

The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union. The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union.

The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union. The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union.

The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union. The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union.

The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union. The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union.

The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union. The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union.

The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union. The District of Columbia is a city and a State, and as such is entitled to the same respect and consideration as any other State of the Union.

By Authority: S. G. REED, Government Printer, Brisbane



