

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

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QUEENSLAND HEALTH & MEDICAL SERVICES

**ANNUAL REPORT
1980/81**





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1981

ANNUAL REPORT

OF THE

HEALTH AND MEDICAL SERVICES

OF THE

STATE OF QUEENSLAND

FOR THE

YEAR 1980-81

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ANNUAL REPORT OF THE DIRECTOR-GENERAL OF HEALTH AND MEDICAL SERVICES 1980-81

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, 1981.

P. G. LIVINGSTONE,
M.B., B.S.(Qld.), M.R.C.P.(Edin.), D.P.H.(Syd.),
F.R.A.C.M.A., F.R.C.P.
Director-General of Health and Medical Services.

INTRODUCTORY REMARKS

INTERNATIONAL YEAR OF THE DISABLED PERSON

The year 1981 being the International Year of the Disabled Persons was of special significance to the State Health Department. People with permanent disabilities of all ages from infancy to old age are a major consumer group of Departmental services. Departmental officers were involved in the activities of the State Planning Committee and other sub-committees relating to the year's activities. The various Departmental Divisions and certain hospital staff contributed to projects focusing on problems and barriers affecting full participation and integration of disabled persons in our society.

Within the context of the International Year of Disabled Persons, the State Health Department made a grant to the Australian Council for Rehabilitation of the Disabled for the employment of an occupational therapist to allow the establishment of an independent living centre in Queensland. The Independent Living Centre (Aids Display and Information Service) which has recently been established in a vacant ward at Greenslopes Repatriation Hospital will also operate as a reference service for country people.

The Welfare Section of the State Health Department will administer the Commonwealth-funded Programme of Aids for Disabled Persons (P.A.D.P. Scheme). The State Health Department already provides a comprehensive range of aids to disabled persons on a doctor's prescription subject to a means test. The new scheme will cover a similar range of aids for people not eligible under existing arrangements, and both schemes in total constitute a major contribution to disabled persons' welfare.

Within the Intellectual Handicap Services Branch, this disability being less visible and a less understandable problem than physical handicap, a major thrust of International Year of Disabled Persons activities has aimed at heightening community awareness of intellectual handicap, thus facilitating understanding of intellectually handicapped people by the community.

The International Year of Disabled Persons themes of community access and prevention are the philosophical basis of many of this Department's programmes for disabled persons. As complete an integration as possible back into community life is the objective of rehabilitation programmes with both the physically disabled and intellectually handicapped individuals. The prevention of disability and associated social handicaps is similarly the principal thrust of many divisions of the Department.

Rehabilitation in Health Services covers all age groups, a multitude of disability categories and embraces many disciplines. In both Psychiatry and Geriatrics, the need for multi-disciplinary case team services and rehabilitation programmes has been recognized for many years. However, in general, medical rehabilitation has been seen as something discrete and apart from diagnostic and treatment services. Rehabilitation is not just concerned with stable severe impairments but also with expediting functional restoration in people with temporary incapacity.

Rehabilitation should be integrated as far as possible into mainstream services in both the hospital and the community health centre. Furthermore, rehabilitation is very much a social process, and as it aims to restore and resettle patients to their former level of domestic and vocational functioning, it should be provided as close to home as possible.

Every doctor's being responsible for his own patient's rehabilitation should be supported as far as possible from the hospital base specialists to the general practitioner in the community.

Medical rehabilitation has three main organizational aspects to be taken account of. The identification of cases needing assistance, the provision of adequate remedial services and, finally, ensuring proper links between services, particularly the hospital and post-hospital services such as Community Medicine.

Over the past 10 years, as part of the Hospitals Building Programme, many Remedial Departments around the State have been entirely rebuilt or updated. More floor space is becoming available for rehabilitation purposes as other departments move to alternative accommodation within the hospital. Having hospital therapy departments in the same location allows for better co-ordination of effort and for the team approach. There has also been a corresponding growth in the number of allied health professionals employed. During this period, the Community Health Centres have become firmly established.

A State Director of Rehabilitation Services has been appointed to assist with proper co-ordination and liaison amongst existing services and to advise on future developments. A pilot project to appoint a Hospital Rehabilitation Officer at two metropolitan hospitals is proceeding. This non-medical person will be concerned primarily with the post-hospital resettlement of working-age people and work closely with employers, Workers' Compensation Board officers and Commonwealth Rehabilitation and Employment Services.

Certain disability categories require special arrangements. The Spinal Injuries Unit has been established at Princess Alexandra Hospital over many years. A new Spinal Unit has been planned at this hospital. A Unit has been established in Brisbane for specialized rehabilitation of post-neurosurgical cases, mainly head injury.

A number of amputation clinics have been established at both metropolitan and country hospitals. The limb-fitting services attend these clinics. The increasing use of temporary prosthetic devices facilitates early mobilization and hospital discharge. Bio-engineers are also now involved in rehabilitation, helping with the special aids and equipment requirements of the disabled.

A Spina Bifida Clinic was established at the Royal Children's Hospital this year.

The Alternate Living Services, a programme developed by the Intellectual Handicap Service and recently piloted by the Service in Ipswich and Brisbane, is developing more flexible accommodation options to meet the needs of all intellectually handicapped adults. The programme recognizes that community living is the right of all intellectually handicapped people. It recognizes the individual's training needs and the level of staffing support he or she requires to live in the community are determined from that assessment, and the facility is set up accordingly.

During this year, the programme has achieved recognition from the National Advisory Council for the Handicapped when officers of Intellectual Handicap Services, in conjunction with Kelvin Grove College of Advanced Education, have been successful in obtaining a Research Grant to evaluate models of residential care.

With a furthering of opportunities for independence, increased options and the availability of training for community living, the Intellectual Handicap Services Branch has been concerned to see a review of the legal status of the intellectually handicapped person. A working party of Departmental officers has continued to meet to review legislation.

The formation of the Queensland Consultative Committee on Rehabilitation was noted in last year's report. The Committee, with representatives from State and Commonwealth Departments and from non-Government organizations, has as its main terms of reference to advise the Honourable the Minister of Health on the co-ordination of the rehabilitation effort. The Committee maintains close links with the National Advisory Council for the Handicapped. The Committee, which meets second-monthly, produced a report on the handicapped school leaver during the year. The work of the Committee has been overshadowed to an extent by the large number of active International Year of Disabled Persons Sub-committees dealing with all the major social issues for the disabled. It is anticipated that the Consultative Committee will have a role in consolidating the work of these Sub-committees after the completion of the International Year of Disabled Persons.

FOOD ACT 1981

A Bill to give effect to the *Food Act* 1981 was introduced into the Queensland Parliament on 28th April, 1981, and passed the third reading on 14th May, 1981. The Bill received Royal Assent on 12th June, 1981, and thus was born the *Food Act* 1981, which consolidates and amends the provisions of the *Health Act* 1937-1980 relating to the preparation and sale of food and makes provision for securing the wholesomeness and purity of and fixing standards for food and for other purposes insofar as food is concerned. Because the food of the population of any country and the health of that population are undeniably linked, this Act and its supervision are of importance to each and every person in Queensland. To enable the Act to be commenced as soon as possible, the preparation of necessary subordinate legislation, the training of enforcement officers is now under way to ensure effective administration of the Act from the day of commencement.

Legislation on food in Australia commenced with the Adulteration of Bread Act of New South Wales in 1838. In the remaining years of the 19th Century, the Australian States enacted legislation bringing the control of food under central bodies. Whilst the States relinquished certain of their powers and functions to the Commonwealth with the advent of Federation in 1901, the province of food legislation was one retained by the States. A conference held in 1910 between State Health Departments and Commonwealth Government representatives resulted in recommendations on a set of standards and regulations for food being made to the respective Departments of Health. However, continued changes by each State in their food regulations gave rise to an increasing variation in the standards for food.

A recommendation of the Royal Commission on Health held in 1925 was that the States transfer to the Commonwealth the power to legislate for the control of food and drugs. This was endorsed by a conference of Heads of State Health Departments held in 1927. However, the recommendation of the 1925 Royal Commission did not eventuate, because in 1929 a Royal Commission on the Constitution found that the Commonwealth had now powers to legislate on health apart from matters such as imports and exports, trade and commerce between the States and quarantine.

The Federal Health Council was then established for the purpose of securing closer co-operation between the Commonwealth and State Health Authorities. In 1937 that Council became the National Health and Medical Research Council with expanded functions. One of these functions was to advise the Commonwealth and State Governments on all matters of Public Health legislation and administration. The National Health and Medical Research Council has, over the intervening years, continued to be the chief source of advice to Governments on health matters, including food standards, and the Council has established a number of specialist committees to assist it in this work. There is no doubt that general acceptance by the States of the recommendations of the National Health and Medical Research Council has led to a greater degree of uniformity in food standards than has ever before been achieved. However, the diversity of existing State legislation continues to contribute to delays in implementing these uniform food standards recommended by the National Health and Medical Research Council, and there remain many areas of non-uniformity both in the content of standards and in their interpretation and administration.

The *Food Act* 1981 has as its basis a Draft Bill produced as Model Food Legislation by a joint Commonwealth/State/Territory Working Party appointed by a Conference of Commonwealth and State Health Ministers held in Perth in 1975. At this conference, the Health Ministers resolved that every endeavour should be made to have uniform food law introduced throughout the whole of Australia, which concept has been an objective of Governments in this country at least since 1910. The existing system of non-uniform food Acts and non-uniform food standards creates great difficulty for the food industry to meet the varying requirements of the respective State, Territory and Federal Authorities, and is unsatisfactory from both a public health and economic viewpoint.

The Working Party appointed by the Health Minister's Conference first met in Canberra on 4th May, 1976, and at various stages of the Model Food Bill's formulation consultations were held with the Council of Australian Food Technology Associations (CAFTA), the Food Industry Council of Australia (FICA) and the Australian Federation of Consumer Organizations (AFCO). The final acceptable draft of the Model Bill was released by the Working Party in June, 1980. Queensland is the first State to adopt a Food Act incorporating the provisions of the Model Food Bill in the interest of keeping alive this important measure to attain uniformity in food law throughout Australia.

The *Food Act* 1981 has been drafted in accordance with Queensland legislative practice and procedures, and thus appears in a format somewhat different to that of the Model Food Bill whilst retaining all of the principles of the Model Bill. It includes administrative provisions necessary for the enforcement of the Act in Queensland and retains all of the essential elements of existing legislation to ensure that the adaptation of the Model Food Bill to Queensland's requirements will result in no lowering of food standards in this State.

STAFF

Dr D. Kelly was promoted to the newly created position of Health Officer (Special Services) as from 2nd October, 1980.

Dr W. J. Smith, Senior Medical Officer, was granted special leave of absence for the duration of the 1981 academic year to enable him to undertake the course of study leading to the Masters' Degree in Public Health at the University of Sydney.

Dr P. A. Stewart was appointed Temporary Senior Medical Officer during the absence of Dr W. J. Smith, and commenced duty on 5th January, 1981.

Dr D. A. Smith was transferred to the position of Medical Officer, Division of Industrial Medicine, upon his return to Brisbane after successfully completing the course leading to the Masters' Degree in Public Health at the University of Sydney.

Dr J. S. Richardson was appointed Health Officer (Hospitals) following the transfer of Dr D. A. Smith and commenced duty on 16th March, 1981.

Dr D. J. A. Stuart resigned from the position of Medical Officer (Training) as from 13th December, 1980.

Dr I. T. Ring was appointed to the newly created position of Medical Director, Cancer Registry, and commenced duty on 16th March, 1981.

Dr A. T. C. Bourke, Health Officer, was granted special leave to accept an appointment as a Senior Medical Officer to the staff of the Epidemiology Department at the Central Institute, Johannesburg. The experience gained by Dr Bourke at the Institute will be of great benefit to himself and the Department.

Dr P. S. J. Ellis resigned from the Laboratory of Microbiology and Pathology on 10th January, 1981, where he was employed as a Temporary Medical Officer.

Mr F. G. Bowling, Medical Laboratory Technologist Division II, Laboratory of Microbiology and Pathology, was awarded a Public Health Travelling Fellowship to visit laboratories responsible for the introduction of mass neonatal screening programmes for inborn errors of metabolism and other congenital disorders in New Zealand, United States, Canada and U.K.

Dr C. M. Evans was transferred from the position of Medical Officer in Charge, Community Health Care, Mackay, to the position of Medical Officer in Charge, Community Health Centre, Redcliffe, as from 4th December, 1980.

Dr H. T. Day commenced duty on 3rd November, 1980, as Temporary Medical Officer, Division of Geriatrics, based at Nambour.

Dr G. H. Chapman commenced duty on 19th January, 1981, as Medical Officer, Division of Geriatrics, based at Maryborough.

Dr C. M. Webb resigned on 21st November, 1980, from the position of Medical Officer, Division of Youth Welfare and Guidance, but was subsequently re-appointed in a part-time capacity.

Dr A. C. M. Paul was appointed Flying Surgeon, Roma, with the commencement of the expanded Flying Surgeon Service on 12th November, 1980.

Dr R. G. Finemore replaced Dr Paul as Flying Surgeon, Longreach, and commenced duty on 19th February, 1981.

Dr C. Zyp commenced duty as Medical Officer (Anaesthetist), Flying Surgeon Service, Roma, on 15th January, 1981.

Dr M. J. Wohlfahrt commenced duty as Medical Officer (Anaesthetist), Flying Surgeon Service, Longreach, on 16th March, 1981.

Mr E. V. Shaw resigned from the position of Adviser in Catering Services on 27th February, 1981.

Mr R. G. C. J. Cuffe resigned from the position of Chief Inspector of Environmental Sanitation on 4th May, 1980, after 41 years of service in the field of health inspection with this Department.

Mr H. R. Hassett was appointed Chief Inspector of Environmental Sanitation on 2nd October, 1980, to replace Mr Cuffe.

Miss M. Hankinson commenced duty as Assistant Adviser in Nursing on 27th January, 1981.

Miss J. A. Longworth retired in February, 1981, having spent the last 24 years in the office of the Director-General during which time she was recognized for her efficiency and her willingness to assist not only the Director-General and Departmental staff but also hospitals and medical practitioners throughout the State.

CONGENITAL ABNORMALITIES REPORT

A Congenital Abnormalities Register was established on 1st July, 1980. Notifications to the Register are voluntary, and the response from hospitals and medical practitioners using maternity hospitals has been gratifying. Statistical data from the Queensland Register are made available to the National Perinatal Statistics Unit which hopes to be shortly in a position to provide Australian data to the International Clearinghouse for Birth Defects Monitoring Systems. The Queensland data are monitored by the Perinatal Mortality Committee. As well, quarterly reports on the Register are supplied to participating hospitals.

TABLE I
ESTIMATED POPULATION OF AUSTRALIAN STATES AND PERCENTAGE OF AUSTRALIAN POPULATION IN EACH STATE, 31st DECEMBER, 1971-1980

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	Number
1971.....	4 721 000	36.1	3 549 500	27.2	1 906 600	14.6	1 195 400	9.1	1 059 700	8.1	391 700	3.0	151 700	13 070 000
1972.....	4 771 900	35.9	3 604 100	27.1	1 962 200	14.8	1 209 500	9.1	1 080 900	8.1	394 000	3.0	163 100	13 283 900
1973.....	4 816 000	35.7	3 651 500	27.1	2 019 400	15.0	1 227 200	9.1	1 103 200	8.2	397 200	2.9	174 100	13 490 600
1974.....	4 878 700	35.6	3 706 100	27.0	2 074 000	15.1	1 253 600	9.1	1 137 800	8.3	402 500	2.9	184 700	13 709 500
1975.....	4 895 800	35.4	3 730 300	26.9	2 102 200	15.2	1 257 300	9.1	1 159 000	8.4	406 600	2.9	200 400	13 849 300
1976.....	4 933 000	35.3	3 764 900	26.9	2 121 600	15.2	1 268 800	9.1	1 183 700	8.5	409 300	2.9	206 200	13 991 200
1977.....	4 979 300	35.2	3 799 400	26.8	2 155 100	15.2	1 283 800	9.1	1 211 100	8.6	412 100	2.9	212 700	14 163 500
1978.....	5 043 300	35.2	3 835 900	26.8	2 179 600	15.2	1 291 100	9.0	1 231 700	8.6	415 600	2.9	219 300	14 330 900
1979.....	5 111 700	35.2	3 874 500	26.7	2 213 000	15.2	1 297 200	8.9	1 257 000	8.7	420 100	2.9	227 200	14 518 200
1980*	5 183 300	35.2	3 907 900	26.5	2 275 700	15.5	1 302 400	8.8	1 276 700	8.7	424 600	2.9	230 200	14 726 700

*Subject to revision.

VITAL STATISTICS

Population

A preliminary estimate of population in Queensland at 31st December, 1980, was 2 275 700. The estimated increase during the year 1980 was 62 700 of which 18 476 was natural increase. The estimated population of the Brisbane Statistical Division at 30th June, 1980, was 1 028 930, 45.8 per cent of the Queensland total. The population density per square kilometre for the Brisbane Statistical Division is 334.07, for the remainder of Queensland 0.71; and for all Queensland is 1.30 persons.

Births

During 1980, births registered in Queensland numbered 34 972, 223 less than in 1979.

Because the 1980 population figures are subject to revision, crude birth, marriage and death rates, which are calculated on mean population, are also subject to revision.

The crude birth rate per 1 000 mean population fell from 16.0 to 15.6 in 1980.

TABLE II
CRUDE BIRTH RATE (PER 1 000 POPULATION)

—	1975	1976	1977	1978	1979	1980*
Commonwealth of Australia	16.9	16.4	16.1	15.7	15.5	15.4
Queensland	17.5	16.7	16.3	15.9	16.0	15.6
New South Wales.....	16.6	16.0	15.7	15.5	15.2	15.4
Victoria.....	16.6	16.2	15.7	15.4	15.0	15.0
South Australia.....	16.0	15.0	15.1	14.4	14.3	14.2
Western Australia.....	17.7	17.7	17.3	16.9	16.5	16.4
Tasmania.....	17.3	16.4	16.4	16.4	16.2	15.9
New Zealand.....	18.4	17.8	17.2	16.3	16.7	†
United Kingdom.....	12.5	12.1	11.8	12.3	13.1	13.5
United States of America	14.8	14.8	15.3	15.3	15.8	16.2
Canada.....	15.8	15.6	15.5	15.3	15.5	†

*Subject to revision. †Not available.

There were 5 443 ex-nuptial births registered in 1980. This represents 15.6 per cent of total births. Approximately 35.7 per cent of the ex-nuptial births were to mothers aged 19 and under.

Marriages

Marriages registered in 1980 totalled 17 157 compared with 16 082 in 1979, the marriage rate being 7.6 per 1 000 mean population. There were 1 942 males and 5 745 females aged under 21 married. Of these, 18 males and 589 females were aged under 18.

Deaths

The number of deaths registered in 1980 for Queensland was 16 496, giving a crude death rate of 7.3 per 1 000 mean population. In 1979, the major causes of death were diseases of the heart (35.2 per cent), malignant neoplasms, including neoplasms of the lymphatic and haematopoietic tissue (19.7 per cent) and vascular lesions affecting the central nervous system (12.5 per cent).

In every 100 male deaths, 45 died of heart disease or cerebrovascular lesion, 20 of cancer and 8 of accident. In every 100 female deaths, the respective figures were 51, 19 and 4.

There were 3 maternal deaths registered during 1979.

Table III compares crude death rates for Queensland, other States and some overseas countries from 1975 to 1980.

TABLE III
CRUDE DEATH RATE (PER 1 000 POPULATION)

—	1975	1976	1977	1978	1979	1980*
Commonwealth of Australia	7.9	8.1	7.7	7.6	7.4	7.4
Queensland	7.9	8.2	7.7	7.7	7.5	7.3
New South Wales.....	8.3	8.6	8.1	8.1	7.6	7.8
Victoria.....	7.9	8.2	7.8	7.6	7.5	7.6
South Australia.....	7.9	7.9	7.7	7.6	7.5	7.4
Western Australia.....	7.0	6.6	6.6	6.4	6.5	6.5
Tasmania.....	8.3	8.3	8.0	8.0	7.6	8.0
New Zealand.....	8.1	8.2	8.3	7.9	8.2	†
United Kingdom.....	11.9	12.2	11.7	11.9	12.1	12.0
United States of America	8.9	8.9	8.8	8.8	8.7	8.9
Canada.....	7.4	7.3	7.2	7.3	7.1	†

*Subject to revision.
†Not available.

Infant Mortality

Infant deaths numbered 380 in 1979. Of these, 145 died during the first day of life and 257 during the first month. The infant mortality rate decreased from 12.9 in 1978 to 10.8 in 1979. The rate for the Brisbane Statistical Division decreased from 11.0 to 9.8, while the rate for the remainder of the State decreased from 14.5 to 11.6. Infant mortality rates for Queensland, or other States and certain overseas countries are shown in Table IV.†

The causes of death of residents of Queensland are shown in Table V.

†Not available for 1980.

TABLE IV
INFANT MORTALITY RATES (DEATHS UNDER ONE YEAR PER 1 000 LIVEBIRTHS)

—	1974	1975	1976	1977	1978	1979
Commonwealth of Australia	16.1	14.3	13.8	12.5	12.2	11.4
Queensland	16.0	15.0	15.2	13.7	12.9	10.8
New South Wales.....	16.6	15.2	14.7	12.2	12.9	11.4
Victoria.....	14.9	13.0	11.6	11.0	10.5	11.3
South Australia.....	15.5	11.1	14.6	11.5	12.2	9.0
Western Australia.....	16.2	13.3	13.2	12.2	11.2	12.1
Tasmania.....	16.6	18.3	11.5	14.7	14.3	14.1
New Zealand.....	15.5	16.0	13.9	14.2	13.8	†
United Kingdom.....	16.8	16.1	14.5	14.1	†	†
United States of America	16.7	16.1	15.2	14.0	†	†
Canada.....	15.0	14.3	13.5	12.4	†	†

†Not available.

TABLE V
SHOWING CAUSES OF DEATHS REGISTERED IN QUEENSLAND 1979

Cause of Death	I.C.D. No.	Males	Females	Total
Tuberculosis of Respiratory System	010-012, 1370	6	8	14
Tuberculosis, other	013-018, 1371-1374	2	..	2
Diphtheria	032	..	..	..
Whooping Cough	033	..	..	..
Tetanus	037	1	1	2
Acute Poliomyelitis	045	..	..	..
Measles	055	..	2	2
Viral Hepatitis	070	1	..	1
	Remainder of			
Other Infective and Parasitic Diseases	000-139	39	35	74
Malignant Neoplasms	140-199	1 738	1 211	2 949
Neoplasms of Lymphatic and Haematopoietic Tissue	200-208	142	134	276
Neoplasms, Benign and Other	210-239	20	12	32
Diabetes Mellitus	250	80	86	166
Other Endocrine, Nutritional and Metabolic Diseases	240-246, 251-279	39	35	74
Anaemias	280-285	16	24	40
Other Diseases of Blood and Blood-Forming Organs	286-289	14	11	25
Mental Disorders	290-319	87	61	148
Paralysis Agitans	3320	35	23	58
Other Diseases of Nervous System and Sense Organs	320-331, 3321-389	65	45	110
Hypertensive Disease	401-405	63	106	169
Acute Myocardial Infarction	410	2 229	1 358	3 587
Other Ischaemic Heart Disease	411-414	758	549	1 307
Cerebrovascular Disease	430-438	859	1 192	2 051
	Remainder of			
Other Diseases of Circulatory System	390-459	688	687	1 375
Influenza	487	3	4	7
Pneumonia, All Types	480-486	195	178	373
Bronchitis, Emphysema and Asthma	490-493	224	68	292
	Remainder of			
Other Diseases of Respiratory System	460-519	371	99	470
Diseases of Oesophagus, Stomach and Duodenum	530-537	64	47	111
Appendicitis	540-543	2	3	5
Intestinal Obstruction and Hernia	550-553, 560	22	20	42
Cirrhosis of Liver	5712, 5715	62	23	85
	Remainder of			
Other Diseases of Digestive System	520-579	122	107	229
Nephritis, Nephrotic Syndrome and Nephrosis	580-589	81	114	195
Infections of Kidney	590	23	36	59
Diseases of Male Genital Organs	600-608	15	..	15
Other Diseases of Genito-Urinary System	591-599, 610-629	29	30	59
Complications of Pregnancy, Childbirth and the Puerperium	630-676	..	3	3
Diseases of Skin and Subcutaneous Tissue	680-709	3	4	7
Diseases of Musculoskeletal System and Connective Tissue	710-739	28	48	76
Congenital Anomalies	740-759	93	88	181
Certain Causes of Perinatal Mortality	760-779	83	79	162
Senility without mention of Psychosis	797	9	11	20
Symptoms of Ill-Defined Conditions	780-796, 798-799	34	33	67
Motor Vehicle Traffic Accidents	810-819	469	166	635
Accidental Falls	880-888	69	79	148
Accidental Drowning and Submersion	910	68	15	83
	Remainder of			
Other Accidents	800-949	192	54	246
Suicide and Self-Inflicted Injury	950-959	211	83	294
Homicide and Injury Purposely Inflicted by Other Persons	960-969	26	14	40
Other External Causes of Injury	980-999	15	7	22
Total from All Causes		9 395	6 993	16 388

Diseases of the circulatory system, most of which were degenerative lesions of the heart and central nervous system were responsible for 52 per cent of all deaths. Numbers of these occur in old people and hence are at present largely unavoidable. However, an increasing number of deaths due to ischaemic heart disease are occurring in middle-aged males. Some of these are preventable because many middle-aged men are overweight and are heavy smokers, both of which are known to increase the probability of death. Cancer accounted for 18.0 per cent of deaths. Deaths due to motor vehicle traffic accidents numbered 635 (619 in 1978).

MEDICAL ADMINISTRATION

Deputy Director-General of Health and Medical Services: C. K. BRENNAN, M.B., B.S.(Qld.), D.P.M.(Melb.), M.R.C.Psych.(Lond.), F.R.A.N.Z.C.P., F.R.A.C.M.A., F.A.I.P.A.
 Senior Health Officer: I. A. MUSGRAVE, M.B., B.S.(Qld.), D.T.M.&H.(Syd.)
 Health Officer: D. KELLY, A.M., M.B., B.S.(Qld.), F.R.A.C.G.P., Dip Ven.(Lond.)
 Health Officer (Hospitals): D. A. SMITH, M.B., B.S.(Qld.) (to 5-11-80)
 J. S. RICHARDSON, M.B., B.S.(Melb.), D.P.H.(Syd.), D.Obst. R.C.O.G. (from 16-3-81)
 Senior Medical Officer: W. J. SMITH, M.B., B.S.(Qld.)
 Medical Officer (Training): D. J. A. STUART, M.B., B.S.(Qld.) (to 12-12-80)
 Medical Officer (Training): R. L. STABLE, M.B., B.S.(Qld.) (from 5-1-81)
 Director of Rehabilitation Services: P. H. HOPKINS, M.B., B.S.(Qld.), F.R.C.S.(Edin.), F.R.A.C.S.
 Director of Cancer Registry: I. T. RING, M.B., B.S.(Syd.), M.P.H.(U.S.A.), M.Sc.(U.K.) (from 16-3-81)

ADVISORY SERVICES

Adviser in Nutrition and Dietetics: J. BREakey, D.N.F.S., Cert.Diet., T.T.T.C.
 Adviser in Occupational Therapy: R. M. READ, B.Occ.Thy.(Qld.)
 Adviser in Pharmacy: F. RYAN, Ph.C., M.P.S., F.S.H.P., A.A.I.M.
 Adviser in Sterilizing Services: D. FRIEND, B.Sc.

FLYING SURGEON SERVICE—LONGREACH

Flying Surgeon: A. C. M. PAUL, M.B., B.S.(Qld.), F.R.A.C.S. (to 11-11-80)
 R. FINEMORE, M.B., B.S.(Qld.), F.R.A.C.S.(Eng.), F.R.A.C.S. (from 19-2-81)
 Medical Officer (Anaesthetist): B. LISTER, M.B., B.S.(Qld.) (to 12-1-81)
 M. J. WOLFAHRT, M.B., B.S.(Qld.) (from 5-1-81)

FLYING SURGEON SERVICE—ROMA

Flying Surgeon: A. C. M. PAUL, M.B., B.S.(Qld.), F.R.A.C.S. (from 12-11-80)
 Medical Officer: C. ZYP, M.B., B.S.(Qld.), F.F.A., R.A.C.S. (from 15-1-81)

AERIAL AMBULANCE

Following the report of the *Ad Hoc* Committee on Aerial Ambulance and Rural Health Services, the Government decided to invite private aircraft operators to submit tenders for the appointment as aviation broker, the successful tenderer to be responsible for making transport arrangements for air ambulance activities throughout the State except in the area covered by the Royal Flying Doctor Service based on Cairns. A recommendation is about to be presented following which a contract will be signed with the successful tenderer for a trial period of 2 years. Following evaluation of the new aerial ambulance system, further recommendations will be made.

This new scheme will provide a free service for public hospital patients being transferred between hospitals by air. It will only be used, however, where surface transport is considered detrimental to the patient. Guidelines are being finalized to assist those responsible for authorizing patient transfer by air as well as separate guidelines for special cases involving the use of helicopters.

QUEENSLAND CANCER REGISTRY

Preparation for the establishment of the Queensland Cancer Registry is now well advanced, and the Registry is expected to commence data collection in 1982. The Health Acts have been amended to provide for returns on cancer patients to be furnished from public and private hospitals and nursing homes, and from pathology laboratories whenever a pathology examination indicates cancer.

The initial staff of the Registry have now been appointed and are involved in training, preparation of processing systems, and liaison with hospital laboratories and nursing homes. The design of the data form has been finalized and is based on the forms used in other Australian States and on the recommendations of the World Health Organization. The design of the computer processing system has been completed, and detailed programming work is to commence shortly.

CO-ORDINATING COMMITTEE ON CHILD ABUSE

The Co-ordinating Committee on Child Abuse has continued to monitor the complete range of issues relating to child abuse and child protection in Queensland. The major task in hand is the organization, by the Department of Health, of the Second Australasian Conference on Child Abuse to be held in Brisbane in September, 1981.

The Co-ordinating Committee has formulated a Conference Planning Committee consisting of representatives from the Departments of Health, Welfare Services and Police under the Chairmanship of an officer of the Department of Health. A firm of Conference Consultants has been appointed to assist in the conference organization.

The Co-ordinating Committee has set up working parties to review the S.C.A.N. team operations throughout Queensland that were introduced in mid-1980. An extensive questionnaire has been circulated to members of S.C.A.N. teams (i.e. authorized persons) and a report will be prepared prior to the Conference on Child Abuse. A further working party to look into all aspects of sexual abuse in children has been set up by the Co-ordinating Committee and towards this end, a seminar of appropriate experts in the field has been called for early August, 1981.

ADVISORY COMMITTEE ON THE CARE OF THE AGED

The Advisory Committee has had a very active year implementing its terms of reference to advise on all aspects of care of the aged.

Working Parties with a broad membership, including representatives of the voluntary sector providing services and facilities, State and Commonwealth Government Departments, private individuals, private nursing homes, Family Medicine Programme, etc., completed reports on a wide range of topics which have been compiled as the First Consolidated Report of the Advisory Committee on the care of the Aged.

The report contains chapters on the Role of Community-Based Programmes, Provision of Domiciliary Care, Community Education, Housing and Accommodation for Elderly People, Transport, Nursing Home Care, Psychogeriatric Care, Ethnic Communities, Aboriginal Population, the Aged in Handicapped Groups, Visual Impairment and Deafness in the Elderly, and Medical Education.

The completed report is now before Cabinet.

HOSPITAL DRUGS AND EQUIPMENT ADVISORY COUNCIL

The Hospital Drugs and Equipment Advisory Council, on which there are representatives from the Department of Health, Metropolitan and Country Hospitals and the University of Queensland, continues to be responsible for policy decisions on the supply of equipment and drugs to Queensland hospitals and institutions.

Council is assisted in its deliberations by Standing Committees in the relevant fields of Biomedical Engineering, Hospital Furniture, Drugs, Metropolitan and Country Pathology Services, Medical and Surgical Equipment, Sterilization Services and Radiological Services.

Advice is also given to State Stores Board on the acceptance of quotations for purchase of individual items and those products which in the opinion of Council should be placed on term contracts, thus reducing prices and delays in supply.

COMMITTEE OF REVIEW OF AMBULANCE SERVICES

The report of this Committee was submitted in December and later tabled in Parliament. It has been made available for public discussion and circulated widely to the media and persons having a legitimate interest.

The recommendations of the report cover a wide range of areas including questions of re-organization, altered financial arrangements, the introduction of uniform standards of training and standardization of motor vehicles and equipment. It recommends that the ambulance service should retain its organizational independence and not become incorporated into either the Public Service system or the State Hospital system but should be controlled and governed by a central body with Ambulance Superintendents being in charge of administration and operations throughout the State, with responsibility to a divisional level and thence to a central executive.

REHABILITATION SERVICES

Director of Rehabilitation Services: Dr P. H. HOPKINS, F.R.C.S.(E), F.R.H.C.S.

The Director has been principally concerned with advising on effective utilisation and co-ordination of rehabilitative type services at both hospital and community health level. The work in the rehabilitation area has necessarily significant involvement with other Government Departments and voluntary agencies dealing with disabled people. The Director, Rehabilitation Services was appointed

After due time has been allowed for public comment, further consideration will be given to the report in relation to the policies which should be adopted.

PRIVATE HOSPITALS AND NURSING HOMES

Co-ordinating Committees, comprising State and Commonwealth Officers, examine all applications to erect new Nursing Homes and Private Hospitals or to extend already existing structures.

Departmental Officers are involved with these buildings from the examination of the original plans, the approval thereof and the inspection and approval for licensing of the completed building.

Thereafter, all aspects of delivery of care to the occupants is regulated by this Department, and regular inspections are carried out by Officers to ensure that a high standard of care is maintained.

In 1980-81, there were 144 inspections of Nursing Homes under Departmental control and 49 inspections of private hospitals.

In the same period, 240 new Nursing Home beds and 128 additional Private Hospital beds were licensed.

a member of the Queensland National Fitness Council for Sport and Recreation in April, 1981. He will be acting as Chairman of the Committee for Recreation for the Handicapped which is a Sub-Committee of the National Fitness Council. The International Year of Disabled Persons was a major concern in the current year.

STERILIZING SERVICES

Adviser in Sterilizing Services: Mr D. W. Friend, B.Sc., S.T.C.

EDUCATION

Education of personnel working in Sterile Supply Services in Queensland Public Hospitals is the goal towards which the Adviser in Sterilizing Services continues to work. A greater understanding of procedures, materials and equipment associated with hospital sterilization and disinfection by both the people actually working in these areas and by the supervisors who must bear the responsibility for maintenance of high standards here is being sought. Such education is absolutely necessary before greater acceptance by administrators comes about of the practical contribution that improved sterilizing services makes towards hospital patient care.

HOSPITAL VISITS AND EDUCATION

To these ends the Adviser has continued to visit hospitals widely spread throughout the State, giving on-the-spot lectures and advice to staff working in and responsible for the sterilizing equipment and services in those hospitals. Furthermore, temperature penetration tests of typical packs during actual steam sterilization have been done, and information so gained has been especially useful in both education and advice-giving by the Adviser during visits to each hospital.

COLLABORATIVE EDUCATIONAL WEEK

The Adviser has continued also to be involved with The Queensland Society of Sterilizing and Disinfection, the voluntary body of people from Queensland Hospitals who are also interested in furthering the standards of hospital sterilizing services. During the year the society, with administrative sanction and assistance by the Department, organized an educational week for hospital sterilizing department supervisors which was most successful. Many supervisors who in Queensland are nursing staff attended from across the State. The five days of lectures, practical visits and demonstrations did much to draw together these people responsible for sterilizing services, raising their awareness of the common goal towards which the quality of sterilizing services is improving.

OCCUPATIONAL THERAPY

Adviser in Occupational Therapy: Miss RUTH M. READ, B.Occ.Thy.(Qld.)

New occupational therapy services have been commenced at Queen Elizabeth II Hospital at Coopers Plains; the Geriatric Unit and Day Hospital at Ipswich Hospital; and the Geriatric Assessment Unit at the Prince Charles Hospital; Mackay Hospital; and Longreach part-time. In some other areas, support staff positions have been converted to professional staff positions.

Unfortunately, "Eventide Home", Rockhampton, and Mosman Hall, Charters Towers, failed to attract suitable applicants for full-

NEW CENTRAL STERILE SERVICE DEPARTMENTS

Queensland hospitals sterilizing services range in extent according to hospital size, and the Adviser has been involved with all types from remote outpatient clinics to Central Sterile Service Departments in major hospitals. During the year, new purpose-designed C.S.S.D's have begun operation in four major hospitals, and a further two will soon begin supplying services to their respective hospitals. Moreover, the Adviser has also liaised with the architects for various hospital projects towards most appropriate C.S.S.D. design in hospitals both small and large.

Staffing of these departments continues to present problems, both in C.S.S.D. establishment numbers failing to meet all workload demands and desired standards, and through the mobility of nursing staff within a hospital imposing extra on-the-job training demands on C.S.S.D. Charge Nurses or Supervisors. New C.S.S.D's will not be able to function effectively until these problems are met.

EQUIPMENT AND MATERIALS IN STERILIZING SERVICES

The Adviser routinely makes recommendations concerning State Stores Board Contracts for disinfectants, autoclave tapes, heat sealing machinery and sterilizing packaging materials, and in assessing the reliable attainment of minimum sterilization or sanitization standards in machinery being bought for these purposes. Packaging material porosity testing apparatus has been acquired and its value towards selection of good quality packaging materials for C.S.S.D. use has been realized.

COMMITTEES

The Linen Standardization Committee completed its recommendations during the year; the Sterilization Committee, of which the Adviser is Secretary, has made various recommendations on C.S.S.D. equipment and hospital disinfectant usage; and the Adviser has been the Departmental representative at several meetings during the year of the Packaging for Sterilization Committee (PK/18) of the Standards Association of Australia.

time positions, and Innisfail and Roma Hospitals for part-time positions. This was in spite of a trend towards an oversupply of therapists brought about by the combination of local new graduates, interstate graduates and overseas therapists, particularly New Zealanders and therapists from Britain, competing for employment.

The Eleventh Federal Conference of the Australian Association of Occupational Therapists "Rapport 1980", held in Hobart, was attended by two Official Departmental Delegates and a number of other Queensland Occupational Therapists.

One paper, in particular, reflected the current economic situation in that it illustrated a change in rehabilitation goals for a group of mildly disabled persons. Their programme covered such aspects as learning to accept pain and disability; learning to accept the changed lifestyle of "early retirement"; survival on a reduced income; how to supplement an income; role reversal; voluntary work; and involvement in community activities.

The importance of keeping accurate clearly expressed and adequate records was stressed as this reflects the ability of the therapist to plan precisely, and allows for review and evaluation of programmes as well as aiding in research. Professional accountability was further elaborated upon in discussions relating to peer review and quality assurance.

The notion of "mobility housing" as distinct from special housing was presented by an international speaker. It was claimed that for many people with a disability, an ordinary house which is well designed and conveniently planned with no steps or stairs to be negotiated is all that is necessary. This conclusion can have significance for housing authorities planning to make provision for disabled members of the community.

The year 1981, being the International Year of Disabled Persons, has had implications for the Adviser, for other Occupational Therapists and those whose work relates to rehabilitation services. Representatives from major Metropolitan Occupational Therapy Departments have prepared a series of display boards and colour transparency sets relating to the management of such potentially disabling conditions as stroke, arthritis, back injury and coronary heart disease. These are to be presented on a rotational basis in Hospital Outpatient Departments.

The Adviser has been called upon to speak to a number of community groups on the use of aids and assistive devices, and the value of a centrally located aids display and information service. The disabled themselves, their friends and relatives, and those professionally concerned with their care all would benefit from such a centre. It is anticipated that by the conclusion of the International Year, this service will be available to Queenslanders from The Independent Living Centre located at the Repatriation General Hospital, Greenslopes.

Active participation has been maintained on the Recreation for the Handicapped Sub-Committee of the Queensland National Fitness Council for sport and Physical Recreation. A major initiative has been the production of a film illustrating the wide range of exciting and challenging leisure-time activities, appropriate to the Queensland environment and life style, that can be participated in by people with various disabilities. Therapists and their clients should find this a worthwhile additional resource.

Visits have been made to hospitals, community health services centres and institutions in the Brisbane Metropolitan Area, Ipswich, Gold Coast and provincial areas from Atherton and Cairns to

Rockhampton and Gladstone. Assistance has been given in the preparation of plans, equipment lists and staff establishments for Occupational Therapy Departments in new developments and reconstructions.

The Adviser has continued to maintain contact with Occupational Therapy students at the University of Queensland by giving lectures on the administrative responsibilities of therapists and discussing job opportunities with those approaching graduation.

The Adviser attended meetings of the Queensland Consultative Committee on Rehabilitation in the capacity of Secretary and was a Departmental representative to the Interdepartmental Advisory Committee on Therapy and Social Work Services in Schools, the Working Party on Permanent Care Facilities for the young chronic sick and is the Chairman of the Occupational Therapists Board of Queensland. Assistance was given to the Working Group on Rehabilitation Facilities in relation to requirements for Occupational Therapy Departments in institutions of varying capacity.

MALARIA

Malaria cases have continued to increase in incidence during 1980 when 200 cases were notified (Table VI). Two cases were classified as "introduced". One was a case of *P. falciparum* malaria at Moa Island in January, and the other, a case of *P. vivax* malaria at Darnley Island in August.

In the first case, a full investigation was carried out at St. Paul's, Kubin and Badu to trace the source, and measures were taken to prevent possible transmission. One hundred and eighteen premises were sprayed with DDT residual deposits, and 495 persons were screened by blood film examination and received presumptive treatment. Spleen surveys of younger children were carried out. Although no definite source of infection was detected, there were strong indications that the source case had travelled from Papua New Guinea on board a vessel which had recently visited the Island.

In the second case at Darnley Island, a similar exercise was instituted, and in each event no further cases eventuated and transmission of malaria was successfully interrupted.

These introduced cases illustrate the continuing vulnerability of these Islands and their high degree of receptivity to the reintroduction of malaria. This risk will continue because of the traditional patterns of movement of the people who reside in the area habitually travelling between Papua New Guinea and the Islands. It will be necessary to continue a high level of vigilance operations there for a long time to come.

The other 198 cases notified during 1980 were contracted outside Australia. Of these, 100 were contracted in Papua New Guinea, 67 in South-East Asia and 28 elsewhere, with five cases being of unknown origin (Table VII). The other sources of imported cases were Solomon Islands, New Hebrides (Vanuatu), Central America, Middle East, Kenya, Philippines and India.

In 1980, 53 malaria notifications in this State were of cases in Vietnamese refugees, and of these all were cases of *P. vivax* malaria except for one case of *P. falciparum* malaria. This figure is compared with a total of eight cases of malaria in Vietnamese during 1979. The influx of cases in this group is entirely responsible for the change in incidence of malaria from 1979 to 1980 (Table VI).

There were only four cases of malaria notified in Torres Strait Islanders during 1980 compared with 28 in 1979. This means that there has been a continuing increase in cases in returned Australian residents and travellers from overseas.

While there were 61 notifications of *P. falciparum* malaria in 1979, the number dropped to 30 in 1980. Twenty-three of these were contracted in Papua New Guinea (Table VII). In the first 7 months in 1981, there have already been 29 cases of *P. falciparum* malaria reported, 25 being from Papua New Guinea. *P. falciparum* malaria is often fatal, and many cases contracted in Papua New Guinea are chloroquine-resistant.

TABLE VI
QUEENSLAND MALARIA CASES—1975-1980

Species	Year					
	1975	1976	1977	1978	1979	1980
<i>P. vivax</i>	55	51	60	44	94	169
<i>P. falciparum</i> ..	9	3	12	12	63	30
<i>P. falciparum</i> + <i>P. vivax</i> ..	0	0	0	2	3	0
<i>P. malariae</i>	0	0	0	2	1	0
<i>P. ovale</i>	0	0	1	0	0	0
Unknown	1	2	0	0	0	1
Totals	65	56	73	60	161	200

TABLE VII
QUEENSLAND MALARIA CASES 1980

Species	Where Contracted				Total	Torres Strait Islanders	Vietnamese	Total
	Papua New Guinea	South-East Asia	Elsewhere	Unknown				
<i>P. vivax</i>	76	65	25	3	169	3	52	55
<i>P. falciparum</i> ..	23	2	3	2	30	1	1	2
<i>P. falciparum</i> + <i>P. vivax</i> ..	0	0	0	0	0	0	0	0
<i>P. malariae</i>	0	0	0	0	0	0	0	0
<i>P. ovale</i>	0	0	0	0	0	0	0	0
Unknown	1	0	0	0	1	0	0	0
Total	100	67	28	5	200	4	53	57

The Department is conscious of the need to maintain the alertness of the medical profession and public to the ever-present risk of malaria for persons travelling overseas in tropical countries and the special importance of the risk of reintroduction of malaria into this country. Recently, the World Health Organization declared Australia to be malaria-free, and this provides a further incentive to maintain this important status. To assist the medical profession, the Depart-

ment of Health has recently circulated a detailed booklet on the management of malaria in Queensland in order to provide up-to-date guidelines for medical practitioners on both clinical and preventive aspects of malaria management in the State.

Collaboration with the Commonwealth Institute of Health for the purpose of maintaining the National Register of malaria cases is continuing.

PHARMACY

Adviser in Pharmacy: Mr F. RYAN, Ph.C., B.H.A., F.S.H.P., M.P.S., A.H.A., A.A.I.M.

PHARMACY SERVICES

A pharmacist position was created at Her Majesty's Prison, Brisbane, during 1980 and a pharmacist was duly appointed to provide a pharmacy service at the Prison hospital.

Positions for pharmacists were also created in certain sections of the Division of Psychiatric Services. These were an Assistant Pharmacist's position at Baillie Henderson Hospital, Toowoomba, and a Pharmacist-in-Charge and an Assistant Pharmacist at the Mary Street Psychiatric Clinic and Stones Corner Psychiatric Clinic, Brisbane. Planning is continuing for further development in this important area of drug therapy.

With the opening of the new hospital unit at Eventide Home for the Aged, Sandgate, an additional Pharmacist position was approved for that establishment in order to allow ward pharmacy services to be introduced.

At Queen Elizabeth II Jubilee Hospital, two Pharmacists were appointed to the staff during the year in order to provide the pharmaceutical requirements for inpatients and outpatients attending the new hospital complex. A clinical pharmacy service is planned for that hospital.

A Drug Information Service was approved for Queensland State hospitals with the State Drug Information Centre being located at the Royal Brisbane Hospital Pharmacy Department. A pharmacist was appointed to establish the Centre which is currently being developed to provide a service to all State hospitals and institutions and to be linked by computer with the Commonwealth Department of Health's National Drug Information Service.

The sessional pharmacy service at the Blackall Hospital has operated successfully under the direction of the local private practice pharmacist, Mr C. Bonner. This has been a pilot project which may be used as a model for further services of this type in rural areas.

A visit was made during the year by the Adviser in Pharmacy to geriatric institutions in Tasmania, Victoria and the Australian Capital Territory in order to investigate the drug distribution methods in use. A report was prepared as a basis for the introduction of a ward pharmacy service in Queensland Homes for the Aged.

DEPARTMENTAL CONFERENCE FOR HOSPITAL PHARMACISTS

A conference for Pharmacists in charge from all State hospitals and institutions was conducted in the Administration Building, Department of Health, Brisbane, in October, 1980.

This was the second Conference of this type to be held, and it was attended by over 30 pharmacists from various parts of Queensland.

The two-day programme dealt with several aspects of professional practice such as total parenteral nutrition, computers in pharmacy, drug information, clinical pharmacy and outpatients services.

PROFESSIONAL ACTIVITIES

Liaison with the official pharmaceutical organizations, both State and Federal, was continued.

NUTRITION AND DIETETICS

Adviser in Nutrition and Dietetics: Mrs J. BREakey, D.N.F.S., Cert.Diet., T.T.T.C.

DIETETIC SERVICES IN QUEENSLAND

The Adviser in Nutrition and Dietetics has visited Cairns, Townsville, Mackay, Rockhampton, Warwick and Metropolitan Hospitals. These visits provided information on current services both for normal and special diets in hospitals, and provision of nutrition information in the community. Dietitians in other areas were sent relevant new information. Requests for staff establishments or increases were assessed and information was provided for interstate and overseas people seeking employment. The number of dietitians employed in Queensland Hospitals at 30th June, 1981, is as follows—

Royal Brisbane Hospital	} 11
Royal Women's Hospital	
Royal Children's Hospital	
Princess Alexandra Hospital .....		7
Prince Charles Hospital	2

Gold Coast	1
Redcliffe	1
Ipswich	1
Queen Elizabeth II	1
Cairns Hospital	1
Townsville	2
Rockhampton	1
Toowoomba	1
Mount Isa	1

HOSPITAL FOOD SERVICES

Where hospital food services are receiving attention, dietitians are involved re nutritional aspects. Hospital Boards have been advised of a clarification of the role of dietitians so they are more effectively utilized.

The most significant change in many hospitals food services has been the implementation of a frozen food system providing hot meals and desserts. There has been on-going monitoring of the frozen food products and the implementation of the food service systems. Hospital staff have been involved in many meetings and a workshop was organized to provide information *re* all aspects involved. The Adviser in Nutrition and Dietetics addressed the Senior Managers and Nursing Superintendents Conferences on this and other aspects in the provision of satisfactory food to hospital patients.

The Adviser made visits to the Frozen Food Facility and provided documented standards required for maintenance of nutritional requirements in food provided. Much information required by hospitals has been collated in a Manual which the Frozen Food Facility will provide to hospitals.

PROVISION OF NUTRITION INFORMATION

The Adviser was involved in providing nutrition information, particularly to the Division of Health Education and Information for articles, pamphlets and a booklet on the Dietary Guidelines for Australians. This booklet "Eating to Enjoy Life" is significant since it is a statement of the direction being taken with regard to food and nutrition by the Department.

Much information was also supplied directly to enquiries from the public, requests for speakers on nutrition, requests from students studying some aspect of nutrition, and for information for the media. The Adviser addressed some groups such as the Queensland School

Tuckshop Association who were given a policy statement on nutritional issues. Addresses were also given to General Practitioners, Pharmacists attending a nutrition course, Private Nursing Home Staff, The Australian Institute of Management, Paediatric Seminars, and others. At the request of representatives of the Food Industry, a paper presenting the direction being taken by the Health Department was presented at a seminar.

In-service training of community health staff continued for Community Health nurses, School Health nurses and Intellectual Handicap Services staff.

There was liaison with other sources of nutrition information to the public, particularly the Education Department, Colleges of Advanced Education and Universities, as well as the Consumer Affairs Bureau and Department of Primary Industries, and Health Departments in other States who were all represented at a National Conference on Nutrition Education.

Other conferences attended were the Nutrition Society Conference, the A.F.C.O. Conference, and the First Annual Conference of the Australian Association of Dietitians which was held in Brisbane.

PUBLIC HEALTH

The Adviser continued as a member of the Food Standards Committee and co-ordinated work on provision of a pamphlet on date-marking of food. Four Private Nursing Homes were visited and a checklist provided.

DIVISION OF PUBLIC HEALTH SUPERVISION

Director of Public Health: R. A. RAMM, M.B., B.S.(Qld.), M.H.P.(U.N.S.W.), F.R.A.C.G.P., F.R.A.C.M.A.
 Health Officer: A. T. C. BOURKE, M.Sc.(Liv.), M.D.(Dubl.), Dr.P.H.(Yale), F.R.C.P.A., F.A.C.P.M.,
 M.A.S.M., D.T.M.&H.(Eng.) (Special Leave from 17-2-81)
 Medical Officer: D. A. RUSSELL, M.B., B.S.(Madras), D.P.H.(Syd.), F.R.A.C.M.A.
 Chief Inspector of Environmental Sanitation: H. R. HASSETT, Cert.R.S.H., Dip.Trop.Hyg.(R.S.H.),
 M.A.I.H.S. (acting from 17-12-79, appointed from 2-10-80)
 Chief Inspector of Foods: W. J. SHIELDS, Cert.R.S.H., A.A.I.H.S.
 Chief Inspector of Drugs and Poisons: K. F. KEEFER, Cert.R.S.H., A.A.I.H.S.
 Secretary, Director-General: W. J. LANE, Dip.R.S.H., A.A.I.H.S. (acting from 17-12-79, appointed from
 2-10-80)

DISTRICT INSPECTORS

Gold Coast:	R. V. HOLMES, Dip.R.S.H., M.A.I.H.S.	Rockhampton:	J. A. SANDERSON, Cert.R.S.H., M.A.I.H.S.
	A. NEILSON, Dip.R.S.H., M.R.S.H., M.I.H.I.(N.Z.) (from 2-10-80)	Mackay:	A. G. TAYLOR, Dip.R.S.H.
		Townsville:	A. NEILSON, Dip.R.S.H., M.R.S.H., M.I.H.I.(N.Z.)
Toowoomba:	G. D. HAPGOOD, Dip.R.S.H. A. W. WARE, Dip. R.S.H., A.A.I.H. (from 2-10-80)		G. D. HAPGOOD, Dip.R.S.H. (from 2-10-80)
Bundaberg:	M. J. PRICE, Dip. R.S.H., A.A.I.H.S.	Cairns:	J. C. HORNE, Dip.R.S.H., A.A.I.H.S.

INTRODUCTION

The Division has continued its major roles of surveillance, investigation and control of illness and disease, as well as being actively involved in many aspects of disease prevention and the maintenance of high levels of public health.

The co-operation of numerous organizations is necessary in order that the Division's various programmes can proceed. In particular, the assistance is gratefully acknowledged of the Government Chemical Laboratory; the Laboratory of Microbiology and Pathology; the Commonwealth Health Laboratories; the Departments of Primary Industries; Local Government and Harbours and Marine; the Queensland Fisheries Services; the Queensland Fish Board; the Commonwealth Department of Health and the Bureau of Customs; and the various Local Authorities of Queensland.

It has become increasingly apparent that there is now a considerable public awareness of many health issues, not only in the long-established field of preventive medicine which has for some time attracted considerable public attention, but also in the environmental, food standards and drug surveillance areas. The time associated with servicing this interest, in addition to the regular work demands of the various Sections and important special projects, such as cholera surveillance, has placed a substantially increased workload on the Division.

STAFF AND GENERAL

The staff of the Division consists of one Medical Officer (the Director), three Chief Health Inspectors, four Senior Health Inspectors, seven District Health Inspectors, one Special Health Inspector, 22 division I Health Inspectors, one Inspector (Fish Markets), 12 division II Health Inspectors, 14 Technical Assistants (Health Inspection), one Clerk, three Stenographers, one Clerk Typist and two Clerical Assistants. Two positions of Technical Assistant (Health Inspection) are at present vacant.

Also allocated to the Division from Health and Medical Services are one Medical Officer, one part-time Medical Officer, one Secretary to the Director-General of Health and Medical Services, one Clerk (Administration), five Clerks, one Supervising Stenographer, three Stenographers, two Clerk Typists, one Clerical Assistant and four General Assistants.

Mr R. C. G. J. Cuffe, Chief Inspector of Environmental Sanitation, resigned on 4th July, 1980, after 41 years of service in the field of Health inspection in this Department. He was appointed a Cadet, Health and Medical Branch, on 15-12-39 and during his period of service with this Department served 4 years in the Australian Army during World War II.

Mr J. A. Fuerst, Clerk, retired on 5-7-80 after completing 18 years' service in the Department of Health. Mr R. J. Miles resigned to take up a Local Authority appointment. Other resignations were submitted by two Technical Assistants, one Clerical Assistant, one Stenographer and one Clerk-Typist.

Dr R. A. Ramm is a member of the Water Quality (Reference) Sub-Committee of the National Health and Medical Research Council, the Environmental Health Committee, the Water Quality Council of Queensland, the Metropolitan Works Board, and served for most of the year on the Air Pollution Council of Queensland and the Noise Abatement Authority of Queensland.

Dr A. T. C. Bourke is spending 12 months' leave of absence from 12th February, 1981, gaining additional epidemiological experience in the Department of Epidemiology and Tropical Pathology at the South African Institute for Medical Research, Johannesburg.

Dr D. A. Russell is the Consulting Leprologist for the State of Queensland.

Dr J. S. Richardson was appointed Health Officer (Hospitals) from 16th March, 1981, and has been on secondment to this Division.

Members of the staff give lectures and tutorials on public health and other specialized subjects at a number of tertiary educational institutions, and to business associations.

EPIDEMIOLOGY

Introduction

The collection, collation and analysis of epidemiological data, primarily in relation to communicable diseases, has continued to be performed by Divisional officers. Investigation and, where necessary, control of communicable disease is also an on-going function of the Division.

Notifiable Diseases

The fact that notification figures are an unreliable indication of the true incidence of communicable disease in a population has been commented upon in past reports, and again seems to be the case this year. In general, reporting of a disease is likely to be far more accurate with some of the rarely occurring and clinically interesting conditions

than with the more common infections. Nevertheless, the present scheme of notifications, despite its deficiencies, is still capable of providing valuable epidemiological information to the Division on outbreaks of disease, thus enabling the implementation of suitable control measures where and when necessary.

The Division welcomes informal or early advice from medical practitioners on individual cases or outbreaks of disease in order that prompt investigations can be initiated and an appropriate course of action determined. In such instances it would be appreciated if formal notifications were forwarded to the Department at the practitioners' earliest convenience.

Notifiable diseases which have been brought to the attention of the Division during the year ending 30th June, 1981, are recorded in Tables IX and X. These notifications do not include Venereal Diseases which are shown in the section on Enthetic Diseases.

The following notifiable diseases were not reported during this year:— anthrax, cholera, diarrhoea in closed institutions, filariasis, hydatid disease, lead poisoning, plague, poliomyelitis, smallpox (now eradicated world-wide), trachoma, typhus (epidemic, murine, scrub and tick forms) and yellow fever. In the previous year to 30th June, 1980, cholera, diarrhoea in a closed institution, hydatid disease, lead poisoning and trachoma were notified. No cases of anthrax, plague, smallpox or yellow fever have been brought to the attention of the Division in the past seven years.

Table VIII lists notifications received during the year in descending order of frequency. Adjacent to the individual totals are those reported in 1979-80, together with the mean annual notifications based on those received between 1975 and 1980.

Notifications are also tabulated according to two defined areas:—

- The Metropolitan Area, representing that part of Brisbane administered by the Brisbane City Council;
- The Extra-Metropolitan Area, comprising all Local Authority areas in Queensland except that administered by the Brisbane City Council.

The distribution of notifiable diseases by month of receipt from these two defined areas is recorded in tables X and IX.

Increases were recorded in the incidence of food poisoning in two or more associated cases and in shigella, rubella and amoebiasis, whilst tuberculosis, salmonella and malaria continued at levels comparable with last year. All of these conditions comfortably exceeded the mean total incidence for the preceding five years. There were two recorded cases of psittacosis, two of typhoid and one of dengue.

Notable reductions occurred in the reported incidence of Q. fever, hepatitis A, hepatitis B, meningitis, ancylostomiasis, leptospirosis and epidemic polyarthritis.

As in recent years, after venereal disease, tuberculosis, salmonella, malaria, Q. fever and hepatitis A were the most frequently notified diseases, followed by rubella and shigella. All but tuberculosis were more common in extra-Metropolitan areas. Comments on tuberculosis and malaria are recorded in the reports of the Division of Tuberculosis and Aboriginal Health Programme, respectively.

A rise in the reporting of rubella would appear to indicate that there has been a further increase in transmission of the infection in Queensland. The great majority of these cases were reported from country areas between October, 1980 and January, 1981. However, the reporting of rubella is notoriously unreliable.

The majority of the reduced number of cases of ancylostomiasis were again from the extra-Metropolitan areas. These are also referred to in the report on Aboriginal Health.

The increasing problem of shigella, salmonella and food poisoning generally has continued at a high level, particularly in country areas. Salmonella was more frequent during the summer period, whilst the peak incidence of shigella occurred in July following which it continued at a lower level throughout the remainder of the year. Reports of food poisoning in two or more associated cases were confined almost entirely to country areas during January. Hot weather and water shortages may have played important roles in the pollution of food and water supplies and, together with inadequate food hygiene procedures in the manufacture, distribution, preparation handling and serving of food, were probably the major causes of the increasing incidence of these infections in Queensland.

The first of two cases of typhoid during the year was confirmed in a 27-year-old man at the Royal Brisbane Hospital. The patient had not travelled outside the Brisbane area. This isolated case was

investigated, but no proven source of infection was found. The second case occurred in the daughter of a family of southern European origin. No member of the family had been overseas for six years; however, one parent was found to be an excretor of *S. typhi*.

Cholera Surveillance

The surveillance of all public water supply intakes and recreational water areas which commenced in 1979-80 has continued during the year. In addition, a defined surveillance programme was initiated in September, 1980, to gather environmental data on the survival of *Vibrio cholerae*, biotype eltor, in the Albert, Logan, Brisbane and North Pine Rivers. Specimens and data collected during each survey are water samples for *V. cholerae* and *E. coli* quantitation and for routine chemical determinations, environmental data on physical and other characteristics and cattle and other animal droppings plus aquatic plants, when available, for the presence of *V. cholerae*.

Moore swabs (for the determination of *v. cholerae*) have been placed at strategic points in sewage treatment plants in two communities on the Logan River, and additional investigations using these devices are under consideration.

The studies being undertaken are yielding useful information about the habits of the vibrio and its ability to survive and grow in receptive surface waters in Queensland. The surveillance programme is scheduled for a period of three years, although its precise duration will depend on the results of the analysis of accumulated data.

From a public health viewpoint it is considered that water treatment plants having facilities for adequate filtration and chlorination, as a minimum requirement, will enable the removal of pathogenic organisms sufficient to provide water for reticulation which is safe for human consumption. Persons wishing to drink untreated water from watercourses should ensure that it is boiled thoroughly beforehand in order that any risk due to the presence of *V. cholerae* be removed.

Further information on cholera surveillance is contained in the report of the Section of Environmental Sanitation.

Hansen's Disease

Seven new cases were identified during the year. Of these, three were Aborigines, one a Papuan and three Vietnamese. All are under active treatment and progressing satisfactorily.

Four of the new patients have been seen at the regular outpatient clinic conducted every Tuesday at the Outpatient Department of the Princess Alexandra Hospital. The three remaining patients were referrals from other hospitals, indicating an increasing awareness of the disease.

Teaching sessions have been conducted at the Medical School and for in-service training of Community Medicine and Aboriginal Health Programme staff.

The consultative services initiated in early 1978 have been maintained by visits to other areas.

Immunization Programme

During the year, the following vaccines supplied by the Commonwealth were distributed by this Division:—

<i>Sabin</i> —	
10 dose vials	150 640 doses
20 dose vials	126 800 doses
Total	277 440 doses

an increase of 38 760 doses distributed over 1979-80 figures.

<i>Measles</i> —	
Single dose vials	51 644 doses
An increase of 15 368 doses distributed over 1979-80 figures.	

<i>Rubella</i> —	
Single dose vials	19 965 doses
10 dose vials	18 020 doses
50 dose vials	13 659 doses
TOTAL	51 644 doses

An increase of 6 288 doses distributed over 1979-80 figures.

TABLE X
NOTIFIABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES) 1st JULY, 1980 TO 30th JUNE, 1981
COUNTRY AREA

Diseases	Months												Totals 1980- 1981
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	Apr.	May	June	
Amoebiasis.....	4	1	..	1	1	..	2	..	10	..	1	1	21
Ancylostomiasis.....	1	35	..	..	..	..	..	..	1	..	..	..	37
Anthrax.....	..	..	..	..	..	..	..	..	..	..	..	..	Nil
Bruceellosis.....	1	1	..	1	..	..	..	..	..	1	..	..	4
Cholera.....	..	..	..	..	..	..	..	..	..	..	..	..	Nil
Dengue.....	..	..	..	..	..	..	..	1	..	..	..	..	1
Diphtheria.....	..	..	1	..	..	..	..	1	..	..	..	..	2
Diarrhoea (In Closed Institution).....	..	..	..	..	..	..	..	..	..	..	..	..	Nil
Encephalitis.....	..	..	..	..	..	..	..	2	1	..	..	..	3
Epidemic Polyarthritis.....	1	..	..	..	..	2	..	..	..	..	..	2	5
Filariasis.....	..	..	..	..	..	..	..	..	..	..	..	..	Nil
Food Poisoning in two or more associated cases.....	..	2	..	..	..	..	78	..	..	..	..	..	82
Hepatitis (Type A) (Infective).....	15	1	10	15	8	10	10	5	11	8	7	8	108
Hepatitis (Type B) (Serum).....	10	4	5	2	..	1	..	3	1	2	..	7	35
Hydatid Disease.....	..	..	..	..	..	..	..	..	..	..	..	..	Nil
Lead Poisoning.....	..	..	..	..	..	..	..	..	..	..	..	..	Nil
Leptosy.....	1	..	..	..	..	..	..	2	..	..	..	..	3
Leptospirosis.....	2	..	2	..	1	..	..	..	..	..	1	..	6
Malaria.....	13	9	7	9	8	9	9	9	5	10	9	9	106
Melioidosis.....	1	..	..	2	..	..	2	1	..	..	..	..	6
Meningitis.....	3	1	3	4	..	3	1	4	2	1	4	2	28
Psittacosis.....	..	..	..	..	..	..	..	..	..	..	..	..	Nil
Plague.....	..	..	..	..	..	..	..	..	..	..	..	..	Nil
Poliomyelitis.....	..	..	..	..	..	..	..	..	..	..	..	..	Nil
Puerperal Fever.....	..	..	..	1	..	..	..	1	..	..	..	..	3
Q. Fever.....	..	..	..	64	20	..	14	..	15	12	9	11	145
Rubella.....	2	..	1	30	9	55	11	..	..	..	2	20	130
Salmonella.....	15	5	5	19	9	7	14	19	27	17	22	21	180
Shigella.....	25	1	2	4	6	7	9	4	3	8	7	10	86
Smallpox.....	..	..	..	..	..	..	..	..	..	..	..	..	Nil
Staphylococcal or Streptococcal infections in a nursery.....	..	..	..	1	..	..	..	..	..	..	..	..	1
Taeniasis.....	..	..	1	..	..	..	..	..	..	..	..	..	1
Tetanus.....	..	..	..	1	1	..	..	..	..	..	..	1	3
Trachoma.....	..	..	..	..	..	..	..	..	..	..	..	..	Nil
Tuberculosis (All forms).....	7	6	11	21	13	9	5	14	5	5	12	16	124
Typhoid.....	..	..	..	..	..	..	..	..	..	..	..	..	Nil
Typhus— (a) Epidemic.....	..	..	..	..	..	..	..	..	..	..	..	..	Nil

DRUGS AND POISONS SECTION

LEGISLATION

Changes were made during the year to The Poisons Regulations of 1973 and the Food and Drug Regulations, 1977.

The Poisons Regulations were amended on five occasions. The major change was the removal of the absolute prohibition on the use of diacetylmorphine. A committee has met on several occasions to establish a set of guidelines for the control and availability of this drug to medical practitioners when supplies become available.

The Food and Drug Regulations were amended to require certain drugs which were prominent in incidents of child poisoning to be packaged in child-resistant closures.

PROPOSED LEGISLATION

The Poisons Regulations of 1973

Work has started on some major amendments to these regulations to accommodate the concept of the Schedule 3 as recommended by the National Health and Medical Research Council.

It is also proposed to incorporate the requirement of the "Carcinogenic Substance Regulations" as recommended by the National Health and Medical Research Council into these Regulations.

Therapeutic Goods Regulations

When the Food Act is proclaimed, the existing Food and Drug Regulations will be repealed. These new Regulations will be necessary to maintain control on aspects such as the manufacture and packaging of therapeutic substances.

DRUG ADDICTS

The established policy of the Section in this area has continued. Addicts and persons with drug problems have been encouraged to seek help; however, where they have been found to be abusing the system, prosecutions have been instituted.

The number of addicts receiving methadone treatment has decreased. The total 395 was below last year's total of 439.

TABLE XI
ADDICTS RECEIVING DRUG TREATMENT

Age	Male		Female		Total
	Number	Per cent	Number	Per cent	
-14 years.....	..	..	..	..	..
15-19 years.....	2	0.71	3	2.68	5
20-24 years.....	68	24.03	58	51.78	126
25-29 years.....	147	51.94	38	33.93	185
30-34 years.....	49	17.32	10	8.93	59
35-39 years.....	16	5.65	2	1.79	18
40 + years.....	1	0.35	1	0.89	2
	283	100.00%	112	100.00%	395

TABLE XII
LOCATION OF ADDICTS

	Male Per cent	Female Per cent
Brisbane.....	60.78	68.75
Gold Coast.....	16.61	15.18
Sunshine Coast.....	7.07	6.25
Mackay.....	6.36	5.36
Townsville.....	2.47	0.00
Cairns.....	3.18	0.00
Others.....	3.53	4.46
	100.00%	100.00%

DRUG SURVEILLANCE

Australian Royal Commission of Inquiry into Drugs

The Inter-Departmental Committee finalized its report at the end of 1980. It made recommendations which, if implemented, would have a considerable effect on this Section.

Monitoring of the Movement of Drugs of Dependence

Monitoring of certain of the barbiturate group of drugs commenced in the last few weeks of this financial year. It is hoped that this will pinpoint the areas in which these drugs are heavily prescribed so that appropriate action can be taken.

Printouts received from the National Computer which monitors the purchases by pharmacists, medical practitioners, etc., of drugs of dependence continues to provide valuable information for our investigation officers.

Overall, a disturbing pattern is emerging. The consumption of drugs which are known to be favoured by addicts has shown a substantial increase.

The following table illustrates this point:—

TABLE XIII

Tablet	Year ending 31-12-79	Year ending 31-12-80	Increase
Palfium	79 000	99 180	25%
Dilaudid	5 990	23 210	287%
Methadone 5mg	168 680	212 220	25%
Methadone 10mg	126 420	138 260	9%
Percodan	91 280	145 760	59%

Checking of prescriptions

This is considered to be the key to the adequate surveillance of drugs of dependence. From prescriptions received it is possible to monitor the prescribing habits of medical practitioners, to pinpoint those practitioners being "used" by addicts to obtain additional supplies of drugs, as well as patients visiting more than one medical practitioner.

Prescriptions are being received at a rate of 1 500 per week. The present manual operation relies to a large extent on the observation and memory of the officers doing the checking.

Forgeries

During the year, 58 forgeries were detected.

The Police Commissioner kindly made available the services of his handwriting expert in an endeavour to identify the author of three of these prescriptions. However, the writing did not identify with a known source.

Information in all instances is passed to the Police Drug Squad for their attention.

With the co-operation of the Pharmaceutical Society and a major drug wholesaler, a system has been devised whereby information regarding the detection of a forged prescription is quickly passed to pharmacies in an endeavour to prevent the dispensing of forgeries. A disturbing feature regarding the forgeries detected in the latter half of the year was their "professional" appearance, which no doubt contributed to the number dispensed without query.

Inspection of Pharmacies, Hospitals, etc.

Routine inspections of these premises have been carried out at an improved rate, although with present staffing levels we cannot approach the twice-yearly inspection recommended by the Australian Royal Commission of Inquiry into Drugs.

Breaking and entering of pharmacies and surgeries

Breaking and entering of pharmacies again showed a decline. No breaking and entering of medical practitioners' surgeries and hospital dispensaries were reported.

The total breakages of 48 compared with 55 the previous year.

THERAPEUTIC GOODS MANUFACTURERS

The number of organizations engaged in the manufacture of substances for human therapeutic use decreased by one subsequent to a financial crisis.

Three of the remaining organizations increased the range of their products so that two new premises have been developed to cater for the increase and the third organization is currently developing a second plant.

The new premises have resulted in improved environments being established.

Joint inspections were carried out in company with an officer from the National Biological Standards Laboratory.

LABELLING AND PACKAGING OF DRUGS AND POISONS

Attention continues to be given to this important matter. It is essential that these substances be readily identified and not confused with food or drink.

Action was taken against a storekeeper packing kerosene in food bottles.

AERIAL SPRAYING

Several meetings have been held between officers of the Department of Primary Industries and this Department, in an endeavour to reach a basis for adequate control over this activity.

The public health factor is controlled in a general manner by The Poisons Regulations of 1973.

The primary industry factor is controlled by the Department of Primary Industries which licenses operators under the provisions of the *Agricultural Chemicals Distribution Control Act 1966-1978*. Controls imposed by the Act relate only to the protection of plants and animals.

PEST CONTROL OPERATORS

The number of licensed operators continued to increase. There are now 763 licensed operators. During the year, 104 licences were not renewed and have been cancelled.

One hundred and thirty-two licences are held by local authority employees. These operators use pesticides to control rats, fleas, mosquitoes, etc.

Operators will have the opportunity to improve their knowledge of the various facets of pest control with the advent of a correspondence course to be conducted by the Department of Education. It is anticipated that the course will commence in 1982. This Section has nominated an officer as a part-time lecturer.

Five persons were prosecuted in regard to breaches of the *Health Act 1937-1980* or the *Pest Control Operators Regulations, 1977*. Details are set out in Table XIV.

SAMPLING

Two hundred and ninety-six samples were submitted for chemical analysis. These varied from therapeutic substances to samples associated with suspected dog poisoning.

Eight samples were submitted for bacteriological examination.

DESTRUCTION OF DRUGS FORFEITED TO THE CROWN

Our officers continue to supervise the destruction of cannabis and implements associated with its use.

There were 1 726 separate destructions supervised. This is an increase of 27 per cent over last year.

PROSECUTIONS

Four complaints relating to the obtaining of prescriptions for dangerous drugs from medical practitioners were withdrawn as the defendant could not be located for the service of the summons. It is thought he has left the State. Thirteen complaints of a similar nature have been continued for service although difficulty is being experienced in locating the defendants.

The results of prosecutions undertaken are listed in Table XIV.

TABLE XIV

Court	Offence	Fine	Costs Court	Proff. Costs
Brisbane	Altering a prescription written by a medical practitioner	Discharged Under Criminal Code		S657A
Brisbane	Failure to advise medical practitioner of dangerous drug previously received from another medical practitioner within two months	Discharged Under Criminal Code		S657A
Brisbane	Stating false name to a medical practitioner	Discharged Under Criminal Code		S657A
Brisbane	Stating false address to a medical practitioner	Discharged Under Criminal Code		S657A
Brisbane	Stating false name to a medical practitioner	Discharged Under Criminal Code		S657A
Brisbane	Stating false address to a medical practitioner	Discharged Under Criminal Code		S657A
		\$	\$	
Townsville.....	Leaving pesticide accessible on a pest control operators vehicle.....	100.00	9.00	..
Townsville.....	Failure to display name and address on pest control operators vehicle .	50.00	9.00	..
Coolangatta.....	Stating false address to a medical practitioner	75.00	18.25	..
Coolangatta.....	Stating false address to a medical practitioner	75.00		
Coolangatta.....	Stating false address to a medical practitioner	75.00	18.00	..
Coolangatta.....	Failure to advise medical practitioner of dangerous drug previously received from another medical practitioner within two months	75.00		
Coolangatta.....	Failure to advise medical practitioner of dangerous drug previously received from another medical practitioner within two months	75.00	18.00	..
Brisbane	Failure to record transactions and use of dangerous drugs in a drugs register	75.00		
Brisbane	Failure to record transactions and use of dangerous drugs in a drugs register	75.00	18.00	..
Brisbane	Failure to record transactions and use of dangerous drugs in a drugs register	75.00		
Brisbane	Failure to record transactions and use of dangerous drugs in a drugs register	75.00	18.00	..
Brisbane	Failure to record transactions and use of dangerous drugs in a drugs register	75.00		
Southport	Failure to advise medical practitioner of prescription for dangerous drug previously received from another medical practitioner within two months	150.00	19.50	..
Caboolture.....	Failure to advise medical practitioner of prescription for dangerous drug previously received from another medical practitioner within two months	200.00	18.00	..
Brisbane	Stating false name and address to medical practitioner	Discharged Under Criminal Code		S657A
		\$	\$	
Cleveland.....	Sale of Schedule 1, Schedule 2, and Schedule 3 Poisons by unauthorized person	50.00	18.00	..
Townsville.....	Sale of restricted drug without a prescription	50.00	18.50	..
Brisbane	Stating false name and address to medical practitioner	100.00	18.50	..
Brisbane	Stating false name and address to medical practitioner	100.00		
Brisbane	Failure to advise medical practitioner of prescription for dangerous drug previously received from another medical practitioner within two months	100.00	18.50	..
Brisbane	Failure to advise medical practitioner of prescription for dangerous drug previously received from another medical practitioner within two months	100.00		
Beenleigh	Failure to advise medical practitioner of prescription for dangerous drug previously received from another medical practitioner within two months	100.00	9.00	..
Beenleigh	Stating false name and address to medical practitioner	100.00	9.00	..
Townsville.....	Unauthorized sale of Schedule 3 poison	100.00	9.63	..
Cloncurry	Leaving pesticide accessible on a pest control operators vehicle.....	25.00	19.75	..
Cloncurry	Permitting an unlicensed person to carry out pest control work whilst not under supervision	25.00	19.75	..
Cloncurry	Carrying out pest control work whilst not being licensed nor under supervision	20.00	19.75	..
Home Hill	Carrying out pest control work whilst not being licensed nor under supervision	100.00	19.75	..
Home Hill	Permitting an unlicensed person to carry out pest control work whilst not under supervision	100.00	9.87	..
Home Hill	Having in possession for pest control a pesticide without such being properly labelled	100.00	9.88	..
Beenleigh	Stating false name and address to medical practitioner	100.00	18.00	..
Townsville.....	Unauthorized sale of Schedule 3 poison	100.00	9.63	..
Brisbane	Stating false address to medical practitioner.....	100.00	18.25	..
Brisbane	Stating false address to medical practitioner.....	100.00	18.25	..
Brisbane	Unauthorized sale of Schedule 2 and Schedule 3 poison	100.00	18.25	..
Townsville.....	Sale of restricted drug to unauthorized person	80.00	6.00	..
Townsville.....	Sale of restricted drug to unauthorized person	80.00	6.00	..
Townsville.....	Sale of restricted drug to unauthorized person	80.00	6.00	..
Beenleigh	Sale of poison in container without a secure closure	40.00	19.75	..

TABLE XIV—continued

Court	Offence	Fine	Costs Court	Proff. Costs
Beenleigh	Sale of poison in a container not complying with the requirements for containers	\$ 40.00	\$ 19.75	..
Beenleigh	Sale of poison in container not bearing a label as prescribed	40.00	19.75	..
Beenleigh	Storing poison for sale within reach of children	40.00	19.75	..
Beenleigh	Storing poison in a container of the type commonly used to hold food.	40.00	19.75	..
Brisbane	Failure to advise medical practitioner of prescription for restricted drug previously received from another medical practitioner within two months	100.00	19.25	30.00
Brisbane	Failure to advise medical practitioner of prescription for restricted drug previously received from another medical practitioner within two months	100.00		
Mount Isa	Unauthorized sale by wholesale of Schedule 3 poison	20.00	19.75	..
Mount Isa	Unauthorized sale by wholesale of Schedule 3 poison	20.00		
Mount Isa	Unauthorized sale by wholesale of Schedule 3 poison	20.00		
Mount Isa	Unauthorized sale by wholesale of Schedule 3 poison	20.00		
Mount Isa	Unauthorized sale by wholesale of Schedule 3 poison	20.00		
Mount Isa	Unauthorized sale by wholesale of Schedule 2 poison	20.00		
Mount Isa	Unauthorized sale by wholesale of Schedule 2 poison	20.00		
Brisbane	Carrying out pest control work whilst not being licensed nor under supervision	70.00	19.75	..
	Totals	\$3,690.00	\$531.01	\$30.00

SECTION OF FOOD SUPERVISION

It is the responsibility of the Food Section to ensure the maintenance of a safe, adequately labelled and packaged food supply for the people. This is done through the formulation, prescribing and enforcement of effective control legislation. It is a fact that the food of the population of any country and the health of that population are undeniably linked and thus the protection of the population's food supply is a basic necessity of any public health programme. The growing and enlightened interest being taken by consumers in such things as the quality of their food, the safety of and necessity for food additives, the types and levels of contaminants and toxins in food and the truthful description of food in labelling and advertising ensures the constant revision and implementation of measures aimed at protecting the public in this important field.

Throughout the year, State Health Inspectors have carried out the inspection and sampling of foods, food packaging materials, containers and apparatus, the condemnation, seizure and destruction of unsatisfactory foods, the checking of food labelling and advertising, the investigation of a growing number of food poisoning outbreaks and of the complaints received about food quality whilst Local Authority Health Surveyors have been responsible for the surveillance and enforcement of hygiene standards in the manufacture, distribution, preparation, handling and serving of food.

Food Sampling and Food Labelling

During the year, a large range of various types of foods, packaging material and containers were sampled to determine compliance or otherwise with prescribed chemical and microbiological standards, to check the authenticity of labelling and advertising and to determine levels of contamination with toxic metals, pesticides, aflatoxins and pathogenic organisms.

In addition to the comprehensive programme of legal sampling carried out by Inspectors in the policing of prescribed standards, 7 914 check samples were obtained and submitted to the Government Chemical Laboratory and the Laboratory of Microbiology and Pathology on a survey basis to determine problem areas requiring concentrated attention. Details of all samples are given in the respective reports of the Government Chemical Laboratory and the Laboratory of Microbiology and Pathology.

A sampling survey was carried out for the National Health and Medical Research Council as part of an Australia-wide assessment of noxious substances present in foods.

The labels of packaged foods sampled have been checked to gauge compliance with prescribed labelling standards and appropriate action taken to have faults rectified.

Complaints

A total of 977 complaints from consumers about the quality of food were investigated by State Health Inspectors throughout the State, and a number of these investigations resulted in the prosecution of manufacturers or venders of foods in question.

A growing number of complaints is being received in relation to the incidence of food poisoning, and several of these outbreaks investigated during the 1980-81 year could be classed as substantial insofar as the number of people affected is concerned with 172 people reporting ill in the largest outbreak investigated.

The investigations of cases of food poisoning have revealed that the degree of attention to food hygiene requirements has not been satisfactory and that there is a need for better training of food handlers in many areas of food hygiene.

Further information about food poisoning outbreaks is contained in the report of the Laboratory of Microbiology and Pathology.

Seafoods

Inspectors working at and from the Brisbane Fish Markets and in District Office Areas condemned and destroyed 24.53 tonnes of assorted fish and other seafoods (other than canned products), plus 3 735 crabs and 1 256 dozen oysters which were unfit for human consumption.

The programme of surveying seafoods for pesticide and toxic metal levels and oysters for bacterial contamination has been continued as has the sampling and testing of imported cooked prawns on behalf of the Commonwealth Bureau of Customs.

An inter-departmental Committee, comprised of representatives from the Health Department, Department of Harbours and Marine, Queensland Fisheries Service, the Queensland Fish Board and the Fishing Industry, is carrying out a ciguatera survey in an attempt to establish the prevalence of this form of food poisoning in Queensland. Fifty-seven cases of ciguatera poisoning were investigated by State Health Inspectors during the year.

Unsound Foods

In addition to the quantities of seafoods seized, State Health Inspectors working throughout Queensland have condemned as unfit for human consumption and supervised the destruction of 167.8 tonnes by weight plus 115 591 litres by volume plus 75 842 packages of unspecified weight of assorted foods.

Recalls of contaminated food resulted in the withdrawal from the market of 30 635 packages of dehydrated Chinese meals, 5 760 cans of fish, 4 608 cans of fruit and 89 720 litres of mineral water.

Meat and Meat Products

One hundred and forty-eight butchers were prosecuted during the year. They were convicted and fined a total of \$14 349 with costs of \$13 009 for the following offences:— Sale of minced meat containing a chemical preservative when none is permitted (56); sausages containing an excessive amount of a chemical preservative (59); sausages deficient in meat (24); sausages containing an excessive amount of fat (5); minced meat and sausages artificially coloured (2); steak containing a chemical preservative when none is permitted (1); rissoles containing a chemical preservative when none is permitted (1). A further two prosecutions were pending at the close of the year.

Because the Government Chemical Laboratory now has the capability to determine types of meats used in the manufacture of meat products such as pork sausages and beef sausages, the Meat Industry has been advised of this Department's intention to prosecute manufacturers and vendors who falsely describe products in regard to the type of meat contained in the product.

Flour and Bakery Products

Of the 29 prosecutions launched against bakers during the year, 27 were successfully concluded. Fifteen of the prosecutions launched were based on consumer complaints about the presence of foreign matter found in bread, pies, sausage rolls and pastry. The foreign matter found by consumers in their purchases included pieces of metal, flies, cockroaches, cigarette butts, a bottle top, a nail, a needle, pieces of plastic and cardboard, a bacterial growth and the larvae of a moth.

The remaining 14 prosecutions launched resulted from the routine sampling of bakery products by State Health Inspectors and were for the sale of meat pies deficient in meat content (5); wholemeal bread deficient in wholemeal content (3); milk bread deficient in milk solids (4); sale of inadequately labelled pre-packed bread (2).

The 27 bakers convicted were fined a total of \$2 150 and costs of \$1 905 were imposed by the Courts.

Liquor

During the year, a total of 44 prosecutions were launched against the Licensees of liquor premises. Of these, 24 were in relation to the sale of adulterated liquor and 14 were successfully concluded. The remaining 10 failed mainly because of the effects of section 24 of the Criminal Code on legal actions instituted under the Health Act. A further five prosecutions for the sale of adulterated liquor were pending at the close of the year.

Seventeen licensees were prosecuted for failing to denature waste beer to ensure that it cannot be re-used and a further three prosecutions for this offence were pending at the close of the year. Three licensees were prosecuted for failing to serve liquor in a clean glass.

The investigation of consumer complaints about the watering down of beer resulted in a failure to substantiate any of the complaints, and all samples of draught beer purchased by inspectors in the customer situation and then submitted for analysis showed that the beer was of the nature, substance and quality demanded by the purchaser.

Milk and Milk Products

Samples of milk and other dairy products have been obtained throughout the State and checked for compliance with prescribed chemical and microbiological standards and monitored for iodine and pesticide levels, and the substantially satisfactory results have again demonstrated the ability of the Dairy Industry to produce and distribute good quality food. Milk factories have been inspected and conditions found to be generally acceptable.

The Health Department co-operates with the Department of Primary Industries and the Queensland Milk Board in regard to the quality of and distribution of cows' milk, cows' milk products, goat milk and goat milk products. Insofar as goat milk is concerned, testing has revealed the need for a chemical standard to be met by producers, and the matter of formulating such a standard for consideration by the Food Standards Committee of the National Health and Medical Research Council is now receiving attention. A microbiological standard for goat milk already exists.

One milk processor was prosecuted and fined \$40 with \$78.25 costs for selling pasteurized milk in an unclean bottle. A charge against another milk processor for the sale of milk adulterated with water was not successful.

Miscellaneous Prosecutions

During the year, there were 11 prosecutions for miscellaneous offences. The offenders were fined a total of \$510 plus total costs of \$416.86.

The offences were — smoking whilst engaged in the preparation of food (3); sale of a hamburger containing glass (1); sale of a hamburger containing a sliver of wood (1); sale of a chicken burger

containing a surgical dressing (1); sale of potato scallops containing a cockroach (1); sale of a meat rissole containing a blowfly (1); sale of sausages containing glass (1); allowing an animal to be in a food preparation area (1); refusing to sell a sample of food to an inspector (1). A further prosecution for allowing an animal to be on food premises was pending at the close of the year. A similar charge against the occupier of a food establishment was dismissed during the year.

Fruit Juices, Fruit Drinks, Cordials, Soft Drinks

The standard of quality, labelling and packaging of these products has again been found to be generally satisfactory. Manufacturers have co-operated in rectifying deficiencies, most of which have been in the area of labelling.

A packer of mineral water found to contain an unacceptable level of radium 226 voluntarily withdrew the product from the market until a new safe source of supply was found.

Imported Foods

The importation into Australia of foods which do not conform to our prescribed standards and are not labelled in accordance with Australian requirements or are labelled in a misleading manner disadvantages not only the consumer, but also the producer and manufacturer of similar foods in this country and there is a need for greater surveillance of imported foods at the point of entry into Australia before the foods pass into the wholesale and retail distribution chains.

Importers have been found to be co-operative when advised not to proceed with the further importation of unacceptable products. During this year, such products have included jam, ginger, black pepper, white pepper, salt, mustard powder, sauces and preserved fruit. A large consignment of imported peanuts was destroyed because it was found to be of very poor quality and contaminated with aflatoxins.

Action was taken to require the appropriate labelling and designation of imported products made in imitation of crab meat and which were being distributed and sold throughout the State as crab meat.

Local Authority Supervision

The importance that hygiene plays in the provision of a safe and wholesome food supply cannot be stressed too greatly, and this is an area of responsibility which rests on Local Authorities and their officers.

The effective surveillance of hygiene standards throughout the chain of manufacture, distribution, preparation, handling and serving of food requires a constant programme through which regular attention and advice on a routine inspection basis are provided by Health Surveyors who must themselves have expertise in this area. Such a programme, to be effective, depends largely on the number of expert Health Surveyors, skilled in communicating their knowledge, made available by Local Authorities to ensure the maintenance of food hygiene standards.

This year, in outbreaks of food poisoning, hundreds of people in Queensland have been affected through the consumption of food contaminated with pathogenic organisms because of the unsatisfactory handling of the food, and this is an indicator of an adequate food hygiene surveillance and education programme.

Uniform Food Standards

Queensland is the first State of Australia to adopt a Food Act which incorporates the provisions of the Model Food Act, the final draft of which was released in June, 1980, by the Joint Commonwealth, State, Territory Working Party on Model Food Law. The *Food Act 1981* was passed by the Queensland Parliament on 14th May, 1981, and received Royal Assent on 12th June, 1981.

Work is now proceeding on the drafting of the very large volume of subordinate legislation required under the *Food Act 1981*. The major sets of Regulations to be adopted under this new Act will be the Food Standards Regulations and the Food Hygiene Regulations which will incorporate the provisions of Model Uniform Regulations covering food standards and food hygiene requirements. The principle of uniformity in food law throughout Australia is the basic factor underlying the adoption of the Food Act and the proposed adoption of new Food Standards Regulations and new Food Hygiene Regulations.

The Chief Inspector of Foods is a member of the Food Standards Committee and the Food Legislation Committee of the National Health and Medical Research Council and attended three meetings of the Food Standards Committee and one meeting of the Food Legislation Committee during the year. The Health Department's Advisory Committee on Food Standards examined all proposed new and revised food standards submitted by the Food Standards Committee of the N.H. & M.R.C. for consideration during the year and returned to that Committee comments and recommendations in regard thereto. The Advisory Committee met on seven occasions.

SECTION OF ENVIRONMENTAL SANITATION

Introduction

The framework of the Health Act provides for a co-ordinated system of Inspectorial supervision.

In the field of Environmental Sanitation, the Local Authorities are responsible for supervising and implementing health programmes required either by the Health Act or under Regulations relating to specific health measures.

Local Authorities employ 266 Health Inspectors, an increase of 69 in the past 10 years. This is mainly due to augmentation of the Inspectorial staff of the Brisbane City Council and of coastal Local Authorities where there has been rapid population growth.

Four isolated Local Authorities are without the services of an Inspector, and Departmental officers, when carrying out sanitation surveys of these areas, make recommendations to assist these Local Authorities to maintain a satisfactory standard of environmental sanitation.

It is expected that there will not be any shortage of qualified Health Inspectors in the future because of the annual graduation from the Queensland Institute of Technology of those students qualifying for the Associate Diploma in Health Surveying, which is recognized by the Director-General as a qualification for appointment.

The Health Department employs 64 Inspectorial staff to provide an inspectorial and advisory health service to the public and other Departments in certain spheres not controlled by the Local Authorities, and to assist Local Authorities where necessary.

The Section of Environmental Sanitation has the responsibility for assessing the standard of Environmental Sanitation throughout the State. This assessment is made from information supplied by:—

1. Local Authorities—
 - (a) Annual Reports by the Local Authority and the Medical Officer of Health;
 - (b) Quarterly Reports of Health Inspectors;
 - (c) Notification of notifiable diseases;
 - (d) Reports of specific problems associated with public health;
 - (e) Submission of samples of water used for human consumption.
2. From Departmental Inspectors—
 - (a) Sanitation Survey Reports—an appraisal of the efficiency of the Local Authority's supervision and control in regard to refuse and nightsoil services, public amenities, sewerage, water supply, swimming pools, barbers' shops and the breeding of rats, flies and mosquitoes;
 - (b) Specific reports in regard to complaints, enquiries and investigations;
 - (c) Submission of samples of paints, toys, injurious articles, water, and other articles pursuant to various provisions of the Act.
3. General Public—
 - (a) Complaints, enquiries and requests for information, from individuals, organizations and business firms.

This massive volume of data, with the exception of notifiable diseases, flows through the office of the Chief Inspector of Environmental Sanitation who has a headquarters staff of one Senior Inspector, six Inspectors and six Technical Assistants (Health Inspection), supported by District Inspectors and their staff at seven provincial cities.

Local Authorities

Reports by Departmental Inspectors indicate that Local Authorities are aware of their responsibilities and generally maintain a high standard of environmental sanitation. This is reflected by the absence of any major outbreaks of any disease which could be directly attributed to a serious deviation from the standard of sanitation demanded by our legislation.

The District Inspector, Rockhampton, reported that Industrial and Mining Developments at Gladstone, Blackwater, Emerald, Biloela and parts of Calliope Shire are placing increasing strains on the services, particularly in regard to housing, thus leading to an increase in the number of caravan parks. However, up to date, the liquid and solid waste disposal services and the water supply facilities have generally coped satisfactorily.

Refuse Collection and Disposal

While the collection, removal and disposal of refuse have generally been carried out in a satisfactory manner, some matters which have caused concern during the year include—

- (a) the practice of placing the refuse container on the footpath for removal service appears to be increasing. This practice is conducive to missed services, especially from flats and other multi-dwellings, when occupiers for various reasons fail to place their refuse container on the footpath on the day of collection. Such missed services could lead to offensive odours and an increased risk of fly breeding caused by occupiers disposing of domestic refuse on their own property or at some site not intended or authorized for the disposal of such refuse. There is also the problem of marauding dogs;
- (b) the disposal of liquid industrial refuse at Willawong in the Brisbane area. Departmental Inspectors reported that the methods of collection and disposal were unacceptable, and following upon discussions and correspondence, it is pleasing to report that the City Council has commenced to implement the recommendations and requirements of the Director-General. The Council has also discussed the development and construction of a permanent treatment works with the Co-ordinator-General who has reconvened the Steering Committee for the Waste Disposal Study of Brisbane and near Brisbane Area;
- (c) the strikes by refuse collectors created problems for the public and the Local Authorities concerned, particularly when the strike affected the operation of the refuse tips. Departmental Inspectors maintained a daily surveillance to keep the Director-General informed and to offer advice to the public and the Local Authority officers.

It is pleasing to report that another Local Authority, the Calliope Shire Council, is providing a twice-weekly refuse removal service. The twice-weekly refuse removal service is strongly recommended as an excellent method of breaking the life cycle of the fly which is extremely rapid in Queensland's climate.

All sites for the disposal of refuse require authorization by the Director-General, and during the year many new sites were inspected by Departmental officers and subsequently authorized by the Director-General subject to conditions imposed for their effective operation without nuisance.

All refuse removal vehicles, compactors and containers must be of a type approved by the Director-General, and during the year 62 types were inspected and their description and specification notified to all Local Authorities.

Since the introduction of the Refuse Management Regulations 1977, 61 types of compactor vehicles, 12 types of compactor/containers and 69 types of commercial/industrial containers have been approved.

Sewerage and Nightsoil

More and more Local Authorities are appreciating the obvious advantages of sewerage or septic tank systems, and the number of nightsoil collection services is decreasing annually as is the number of sanitary depots.

The disposal of human wastes by any system other than sewerage is a potential hazard to health, but where nightsoil services still continue, reports indicate that the depots, vehicles, collection, removal and disposal are satisfactory. However, one District Inspector reported that one sewage treatment works was in a very neglected condition, and the Local Authority was informed accordingly.

Water Supplies

In association with the Cholera surveillance programme, State Health Inspectors have surveyed all the water treatment works in 99 Local Authorities to establish what further treatment or emergency equipment may be necessary to ensure a safe reticulated water supply at all times.

It is considered that filtration and chlorination are the minimum requirements and that there should be emergency power available to operate pumps when electricity is not available for a significant period of time.

The number of water samples processed by this Section during the year are shown in Tables XV and XVI.

TABLE XV
WATER SAMPLES EXAMINED BY THE STATE HEALTH LABORATORY

	Total	Failed Criteria
<i>Bacteriological</i>		
Treated public water supplies.....	7 057	405 (6%)
Swimming Pools.....	950	108 (11%)
Untreated raw water	2 107	..
Salmonella Organisms (ex poultry, abattoir).....	24	13 (54%)
Total	10 138	
<i>Chemical</i>		
General Chemical Analysis.....	1 260	218 (17%)
For trace metal content	160	14 (9%)
For pesticides content	126	13 (10%)
For fluoride content	487	33 (7%)
For radium levels	10	0
For miscellaneous impurities	18	3 (16%)
Total	2 061	
Grand Total	12 199 Samples	

TABLE XVI
WATER SAMPLES EXAMINED BY COMMONWEALTH AND LOCAL AUTHORITY LABORATORIES

	Total	Failed Criteria
<i>Bacteriological</i>		
Treated public water supplies.....	4 672	173 (4%)
Swimming Pools.....	25	4 (16%)
Untreated raw water	726	..
Total	5 423	
<i>Chemical</i>		
General chemical analysis	121	1
Grand Total	5 544 Samples	

Recommendations for the upgrading of the water treatment process or providing emergency power equipment were submitted to 54 Local Authorities, some of which indicated that the cost was beyond their resources.

This Section continues the essential service of preparation, supply, collection and delivery of water sampling equipment, and the interpretation of chemical and bacteriological examination of water samples submitted by Local Authorities, Government Departments and the public.

Most Local Authorities regularly submit samples of their reticulated public water supplies for bacteriological examination, but there are some who are negligent in this regard and the importance of ensuring that their public water supply is fit for human consumption cannot be over-emphasized.

Cholera Surveillance

As commenced in 1979-80, the surveillance of all public water supply intakes and recreational water areas has continued throughout 1980-81. The involved Local Authorities have co-operated fully with the regular submission of water samples at two-monthly intervals. The large number of samples examined is a tribute to the work of Local Authority Health Inspectors, State Health Inspectors, the State Laboratory of Microbiology and Pathology, the Commonwealth Health Laboratories at Townsville, Cairns, Toowoomba and Rockhampton, and the Brisbane City Council Water Laboratory.

In addition, State Health Inspectors monitored the Albert, Logan, Brisbane and Pine Rivers in South-East Queensland. Intensive study of each of these river systems was carried out during the winter, after which several permanent sampling points were established on

each river. These were sampled at fortnightly intervals on the Logan and Albert Rivers, and at monthly intervals on the Brisbane and Pine Rivers. On the Logan and Albert Rivers, further sampling points were established as cholera isolations were made.

At each point, the samples were taken for *V. cholerae* isolation, for bacteriological examination, for chemical analysis and for heavy metals. At the same time, electronic meters were used to record the temperature, pH, dissolved oxygen, conductivity and turbidity of the water. Stream flow rate, humidity and weather conditions were also recorded. *V. Cholerae* was not isolated from 72 samples of fresh animal and bird faeces collected in the vicinity of the rivers.

At fortnightly intervals, "Moore" swabs were placed in the sewerage systems of Palen Creek prison farm and Beaudesert. Following upon the isolation of *V. cholerae* in the Beaudesert sewerage works, the town sewers were systematically swabbed at weekly intervals. By eliminating "negative" sewers it was possible to reduce the likely source of *V. cholerae* to 45 premises. Unfortunately, before this investigation could be concluded these isolations ceased, possibly due to the onset of cooler weather, but follow-up action will continue.

The report of the Laboratory of Microbiology and Pathology presents further details of the cholera surveillance.

The number of samples examined and isolations of *V. cholerae* are shown in the following Tables:—

TABLE XVII
WATER SAMPLES EXAMINED FOR VIBRIO CHOLERAEE

Samples by	Number	Isolations
Local Authorities (To State Health Laboratory)	747	6
Local Authorities (To Commonwealth Laboratories).....	988	Nil
Departmental Officers—		
(a) Logan River	149	10
(b) Albert River	145	12
(c) Brisbane River	120	Nil
(d) Pine Rivers.....	45	1
Aboriginal Missions	42	Nil
I.W.S.C. (Eungella Dam)	1	Nil
Joint Tropical Trails and Research Establishment, Innisfail (Army)	8	Nil
Total	2 245	29

TABLE XVIII
ISOLATIONS OF VIBRIO CHOLERAEE FROM SAMPLES SUBMITTED BY LOCAL AUTHORITIES

Location	Local Authority	Number of Isolates
North Pine Dam.....	Brisbane City Council.....	1
Warril Creek	Moreton Shire Council	1
Logan River	Beaudesert Shire Council...	1
Stanley River	Caboolture Shire Council ..	1
Mary River.....	Tiaro Shire Council.....	1
Awoonga Dam.....	Gladstone City Council.....	1
Total.....		6

Swimming Pools and Water Slides

Public and school swimming pools are regularly inspected to ensure that the water is bacteriologically safe, and where necessary, recommendations are submitted to the responsible Authority.

During the year, it was noted that water slides were being constructed at several tourist and holiday resorts. All Local Authorities were requested to monitor the bacteriological quality of the water used in the operation of water slides and to submit samples thereof.

Departmental officers' reports on nine water slides indicate that they are constructed and operated satisfactorily, and 12 samples of water taken from the pools at the finish of the slides have been bacteriologically safe to use.

TABLE XIX
MOORE SWABS PLACED AT SEWAGE TREATMENT PLANTS FOR THE SURVEILLANCE OF VIBRIO CHOLERAE

Placed by	Location			Total
	Beauesert		Palen Creek H.M. Prison Farm	
	Departmental Officers	Local Authority (in sewer lines)	Departmental Officers	
NUMBER PLACED	21	87	21	129
NUMBER OF ISOLATES	4	2	Nil	6

Toys and Injurious Articles

The Standards Association of Australia published Standard No. 1647-1980 for Children's Toys (Safety Requirements). This Standard is in four parts, dealing with standards for General Safety, Flammability, Toxicological and Constructural requirements. The Association also published Standard No. 1900-1981 for Flotation Toys and Swimming Aids, and Draft Standard for Babies' Dummies. The scope of toy and article safety has expanded as a result of these Standards which are used as guidelines to evaluate the need for any action pursuant to sections 110 and 124 of the Health Act. These sections provide, respectively, for the prohibition from sale of any article (including a toy) which is considered to be injurious to life or health, or any toy containing the toxic metals lead, arsenic, antimony, mercury, cadmium or selenium.

Surveillance of potentially injurious articles and toys is maintained by random sampling by Departmental officers, augmented by information from other State and Federal Authorities such as the Consumer Affairs Bureau, complaints from the public and from media exposure.

The modern public are more alert to the problems associated with injurious articles and toys and are now prepared to refer their complaint to some Authority as opposed to returning their purchase to the retailer and seeking reimbursement.

Wholesalers and retailers have been extremely co-operative in meeting the Department's written requests for withdrawal from sale of offending articles or toys, and further action under the Act has not been necessary.

Details of samples are shown in the following table:—

TABLE XX
SAMPLES OF TOYS AND ARTICLES

Type of Sample	Total	Failed	Comment
Dummies	10	7	3 failed standard; 4 choking hazard
Rattles	37	27	16 failed standard; others injurious (choking)
Teethers	4	1	excess hexane soluble substances
Magnetic Tape	2	0	No lead content
Fibro Wall Covering	2	0	No asbestos hazard
Childs Flotation Jackets	2	1	Forced child's head under water
Pottery	15	2	Leached lead
Pottery Glazes	10	6	Contained lead
Toy Make-up kits	7	4	3 contained lead; 1 contained chromium
Modelling Clay	7	4	Excess Barium; non-permitted food colours
Plastic Toys	45	26	Excess hexane soluble substances (24), choking hazard and lead (2)
Plush or fabric Toys	35	26	Foreign matter in the stuffing (23), choking hazard (3)
Wooden Toys	46	22	Coating material contained lead or cadmium or chromium (21); easily removed upholstery pins (1)
Metal Toys	14	2	Contained lead (1); choking hazard (1)
Pistols, Rockets, Firework	9	9	Injurious (8). Explosive (1)
Chemistry Sets	4	1	Did not comply with labelling requirements
Soil samples	127	50	Exceeded limits of 50 ppm Arsenic
Rocks and liquid near mine shaft	5	5	Contained Arsenic or Dieldrin or DDT or Cyanide
Beauty and Cooking Sets	8	1	Non-permitted food colour and choking hazard (1)
Bubble blowing kits	3	0	Complied with Standard
Water sterilizing tablets	4	0	All effective for the purpose
Novelties	3	3	"Hooker", "Brandy Glass" and "Pendant" all fragile glass
Water Filters	2	..	Effective (1). No result to date (1)
Miscellaneous	16		Pipe and roof sediment; Metal objects and shoes
Total	417	197	

Paints

Section 127 of the Health Act prohibits the use of any paint containing toxic metals (including lead) on any part of a house, roof, fence, gate, post or furniture.

The Paint Labelling Regulations, 1973 require that any package of paint containing such toxic metals shall be labelled with a warning statement that such paint should not be used on the abovementioned areas.

To ensure compliance with the Act and Regulations, 92 samples of packaged paint and painter's pots were obtained for analysis and examination of labelling.

Lead poisoning is a notifiable disease, and due to the awareness of parents about the dangers of leaded paint, requests were received for the analysis of paint adhering to dwellings. Because of the circumstances leading to the requests for sampling and analysis, the failure rate of such paint scrapings is usually high; however, instructions to remove or cover the offending paint were complied with in all

instances to the satisfaction of the Director-General. Details of paint samples are shown in the following table:—

TABLE XXI
SAMPLES OF PAINTS, ARTISTS COLOURS, CHINA COLOURS

Type of Paint	Total	Comment
Packaged in Tins	66	4 lead content not declared on label
Taken from painters' pots	26	All free of lead
Paint scrapings	52	38 contained lead
Hobby and Model paints	130	28 contained lead
Fabric colours	134	3 contained lead
Artists Oil Colours	48	7 contained lead
China and Pottery Colours	87	7 contained lead
Total	543	87

Miscellaneous

The following duties to which special mention has not been given above were carried out by this Section during the year—

- (1) Advice to two Local Authorities on the grid sampling of soil on land previously used for cattle dipping. Of the 127 soil samples, 50 were subsequently found to contain arsenic in excess of the acceptable limit of 50 parts per million;
- (2) Random inspections of licensed premises to gauge the standard of sanitation and hygiene;
- (3) Examination of plans and specifications for Local Authority projects on behalf of the Under Treasurer;
- (4) Investigation into complaint concerning the standard of environmental sanitation at Birdsville;
- (5) Inspection of Aboriginal Reserves and Communities;
- (6) Investigation into dust and foul-smelling feathers in pillows;
- (7) Inspection of Departmental Hospitals and Institutions;
- (8) Investigation into alleged disposal of toxic liquid waste into disused mine shafts;
- (9) Inspections of National Fitness Camps;

- (10) Investigations into specific complaints concerning swimming pools, burning of refuse, unsatisfactory operation of refuse tips, amenities at camping grounds, lack of public toilets, overgrown allotments, mosquito breeding in alumina effluent, drainage nuisances, dead animals in a grain pit, horses on hospital grounds, fish kill in a river, contamination of rain water tanks, sanitary conditions at a watch-house, imported shoes causing irritation, smoke and fumes from a hospital chimney, offensive odours from a fish market, abattoir, piggery and incinerator, and the failure of septic tank disposal systems at Schools and Government dwellings.

All complaints were thoroughly investigated and appropriate action taken and/or discussed with the Local Authority Health Inspector or, where necessary, recommendations submitted to the appropriate Authority.

Two officers attended a mosquito identification and control course at Mildura, Victoria, and another officer attended a pest control course at the Queensland Institute of Technology. The Chief Inspector is the Health Department representative on the Plumbers and Drainers Licensing and Examination Board, the Joint Committee constituted under the Sewerage and Water Supply Act, the SCOHM Working Party on Toy Safety and the Steering Committee for Waste Disposal Study of Brisbane. The Senior Inspector is the Health Department representative on the TAFE Committee for the revision of the Course for Swimming Pool and Water Supply Operators.

SECTION OF ENTHETIC DISEASES

The reported incidence of Venereal Diseases in Queensland fell from 139.35 per 100 000 in 1979-80 to 114.82 per 100 000 in 1980-81. There were 2 581 cases reported—this figure being 505 less than that of the previous year. This year is the second successive year in which a fall has been reported.

This fall was noticeable in the overall number of cases in both Syphilis and Gonorrhoea. The former disease showed a reduction of 328 cases from 961 to 633, whereas the number of cases of Gonorrhoea fell from 1 888 to 1 619—a fall of 269 cases. Other notifiable diseases increased by 92 cases. (Table XXIII.)

Fewer females were reported to be suffering from Venereal Diseases in this financial year—the female/male ratio rising to 1:1.73.

Although the 15- to 24-year-old decade continues to be the most affected decade, the incidence in this age group is 47.84 per cent of the total notifications—a fall from the previously reported 53.33 per cent. (Table XXIII.)

The Metropolitan Area was responsible for 45.84 per cent of all reported cases in Queensland. This figure of 1 174 cases consists of 70.69 per cent due to Gonorrhoea and 10.73 per cent due to Syphilis, whereas extra-metropolitan cases show 56.07 per cent of gonococcal cases and 33.19 per cent of syphilitic infection. (Table XXIV.)

"Professionals" were attributed as the source of infection in only 4.61 per cent of cases notified (Table XXVII) and single people comprised 68.42 per cent of those affected: Of the affected males, 71.97 per cent were single compared with 62.24 per cent of females. (Table XXVIII.)

Private practitioners reported 13.75 per cent of notified cases, being 79 cases less than in 1979-80 (Table XXIX), whereas 37.42 per cent of cases attended established clinics. Metropolitan practitioners reported 5.88 per cent of notified cases which is slightly in excess of the percentage reported in 1979-80.

There were 4 669 new patients—being an increase of 191 or 4.46 per cent attending at the male clinic during 1980-81, but the incidence of notifiable diseases fell from 797 to 716. Gonorrhoea notifications were 52 fewer than in the previous year and there were 39 fewer cases of Syphilis—the yearly figures for these two diseases being, respectively, 551 and 30 notified cases. There were also 187 fewer cases of Non-Specific Urethritis but an increase of Herpes Virus infection (from 68 to 121) amongst the new cases at the Male Clinic.

New attendances at the Female Clinic fell from 984 to 599, although those presenting with notifiable diseases remained approximately the same, being 224 this year compared to 226 in 1979-80. Gonorrhoea was diagnosed in 136 (60.7%) and Syphilis in 15 patients (2.05%). Other diseases were responsible for the apparent discrepancy.

Syphilis

The total number of cases of Syphilis reported is 633 (Table XXX), but only 115 of these were classified as Primary Syphilis. This figure is 18.167 per cent of the total and is a more accurate indication of the activity of the disease in Queensland. In 1979-80, the incidence of primary syphilis was 48.07 per cent. Table XXX shows the age incidence of primary syphilis for this fiscal year from which table it can be seen that the 20 to 29 year decade is the most affected.

Homosexuals

Forty-seven more homosexuals reported for investigation this fiscal year—an indication of the acceptance of the attitude of the Male Clinic staff. Of the 267 who attended, 94 were found to have a notifiable disease—this figure being made up of 78 Gonococcal infections and 13 Syphilitic infections.

Of those presenting, the infective rate is 35.20 per cent compared with the rate of 13.97 per cent in the new cases of bisexual males.

This infective rate of 35.2 per cent is compared with the 36.36 per cent infective rate of the previous year.

Table XXVI indicates that the greatest incidence is in the 20-29 decade in which group 42.55 per cent occur.

Contact Tracing

An attempt was made to contact 104 persons in the Metropolitan area, with 73 or 70.19 per cent being found. Of this number, 67 attended for treatment (91.78 per cent of those contacted or 64.4 per cent of the total). Thirty-one persons gave a false address, a false name or had moved.

Assistance is given for contact tracing in the metropolitan and extra-metropolitan areas by the Division of Aboriginal Health and the Division of Community Medicine.

B. Lactamase Producing Gonorrhoea

There was a decrease in the discovery of *B. Lactamase* producing Gonorrhoea in this financial year—eight cases being reported compared with 14 in 1979-80. All cases were contracted outside Australia except one. In this case, the contact had been overseas.

Sensitivity testing was performed on 742 of the 765 specimens of Gonorrhoea forwarded to the Laboratory of Pathology and Microbiology.

TABLE XXII
NOTIFIABLE VENEREAL DISEASES 1963-64 TO 1980-81

Year	Notifications				Age Distribution—Per cent			
	Males	Females	Total	Rate/100 000	0-14	15-19	20-24	25+
1963-64 ..	1 038	284	1 322	84.0	1.1	29.0	31.9	38.0
1964-65 ..	1 173	367	1 540	96.5	0.5	28.9	30.5	40.1
1965-66 ..	1 235	417	1 652	101.2	0.7	23.0	34.4	41.9
1966-67 ..	1 221	445	1 666	100.3	1.2	26.1	35.2	37.5
1967-68 ..	1 163	491	1 654	97.2	0.8	23.9	34.5	40.8
1968-69 ..	1 422	611	2 033	116.1	1.1	23.8	35.7	39.4
1969-70 ..	1 403	547	1 950	110.2	1.2	25.3	33.1	40.4
1970-71 ..	1 441	439	1 880	103.3	0.9	26.5	32.8	39.8
1971-72 ..	1 575	545	2 120	116.0	0.9	23.8	35.4	39.9
1972-73 ..	1 806	719	2 525	138.2	1.9	27.2	33.9	36.9
1973-74 ..	1 657	898	2 555	131.3	2.0	25.0	30.1	42.8
1974-75 ..	1 705	872	2 577	128.7	1.1	28.9	32.5	37.5
1975-76 ..	1 391	688	2 079	103.18	1.9	25.8	34.5	37.6
1976-77 ..	1 457	731	2 188	103.11	2.5	24.6	30.2	42.7
1977-78 ..	1 935	1 341	3 276	153.31	2.65	23.23	30.65	44.46
1978-79 ..	1 912	1 461	3 373	154.7	3.08	24.49	28.11	44.32
1979-80 ..	1 855	1 231	3 086	139.35	1.59	23.2	30.14	45.07
1980-81 ..	1 638	943	2 581	114.82	2.25	21.31	30.41	46.03

TABLE XXIII
SHOWING AGE GROUPS OF NOTIFIED CASES OF GONORRHOEA, SYPHILIS AND OTHER FORMS

—	Syphilis			Gonorrhoea			Other Forms			Combined Total
	Males	Females	Total	Males	Females	Total	Males	Females	Total	
Under 1 year ..	1	1	2	1	..	1	..	..	..	3
1-4 years ..	..	2	2	1	5	6	..	..	..	8
5-9 years ..	9	5	14	..	1	1	..	..	..	15
10-14 years ..	4	6	10	3	12	15	2	5	7	32
15-19 years ..	26	81	107	214	140	354	30	59	89	550
20-24 years ..	59	86	145	364	157	521	66	53	119	785
25-29 years ..	77	45	122	239	92	331	34	16	50	503
30-34 years ..	40	27	67	137	36	173	19	7	26	266
35-39 years ..	17	15	32	67	10	77	8	4	12	121
40-44 years ..	7	10	17	58	4	62	6	2	8	87
45-49 years ..	16	8	24	36	5	41	6	2	8	73
50-54 years ..	9	6	15	13	1	14	2	2	4	33
55-59 years ..	15	3	18	4	..	4	3	1	4	26
60-64 years ..	3	8	11	1	..	1	..	..	..	12
65 and over ..	16	10	26	2	..	2	2	..	2	30
Not Stated ..	9	12	21	12	4	16	..	..	..	37
Total	308	325	633	1 152	467	1 619	178	151	329	2 581

TABLE XXIV

—	Metropolitan		Outside Centres		Whole State		Total
	Males	Females	Males	Females	Males	Females	
Gonorrhoea—							
Unspecified.....	1	3	31	11	32	14	46
Acute	633	128	428	156	1 061	284	1 345
Sub-Acute	5	58	50	101	55	159	214
Chronic.....	..	..	4	5	4	5	9
Ophthalmia .....	..	..	..	..	..	..	..
Vulvo-Vaginitis.....	..	2	..	3	..	5	5
Total	639	191	513	276	1 152	467	1 619
Syphilis—							
Unspecified.....	3	11	56	69	59	80	139
Primary	21	26	35	33	56	59	115
Secondary.....	19	18	87	90	106	108	214
Tertiary.....	3	1	1	6	4	7	11
Latent.....	20	2	60	68	80	70	150
Neuro	2	..	..	..	2	..	2
Heredo (Congenital).....	..	..	1	1	1	1	2
Total	68	58	240	267	308	325	633
Other Forms—							
Soft Sore	17	..	1	2	18	2	20
Venerual Warts	118	83	13	15	131	98	229
Ulcerative Granuloma .....	..	..	29	51	29	51	80
Total	135	83	43	68	178	151	329
Grand Total	842	332	796	611	1 638	943	2 581

TABLE XXV
CENTRES OF NOTIFICATIONS OF VENEREAL DISEASE
OUTSIDE METROPOLITAN

Centre	Males	Females	Total
Atherton	4	1	5
Aurukun	46	15	61
Bloomfield	4	2	6
Bowen	2	..	2
Boyne Island	1	..	1
Bundaberg	2	1	3
Cairns	189	117	306
Caloundra	1	..	1
Charleville	2	..	2
Chinchilla	2	..	2
Cloncurry	8	1	9
Coen	7	11	18
Cooktown	1	..	1
Cooroy	1	..	1
Dalby	1	..	1
Dirranbandi .....	..	1	1
Edward River	16	13	29
Gladstone	3	3	6
Gold Coast	1	..	1
Goondiwindi	3	4	7
Gordonvale	10	3	13
Gympie	1	2	3
Hopevale	6	12	18
Imbil .....	..	1	1
Ingham	3	..	3
Ipswich	5	6	11
Kowanyama	30	39	69
Kuranda	3	6	9
Laidley	1	..	1
Laura	1	..	1
Lockhart River	7	21	28
Mackay	8	2	10
Mareeba	1	11	12
Maroochydore	1	..	1
Maryborough	1	1	2
Mornington Island	1	4	5
Mossman	6	14	20
Mount Isa	60	34	94
Normanton	2	1	3
Proserpine	1	1	2
Queens Beach .....	..	1	1
Redcliffe	2	..	2
Rockhampton	31	16	47
Sarina .....	..	1	1
St. George .....	..	1	1
Surat	2	..	2
Theodore	2	..	2
Thursday Island	117	159	276
Toowoomba	14	3	17
Townsville	95	46	141
Tully	1	..	1
Warwick	2	..	2
Weipa	40	31	71
Wondai .....	..	1	1
Woodridge .....	..	2	2
Yarrabah	48	23	71
Total	796	611	1 407

TABLE XXVI
HOMOSEXUAL

Age	Gonorrhoea	Syphilis	Other Forms	Total
15-19 ..	5	..	1	6
20-24 ..	26	2	..	28
25-29 ..	17	4	1	22
30-34 ..	13	4	..	17
35-39 ..	13	1	..	14
40-44 ..	4	1	1	6
45-49 ..	..	1	..	1
Total ..	78	13	3	94

TABLE XXVII
ALLEGED SOURCE OF INFECTION

Professional	119
Non-Professional	2 080
Husband	8
Wife	1
Mother	1
Father .....	..
Not Stated	372
Total	2 581

TABLE XXVIII
MARITAL STATUS OF PATIENTS

—	Males	Females	Total
Single	1 179	587	1 766
Married	174	107	281
Separated	31	25	56
Widowed	6	9	15
Divorced	17	19	36
Not Stated	231	196	427
Total	1 638	943	2 581

TABLE XXIX
SHOWING SOURCES OF NOTIFICATIONS

—	Males	Females	Total
Private Doctors—			
Brisbane	76	76	152
Outside Centres	143	60	203
Total	219	136	355
Clinics—			
Brisbane	706	224	930
Outside Centres	20	16	36
Total	726	240	966
Hospitals—			
Brisbane	60	32	92
Outside Centres	633	535	1 168
Total	693	567	1 260
Total All Sources	1 638	943	2 581

TABLE XXX
AGES OF PRIMARY SYPHILIS

Age	Males	Females	Total
1-4 years ..	1	2	3
5-9 years ..	3	..	3
10-14 years ..	..	3	3
15-19 years ..	7	11	18
20-24 years ..	14	13	27
25-29 years ..	16	13	29
30-34 years ..	9	3	12
35-39 years ..	3	5	8
40-44 years ..	1	..	1
45-49 years ..	2	3	5
50-54 years ..	9	6	15
55-59 years ..	3	..	3
60-64 years ..	..	1	1
Not Stated ..	1	1	2
Total ..	69	61	130

DIVISION OF TUBERCULOSIS

Director: E. W. ABRAHAMS, M.D.(Melb.), F.R.C.P.(Lond.), F.R.A.C.P.
 Assistant Director: A. M. PATEL, M.B., B.S., F.R.C.P.(Edin.), F.R.A.C.P., D.E.C.T.
 Chest Physician, Toowoomba: B. W. PARK, M.B., B.S.
 Chest Physician, Rockhampton: D. W. KANE, M.B., B.S., F.R.A.C.P. (part-time)
 Chest Physician, Townsville: A. M. Matthiesson, M.B., B.S., F.R.A.C.P.
 Chest Physician, Cairns: J. E. THOMPSON, M.B., B.S., F.R.A.C.P.

STAFF

There have been no changes in medical staff since last year. The non-medical staff of the clinic has been progressively reduced since the suspension of mass radiography and is now stabilized at its lowest level since the early 1960's. The total staff now numbers 57.

GENERAL

The increase in notifications mentioned last year has been maintained this year. Cases notified in recent years are:— 1977-78 197, 1978-79 231, 1979-80 261, 1980-81 256.

While cases in South East Asian refugees (56) are a major factor in the increase, there has been a small increase in numbers, even when allowance is made for this.

The number of cases due to *Mycobacterium bovis* (6) is of interest, as four of them came from the same family group, which suggests person to person transmission of this infection. This is unusual, as *M. bovis*, the organism causing tuberculosis in cattle does not establish itself as an endemic infection in humans, though occasional contact disease does occur.

As all this family group of patients have had industrial exposure in the meat industry, no definite conclusions can be drawn as to the spread of infection in these cases, but person to person infection seems likely.

There were 18 cases in indigenous Australians, just half as many as last year. The larger number last year reflected an X-ray survey of Cape Yorke and Torres Strait Island communities in 1979. Since 1974, the annual figures for Aborigines are:— 20, 22, 21, 27, 21, 19, 36, and now 18.

Tuberculosis control is in a very difficult stage in Australia, and other Western countries also, where it has been energetically attacked during recent decades, and where the incidence of new cases has shown only small fluctuations during recent years.

A new system of active case-finding is necessary to replace mass radiography which has become too expensive to be cost efficient, but there is no agreement as to how this can be done.

During this year, preliminary planning has been carried out, to attempt a replacement for mass miniature radiography and it is to begin in Brisbane in July, 1981, and shortly after that in rural areas of Queensland.

Briefly, this depends on the on-going X-ray follow-up of this group of people found to have strongly positive tuberculin tests during our last round of compulsory mass X-rays.

It has been shown in the last two years that 12 times the number of cases notified came from this group than from those skin tested, but found to have negative or small tuberculin reactions. This justifies an attempt to keep them under annual X-ray surveillance. This should be much more cost-effective than our later mass miniature radiography campaigns, as many fewer X-rays will be needed to discover approximately the same number of cases.

As with mass miniature radiography, the objective is to diagnose disease early and minimize infection of other people, particularly family contacts.

TREATMENT

During the past 10 years, there has been a great deal of research, much of it organized by the British Medical Research Council and carried out in British Commonwealth countries, aimed at developing an effective treatment of shorter duration than that which is now widely regarded as standard treatment in the Western World.

This is a combination of drugs, initially Isoniazid, Rifampicin and either Streptomycin or Ethambutol for a period of three months, then Rifampicin and Isoniazid for a further six months — in all, nine months' treatment.

If this drug combination is not used, there is no satisfactory evidence that treatment with different drugs for nine months, or less, is sufficient to produce both satisfactory resolution of disease and a negligible relapse rate. It cannot be sufficiently emphasized that, if treatment is interrupted by patient default, by toxicity or any other cause, a longer period of treatment is necessary, and expert advice should be obtained under these circumstances.

The drug treatment of atypical tuberculosis — that is tuberculosis caused by atypical tubercle bacilli, is as yet most unsatisfactory and there is little evidence that the course of the disease is altered by treatment even with four or more drugs at the same time. When possible, surgical resection gives more satisfactory results than drug treatment, but unfortunately few patients present with sufficiently limited disease for this to be possible.

LUNG CANCER

The establishment, within the Department of Health, of a cancer register is most welcome; statistics regarding cancer of the lung on a State-wide basis cannot fail to show the importance of lung cancer as a public health problem.

As some 80 per cent of lung cancers are due to cigarette smoking, it is theoretically the most easily preventable cancer of which we have knowledge, and its continuing and increasing toll of both men and women is a sad reflection of the very curious attitude to health problems which has grown up in Australia during recent years.

There are many demands for protection from potential carcinogens — real or imagined — where action is required by someone other than each individual person, but extreme reluctance for that individual to protect himself against the best documented, personally administered environmental carcinogen — cigarette smoke.

COUNTRY CLINICS

As mentioned above, all chest physician positions at the regional chest clinics are now filled and the routine cover of consultant and follow-up clinics at rural hospitals will continue.

These visits, which grew out of the follow-up of persons found in mass X-ray campaigns to have abnormal chest X-rays, provide a consultant service to rural areas, as well as a means of supervision of cases of tuberculosis and other chest illnesses for persons living away from centres with consultant health facilities.

They also provide the means for X-raying and investigating persons in the higher risk group already mentioned, who do not live in the larger coastal cities.

MIGRATION

As last year, refugees from South East Asia are still arriving in regular groups. All are radiologically screened overseas, and many are commenced on anti-tuberculous treatment prior to entering Australia.

The screening is repeated on arrival, and supplemented by tuberculin tests in an effort to identify those in the under 30 age group, with very large tuberculin reactions, suggestive of recent infection.

These individuals are offered chemoprophylaxis with isoniazid to reduce the number who will subsequently develop tuberculosis.

This is perhaps the most important single activity of the Chest Clinic at the present time, and is a major activity of the visiting chest clinic sisters. The prevention of disease by chemoprophylaxis with isoniazid not only reduces the amount of illness which will occur in those persons taking the drug, but by so doing, protects a subsequent generation from infection.

MASS X-RAY SURVEYS

Voluntary surveys continued during the early part of this financial year and concluded in September, 1980.

The electorates X-rayed were:— Townsville, Townsville West, Townsville South, Part Whitsunday, Mackay, Mirani, Part Peak Downs, Part Calide, Part Burdekin.

Mass radiography has been the main case-finding weapon of the Queensland campaign against tuberculosis. It was compulsory from 1959 to 1977.

During this time, some 4 000 000 X-rays were taken, and over 2 000 or some 12 per cent of cases notified during the period of the surveys found directly by them.

In addition, many other individuals found to have non-tuberculous illness of the lungs and cardiac ailments have been brought under medical care much earlier than would otherwise have been the case.

The Director of Tuberculosis would like to express his appreciation of their efforts, to all those involved in this undertaking.

HIGHER RISK GROUP

Throughout this year, plans for a case-finding replacement for mass radiography have been made.

This involves the follow-up by chest X-rays, of persons considered to be more at risk of developing tuberculosis than average.

During the last round of compulsory mass radiography, some 100 000 persons were found to have strongly positive tuberculin skin tests, and this group is the core of the "higher risk group" to be followed up.

Additions to the group will be made from migrants, from tuberculin positive school leavers, contacts, and those with pulmonary abnormalities of unknown origin when the scheme is established.

TUBERCULIN TESTING AND B.C.G. VACCINATIONS

A change this year in school holidays in Queensland, with four breaks instead of three, has increased the difficulties of programming the 143 metropolitan and 66 near country schools. The programme of routine Tuberculin testing and B.C.G. vaccination continues for Grade 8 students, with parental permission.

Routine screening of students of Nursing, Medicine, Physiotherapy, Speech Therapy, and Trainee Teachers continues. Included in the routine is the screening of all South East Asian refugees arriving in Queensland, including the increasing number sponsored by the Community Refugee support scheme.

With notification by maternity hospitals of new-born Aborigine babies and liaison with Sisters of the Aboriginal Health Team in metropolitan and country areas, the majority of these babies is offered some protection from tuberculosis by administration of B.C.G. vaccination.

DOMICILIARY VISITING

Although caring and education remains the constant role of the tuberculosis visiting sister, a new dimension is increasingly entering this area of work — that of liaison between other physicians, hospitals patients and chest clinics.

As patients spend less time in hospital, there is also a greater need for frequent domiciliary visits. This year has seen a slight increase, namely 1 667 visits in the metropolitan area and 101 in country districts.

Initial and follow-up supervision of contacts is becoming more exacting, without the support of compulsory chest X-ray programmes. In all, 115 notified metropolitan and near country cases have required this attention.

From a total intake of over 1 300 South East Asians, some 406 commenced chemoprophylaxis and 50 were established, or continued, on treatment this year. The task of supervision is an important and arduous one, particularly after they leave the Wacol Hostel. The co-operation of the Wacol staff, both nursing and other, in managing the distribution of anti-tuberculous treatment is much appreciated.

We express gratitude also to the Sisters of the Blue Nursing Service, for their willing co-operation in giving regular injections or attending to wound dressings when such help is requested.

SOCIAL WORKER

With modern treatment, tuberculosis is no longer a serious financial threat, as it was when the bread winner faced a long period of hospital care, but a number of patients who are attending the Clinic for treatment have presented with difficulties. These problems range from financial, including pensions, benefits and compensation claims, housing and employment, to personal and family problems, which are often directly related to illness.

It can be seen that there has been an increase in the number of new clients referred. Some of these have been Indo-Chinese refugees, whose problems are increased by the language barrier, which is itself a considerable hardship.

During the year, liaison with other agencies has greatly facilitated work with these clients. Assistance from these agencies including the Department of Social Security, Queensland Housing Commission, Division of Community Medicine and Geriatrics, Alcohol and Drug Dependence Service, the Prince Charles Hospital, the Australian Tuberculosis and Chest Association and other voluntary organizations such as Lifeline, St. Vincent De Paul, and the Salvation Army is gratefully acknowledged.

Social Work Care Analysis

Cases carried forward from 30-6-80.....	42
New clients	52
Re-opened	7
Total	101
Number of cases still active at 1-7-81	45

TUBERCULOSIS ALLOWANCES

Though the effects of inflation have steadily eroded the advantage a Tuberculosis Allowance has over other social benefits, it is still a very considerable help to patients and their families.

The benefit, granted on the medical recommendation of the Director of Tuberculosis and paid by the Department of Social Security, is intended to encourage patients to stop work and have treatment. Fortunately, with shorter periods of invalidity due to modern treatment, few patients, except the elderly and those with complicating illness, require benefits for long periods.

Forty-three persons were in receipt of the allowance at the end of June, 1981.

TABLE XXXI
NOTIFICATIONS OF TUBERCULOSIS FOR YEAR ENDED 30th JUNE, 1981
NEW ACTIVE AND PROBABLY ACTIVE CASES SHOWING AGE, SEX AND STAGE OF DISEASE

Age Group	Males						Females						Persons						Total Notifications No. %					
	Bact. & Hist. Proven Cases	*Primary	*Pleurety with Effusion	Pulmonary			Non-Pulmonary	Bact. & Hist. Proven Cases	*Primary	*Pleurety with Effusion	Pulmonary			Non-Pulmonary	Bact. & Hist. Proven Cases	*Primary	*Pleurety with Effusion	Pulmonary			Non-Pulmonary			
				Minimal	Moderately Advanced	Advanced					Minimal	Moderately Advanced	Advanced					Minimal				Moderately Advanced	Advanced	
0-4.....	..	2	..	..	..	4(3)	2	2	..	..	..	..	..	7(4)	2	4	..	..	..	..	11(7)	15(7)	6.12
5-9.....	1	0.41
10-14.....	1	..	1(1)	1(1)	2(1)	0.82
15-19.....	1	1	1	2	0.82
20-24.....	2	..	1	4	2	4	5	3	1	1	6	1	9	5	1	17	6.94
25-29.....	1	..	10	3	..	1	2	..	1	1	4	..	1	12	..	1	12	..	1	15	6.12
30-34.....	5	..	11	2	..	..	3	..	3	1	..	..	..	8	..	..	14	3	..	..	2	19	7.75
35-39.....	5	..	3(1)	1	1	..	3	..	5	3	..	1	8	..	..	..	8(1)	5	1	2	2	16(1)	6.53
40-44.....	6	..	9	2(1)	1	1	3	..	..	..	..	..	6	..	..	..	9	2(1)	1	1	1	13(1)	5.31
45-49.....	13	..	5	8	3(1)	..	3	..	..	..	..	..	16	..	..	..	9	9	3(1)	2	2	23(1)	9.39
50-54.....	9	..	11	2	..	..	1	..	..	..	..	..	10	..	..	..	11	6(2)	..	2	..	19(2)	7.75
55-59.....	10	..	1	8(1)	3(1)	2	..	..	1	3(1)	..	..	10	..	1	..	9(1)	4(2)	2	..	..	16(3)	6.53
60-64.....	6	..	1	5	5(3)	..	5	..	..	..	..	..	11	..	1	..	11(1)	6(3)	..	2	..	20(4)	8.16
65-69.....	12	..	..	4(1)	4	6(1)	2	2	..	3(1)	..	..	14	..	..	..	7(2)	4	6(1)	2	..	19(3)	7.75
70-74.....	12	..	10	3	1	..	7	..	..	5	2	..	19	..	..	..	15	5	1	..	1	21	8.57
75 and over.....	14	..	..	13(1)	5(2)	1	..	4	..	5(2)	3(1)	..	18	..	..	..	18(3)	8(3)	1	..	..	27(6)	11.03
N/S.....
Total.....	95	2	3	95(4)	38(7)	15(2)	15(4)	37	2	1	40(4)	19(4)	2	13(4)	132	4	4	135(8)	57(11)	17(2)	28(8)	245(29)	100.00	

*Not to be included under Minimal.
 Note.— (a) Transfers-in not to be included.
 (b) Re-activated cases not to be included but should be shown on TRS2.
 (c) Atypical cases to be included and also to be shown in brackets in appropriate categories.

TABLE XXXII
RE-ACTIVATED CASES OF TUBERCULOSIS FOR YEAR ENDED 30th JUNE, 1981
SHOWING AGE, SEX AND STAGE OF DISEASE

Age Group	Males				Females				Persons				Total Persons
	Min.	Mod. Adv.	Adv.	Non-Pulmonary	Min.	Mod. Adv.	Adv.	Non-Pulmonary	Min.	Mod. Adv.	Adv.	Non-Pulmonary	
0-4
5-9
10-14
15-19
20-24
25-29
30-34
35-39
40-44
45-49
50-54 ..	1	..	..	..	1	1	..	..	2	1	..	..	3
55-59
60-64	1	1	..	..	1	1	..	..	2
65-69	2	2(1)	1	..	..	..	..	2	2(1)	1	..	5(1)
70-74
75 and over ..	1	1	..	..	..	..	..	..	1	1	..	..	2
N/S
Total ..	2	3	2(1)	1	2	2	..	..	4	5	2(1)	1	12(1)

Note.— For purposes of this form a "re-activated case of tuberculosis" is a patient who requires treatment for pulmonary tuberculosis after having been conventionally considered as "cured". Quoting the Danish Index — "A patient is conventionally considered as "cured" if his pulmonary tuberculosis for three successive calendar years without treatment is proved to be bacillary by adequate bacteriological tests."

TABLE XXXIII
TUBERCULOSIS—SOURCE OF NOTIFICATIONS QUEENSLAND FOR YEAR ENDED 30th JUNE, 1981

Source	Pulmonary Cases		Non-Pulmonary Cases		Total Cases
	No.	%	No.	%	
Mass Community Surveys	6	2.33	..	..	6
Private Medical Practitioners—					
(a) Direct	11	4.28	8	3.11	19
(b) Via Chest Clinic .....	..	..	1	0.39	1
General Hospitals	45	17.51	14	5.45	59
Chest Hospitals .....	..	..	..	..	..
Chest Clinics	114	44.36	..	..	114
Repatriation Clinics and Hospitals	2	0.78	..	..	2
Death Certificates	4	1.56	..	..	4
Special Groups—					
(a) Mental Hospital Surveys .....	..	..	..	..	..
(b) Gaol Surveys .....	..	..	..	..	..
(c) Ante-Natal Hospitals .....	..	..	..	..	..
(d) Other Chest Clinic Annexes	46	17.90	6	2.33	52
Totals .....	..	..	..	..	..
Less .....	..	..	..	..	..
Total Notifications	228	88.72	29	11.28	257

TABLE XXXIV
NOTIFICATIONS DURING YEAR ENDED 30th JUNE, 1981
SHOWING BACILLARY STATUS OF PATIENTS AT TIME OF NOTIFICATION

Age Groups	Number of Patients Receiving Initial Treatment			Number of Re-treatment Cases		
	Bacillary Positive	Atypical	Not Tested or Bacillary Negative	Bacillary Positive	Atypical	Not Tested or Bacillary Negative
0-4	2	7	6	..	..	..
5-9 .....	..	..	1	..	..	..
10-14 .....	..	1	1	..	..	..
15-19 .....	..	..	2	..	..	..
20-24	6	..	11	..	..	..
25-29	4	..	11	..	..	..
30-34	8	..	11	..	..	..
35-39	8	1	7	..	..	..
40-44	6	1	6	..	..	..
45-49	16	1	6	..	..	..
50-54	10	2	7	3	..	..
55-59	10	3	3	..	..	..
60-64	11	4	5	1	..	1
65-69	14	3	2	3	1	1
70-74	19	..	2	..	..	..
75-over	18	6	3	2	..	..
N/S .....	..	..	..	..	..	..
Total	132	29	84	9	1	2

TABLE XXXV
NUMBER OF TUBERCULOSIS NOTIFICATIONS AND RATE
IN QUEENSLAND (PER 100 000 MEAN POPULATION)

Year	Number of Notifications	Notification Rate
1949-1950	513	43.7
1950-1951	595	49.9
1951-1952	780	62.9
1952-1953	943	74.1
1953-1954	821	63.1
1954-1955	725	54.6
1955-1956	685	50.3
1956-1957	639	45.8
1957-1958	852	59.9
1958-1959	789	54.4
1959-1960	787	53.2
1960-1961	767	51.1
1961-1962	721	47.1
1962-1963	826	53.1
1963-1964	856	54.1
1964-1965	891	55.2
1965-1966	623	37.8
1966-1967	563	29.5
1967-1968	512	29.8
1968-1969	382	21.8
1969-1970	294	16.8
1970-1971	301	16.8
1971-1972	248	13.6
1972-1973	247	13.0
1973-1974	241	12.4
1974-1975	235	11.7
1975-1976	213	10.6
1976-1977	216	10.4
1977-1978	197	9.2
1978-1979	231	10.6
1979-1980	261	11.3
1980-1981	257	11.7

TABLE XXXVI
NUMBER OF DEATHS FROM TUBERCULOSIS AND DEATH
RATE (PER 100 000 MEAN POPULATION) IN QUEENSLAND

Calendar 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
1964	75	4.7
1965	42	2.6
1966	43	2.6
1967	58	3.4
1968	60	3.4
1969	51	2.9
1970	37	2.1
1971	29	1.6
1972	24	1.3
1973	12	0.6
1974	22	1.1
1975	27	1.3
1976	26	1.2
1977	19	0.9
1978	22	1.0
1979	12	0.5
1980	Not Available	Not Available

TABLE XXXVII
T.B. NOTIFICATIONS OF MIGRANTS YEAR ENDED 30-6-81

Arrival in Australia	British	Non-British	Indo-Chinese
Within 1 year	4	12	56
Within 5 years	5	10	..
Over 5 years	8	9	..
	17	31	56
Percentage of Total	16.34%	29.81%	53.85%

Total Migrants 104 = 40.47% of all notifications of 257 cases.

TABLE XXXVIII
SOUTH EAST ASIAN MIGRANTS

Year	No. of Arrivals Brisbane Chest Clinic	Under Treatment for Tuberculosis	Receiving Chemoprophylaxis
1978-1979	1 137	51	379
1979-1980	1 116	58	433
1980-1981	1 311	56	456

TABLE XXXIX
NUMBER OF NEW CASES OF CARCINOMA OF THE LUNG
SEEN AT THE BRISBANE DIVISION OF TUBERCULOSIS

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
1st July, 1964 to 30th June, 1965	101
1st July, 1965 to 30th June, 1966	116
1st July, 1966 to 30th June, 1967	147
1st July, 1967 to 30th June, 1968	104
1st July, 1968 to 30th June, 1969	131
1st July, 1969 to 30th June, 1970	70
1st July, 1970 to 30th June, 1971	111
1st July, 1971 to 30th June, 1972	54
1st July, 1972 to 30th June, 1973	37
1st July, 1973 to 30th June, 1974	56
1st July, 1974 to 30th June, 1975	73
1st July, 1975 to 30th June, 1976	56
1st July, 1976 to 30th June, 1977	32
1st July, 1977 to 30th June, 1978	31
1st July, 1978 to 30th June, 1979	38
1st July, 1979 to 30th June, 1980	53
1st July, 1980 to 30th June, 1981	36

TABLE XL
CASES OF LUNG CANCER DISCOVERED BY M.X.R. FOR
CALENDAR YEAR 1980

1959	3
1960	40
1961	50
1962	16
1963	68
1964	70
1965	66
1966	90
1967	93
1968	101
1969	50
1970	62
1971	81
1972	49
1973	93
1974	66
1975	99
1976	84
1977	41
1978	38
1979	31
1980	29

TABLE XLI
VOLUNTARY ATTENDANCE CHEST X-RAY SURVEY BY MOBILE UNITS YEAR ENDED 31st DECEMBER, 1980

Locality	Number of Micro Films Taken	Number of Active Cases	Number of Cases Per 1 000 films taken	Inactive Cases	Non Specific Fibrosis	Intercurrent or Pneumonic	Cardiac Abnormality	Carcinoma	Other Tumor	Pneumoconiosis	Bronchiectasis	Sarcoidosis	Other Diseases	No Significant Abnormality	Under Investigation	Old Cases Re-discovered
Brisbane Division.....	17 830	4	0.22	59	66	5	179	5	1	4	8	4	75	341	48	..
Toowoomba Division.....	10 418	2	0.19	48	25	3	206	4	14	1	7	1	129	206	129	..
Townsville Division.....	24 235	4	0.16	155	128	18	255	16	..	9	8	1	231	386	5	..
Rockhampton Division.....	8 644	1	0.11	44	65	2	103	3	1	1	4	..	21	143	13	..
Remote Survey.....	1 376	..	..	12	..	..	15	1	1	..	1	..	4	38	3	..
Special Survey.....	7 309	..	..	11	2	2	12	..	..	..	..	..	30	16	37	..
Total.....	69 812	11	0.15	329	286	30	770	29	17	15	28	6	490	1 130	235	..

TABLE XLII
RESULTS OF MOBILE X-RAY SURVEY YEAR ENDED 31st DECEMBER, 1980

Age	Number X-rayed	Active		Inactive		Suspect Active		Other Conditions	
		Number	Per 1 000 X-rayed	Number	Per 1 000 X-rayed	Number	Per 1 000 X-rayed	Number	Per 1 000 X-rayed
0-14.....	838	..	..	..	..	..	..	21	25.05
15-19.....	3 730	..	..	..	..	3	0.80	31	8.31
20-24.....	5 136	..	..	2	0.38	4	0.77	31	6.03
25-29.....	5 682	1	0.17	1	0.17	6	1.05	48	8.44
30-34.....	6 764	1	0.14	8	1.18	11	1.62	98	14.48
35-39.....	6 339	1	0.15	18	2.83	10	1.57	135	21.29
40-44.....	5 974	1	0.16	24	4.01	20	3.34	130	21.76
45-49.....	5 874	1	0.17	33	5.61	18	3.06	181	30.81
50-54.....	6 283	1	0.15	38	6.04	16	2.54	271	43.13
55-59.....	6 330	..	..	53	8.37	25	3.94	354	55.92
60-64.....	5 092	1	0.19	45	8.83	33	6.48	410	80.51
65-69.....	4 217	2	0.47	42	9.95	37	8.77	386	91.53
70-74.....	2 809	2	0.71	33	11.74	23	8.18	310	110.35
75-Over.....	2 554	..	..	26	10.18	27	10.57	367	143.69
N/S.....	2 190	..	..	6	2.73	2	0.91	28	12.78
Total.....	69 812	11	0.15	329	4.71	235	3.36	2 801	40.12

TABLE XLIII
NUMBER OF X-RAY EXAMINATIONS AT THE CHEST CLINIC—1st JANUARY, 1979 TO 31st DECEMBER, 1980

Routine micro X-ray films.....	17 208
Recalls for X-ray without medical interview.....	2 504
Patients X-rayed and medically interviewed.....	8 643

TABLE XLIV
MASS X-RAY SURVEY FROM 9th NOVEMBER, 1959 TO 31st DECEMBER, 1980

Year	Number X-rayed	Active		Inactive		Suspect Active		Other Conditions	
		Number	Per 1 000 X-rayed	Number	Per 1 000 X-rayed	Number	Per 1 000 X-rayed	Number	Per 1 000 X-rayed
9-11-59-31-12-59.....	19 515	47	2.41	146	7.48	6	0.31	549	28.13
1960.....	158 023	370	2.34	1 268	8.02	144	0.91	3 128	19.79
1961.....	155 842	96	0.62	1 649	10.58	241	1.55	2 686	17.24
1962.....	148 049	190	1.28	1 015	6.86	397	2.68	1 394	9.42
1963.....	250 858	280	1.10	1 950	7.80	1 057	4.20	2 794	11.10
1964.....	312 031	345	1.10	3 361	10.80	601	1.90	3 277	10.50
1965.....	345 530	185	0.50	2 105	6.10	801	2.30	9 038	26.20
1966.....	304 128	136	0.40	1 479	4.90	335	1.10	7 065	23.20
1967.....	293 255	95	0.30	1 520	5.20	..	..	8 164	27.80
1968.....	328 260	131	0.40	1 604	4.90	..	..	8 922	27.20
1969.....	197 327	59	0.30	697	3.50	..	..	6 279	31.80
1970.....	199 361	42	0.20	1 415	7.10	..	..	5 878	29.50
1971.....	169 208	42	0.20	780	4.60	17	0.10	6 108	36.10
1972.....	223 773	84	0.40	1 427	6.40	40	0.20	5 677	25.40
1973.....	209 400	53	0.30	1 494	7.10	97	0.50	4 564	21.80
1974.....	208 273	36	0.17	1 764	8.46	86	0.41	3 015	14.47
1975.....	276 445	44	0.16	2 586	9.35	314	1.14	2 377	8.60
1976.....	291 171	37	0.13	1 756	6.03	127	0.44	2 342	8.04
1977.....	180 015	39	0.22	320	1.77	137	0.76	5 157	28.64
1978.....	107 171	25	0.23	426	3.97	148	1.38	3 202	29.88
1979.....	70 139	24	0.34	265	3.78	150	2.13	2 505	35.71
1980.....	69 812	11	0.15	329	4.71	235	3.36	2 801	40.12
Total.....	4 517 586	2 371	0.52	29 356	6.49	4 933	1.09	96 922	21.45

TABLE XLV
TUBERCULIN TESTS AND B.C.G. VACCINATIONS FOR YEAR ENDED 30th JUNE, 1981

	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.....	5 391	211	3.91	1 824	33.83	754	13.99	2 602	48.27	2 055	38.12	541	10.04	6	0.11
Metropolitan and Brisbane Division Schools.....	23 203	1 164	5.02	1 074	4.63	554	2.39	20 411	87.96	20 183	86.98	..	..	228	0.98
Country.....	7 849	714	9.10	1 239	15.78	2 817	35.89	3 079	39.23	2 002	25.51	1 067	13.59	10	0.13
Country Schools.....	15 479	637	4.12	3 123	20.18	527	3.40	11 192	72.30	10 964	70.83	126	0.81	102	0.66
Total.....	51 922	2 726	5.25	7 260	13.98	4 652	8.96	37 284	71.81	35 204	67.80	1 734	3.34	346	0.67

TABLE XLVI
TUBERCULIN TESTS AND B.C.G. VACCINATIONS OF MIGRANTS FOR YEAR ENDED 30th JUNE, 1981

	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.....	1 450	12	0.83	1 075	74.14	119	8.20	244	16.83	244	16.38	..	..	..	..
Metropolitan and Brisbane Division Schools.....	2 163	105	4.85	131	6.06	201	9.29	1 726	79.80	1 700	78.60	..	..	26	1.20
Country.....	498	28	5.62	176	35.34	175	35.14	119	23.90	67	13.46	52	10.44	..	..
Country Schools.....	515	14	2.72	65	12.62	66	12.82	370	71.84	366	71.06	2	0.39	2	0.39
Total.....	4 626	159	3.44	1 447	31.28	561	12.13	2 459	53.15	2 377	51.38	54	1.17	28	0.60

TABLE XLVII
CASE REGISTER COUNT—30th JUNE, 1981

Activity	Minimal	Moderate	Far	Non-Pulmonary	Primary	Pleural Effusion
Active	230	136	36	81	..	7
Quiescent	280	131	35	30	1	4
Inactive—Less than 3 years	269	113	38	30	2	2

TABLE XLVIII
PERSONS RECEIVING TUBERCULOSIS ALLOWANCE—YEAR ENDED 30-6-81
LOCATION OF PERSONS

Receiving Treatment in Institution			Receiving Treatment Outside Institution			Total Persons Receiving Treatment		
Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
3	..	3	34	6	40	37	6	43

TABLE XLIX
PERIOD IN RECEIPT OF ALLOWANCE

Period	Males	Females	Persons
Under 1 year	23	3	26
1-2 years	12	1	13
2-3 years .....	..	1	1
3-4 years .....	..	1	1
4-5 years .....	..	..	..
Over 5 years	2	..	2
Totals	37	6	43

DIVISION OF INDUSTRIAL MEDICINE

Director of Industrial Medicine: E. M. RATHUS, M.B., Ch.B.(Cape Town)
 Medical Officer: D. A. SMITH, M.B., B.S.(Queensland) (from 24-11-80)
 Industrial Health Inspector: J. W. MULCAHY, A.R. San. I.

This Division provides a service for the investigation of occupational health hazards. The scientific resources of the Government Chemical Laboratory are relied on for detailed delineation of physical and chemical data and the Laboratory of Microbiology and Pathology for biochemical and related studies. The Chest Clinic cooperates in X-ray surveys of men in dusty occupations. A close liaison is maintained with the Department of Labour Relations, and its Inspectorate of Factories and Shops, and Division of Occupational Safety, as well as the Department of Mines and Inspectors of Mines, on problems where considerations of occupational health and safety prevail.

ROUTINE INSPECTIONS

About 300 inspections and investigations were carried out in various industries by staff during the year. Many of these were amplified by full-scale investigations at the industrial hygiene level in order to ascertain the specificity of various toxic, chemical and physical hazards in the working environment. Several were of more than usual interest and are reported below.

INSPECTIONS

The Industrial Health Inspector carried out 100 inspections related to the industrial health aspects of noise, methyl bromide fumigation, waterfront investigations, use of asbestos in special applications such as fire-doors, carbon monoxide hazards in industry and industrial dusts and fumes.

The industries concerned were engineering works, large manufacturing enterprises, dockside and ships' situations, and some miscellaneous groups.

LEAD, PESTICIDES, LABORATORY TESTS

During the year, 132 visits were made to lead industries in the metropolitan area and other areas where important lead industries exist. Approximately 2 800 tests were carried out on about 645 employees. The results are utilized for assessment of a safe working environment, and appropriate action follows any untoward figures which may be the result of poor handling, poor supervision and hygiene, or inefficient engineering design.

Supervision of pesticide operators covers mainly packing procedures, and about 300 tests on 135 employees were carried out in 35 visits to such firms. Chlorinated hydrocarbon levels and cholinesterase testing are taken regularly and advice based on any significant deviation from accepted figures for exposed workers. Country visits are carried out during the spraying season when this can be arranged, but the services of the Division are always available for exposed groups requesting tests (crop spraying by air, farmer groups, research scientists, etc.)

NOISE

Noise surveys and audiometric testing are carried out on a regular basis, particularly where more detailed studies seem indicated. Special requests may be made by industry or referred by the Chief Inspector, Factories and Shops, as a result of surveys under the Noise Regulations. There has been an increasing interest in noise problems, particularly in the larger concerns. A number of larger industries have purchased noise measuring instrumentation, and several have a programme of audiometric testing.

The implementation of the Hearing Conservation Rule by the Factories and Shops Inspectorate is extending the concepts of protection in this field.

ASBESTOS

During the year, the opportunity to undertake several open space counts for asbestos fibre in buildings presented itself. As will be realized, a very large number of buildings throughout Queensland have been fire-proofed with asbestos fibre, especially so where open steel girder skeletons were used in the past.

This type of application has been superseded both in construction method and in fire protection materials. Significant counts could be obtained from large areas of deteriorating surfaces when disturbed, but in most instances counts for asbestos fibre are quite minimal in the resting state.

Lecture halls have shown fibre counts ranging from 0.01 to 0.02 fibres/ml, with some counts of less than 0.005 fibres/ml over long-term counts in areas where perforated ceiling sheets are installed. No hazard can be postulated for these situations.

In other buildings, counts were undertaken while ceiling panels were removed for maintenance and alterations. Both buildings had insulated steel girders above the suspended ceiling. Fibre counts were less than 0.01 fibres/ml near the opening and up to 8 metres away, but in the ceiling space the count was 0.28 fibres/ml and represents the figure that would be experienced by a workman in the space.

In one building undergoing extensive alterations, counts of 0.26 to 0.70 fibres/ml were encountered. All fibres were identified as either amosite, chrysotile or a mixture, with man-made mineral fibre.

An interesting experiment was undertaken on hair-dryers insulated with asbestos. Test filters placed 10 cm from the outlet port in the exhaust air showed an average count of 0.08 fibres/ml. Background in the room 2 metres from the outlet port at full blast averaged less than 0.001 fibres/ml.

In the hair-dressing section of an instructional facility, average counts of 0.2 fibres/ml were found on sampling filters placed symmetrically around subjects 1.2 metres above the floor.

It appears that there are variable factors that influence the levels of these counts. All are well below (less than one-tenth to less than one-two hundredth) of the Threshold Limit Value, but do indicate the need for proper building maintenance in the average situation, and an awareness of the need for sensible care and protection when working on these areas in the neighbourhood of previously insulated surfaces.

PESTICIDES

A survey of bendiocarb operators revealed a virtual absence of significant exposure, so that routine precautions seem adequate.

A survey of growers in the Cleveland/Rochedale/Ormiston area revealed that amongst 78 volunteers, only a very few showed cholinesterase results in the lower ranges of normal. Significance can only be attached at the group level, but generally orchardists seem to handle their pesticides reasonably well. However, those using methyl bromide as a soil fumigant showed unexpectedly high results, and a pamphlet previously circulated was made available. (See Annual Report 1979-80.)

MINES AND METALLURGICAL PROCESSES

Several large-scale smelters and metal extraction plants were visited for discussions. At one large copper mine, a full-scale investigation was carried out at the request of Mine Management and the Australian Workers' Union in an endeavour to establish the level of lead hazard which existed in the recovery of the economic metals.

The basic reasons for the need to examine the problem was the fact that recent copper/gold complexes contain lead in variable quantities from 500 p.p.m. to 1.5 per cent as lead sulphide, with a probable average of 0.4 per cent.

This had led to the recognition of a lead hazard potential from dust and fume from the beneficiated ore in the smelter and converter environment.

The investigation demonstrated in general lower average lead in air concentrations obtained than those expected in the "lead hazard" industries. Several work locations were, however, identified which were substantially higher than the recommended TLV for the time-weighted average maximum, and as expected these were at the furnace tapping points and on fuming situations in the converter aisle.

Recommendations based on the findings have been submitted for study, and it is hoped they will assist in the design of controls.

GENERAL

An interesting situation arose in a timber mill where 5 workers engaged on cleaning ash from a burner developed superficial burns on the skin. An analysis of the ash revealed 50 per cent Calcium oxide (CaO) with a pH 14. However, the origin of the CaO-ash is entirely speculative, and no further alkaline residue has been detected.

A study was undertaken in a firm processing p-dichloro-benzene. Excellent control systems were apparent, and no detectable absorption was apparent. However, concentrations were about half the TLV of 75 p.p.m., and some discussion on improved ventilation should lower this figure further.

Progress studies on a plant utilizing toluene di-isocyanate as a foaming agent revealed 5-fold reductions in significant areas based on previous reports with all figures within the TLV. Such studies are very satisfactory, reflecting as they do the advisory nature of the work of the Division and the acceptance of the data base on which suggestions are proffered for the attainment of desirable (and recommended) working environments.

In fact, follow-up studies in three firms with the potential for lead exposure problems were very satisfactory, in that advice based on previous detailed studies had eventuated in positive engineering design, and process methodology, which have reduced all figures to TLV standards. Substitution of a finely powdered lead sulphate by a flake, or compressed plate-like form of tribasic lead sulphate/lead stearate has more than halved exposures.

Argon arc welding on aluminium in confined spaces poses some problems in compromise. Ventilation to control aluminium fume removes the inert gas shield whereas ozone tends to rise if fume is excessive. Studies have established the problem and the answer lies in both procedure and personal protection.

P.C.B.

The presence of Polychlorinated Biphenyls (P.C.B.) in transformer coolants continued to cause problems in the electrical industry. Talks to two groups of concerned members of the Electrical Trades Union were organized through the electrical authority and blood tests on men who had previously handled P.C.B. were performed. No P.C.B. was detected in the blood of any of the 59 men tested.

Private industries handling such transformers have also been the subject of study.

The Division has maintained its stance that P.C.B. is a useful chemical substance with few problems if correctly and sensibly handled.

SNACK FOOD FACTORY INVESTIGATION

The Division was called in to investigate urgently the situation in a Brisbane factory manufacturing potato chips and flavoured snacks. A large number of the process workers had reported sick over a period of a few days, and concern was expressed on the possibility of a toxic substance being the cause. A full investigation involving visits to the homes of many of those affected was undertaken. Viral studies on biological samples collected finally revealed the cause to be an influenza A outbreak which had obviously been quite virulent but had remained localized.

FORMALDEHYDE

The Division is currently involved with scientists from the Government Chemical Laboratory, in measuring formaldehyde in some houses where urea formaldehyde foam insulation has been installed. The need for this study arose from overseas reports on health problems said to be associated with formaldehyde and local complaints from persons whose homes had been insulated in this manner.

MISCELLANEOUS

Other investigations have been made into—dust and chemical contamination in a large foundry, ammonia in a plan printing area, anaesthetic gas contamination of air in operating theatres, toluene contamination in a large laboratory and carbon disulphide in a rubber industry.

In addition, ergonomic problems in two offices were investigated and recommendations made for improvements.

VISITORS

Dr Richard Kelman, Employment Medical Advisory Service, Health & Safety Executive, Leicester, U.K., took the opportunity of visiting the Division while in Brisbane.

CONFERENCES

During the year, the Director attended the Annual Scientific Meeting of the Australian and New Zealand Society of Occupational Medicine and the Seminar on Carcinogens and Cancer under the aegis of the New South Wales Cancer Council, both of which were held in Sydney.

The Director was appointed to the Inter-departmental Advisory Committee to report on the use of the phenoxy herbicides and to the Lead-in-Petrol Advisory Committee and the Shale Oil Advisory Committee.

Aspects studied and discussed were related to public health issues in addition to the technological detail submitted.

Invited talks were given to the Royal Australian Chemical Institute on "Safety in Chemistry".

Official attendance was required at meetings of the Occupational Health Committee of the National Health and Medical Research Council; The Health, Welfare and Safety Board of the Department of Labour Relations; and the Chest Board of the Workers' Compensation Board of Queensland.

DIVISION OF HEALTH AND MEDICAL PHYSICS

Director: J. P. MCGILVRAY, M.Sc.

Physicists: D. F. MINES, M.Sc.

L. G. HINSCH, B.Sc.

R. N. CASEY, M.App.Sc.(Med. Phys.)

Technical Officer (Radiography): N. H. SERICO, M.I.R.

Chief X-ray Engineer: P. G. McNEILLY

Senior Electronic Technician: A. J. DORAN

Senior Dental Servicing Officer: N. NEIL

Instrument Maker: H. R. HUNT

The demand for services provided by this Division has increased due to the continued expansion and upgrading of patient-related equipment in health care services. The heavy demands on the Health Physics and Radiographic Advisory sections as a result of enactment of the *Radioactive Substances Act Amendment Act 1978* have levelled out but remain at a high level following proclamation of the Act in 1980. In addition, the Health Physics section has experienced an increased demand in the area of non-ionizing radiation.

The activities of the Division for 1980-81 may be considered under the following headings:—

- (a) Health Physics Service;
- (b) Medical Physics Service;
- (c) Radiographic Advisory Service;
- (d) X-ray Engineering Group;
- (e) Medical Electronics Group;
- (f) Dental Servicing Group;
- (g) Instrument Repair Section;
- (h) Education and Training;
- (i) Committee Work.

(a) Health Physics

This service, in conjunction with the Radiographic Advisory Service, carried out 122 assessments of applicants for a licence to Use Irradiating Apparatus, required under the *Radioactive Substances Act Amendment Act 1978*.

The Radiological Advisory Council granted 685 licences for irradiating apparatus (up 435 from last year) and 310 licences for radioactive substances (up 156 from last year). An increase in the use of irradiating apparatus in the State resulted in the issuing of 890 Certificates of Registration (up 64 from last year).

The Radiation Monitoring Service provided 24 318 services for the monitoring of radiation exposure of occupationally exposed personnel.

Seven (7) water samples were assayed, for alpha-particle and beta-particle activities, for the Water Quality Council of Queensland.

In the field of non-ionizing radiation, 12 microwave ovens, seven lasers, and one ultra violet source were inspected and tested. Three (3) of the microwave ovens and the ultra violet source did not comply with accepted safety standards.

(b) Medical Physics

During 1980, four Inspection Groups were established in the metropolitan area to inspect and test electromedical equipment to ensure compliance with relevant electrical safety standards, prior to acceptance into public hospitals. The co-ordination of activities of these groups, and the dissemination of information between groups has become the responsibility of the Medical Physics service. During the year, this section inspected and tested a total of 29 new types or models of electromedical equipment to determine compliance with relevant safety standards. Fifteen (15) items failed the first inspection/test. Of these, six passed a subsequent inspection/test after suitable modifications had been made. Preliminary inspections of a further seven items were made. These have not, as yet, been submitted for detailed inspection and testing. This section received advice on five "hazard alerts" and advised users where necessary.

(c) Radiographic Advisory Service

Heavy involvement in the assessment of applicants for a licence to use irradiating apparatus led to a reduction of hospital visits for the purpose of inspecting facilities, assessing quality of work, and tuition of staff, to 36.

The relieving radiographer service provided 69 relief periods to 21 hospitals.

(d) X-ray Engineering Group

A total of 495 items of X-ray equipment required the attention of this group because of breakdowns. Of these, 154 were solved by the operator, radiographer or local electrician, acting under the direction of the X-ray engineer by telephone. A further 127 units were repaired in the workshop, leaving 214 requiring a visit by an X-ray engineer.

The group made 136 visits to hospitals to perform routine maintenance.

The group also has a major involvement in installations. All installations by companies were inspected. Divisional engineers were involved in six installations of equipment and in refurbishing of one unit in the workshop.

(e) Medical Electronics Group

A total of 244 regular service visits were made to hospitals to maintain electromedical equipment, carry out on-site repairs where possible, and offer advice and instruction to operators. In addition, 1 022 items were serviced in the workshop.

Pre-delivery tests and inspections were carried out on 150 items of equipment prior to despatch to hospitals.

Monitoring of implanted cardiac pacemakers was performed for 140 patients in 16 hospitals.

The group developed a device for the rapid checking of the accuracy of infusion pumps and another to enable hospital operators to view the cardiac cycle before recording the information.

Service of equipment used by home dialysis patients and similar equipment installed in country hospitals is performed by a sub-section of the Medical Electronics Group. During the year, 148 problems were rectified; three units were refurbished. In addition, 16 units were recalled from use for complete overhauls while another 16 units were inspected, overhauled and tested prior to issue to patients. A total of 58 regular maintenance visits were made to 29 sites during the year.

The on-call service, established to handle out-of-hours problems, handled five problems.

(f) Dental Servicing Group

The continuing growth of the School Dental Service has further increased the demands made on this group. Regular service visits to maintain equipment, carry out on-site repairs where possible, and offer advice and instruction to operators, are made to country hospitals and school dental clinics. A breakdown service is provided for dental clinics in the metropolitan area only.

A total of 607 visits were made to fixed school dental clinics and a further 279 to dental caravans.

Equipment was installed in 56 new dental surgeries in 16 school clinics and 18 caravans. Installations are expected to continue for some time yet.

Regular service visits to hospital clinics totalled 427. Installations were carried out in nine surgeries.

Instrument repairs performed in the workshop increased to 1 220, while repairs to other types of dental equipment decreased to 260, as the group is no longer repairing sterilizers.

(g) Instrument Repair Section

This section receives instruments for repair direct from hospitals as well as repairing sub-assemblies for other service groups. When required, special purpose tools and instruments not available commercially are designed and fabricated.

A total of 277 instruments were received from hospitals for repair. In addition, 600 items were repaired or manufactured for other service groups.

A total of 239 special purpose instruments or accessories were manufactured. These ranged from aluminium planchettes of specified design, required for radiation measurements, a set of high purity aluminium filters required for X-ray beam quality measurements through to defibrillator test-plates.

(h) Education and Training

Education and training is an important component of regular service visits by all service groups. Benefits include improvements to the safety of operators and patients, more effective use of equipment, a reduction in the incidence of breakdowns and diminished unplanned downtime.

At a more formal level, staff of the Division took part in the following:—

Training course for medical officers appointed to country hospitals;

Training course for dental therapists on radiation safety and dental radiography;

Training course for dental officers appointed to country hospitals;

Lectures to dental therapists on care and maintenance of dental equipment;

Training in limited maintenance and fault diagnosis of hospital clinic dialysis equipment for a hospital artisan.

In addition, the following personnel were attached to service groups for periods of about six months in order to gain experience in the servicing of equipment:—

Mr A. Esleta, W.H.O. trainee from Philippines, commenced with Medical Electronics group in June, 1980.

Mr N. Santos, W.H.O. trainee from Philippines, commenced with X-ray Engineering group in June, 1980.

Sergeant G. Engleby, Australian Army, commenced with Medical Electronics and Dental Servicing groups in June, 1980.

Warrant Officer R. Underhill, Australian Army, commenced with Medical Electronics and Dental Servicing groups in April, 1981.

A Grade I X-ray Engineer from the Division attended a course, conducted by an X-ray manufacturer in Paris, France, in February, 1981, to gain experience in the installation and maintenance of modern equipment.

Mr R. Casey presented a paper: "Equipment Uptime increased by appropriate maintenance and education of operators" at the Second Physiological Measurement Symposium 1980, Brisbane.

Mr J. McGilvray participated in a panel discussion on "The provision of bioengineering services in a major hospital—planning, implementing, nurturing, maintaining" at the same symposium.

Mr N. Serico presented a paper "The Changing Scene" at the 31st Annual Technical Conference of the Australian Institute of Radiography, 1981, Brisbane.

(i) Committee Work

In addition to membership on a number of Departmental Advisory Committees, officers of this Division are members of the following committees:—

Mr McGilvray is a member of Standards Association of Australia Committees EL18/10 on the Safety of Fixed Radiological Installations; TE1/2 on Hazards of Non-Ionizing Radiation; Chairman of EL18/8 on Dental and Mobile X-ray Machines. He is also a member of the Queensland Radium Institute, Radiological Advisory Council of Queensland; Advisory Committees on Medical Physics and Radiography at the Queensland Institute of Technology and the Commonwealth/State Consultative Committee on Management of Radionuclide Waste.

Mr Mines is a member of Standards Association of Australia Committees EL18, Electromedical Equipment; EL18-Ex, Executive Committee; EL18/1, Safety Requirements; EL18/4, Baby Incubators; and EL18/11, Safe Use of Electricity in Hospitals.

Mr Hinsch is Secretary to the Radiological Advisory Council of Queensland and a member of Standards Association of Australia Committee, SF/9 on Lasers. He also serves on the Commonwealth-State Co-ordinating Committee established under the Environmental Protection-Nuclear Codes Act.

Mr Serico is a member of the Radiological Advisory Council of Queensland.

DIVISION OF MATERNAL AND CHILD HEALTH

Director: Dr J. F. McFARLANE, M.B., B.S., F.R.C.P., M.F.C.M., F.A.C.M.A.

Deputy Director: Dr L. BURLESS, M.B., B.S.

Medical Officer: Dr J. F. TAIT, M.B., B.S.

Nursing Superintendent: J. HENRY, S.R.N., Dip.N.Admin., F.C.N.A.

Deputy Nursing Superintendent: A. M. S. SILVER, S.R.N., Dip.N.Admin., F.C.N.A.

Supervisors: M. GLEN, S.R.N.

L. FIORI, S.R.N.

E. McLOUGHLIN, S.R.N.

INTRODUCTION

During the year, a new clinic was opened at West End. One of the original clinics opened in 1918 was demolished to make way for the new building which contains a well baby clinic and facilities for Toddler's Clinics as well as Student Teaching. Another new low-set brick building was opened at Wynnum—again on the site of an existing clinic. Mothers greatly appreciate the upgrading of clinic facilities at these and other areas throughout the State, where rented shops or office space has been made available for baby clinic purposes (Caloundra, Pinalba, Cleveland, Marsden, Edmonton, Walkerton, Park Avenue, Boyne Island, Emu Park, Meandarra, Middle Mount and German Creek).

Public interest in the supportive service provided by the staff of Maternal and Child Health is reflected in a rise in clinic attendances, particularly in the new mining areas of the State (Dysart, Moranbah) and the coastal areas of rapid population growth (e.g. Gold Coast, Gladstone, Sunshine Coast).

During the year a number of senior staff retired and their services will be greatly missed—Miss J. M. O'Donnell, Miss E. J. Lovelock, Miss A. G. Sweet, Miss V. L. Winter and Miss H. Shuttlewood.

In 1980, the infant mortality rate in Queensland was 11.3 deaths per 1 000 livebirths as compared with 10.8 in 1979. This reflects the high quality of obstetric and perinatal care available to mothers throughout the State.

SERVICES PROVIDED

Baby Clinics—

Metropolitan Centres	15
Metropolitan Sub-Centres	74
Country Centres	33
Country Sub-Centres	169

Special Centres—

Rail Car	7 stops
Mobile Vans—Brisbane	41 stops
Mobile Van—Cairns	} 56 stops
Mobile Van—Gold Coast	
Mobile Van—Mackay	
Mobile Van—Townsville	
From three Royal Flying Doctor Service Bases	49 stops
Toddler's Clinics	57 clinics
Ante-Natal Clinics	7 clinics
Medical Baby Clinics	10 clinics

ANALYSIS OF CENTRE WORK

The births in Queensland in 1980 showed a fall from 35 195 in 1979 to 34 972 in 1980. However, the attendances at baby clinics rose from 538 018 to 559 766. At the baby clinics, 12 567 feedings were supervised and 6 513 demonstrations in food preparation were given to the mothers. The telephone continued to be used as an important method of consultation as 27 302 phone calls were received throughout the State. This is time-consuming, but can be of great help and support to the mother in need of assistance.

Year	Births
1975	36 403
1976	35 243
1977	34 935
1978	34 465
1979	35 195
1980	34 972

HOME VISITING

In Brisbane, the two home visiting sisters made 4 363 visits to mothers and babies. This service is of immense value to mothers with frail babies. In country areas, the local clinic sisters made a total of 759 home visits to babies not seen at the time of hospital visiting or who had defaulted with an expected clinic attendance.

PUBLICATIONS

The following newsletters were distributed during the year to metropolitan and country newspapers:—

A Disabled Child
Christmas Giving
Are We An Indoor or An Outdoor People?
I Don't Want To
Rashes In Babies

NEONATAL SCREENING

Neonatal screening for phenylketonuria and hypothyroidism continues to be performed by the State Health Laboratory and 98.1 per cent of the newborn babies in Queensland are tested on a voluntary basis. During the year, one new phenylketonuria was diagnosed and eight children were found to have hypothyroidism.

	PKU	Hypothyroidism
Tests taken on Neonates in 1980-81	34 307	34 307
Repeat Tests Requested ...	305	1 225
Unsatisfactory Initial Test	490	490
Positive Results	1	8
Total Tests	453 614	43 042
Positive Results	37 PKU	9
	10 Hyperphenylalanemia	

Since May, 1977, 3 331 PKU tests have been performed on Antenatal patients. During the year, the first elevated level was obtained and the expectant mother (probably suffering from hyperphenylalanemia) has been placed on an appropriate diet.

SPECIAL LECTURES

During the year, staff from the Maternal and Child Health Service gave lectures on request to a number of groups including—dental therapy students; kindergartens; church groups; clubs; associations; School Health Service Orientation; Community Health Orientation and Aboriginal Health.

Dr McFarlane continued to appear on occasions on the "John Crook Show" on Channel 0.

SPECIAL BABY CLINICS

Mobile Vans

The mobile vans continue to provide a baby clinic service for mothers in isolation whether it be in a city suburb or a country town: Six are located in Brisbane and one in each of the following towns:—Gold Coast, Townsville, Mackay and Cairns. In all, 56 478 visits were made compared to 58 228 the previous year.

Rail Car

The attendance at the Rail Car clinic which services the North-West area of the State between Hughenden, Julia Creek and Winton continues to be maintained as 1 698 visits were made during the year compared to 1 606 the previous year.

Royal Flying Doctor Service

Maternal and Child Health sisters continue to work with the Royal Flying Doctor Service from their bases at Charleville, Mount Isa and Cairns. Many isolated families are provided with professional help that otherwise would be too far away. During the year, 4 905 children attended the clinic as compared with 6 265 the previous year. The fall in attendances probably reflected the changes made to the scheduled visit. The sisters co-operated well with the Royal Flying Doctor Service, acting as a part of their retrieval team particularly in the Cairns area.

ANTE-NATAL SECTION

Increasing interest is being shown in community education as there were 855 attendances at monthly film showings held at Inala, Woodridge and Upper Mount Gravatt. There were a further 38 attendances at talks held at Inala and Fortitude Valley. Both the Mater and Royal Brisbane Women's Hospitals are assisting the decentralization of ante-natal care by transferring patients to the various suburban ante-natal clinics.

There were 294 new cases seen and 5 448 subsequent visits made to the ante-natal clinics staffed by the Maternal and Child Service at Fortitude Valley, Woodridge, Argonaut, Inala and Caboolture (1 349 confinements with 70 Caesarean Sections (5.1%); three stillbirths and seven twin pregnancies). There were, in addition, 40 new cases and 605 subsequent visits made to Upper Mount Gravatt, 175 new cases and 1 494 subsequent visits made to Chermide—both of these clinics are staffed by Medical Officers from the Royal Brisbane Women's Hospital.

The isolated expectant mother continues to show interest in receiving letters from the Ante-Natal Section; many of these are routine letters, but there were 82 letters of advice sent on request.

SPECIAL ACTIVITIES RELATED TO ANTE-NATAL CLINICS

	1979-80	1980-81
Home Visits to Clinic defaulters	10	11
Transfers of patients to Maternal and Child Health Clinics	647	860
Talks to Ante-Natal Mothers (Fortitude Valley and Inala)	118	38
Attendances at film, Inala, Woodridge and Upper Mount Gravatt	759	855
Circular letters forwarded to Expectant Mothers (No. 1)	5 015	6 269
Circular letters forwarded to Expectant Mothers re "The Expectant Mother" book (No. 3)	2 041	1 936
Response to Circular Letter	1 598	1 899
Serial Letters sent to Expectant Mothers	11 979	14 906
Letters received from Expectant Mothers	167	186
Special Letters of advice sent on request	120	82
Copies of "The Expectant Mother" book sent on request	1 350	1 700
Requests from country centres and hospitals for "The Expectant Mother" book	3 318	826
Copies of "Before and After—The Facts and Functions of Childbirth" sent on request	1 382	769
Requests from country centres and hospitals for copies of "Before and After—The Facts and Functions of Childbirth"	1 056	24
Copies of Baby Patterns sent	47	51
Copies of Maternity Belt Patterns sent	2	2
Visits to patients at Mater Mother's Hospital ...	3 402	2 571

TABLE I
SUMMARY OF ANTE-NATAL PATIENTS

Clinic	New Patients		Subsequent Visits		Post-Natal Examination		Transfers		Papanicolaou Smears	
	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980
Caboolture	16	15	138	108	4	14	9	18	12	17
Fortitude Valley	48	38	286	370	10	13	..	7	45	31
Inala	198	183	2 327	2 418	130	120	162	215	193	167
Upper Mount Gravatt	44	40	848	605	42	53	91	91	..	..
Woodridge	49	43	1 376	1 925	64	84	280	429	49	44
Argonaut	15	15	662	627	38	40	105	100	15	14
Chermide	159	175	1 088	1 494	76	102	..	..	..	..
Totals	529	509	6 725	7 547	364	426	647	860	314	273

CORRESPONDENCE SECTION

During the year, 371 mothers received assistance with problems relating to the care of their baby from the correspondence section. The individual letters of advice are greatly appreciated by the mother. There has been a marked increase in the number of phone calls from mothers who have been unable to visit a Centre.

	1979-80	1980-81
Number of Birth Notifications received	908	807
Number of Circulars posted—		
(No. 1) within reach of a centre	570	504
(No. 2) not within reach of a centre	338	303
Letters to Correspondence in response to Circular No. 2	56	78
Letters of advice re feeding & management	335	371
Number of "Care of Mother and Child" sent on request and given	55	380
Number of pamphlets sent advising Immunization	908	807
Number of birthday cards sent during the year	70	29
Number of Telephone Calls re feeding and management	2 797	3 836

LECTURES IN PARENTCRAFT

During 1980, Parentcraft Lectures were given at 269 schools or institutions. Meetings were held between representatives of the Health Department, the Education Department and Community Groups to help develop a more comprehensive educational programme in parentcraft.

State High Schools	130
State Secondary Department Schools	55
Church Schools	48
State Special Schools	35
State Primary Schools	1

The State has been divided into regions for ease of instruction. In isolated areas the local baby clinic sister gives the instruction.

Area	State High Schools	State Secondary Department Schools	Church Schools	State Special Schools	State Primary Schools	Total Number of Schools
Metropolitan.....	56	4	20	21	..	101
South East.....	14	8	4	5	..	31
Darling Downs.....	12	10	8	5	..	35
Central Coast.....	15	4	4	2	..	25
Far North.....	15	4	5	2	..	26
Serviced by Clinic Staff.....	17	25	7	..	1	50
Thursday Island Aboriginal and Islanders Advancement.....	1	..	..	..	..	1
Totals.....	130	55	48	35	1	269

PARENTCRAFT STATISTICS

Total Number of Schools.....	269
Total Attendance.....	19 326
Total Number of Successful Students.....	14 288

TABLE LI
STATISTICS IN AREA DISTRIBUTION

—	No. of Schools	Attendance	Examination Candidates	Successful Students	Project Book Only	Paper Only	Disqualified
Metropolitan.....	101	9 874	7 994	7 704	72	1 112	1
South East.....	31	2 004	1 673	1 492	25	200	..
Darling Downs.....	35	1 626	1 433	1 356	16	110	2
Central Coast.....	25	1 828	1 462	1 327	25	216	1
Far North.....	26	1 983	1 424	1 287	11	378	2
Serviced by Clinic Staff.....	50	1 963	1 293	1 087	22	423	..
Thursday Island D.A.I.A.....	1	48	46	35	1	1	..
Totals.....	269	19 326	15 325	14 288	172	2 440	6

PRE-SCHOOL HEALTH SERVICES

Medical Clinics are held at 27 metropolitan centres, 14 country centres, seven child care centres and nine pre-schools. In the metropolitan area, 2 867 new patients were seen and an additional 4 001 subsequent examinations were made. In the country there were 1 682 new patients seen and 951 subsequent visits were made.

REFERRALS FROM PRE-SCHOOL HEALTH CLINICS

—	Metropolitan Area	Country Area
Referred to Doctor.....	139	190
Referred to Hospital.....	35	7
Referred to Dentist.....	34	8
Referred to Child Guidance.....	13	11
Referred to Speech Therapist.....	30	14
Referred to Physiotherapist.....	..	2
Tests—		
X-rays.....	1	6
Hearing Tests.....	49	14
Haemoglobins and Smears.....	44	150
Micro urines.....	38	1
Faeces cultures.....	18	..

ANALYSIS OF PRE-SCHOOL HEALTH CLINIC WORK

—	Metropolitan Clinics	Country Clinics	Total Qld.
Number of New Patients.....	2 867	1 682	4 549
Number of Subsequent Visits.....	4 001	951	4 952
Total.....	6 868	2 633	9 501
Number of Clinics.....	406	223	629
Average Per Clinic.....	16.9	11.8	15.1

DOCTOR'S CONSULTING CLINICS

Baby clinics where medical advice is available are now held at Fortitude Valley, Indooroopilly, Woodridge, Caboolture, Chermide, Inala, Wynnum, Ferny Hills, Sandgate and Coorparoo. A total of 6 611 attendances were made at these clinics (1 570 to the Clinic at Fortitude Valley where an additional 4 898 phone consultations were made). The main problems seen relate to feeding and management—a large percentage of these are due to parental insecurity and minor psychiatric problems.

SANDGATE HOME

During the year, 143 babies and children under 12 years were examined for possible admission to the child minding home at Sandgate. In all, 737 babies and children were admitted and 502 families benefited from care during illness of their mother or guardian. The average duration of stay in the home was 18.9 days.

MOTHERCRAFT HOMES

Mothers of both artificially fed and breast fed babies continue to make use of the facilities provided by the Mothercraft Homes. Mothers unable to avail themselves of the residential facilities attend as day patients and receive instruction in infant care and management. (2 436 feeds were given on a day patient basis by mothers at the Clayfield Home compared to 2 126 the previous year; 2 874 were given at the St. Paul's Terrace Home compared with 3 115 in 1979-80.)

The homes act as training schools for both fully trained nurses and child health assistants. To date, 3 248 nurses have successfully completed the Child Health course at the St. Paul's Terrace Home and 1 591 Child Health Assistants have been trained at the other homes.

—	Clayfield		St. Paul's		Ipswich	
	1979	1980	1979	1980	1979	1980
Babies Admitted.....	163	165	210	210	109	197
Mothers Admitted.....	86	104	129	113	101	117
Daily Average—						
Babies.....	8.3	7.9	11.2	10.9	5.3	4.6
Mothers.....	1.8	2.0	3.2	2.9	1.8	1.9

SURVEY ON ILLNESS IN BABIES ATTENDING THE BABY CLINICS BETWEEN 1-7-80 AND 30-6-81

A survey was done on babies attending baby clinics between 1-7-80 and 30-6-81 to discover the most frequently occurring illness. Upper respiratory tract infections occurred most frequently, followed by diarrhoea and then chest infections. The child between 3 and 6 months of age showed the highest incidence of chest infection.

AGE OF ONSET OF DIARRHOEA, CHEST INFECTIONS AND UPPER RESPIRATORY TRACT INFECTIONS IN INFANTS UNDER 12 MONTHS OF AGE PRESENTING BETWEEN 1-7-80 AND 30-6-81 IN THE METROPOLITAN AREA

Age of Onset	Diarrhoea	Chest Infections	Uruti
0-3 months	89	39	407
0-6 months	86	51	380
6-9 months	53	30	226
9-12 months	22	10	96
Total	250	130	1 109

CASES OF SPECIFIED INFECTIONS IN INFANTS UNDER 12 MONTHS OF AGE PRESENTING TO THE UNDERMENTIONED BABY CLINICS DURING YEAR ENDED 30th JUNE, 1981

	Diarrhoea	Chest Infections	Uruti
<i>Metropolitan—</i>			
Acacia Ridge	8	6	9
Argonaut	8	7	55
Ashgrove	12	..	71
Bardon	4	..	10
Clayfield	2	..	9
Coopers Plains .....	..	..	7
Cordina	3	2	15
East Brisbane .....	..	1	2
Enoggera .....	..	2	19
Everton Park	2	..	1
Ferny Hills	11	15	72
Fortitude Valley	8	2	43
Graceville	2	1	10
Hamilton	1	..	16
Hendra	3	..	8
Indooroopilly	10	3	38
Kelvin Grove	1	..	9
Kenmore	7	..	13
Keperra	4	5	30
Mitchelton	8	7	17
Moorooka	11	8	6
Paddington	17	10	36
Salisbury	4	..	5
Springwood	18	12	180
Sunnybank	14	6	94
The Gap	5	2	38
Toowong	1	1	7
Upper Mt Gravatt	14	8	60
West End	25	11	64
Woodridge	35	14	158
Woolloongabba	12	7	7
<i>Country—</i>			
Mackay	15	9	64
Mackay Mobile Van	5	7	53
Logan Shire Mobile Van	9	21	152
Total	279	167	1 378

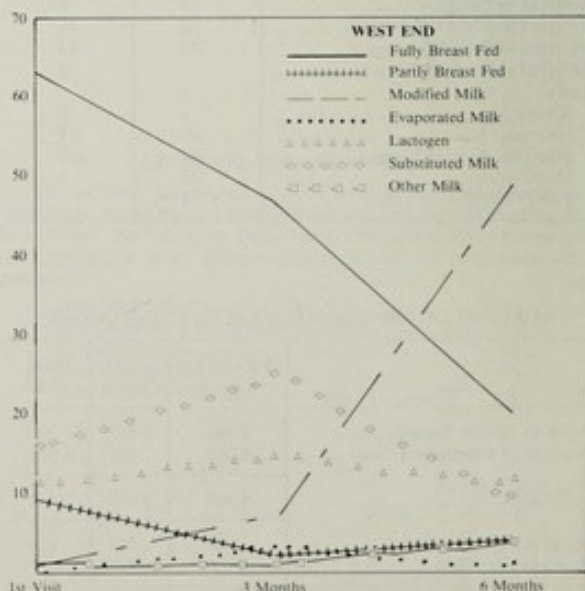
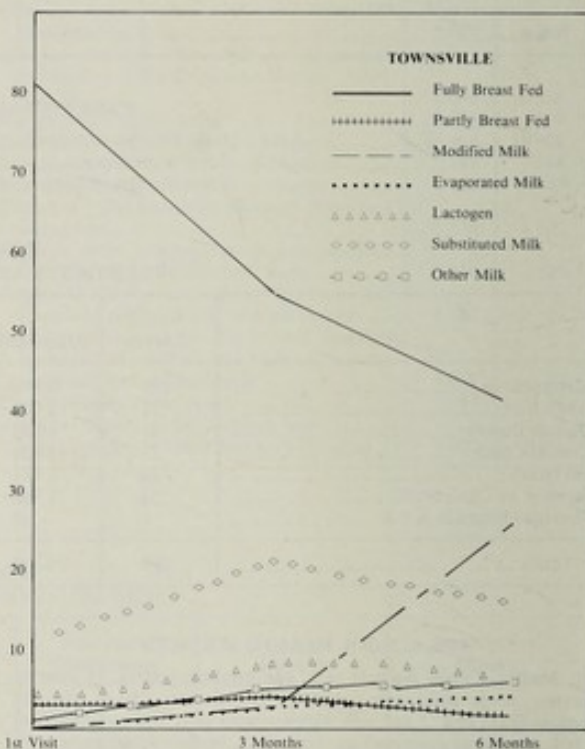
SURVEY OF TRENDS IN INFANT FEEDING

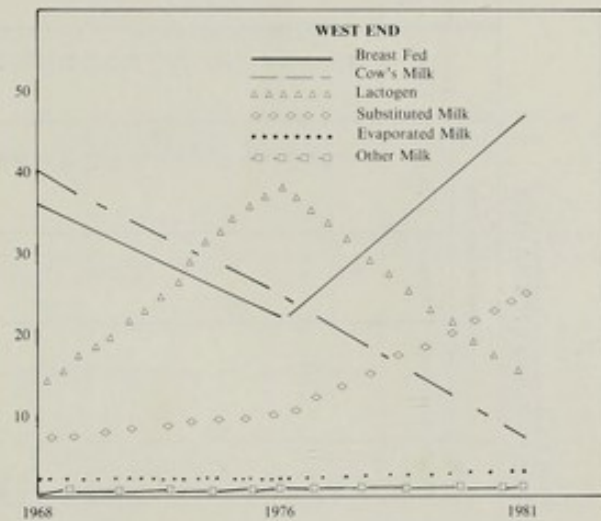
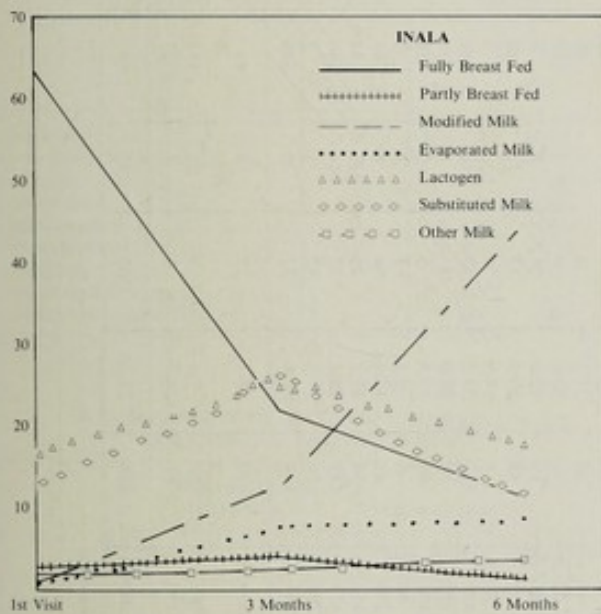
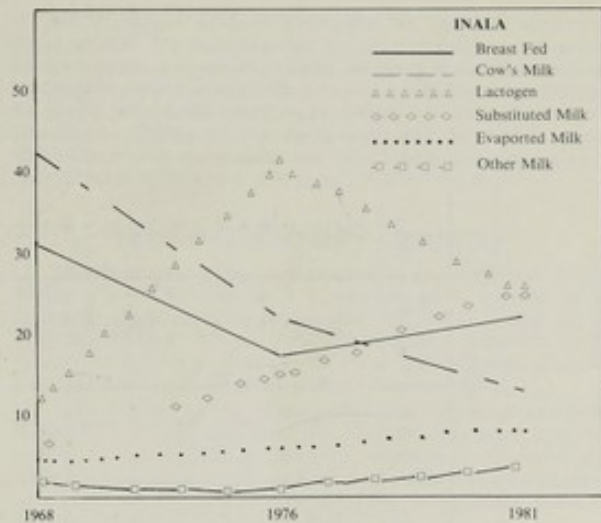
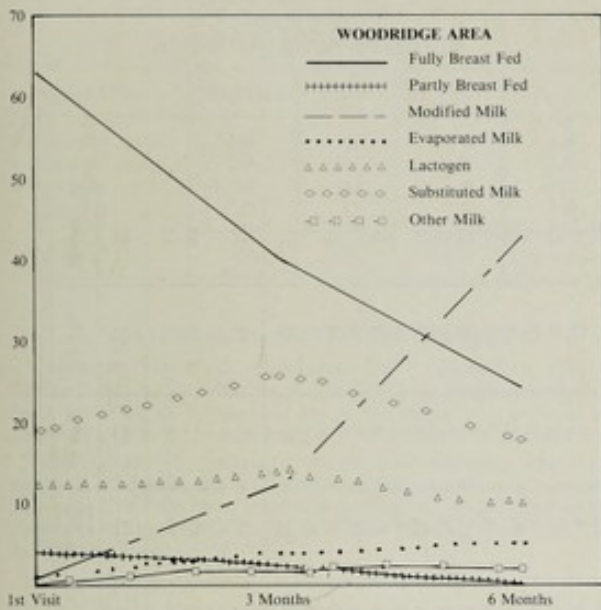
A survey was carried out on the babies attending the Inala, West End, Woodridge and Townsville baby clinics to discover the pattern of infant feeding in the babies still attending the clinic at 3 months and 6 months of age. In all 2 121 babies were investigated. By 6 months of age, cow's milk was the main alternative to breast milk. Prior to that, substituted milks were the most widely used.

A comparison was made between the feeding at 3 months of age at West End, Inala and Townsville for the years 1968, 1976 and 1981. The most significant change was the increased incidence of breast feeding in the three areas. At West End, 47 per cent were still breast fed at 3 months and at Townsville 55 per cent. Townsville mothers would appear to continue breast feeding for longer, as 41 per cent

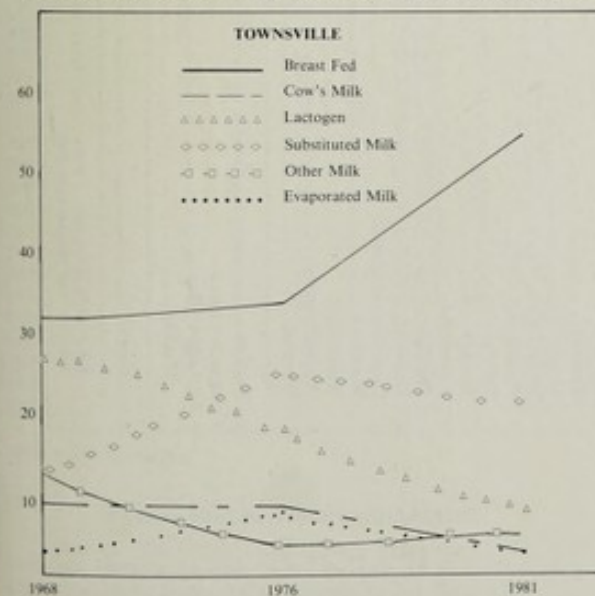
were still breast feeding at 6 months of age. This enthusiasm for breast feeding may have been encouraged by community support groups changing public attitudes, and it is to be hoped that the trend will continue.

FEEDING OF BABIES ATTENDING WELL BABY CLINICS AT THE 1st VISIT, AT 3 MONTHS AND 6 MONTHS OF AGE—TOWNSVILLE, WEST END, WOODRIDGE AND INALA





COMPARISON OF FEEDING AT 3 MONTHS OF AGE IN 1968, 1976 AND 1981 AT TOWNSVILLE, WEST END AND INALA



SPECIAL COMMENT ON MORTALITY STATISTICS

In 1979, statistics on deaths are not strictly comparable with those for earlier years because they have been compiled in accordance with the new recommendations set out in the ninth revision of the International Classification of Diseases. The major points of difference between the new revision and the earlier one are as follows:—

- Extensive changes in disease categories. These changes are less significant for broader groups.
- Perinatal Deaths. The basis of classification has changed from *underlying* cause to *main* disease or condition.
- Fetal Deaths. The lower limits for inclusion in the statistics have been raised from 400 grams birthweight to 500 grams and from 20 weeks gestation to 22 weeks.
- Neonatal Deaths. All livebirths were formerly included in the statistics. For 1979, only those which meet the limits outlined for fetal deaths are included. This restriction has resulted in the exclusion of 15 livebirths from the 1979 perinatal statistics for Queensland.

These comments should be borne in mind when examining the comparative tables which follow.

In 1979, statistics were not available for inclusion in the 1980 Annual Report and are used in the following section.

INFECTION SURVEY

The incidence of infection in babies attending certain clinics was analysed, and it was discovered that 21.26 per cent of the babies suffered from some form of infection during the first year of life. Many of these children had more than one type of illness. The most frequently occurring illness was upper respiratory tract infection. In one seaside area, otitis media was the major problem of the upper respiratory tract and 46 per cent of the babies were affected by infection of the upper respiratory tract. It is interesting to note that breast feeding did not appear to protect the child from U.R.T.I., as 35 per cent of this group were fully breast fed. In fact breast feeding did not appear to protect the child from any of the infections, as 38.3 per cent of the children with an infection were breast fed. The prevalence of illness did not seem to be related to the socio-economic conditions of the area.

TABLE LIII
INCIDENCE OF INFECTION IN BABIES UNDER 1 YEAR

	Total of New Babies	No. of Babies with Infections	%	Cases of Infection			Total Cases	Feeding			
				Diarrhoea	Chest	U.R.T.I.		F.B.F.	P.B.F.	M.M. or F.S.C.M.	Other
Acacia Ridge	114	20	17.5	8	6	8	1	1	8	12	
Argonaut	143	46	32.2	8	7	55	25	..	23	22	
Ashgrove	195	69	35.4	12	..	71	83	2	12	21	
Bardon	34	13	38.2	4	..	10	14	9	4	1	
Clayfield	67	9	13.4	2	..	9	11	3	2	6	
Coopers Plains	19	4	21.1	..	..	7	7	..	..	6
Corinda	68	17	25.0	3	2	15	20	13	1	6	
East Brisbane	20	1	5.0	..	1	2	3	3	..	..
Enoggera	83	20	24.1	1	2	18	21	4	4	6	
Everton Park	79	2	2.5	2	..	1	3	1	..	..
Ferry Hills	371	71	19.1	11	15	72	98	38	4	30	
Fortitude Valley	209	42	20.1	8	2	43	53	11	3	27	
Graceville	30	12	40.0	2	1	10	13	5	2	4	
Hamilton	69	12	17.4	1	..	16	17	4	1	3	
Hendra	41	7	17.1	3	2	7	12	11	..	1	
Indooroopilly	412	41	10.0	10	3	38	51	24	2	14	
Kelvin Grove	34	9	26.5	1	..	9	10	3	..	4	
Kenmore	118	15	12.7	7	..	13	20	12	..	8	
Kespara	85	30	35.3	4	5	30	39	8	2	16	
Mitchelton	65	20	30.8	8	7	17	32	12	2	12	
Mooroooka	158	19	12.0	11	8	6	25	8	8	3	
Paddington	109	43	39.4	17	10	34	61	27	3	17	
Salisbury	47	7	14.9	4	..	5	9	6	..	2	
Springwood	431	143	33.2	18	14	180	212	102	3	64	
Sunnybank	282	79	28.0	14	6	94	114	49	1	37	
The Gap	118	44	37.3	5	2	38	45	24	1	14	
Toowong	63	6	9.5	1	1	7	9	6	..	3	
Upper Mount Gravatt	258	45	17.4	14	8	63	85	22	4	36	
West End	152	58	38.2	25	11	64	100	36	2	32	
Woodridge	453	133	29.4	35	14	160	209	67	2	87	
Woolloongabba	259	19	7.3	12	7	7	26	11	..	8	
Wynnum	533	174	32.6	27	22	245	294	101	11	91	
Mackay	536	70	13.1	15	9	64	88	36	3	37	
Mobile Clinics—											
Logan Shire	755	56	7.4	9	21	152	182	63	..	92	
Mackay	190	47	24.7	5	7	53	65	20	..	38	
Totals	6 600	1 403	21.26	307	193	1 623	2 123	813	62	757	
								38.3%	3.0%	23.1%	
										35.6%	

F.B.F.—Fully Breast Fed. P.B.F.—Partly Breast Fed. M.M.—Modified Milk.
F.S.C.M.—Full Strength Cows Milk.

TABLE LIII
AGE OF ONSET OF INFECTION

Age of Onset	Diarrhoea	Chest	U.R.T.I.	Total
0-3 months	106	64	576	746
3-6 months	106	67	575	748
6-9 months	62	45	344	451
9-12 months	32	17	129	178
Totals	306	193	1 624	2 123

MATERNAL MORTALITY COMMITTEE

Members: Dr P. G. Livingstone, Dr J. Comerford, Dr J. Campbell, Dr A. Davison, Dr R. Drake, Dr E. Popper, Dr E. J. Esler, Professor E. V. Mackay, Mr O. M. May, Dr J. McFarlane (Secretary), Dr P. D. Livingstone, Dr J. A. Thomas, Dr L. Brunello.

During 1980-81, a meeting of the Maternal Mortality Committee was held to discuss maternal and associated deaths occurring in Queensland. In 1979, there were three deaths in 35 195 deliveries. This represents a rate of 0.085 deaths per 1 000 livebirths, which is above the Australian average of 0.081.

TABLE LIV
MATERNAL MORTALITY RATES FOR EACH STATE AND TERRITORY OF AUSTRALIA FOR THE YEAR 1979

	Maternal Deaths	Births	Rate (per 1 000 Births)
Australia	18	223 129	0.081
New South Wales	4	77 134	0.052
Victoria	4	57 767	0.069
Queensland	3	35 195	0.085
South Australia	1	18 478	0.054
Western Australia	5	20 469	0.244
Tasmania .....	..	6 757	..
Northern Territory .....	..	2 842	..
Australian Capital Territory	1	4 487	0.223

TABLE LV
A COMPARISON OF MATERNAL MORTALITY QUEENSLAND AND AUSTRALIA

	Maternal Deaths ICD 630-676		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
1960 ..	24	121	0.68	0.53
1961 ..	28	108	0.76	0.45
1962 ..	23	83	0.64	0.33
1963 ..	9	64	0.25	0.27
1964 ..	10	75	0.29	0.33
1965 ..	10	74	0.30	0.33
1966 ..	13	66	0.40	0.29
1967 ..	9	53	0.26	0.23
1968 ..	11	68	0.31	0.28
1969 ..	8	44	0.22	0.18
1970 ..	8	66	0.21	0.26
1971 ..	10	51	0.25	0.18
1972 ..	6	33	0.15	0.12
1973 ..	11	28	0.29	0.11
1974 ..	7	28	0.18	0.11
1975 ..	..	13	..	0.06
1976 ..	5	30	0.14	0.13
1977 ..	3	18	0.09	0.08
1978 ..	4	15	0.12	0.07
1979 ..	3	18	0.09	0.08

*Per 1 000 livebirths.

PAEDIATRIC ADVISORY COMMITTEE

Members: Dr P. G. Livingstone (Chairman), Dr J. F. McFarlane, Dr J. R. Tiernan, Dr B. Heyworth, Dr H. Connell, Dr B. Backstrom, Dr G. Stable, Dr A. Groessler, Dr G. Bourke.

The Paediatric Advisory Committee met on three occasions during the year. The main topics for discussion were the need to assess the developmental pattern of children, the needs of the country areas for specialist visiting services. The Committee published a booklet for the benefit of general practitioners entitled "Neurodevelopmental Screening in Childhood" and distributed it with the A.M.A. newsletter. This proved very popular and helped the practitioners gain an understanding of their role in assessing child development.

PERINATAL MORTALITY COMMITTEE

Members: Dr P. G. Livingstone, Dr J. Comerford, Dr J. Buckley, Mr V. McLean, Dr A. J. Ansford, Dr E. J. Esler, Dr I. Robertson, Dr G. Bourke, Dr D. Tudehope, Dr G. Stable, Dr J. Campbell, Dr E. B. Bevan, Dr A. Groessler, Dr J. Morrison, Dr P. Monks, Dr D. Buntine, Dr W. D. D. Cooke, Dr J. Thearle, Dr J. R. Tiernan, Dr A. P. Weedon, Dr J. McFarlane (Secretary).

Three meetings of the Perinatal Mortality Committee were held during 1980-81. The main topic for discussion continued to be the reports of local perinatal mortality committees, the need for rationalization of equipment in neonatal units throughout Queensland, the need for neonatal transport and decentralized neonatal intensive care.

One bulletin was published—

The Small for Gestational Age Infant.

TABLE LVI
PERINATAL DEATHS—TIME OF CESSATION OF HEART BEAT AND SEX—QUEENSLAND, 1978 AND 1979

	Sex	1978		1979	
		Total	Rate*	Total	Rate*
Before Delivery—					
Before Labour commenced	M	85	4.78	94	5.18
	F	87	5.21	89	5.22
During Labour	M	32	1.80	31	1.71
	F	38	2.28	47	2.76
Time not known	M	19	1.07	12	0.66
	F	16	0.96	7	0.41
Total	M	136	7.65	137	7.55
	F	141	8.45	143	8.39
After Delivery	M	172	9.68	124	6.83
	F	128	7.67	118	6.92
Total	M	308	17.33	261	14.38
	F	269	16.11	261	15.31
	P	577	16.74	522	14.83

*Per 1 000 live births.

See "special comment on mortality statistics", page 5.

TABLE LVII
PERINATAL DEATHS COMPARATIVE TOTALS AND RATES FOR 1970-1979

Year	Sex	Number		Rate*	
		Total	Average	Total	Average
1970	M	490	858	25.35	22.86
	F	368		20.21	
1971	M	520	965	25.53	24.14
	F	445		22.70	
1972	M	508	917	25.24	23.36
	F	409		21.39	
1973	M	473	878	24.40	23.06
	F	405		21.68	
1974	M	465	846	23.72	22.35
	F	381		20.88	
1975	M	388	702	20.79	19.28
	F	314		17.70	
1976	M	371	710	20.2	20.0
	F	339		19.5	
1977	M	341	614	18.93	17.58
	F	273		16.13	
1978	M	308	577	17.33	16.74
	F	269		16.11	
1979	M	261	522	14.38	14.83
	F	261		15.31	

*Per 1 000 live births.

See "special comment on mortality statistics", page 5.

MARRIAGES

Registration of marriages in 1979 numbered 16 082, giving a marriage rate of 7.3 per 1 000 mean population. A total of 667 persons aged under 18 (19 males and 648 females) and 6 957 aged 18 to 20 (1 854 males and 5 103 females) were married during the year. The divorce rate for 1979 was 26.44 per 10 000 mean population, compared with the rate of 28.20 for 1978.

VITAL STATISTICS

Births registered in Queensland during 1979 numbered 35 195 compared with 34 465 in 1978. The rate per 1 000 mean population was 24.2 in 1961, 21.2 in 1971, 15.9 in 1978 and 16.0 in 1979.

Of the births registered during 1979, 18 146 were males and 17 049 were females, equivalent to 106.4 males for every 100 females.

INFANTILE MORTALITY

Deaths of infants aged under one year numbered 380, comprising 204 males and 176 females, compared with 444 in 1978. The infant mortality rate of 10.8 deaths per 1 000 livebirths was the lowest ever recorded in Queensland (12.9 in 1978).

The rate for the different parts of the State were Brisbane Statistical Division 9.8 and other areas 11.6 per 1 000 livebirths.

Deaths of infants within the first four weeks of life numbered 257 (131 males, 126 females), equivalent to 7.3 deaths per 1 000 livebirths.

TABLE LVIII
DEATHS OF INFANTS UNDER ONE YEAR OF AGE FROM CONGENITAL ANOMALIES, 1978 AND 1979

Congenital Anomaly of—	I.C.D.* Code	1978		1979	
		M	F	M	F
Nervous System†	740-742	23	17	18	18
Anencephalus and similar anomalies	740	7	2	5	7
Spina Bifida with Hydrocephalus	741	7	11	6	2
without mention of Hydrocephalus	7410	5	7	3	2
Congenital Hydrocephalus	7419	2	4	3	..
Other Anomalies	7423	5	2	4	5
	Rest of 740-742	4	2	3	4

*Ninth revision. See "special comment on mortality statistics", page 5.

†Excluding congenital mental retardation.

TABLE LIX
DEATHS OF INFANTS UNDER ONE YEAR OF AGE FROM CONGENITAL ANOMALIES, 1978 AND 1979

Congenital Anomaly* of—	I.C.D.† Code	1978		1979	
		M	F	M	F
Eye	743	..	..	..	..
Ear, Face and Neck	744	..	..	..	..
Heart	745-746	17	13	13	10
Common Truncus	7456	..	1	..	..
Transposition of Great Vessels	7451	2	..	1	..
Tetralogy of Fallot	7452	2	..	..	1

TABLE LIX—continued
DEATHS OF INFANTS UNDER ONE YEAR OF AGE FROM CONGENITAL ANOMALIES, 1978 AND 1979

Congenital Anomaly* of—	I.C.D.† Code	1978		1979	
		M	F	M	F
Heart—continued					
Common Ventricle	7453	..	..	..	..
Ventricular Septal Defect	7454	1	2	2	1
Ostium Secundum Type Atrial Septal Defect	7455	..	2	..	..
Anomalies of Heart Valves	7460-7466	3	1	..	..
Other Specified Anomalies	7456-7459	..	..	..	..
Unspecified Anomalies	7461-7469	2	2	2	4
Circulatory System	747	4	3	6	3
Patient Ductus Arteriosus	7470	1	1	..	..
Coarctation of Aorta	7471	..	1	4	1
Other Anomalies of Aorta	7472	1	1	..	..
Anomalies of Pulmonary Artery	7473	..	..	..	1
Anomalies of Great Veins	7474	1	..	1	..
Absence or Hypoplasia of Umbilical Artery	7475	..	..	..	..
Other Anomalies of Peripheral Vascular System	7476	..	..	1	..
Other Specified Anomalies of Circulatory System	7478	1	..	..	..
Unspecified Anomalies	7479	..	..	..	1
Respiratory System	748	2	1	9	3
Upper Alimentary Tract and Digestive System	749 751	3	1	1	2
Cleft Palate and Cleft Lip	749	..	..	..	..
Pyloric Stenosis	7505	1	..	..	..
Tracheo-Oesophageal Fistula, Oesophageal Atresia and Stenosis	7503	..	1	..	1
Other Anomalies of Upper Alimentary Tract	750 rem.	..	..	..	..
Gall-Bladder, Bile Ducts and Liver	7516	..	..	1	..
Other Anomalies of Digestive System	751 rem.	2	..	..	1
Genital Organs	752	..	..	..	..
Urinary System	753	5	..	4	1
Renal Agenesis and Dysgenesis	7530	4	..	2	..
Cystic Kidney Disease	7531	1	..	1	..
Obstructive Defects of Renal Pelvis and Ureter	7532	..	..	..	..
Exstrophy of Urinary Bladder	7535	..	..	1	..
Other Anomalies	753 rem.	..	..	..	1
Musculoskeletal System	754 756	2	1	6	4
Integument	757	..	..	..	1
Chromosome	758	8	4	5	5
Down's Syndrome	7580	2	..	3	1
Other Chromosomal Anomalies	758 rem.	6	4	2	4
Other and Unspecified Anomalies	759	10	4	5	7
Total		74	44	67	54

*Excluding mucoviscidosis.

†Ninth revision. See "special comment on mortality statistics", page 5.

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

	1974		1975		1976		1977		1978		1979		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
Traffic Accidents	22	21	46	25	27	25	38	13	22	28	26	24	317
Firearms	3	1	6	..	2	1	2	2	..	..	4	1	22
Drowning	27	9	21	10	26	13	16	9	18	9	11	11	180
Falls	3	2	3	1	2	2	3	..	1	1	1	..	19
Other Accidents	32	10	22	11	22	11	15	7	21	8	16	6	181
Totals	87	43	98	47	79	52	74	31	62	46	58	42	719
Total persons	130		145		131		105		108		100		719

Accidental deaths of children in this age group numbered 100 in 1979 compared with 102 in 1978 and an average of 122 in the ten years 1970 to 1979, inclusive. In 1979, total deaths of children in this age group from all causes were 227 of which 44.1 per cent were caused by accident.

TABLE LXI—PERINATAL DEATHS—MAIN DISEASE OR CONDITION IN CHILD BY PERIOD OF GESTATION—QUEENSLAND, 1979

Main Disease or Condition in Child	Fetal Deaths												Neonatal Deaths												All Perinatal Deaths											
	Period of Gestation						Period of Gestation						Period of Gestation						Period of Gestation																	
	Under 28 Weeks		28 Weeks and Over*		All Gestations		Under 28 Weeks		28 Weeks and Over*		All Gestations		Under 28 Weeks		28 Weeks and Over*		All Gestations		Under 28 Weeks		28 Weeks and Over*		All Gestations													
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T												
Slow fetal growth, fetal malnutrition and immaturity	5	10	15	4	1	5	9	11	20	14	18	32	3	8	11	17	26	43	19	28	47	7	9	16												
Birth trauma	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hypoxia, birth asphyxia and other respiratory conditions	7	..	7	30	25	55	37	25	62	13	6	19	25	14	39	38	20	58	20	6	26	55	39	94												
Fetal and neonatal haemorrhage	..	..	..	1	1	2	1	1	2	2	1	3	..	1	1	2	2	4	2	1	3	1	2	3									
Haemolytic disease of fetus or newborn	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other conditions originating in the perinatal period	14	19	31	57	62	119	71	81	152	..	2	2	6	14	20	6	16	22	14	21	35	63	76													
Congenital anomalies	2	1	3	13	20	33	15	21	36	1	2	3	46	41	87	47	43	90	3	3	6	59	61													
Infectious and parasitic diseases	1	..	1	3	1	4	4	1	5	..	..	..	..	..	..	..	..	..	1	1	2	1	4				
All other diseases or conditions	..	..	..	..	..	..	..	..	..	1	1	2	5	4	9	6	5	11	1	1	2	5	4				
Totals	29	33	62	108	110	218	137	143	280	33	34	67	91	84	175	124	118	242	62	67	129	199	194													

*Including deaths for which period of gestation was not stated (7 male and 4 female perinatal deaths). See notes to Table LXII.

PERINATAL DEATHS*—MAIN DISEASE OR CONDITION IN CHILD BY STATISTICAL DIVISION OF USUAL RESIDENCE OF MOTHER, 1979

Main Disease or Condition in Child	Brisbane		Moreton		Wide Bay		Darling Downs		South Western		Fitzroy		Central Western		Mackay		Northern		Far-North		North-Western		Queensland	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	Males	Females
	11.88		18.46		13.61		16.08		13.31		15.78		11.54		13.67		18.75		22.29		21.13		14.71	
Slow fetal growth, fetal malnutrition and immaturity	6	8	3	11	2	3	3	4	1	2	2	..	..	..	2	1	2	2	4	5	1	1	26	37
Birth trauma	1	3	..	1	..	..	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	6	6
Hypoxia, birth asphyxia and other respiratory conditions	14	13	8	6	3	4	7	6	1	..	4	4	..	..	1	2	6	1	9	8	2	1	75	45
Fetal and neonatal haemorrhage	2	2	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	3	3
Haemolytic disease of fetus or newborn	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2
Other conditions originating in the perinatal period	27	34	12	4	8	10	6	7	1	1	5	6	1	1	2	7	8	11	5	11	2	5	77	97
Congenital anomalies	28	30	5	8	..	3	4	5	1	..	7	7	..	..	2	4	7	4	6	2	2	1	62	64
Infectious and parasitic diseases	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	2
All other diseases and conditions	2	1	1	1	..	..	..	..	..	..	..	..	..	..	..	1	1	1	2	1	..	..	6	5
Totals	101	94	29	31	13	20	21	23	4	3	20	17	2	1	7	16	28	21	26	27	10	8	261	261
Rate per 1 000 Births (Live and Still)	11.88		18.46		13.61		16.08		13.31		15.78		11.54		13.67		18.75		22.29		21.13		14.71	

See notes to Table LXII.

TABLE LXII—PERINATAL DEATHS—MAIN DISEASE OR CONDITION IN CHILD BY MAIN MATERNAL CONDITION AFFECTING CHILD—QUEENSLAND, 1979

Main Disease or Condition in Child	Main Maternal Condition Affecting Child																																			
	Possibly unrelated to present pregnancy						Complications of pregnancy						Complications of placenta, cord and membranes						Other complications of labour and delivery						No condition reported						Total					
	Fetal			Neonatal			Fetal			Neonatal			Fetal			Neonatal			Fetal			Neonatal			Fetal			Neonatal								
	M	F		M	F		M	F		M	F		M	F		M	F		M	F		M	F		M	F		M	F		M	F				
Slow fetal growth, fetal malnutrition and immaturity.....				1	1	4	8	4	7	3	3	3	4	6	6							2						8	12	9	11	17	26			
Birth trauma.....				2	2			1			1	3																1	6	5	1	6	5			
Hypoxia, birth asphyxia and other respiratory conditions.....	4	1	1	4	3	23	20	6	2	2	2	2	2	2	2	4	4	4	1	1	1	1	1	1	1	1	1	25	38	20	37	25	38			
Fetal and neonatal haemorrhage.....								1			1																				1	1	2			
Haemolytic disease of fetus or newborn.....																															2	2	2			
Other conditions originating in the perinatal period.....	11	13	1	3	8	5	31			33						20	28	5	1	2	1	20	28	5	13	71	81	6	16	16	13	71	81			
Congenital anomalies.....	1	1	1	2	1	1	3	4	4							10	14	46	4	4	4	10	14	46	4	4	4	15	21	47	15	21	47			
Infectious and parasitic diseases.....																															1	1	1			
All other diseases and conditions.....																															4	4	4			
Total.....	16	15	4	10	13	15	61	12	11	60	61	11	8	8	7	3	5	2	41	49	93	41	49	93	86	137	143	124	143	118						

Notes.

1. See special comments on mortality statistics, p. 5.
2. The statistics have been compiled from perinatal death certificates designed to elicit the underlying cause of death of the child rather than to elicit the main condition in the child and mother. Because of this and the fact that certain judgments of the available information had to be made in order to compile the statistics on the new basis, the resultant statistics on disease or condition cannot be considered entirely satisfactory.
3. Cases of indeterminate sex are included with males (2 fetal and 2 neonatal).
4. Perinatal deaths include all fetuses and neonates delivered weighing at least 500 grams or, when birth weight is unavailable, the corresponding gestational age of 22 weeks. Neonates dying at 28 days after birth or later are excluded.

DIVISION OF SCHOOL HEALTH SERVICES

Director: V. M. O'HARA, M.B., B.S.(Syd.), B.Sc.

Medical Officers: Dr R. FITZHARDINGE, M.B., B.S.(Syd.)—Brisbane

Dr J. WAGNER, M.B., B.S.(Syd.)—Brisbane

Dr K. MURPHY, M.B., B.S.(W.A.)—Brisbane

Dr J. HUDSON, M.B., B.S.(Q'ld)—Brisbane

Dr J. HOOPER, M.B., B.S.(Q'ld)—South West Region

Dr L. O'BRIEN, M.B., B.S.(Syd.), D.T.M. & H.(Liverpool)—Central Region (commenced 9-2-81)

Dr D. SPRANGEMEYER, M.B., B.S.(Lond.), M.R.C.S.(Eng.), L.R.C.P.(Lond.)—Northern Region (commenced 9-2-81)

Principal School Health Nurse: Miss P. W. HIGGINS, Dip.App.Sc.(Comm.Nursing) (commenced 4-9-80)

The Division of School Health Services is now in its 70th year and thus is the senior health service in this State. It was established by the then Department of Public Instruction in 1911, and was transferred to the Health Department in 1936.

For 70 years, the Service has responded to the needs of the children and their families in this State. Originally, the need was to halt the epidemic of trachoma that was causing blindness in children in Western Queensland, and once that was accomplished, the service turned its attention to other emerging needs.

Many years ago, hundreds of children were notified for such conditions as enlarged tonsils and adenoids, pronated feet and so on. These and other conditions no longer occupy our time. At present, we are concentrating on scoliosis, obesity, developmental delay, health surveillance and the development of handicapped children. Vision and hearing problems have always been among the most common defects found and they remain so, although in recent years notification of scoliosis has been on the increase as the staff has been trained in its detection.

Future challenges already emerging are shown by the changing morbidity in children caused by disrupted families, handicapping conditions, deprivation, and adolescence with its drug and truancy problems. Staff development must proceed along these lines, to maintain and promote health in all its aspects.

Routine School Health examinations continued with a total of 109 261 children being examined, which is a decrease of 8 756 compared to last year. This decrease may be explained by vacancies that occurred in the Rockhampton District for most of the period, and two (2) Sisters being on accouchment leave.

The change in policy with respect to the Pre-school children continued, and is still being evaluated; i.e., children attending State Pre-schools are seen on request only. The responsibility thus put on the parents and teachers of Pre-school children is being monitored until the end of the 1981 Academic Year. Previously all children attending Pre-schools were routinely fully screened.

The volunteer general practitioners continue to screen the visual acuity of the 4-5-year-olds attending Pre-schools and kindergartens with the ultimate aim of early detection of amblyopia.

The referrals to School Sisters and School Medical Officers remained approximately the same, particularly in the Years II-VI, 14 350 compared to 14 387 last year. The major causes of these referrals can be listed as follows, although many of the terms used are synonymous:—inco-ordination, clumsy, hyperactive, developmental delay, emotional problems, attention deficits, learning disabilities, dyslexia, minimal brain dysfunction and a host of others. Most of these conditions should be detected and investigated in the Pre-school years, as it is often too late to help a child who has been failing for years. The results of the aforementioned evaluation of the services delivered to Pre-school children may cause a further change in policy.

STAFF

There was one retirement during the year—Nell Richardson of Rockhampton who served twenty-two (22) years as a School Sister and was very well loved and respected by all who knew her.

Resignations due to family reasons were Sisters Jocelyn Radcliffe and Shirley Garrow, both of Brisbane; Sister Germaine Power resigned due to ill-health. We wish them well.

Sister Heather Hellyer (formerly Fuller) transferred from Townsville to Caboolture.

New Members of Staff are as follows:—

Medical Officers: L. O'Brien (Rockhampton); D. Sprangemeyer (Townsville);

Part-time Consultant Paediatrician: Dr M. Thomsett (Brisbane);

Principal School Health Nurse: P. W. Higgins (Brisbane);

School Sisters: C. E. Quinlivan (Rockhampton); A. T. McDonald (Townsville); S. A. Grant (Mackay); A. M. Martin (Rockhampton); M. V. Agnew (Brisbane); E. C. Bennett (East Brisbane); C. G. Howe (Brisbane).

REGIONALIZATION

After a lengthy period without a School Health Service in Rockhampton, the area is now fully staffed by Dr Lorraine O'Brien and Sisters A. Martin and C. Quinlivan. A bonus for the area was the appointment of Sister Chris Howe who, although based in Brisbane, has, as part of her duties, the Central Western Area which she visits several times a year.

Dr O'Brien who is based in Rockhampton is now responsible for the whole of Central Queensland. She regularly visits School Sisters in Gladstone, Bundaberg, Mackay and Longreach, and the Community Health Sisters in Emerald, Clermont and Springsure.

Dr Dawn Sprangemeyer, also a new appointee, has taken over the Northern Region and is responsible for Cairns, north to Thursday Island, south to Proserpine and west to Mount Isa.

Both Dr O'Brien and Dr Sprangemeyer are settling into their new role and travelling throughout their areas. Both have a particular interest in preventive and developmental paediatrics.

Dr John Hooper continues to cover the South Western part of the State and is now well known by almost all the agencies, Departments, etc., in his area.

The four (4) Brisbane Metropolitan School Medical Officers are also responsible for regions which, although compact geographically, are very demanding with the number of Schools, Sisters and Therapists, Guidance Officers, etc., concentrated within them. The Early Educational Intervention Programmes also takes up a considerable amount of time. More School Medical Officers are urgently needed to fill the gaps in the Service.

DEVELOPMENT OF STAFF SKILLS

1. Medical Officers

Dr John Hooper attended the six (6) week programme on Developmental Paediatrics conducted by Dr Trevor Parry, Paediatrician-in-Charge, Child Development Centre, Perth, Western Australia. The sixth week was spent becoming proficient in the Griffiths Developmental Scales.

Fortune was with us, in that Dr Lorraine O'Brien also attended this course at the same time as Dr Hooper. Dr O'Brien, Community Health Medical Officer in Alice Springs, attended the course at her own expense, and shortly after was appointed to this Division bringing this extra expertise with her.

One of the highlights of the year was a three (3) day visit by Dr Trevor Parry, Paediatrician from Perth. On the first day, Dr Parry demonstrated developmental assessments, first on a small number of apparently normal children and then on three difficult to diagnose children. In the observation room were School Medical Officers, Medical Officers in charge of some of the Community Health Centres, Medical Officers from the Aboriginal Health Programme, the Division of Youth Welfare and Guidance, and the Division of Maternal and Child Health. It was a most informative day, and we were fortunate in having the proceedings video-taped for future reference.

Dr Parry gave two evening lectures during his three-day stay—one on "Parenting" for the general public, which was very well attended; and one for Nurses on "Health Surveillance" which also had a large audience.

The third day was spent at the two Children's Hospitals where he, accompanied by the School Medical Officers, gave lecture-demonstrations to the staff at the Hospitals.

We were extremely fortunate to have him as our guest.

The two new School Medical Officers had an intensive orientation into the role of the School Medical Officer and appeared to have no problems.

Doctors Hooper and Murphy completed the Management Improvement Programme, and Doctors Wagner and Hudson and Miss Patsy Higgins, Principal School Health Nurse, have commenced a similar one.

The informal luncheon meetings of senior staff members and paediatric specialists have continued and are a highlight of each month. This year we have had a developmental paediatrician, a paediatric neurologist, and a paediatric endocrinologist, a Gynaecologist and Obstetrician as guest speakers. So as not to limit ourselves to paediatrics, Dr Alan Hayes from the Schonell Educational Research Centre came and discussed Early Intervention Programmes, and Mr Geoffrey Swan, Inspector Special Schools discussed special education, as did Mr Frank Hughes, Director of Catholic Special Education. Mr Ken Robertson, Acting Director of Special Education, was also a guest.

2. Nurses

Three 3-week training programmes for School Health Sisters and other Nurses working in Schools were held during the year. Once again, lectures were given mainly by the Brisbane School Medical Officers and the Principal School Health Nurse. Dr John Hooper of Toowoomba gave a full day's lecture on Developmental Paediatrics during the last course. This was so popular, it is intended to repeat this at future courses, if possible.

A thorough follow-up of Nurses so trained is essential to ensure that the theoretical and practical skills gained during the 3-week course are practised in the field.

It has become apparent that three weeks' training in skills totally foreign to the majority of Nurses is not enough to fully equip them for the contingencies they meet in Schools. For this reason, additional School Health lectures have been added to the Community Health Orientation Programme, but newly recruited full-time School Health Sisters will receive a 5-week programme. Full plans for this have already been completed.

Eight (8) full-time School Health Sisters, five (5) Community Health Nurses who are working part-time in Schools, and five (5) Aboriginal Health Nurses who are also working part-time in Schools, were trained this year.

Two (2) full-time School Health Sisters undertook the Community Health Orientation Programme during the year.

Approximately once a month there is a staff meeting, and it was decided to combine the timing of the staff meeting with a lecture from a paediatric specialist. This lecture is heard only by the metropolitan Sisters, but a tape recording is made so that the country Sisters may hear the tape and see the slides and not be disadvantaged.

SPECIAL ACTIVITIES DURING THE YEAR

1. Liaison with the Education Department

The Director and School Medical Officers have regular meetings with Senior Officers of the Education Department on policy matters, such as School Sisters visiting State High Schools, Health Rooms, environmental health, and School therapists. These meetings are useful forum for sharing views and ventilating problems. They are very productive.

2. Therapists working in Schools

With the limited number of occupational therapists and physio-therapists working on school children in the school setting or outside it, and the even more limited number of School Medical Officers, the guidelines for referral to therapists are taking a long time to filter down to the personnel working in the field. Until this happens, there will continue to be over-referral with resultant waste of scarce resources.

The setting up of formal multi-disciplinary teams to assess children believed in need of therapy is still not finalized, but within the restrictions placed upon us by the no-growth policy, these teams should be operational by this time next year.

3. Medical Students and School Health Services

This is the third year of the programme instituted by the Senior Lecturer in Child Health, University of Queensland, for the final year medical students attached to the Mater Hospital.

As in previous years, the students carry out the routine medical inspections of the children in the target grades, Year I at West End Infants School and Year VII at Coorparoo State Primary School. A School Health Sister is always in attendance, and sometimes a School Medical Officer.

4. Woody Point Special School

The School Medical Officer continues to visit this School at least weekly. The Consultant Paediatrician also visits approximately once every six (6) weeks. The multiple handicaps of the children attending this School make them very special indeed, and constant monitoring of their progress is almost mandatory. Of an enrolment of 77 children, 25 (34%) have been transferred to regular and/or Special Schools during the year, which speaks volumes for the dedicated staff at this School.

5. Eight Mile Plains Special School

A School Medical Officer has been associated with the Eight Mile Plains Special School since the Education Department undertook responsibility for its operation in August, 1980. (It previously having been the Multiple Handicapped Association of Queensland School.)

This School has a pupil population of forty-nine (49) multiple handicapped children, most of whom have a significant intellectual handicap.

The School Medical Officer visits the School fortnightly and functions as a liaison between School staff and the pupils' primary medical care personnel. This officer ensures that vision and hearing assessments are carried out, and acts as a medical resource person for parents and School staff. She also is a member of the three-man admission panel which makes recommendations to the Education Department on the suitability of applicants wishing to attend the School.

6. Efficacy of School Visits

Following the Pilot Study carried out by Sister Leonie O'Grady in 1979 on frequent regular short visits to Schools, rather than one prolonged visit a year, seven (7) Sisters have now initiated a similar itinerary, and have identified "greater job satisfaction" as one of the results. The School personnel in most instances prefer this type of service also.

As far as High Schools are concerned, 14 Metropolitan School Sisters are visiting on a regular basis, to see referrals only. I believe this is one area where School Health should fill a larger role, as the problems of adolescence are well known. The remainder of the Sisters have too large a workload with Primary School children to attempt entry into High Schools.

7. Special Programme Schools

The three full-time Sisters funded by the Schools Commission working in Special Programme Schools continue to fill a great need for the children, parents and staff at their Schools. While none of the Sisters have an enrolment of more than 3 000 children, they are fully occupied and could spend more time at each School than at present. This latter sentiment was echoed at a recent meeting of the ten (10) School Principals who prize their Sisters' efforts in bridging the gap between school and community.

LECTURES GIVEN BY STAFF

Additional lectures were requested by many groups again this year—not only on the work of the Division, but also on selected topics, e.g. congenital anomalies, common childhood illnesses.

The following groups received lectures or talks by School Health personnel:—

Guidance Officers; trainee Guidance Officers; Pre-School Advisory Teachers; Physical Education Teachers-in-training; Aboriginal Health Programme Sisters-in-training; Juvenile Aid Bureau trainees; Special Pre-school parents; Parents and Citizens Associations; Mothers Groups; Primary School District Inspectors; Family Medicine Programme trainees; Special School Principals.

Articles for the media, journals and pamphlets were prepared for the Division of Health Education and Information. Dr Julie Hudson continues to appear on television occasionally to talk about School Health-related topics.

COMMITTEES, MEETINGS, ETC.

The Director has been reappointed as the Health Department representative on the Minister for Education's Advisory Council for Special Education, and attends the monthly meetings. She is also the Chairman of the Optometrists Board of Queensland; Secretary of the Inter-departmental Standing Committee on Therapy and Social Work Services for Schools; attends the Inter-departmental Advisory Committee on Therapy and Social Work Services in Schools; and various working Parties arising out of this Advisory Committee.

Dr Ruth Fitzhardinge is on the Inter-departmental Standing Committee on Early Intervention Programmes, and each School Medical Officer is on one or more of the Core Committees of this Committee.

Conferences and Seminars attended during the year include the Paediatric Neuro-Ophthalmology Conference; The Woman Doctor's Special Role in Society; the Annual Australian Paediatric Association meeting in Canberra; Immunization Seminar at the Mater Hospital; Seminar on Leprosy; Weight Watchers International Seminar; SPELD Seminar on Learning Disabilities; Seminar on Child Abuse.

SCHOOL VACATION CLINICS

During the Christmas Vacation, nine (9) School Health Clinics were held in areas where there had been no School Sister for some time. Clinics were held at Mount Morgan, Yeppoon, Mount Isa, Rockhampton, and at five (5) Brisbane metropolitan Schools. A total of 921 children were examined at these Clinics. Of these, 87 were notified with a suspected defect, mainly in vision or hearing (9.4%).

EARLY INTERVENTION PROGRAMMES

School Medical Officers have been associated with the Programmes at Aspley, Kenmore South (formerly Baroona), Ipswich, West Mount Gravatt and Acacia Ridge Special Pre-Schools over the past two (2) years.

Multi-disciplinary team involvement is considered the most desirable approach at the present time. There are many problems, however, in achieving a workable arrangement in this regard because—

- boundaries between disciplines in many instances are ill-defined and overlapping;
- time-slotting difficulties—one individual E.I.P. can involve numerous groups of children involved with different therapists and personnel attending at differing time-slots—this tends to pose some impediment to cohesive team functioning;
- individual children within a single Special Pre-school may have different groups of community agencies involved in their programme, and this makes satisfactory multi-disciplinary liaison difficult.

The School Medical Officers see their role in the Early Intervention Programmes as primarily one of liaison between members of the multi-disciplinary team and liaison with parents, with a secondary medical assessment role.

VISION SCREENING PROGRAMME FOR 4-5-YEAR-OLDS

The Pilot programme carried out in 1980 by volunteer general practitioners was only moderately successful—but those doctors who did participate gave of their time and energy very willingly and their efforts were very much appreciated.

A total of 10 950 of the State's approximately 48 000 4-5-year-olds were screened, with a referral rate of 9 per cent.

No record of the numbers of confirmed defects or those referred to eye specialists was kept during 1980.

The Programme was recommended in 1981 with the following differences:—

The Local Branch of the Australian Medical Association with the assistance of the Royal Australian College of General Practitioners and the Family Medicine Programme undertook the responsibility for allocating the Pre-schools to the volunteer general practitioners.

State Pre-schools unable to be visited by general practitioners will be visited by the area's School Health Sister to attain the maximum coverage this year.

The Programme at this stage is gathering momentum, with the general practitioners screening visual acuity only. Those who fail to pass the screening are referred to their family practitioner for further investigation.

This year, built into the system is a monitoring process which will show how many defects were confirmed and how many children were referred to Ophthalmologists.

MEDICAL EXAMINATION UNIT

The number of teachers-in-training examined at this Unit in Brisbane continues to fall. Only 1 065 were fully examined this year, compared with 1 217 last year. Of these, 40 were found to have unsuspected physical disabilities requiring referral for a specialist's opinion and/or treatment. None were rejected for the teaching profession on medical grounds.

Only 730 graduands were examined for superannuation purposes.

In Rockhampton, 64 teachers-in-training were examined, of whom four (4) were referred to specialists. In Toowoomba and Townsville, the students are no longer examined.

The School Health Consultative Clinic manned by Dr Grantley Stable, Paediatrician, and Dr Michael Thomsett, Paediatric Endocrinologist (from 29-1-81), is proving extremely worthwhile, in that children detected by the School Medical Officers in need of further assessment are seen by Dr Stable or Dr Thomsett and then referred on to their family practitioner. This year, 77 children were so assessed. The majority of referrals are for developmental delay, short stature or obesity.

Another innovation this year at the Medical Examination Unit is the setting up of a Hearing Assessment Clinic at the recommendation of the National Acoustic Laboratory. The need arose when children were referred to N.A.L. and found there was an eight (8) to ten (10) week waiting time. Some were for behavioural problems and others

who had suffered ear infections and needed their hearing checked after treatment. The Senior Psychologist at the National Acoustic Laboratory believed that these children would have essentially normal results, but by giving them appointments, others with a real need would be denied early appointments. So since April, 1981, thirty-nine (39) children were referred from the Unit. Table LXIII shows the source of the referrals.

TABLE LXIII
SOURCE OF REFERRALS TO HEARING ASSESSMENT CLINIC

Referring Agency	Number
Guidance Officers	2
Teachers	13
General Practitioners	12
E.N.T. Specialists	2
Parents	9
School Health Sisters	1
Total	39

The School Medical Officer obtains a full history from the parent, carries out the usual clinical examination of the ear, nose and throat, and uses an impedance meter as well as a pure-tone audiometer. Of the thirty-nine (39) referred from the National Acoustic Laboratory, seven (7) were referred to their general practitioner or E.N.T. Surgeon with confirmed hearing losses.

ANNUAL STATISTICS

For the second half of the year under review, an attempt was made to ascertain the full outcome of the School Sister's referrals. This amounted to requesting the family doctor to indicate whether he confirmed the presence of the suspected physical condition; whether it was unconfirmed; and whether the child was referred to a specialist. Table LXIV shows the outcome of this preliminary critical look at our results. One must bear in mind, however, that the results shown are those known six (6) weeks after referral. It is well known, within this Division, that many children are not taken to their doctor immediately after the notification form is received, and some children have a waiting period of several weeks before an appointment is available. However, the interim results are interesting, in that throughout the State approximately 81 per cent were confirmed by the general practitioner, 9.5 per cent were unconfirmed, while in a further 10 per cent the outcome was unknown.

TABLE LXIV
RESULTS OF REFERRALS
(Expressed as a Percentage)

	Metropolitan	Country	Total
Number taken to General Practitioner ..	83	67	75
Number Confirmed	82	80	81
Unconfirmed	7	12	9.5
Outcome Unknown	11	9	10
Referred to Specialist ..	46	37	41.5

Pre-School Children

More Pre-school children were examined this year (3 473 compared to 2 118 last year) even though the Pre-school vision screening programme was being carried out by general practitioners. Thus, only 14 per cent of the total enrolment of the State Pre-schools were examined, and this only on the request of parents or teachers, etc. Details of examinations and notifications are in Tables LXV and LXVI. Of the 3 473 children examined, 164 were found to have an unsuspected physical defect (4.7%).

Primary School Children

A total of 12 597 less children were recorded as having been examined this year, as "occasions of service" were not counted. Thus, 100 707 children were examined in Primary Schools out of a total enrolment of 295 728 in the State, i.e. 34 per cent were examined.

Of the target populations, 86 per cent of the Year I children were fully examined, and Year VII, 84 per cent of the children were screened for scoliosis. The remainder of the children examined were in Years II through to VII and were examined on referral.

The percentage (9.6%) and pattern of common defects notified remains the same as in recent previous years, although twenty (20) years ago only 4.6 per cent were notified. Tables LXVII, LXVIII and LXIX detail the examinations and notifications in Primary Schools.

The number of requests from teachers, Guidance Officers, remedial teachers, parents, etc., in Primary Schools remained about the same as last year, 20 146. A breakdown of the reasons for referral is shown in Table LXX.

High School Children

As mentioned previously, fourteen (14) Metropolitan Sisters are now visiting High Schools on a regular basis to examine children on referral only. The majority of referrals come from the students themselves, and this system has been found to be very worthwhile to both the School staff, the Sister and the students. A more detailed report will be included in next year's report, but interim figures are to be seen in table LXXI.

Special School Children

A total of 36 per cent of the children enrolled in Special Schools were examined during the year. Just over 15 per cent of the children were notified as having a suspected physical defect, and this is comparable to the almost 16 per cent who were notified last year. In every instance, the percentage of defects was higher than that found in regular schools. Table LXXII shows the details. Table LXXIII compares the notifications expressed as a percentage for regular and special schools, and emphasizes again the need to examine all children attending Special Schools each year.

Parent Consultations

These are listed in Table LXXIV, and are comparable to those of last year.

Referrals to Other Agencies

Less children were referred to other Agencies (713 compared to 1 144 last year). Table LXXV refers. At the present time, no explanation can be given for this apparent change.

IMMUNIZATION

Table LXXVI shows that from the data collected from Year I children, the level of immunization remains about the same.

TABLE LXV
DETAILS OF PRE-SCHOOL EXAMINATIONS
(Referrals Only)

—	Metropolitan	Country	Total
Total enrolment .....	..	..	24 806
Enrolment of pre-schools visited	3 843	5 848	9 691
Number of children examined.....	1 186	2 287	3 473

TABLE LXVI
DETAILS OF PRE-SCHOOL NOTIFICATIONS

—	Metropolitan	Country	Total
Children with defects notified.....	57	107	164
Total number defects notified.....	66	110	176
Defective vision	17	35	52
Squints and other eye defects.....	6	2	8
Hearing loss	34	63	97
Groin and Scrotal conditions .....	..	..	..
Spinal defects .....	..	..	..
Orthopaedic conditions	3	1	4
Obesity .....	..	..	..
Colour vision	1	..	1
Speech	5	9	14
Miscellaneous.....	..	..	..

TABLE LXVII
DETAILS OF PRIMARY SCHOOL EXAMINATIONS

—	Metropolitan	Country	Total
Total enrolment of all Primary Schools.....	..	..	295 728
Enrolments in Primary Schools visited	117 069	159 615	276 684
Number of Grade I students examined ...	14 610	19 741	34 351
Number of Grade VII students examined ...	13 293	18 583	31 876
Number of requested examinations.....	6 036	8 314	14 350
Number of reviews.....	5 198	5 296	10 494
Number of other examinations.....	2 178	7 458	9 636
Total examined	41 315	59 392	100 707
Number examined by School Medical Officer.....	2 666	1 083	3 749

TABLE LXVIII
DETAILS OF PRIMARY SCHOOL NOTIFICATIONS

—	Metropolitan	Country	Total
Children with defects notified.....	3 858	4 803	8 661
Total defects notified ..	4 278	5 414	9 692
Defective vision	1 125	1 645	2 770
Squints and other eye defects	164	305	469
Hearing loss	578	1 318	1 896
Groin and Scrotal conditions	117	170	287
Spinal defects	1 669	1 158	2 827
Orthopaedic conditions	38	88	126
Obesity	98	70	168
Colour vision	389	491	880
Speech defects	100	169	269

TABLE LXIX
OTHER NOTIFICATIONS NOT PREVIOUSLY MENTIONED
(Miscellaneous)

—	Metropolitan	Country	Total
Heart murmur	14	1	15
Short stature	71	38	109
Dental problems.....	21	16	37
Skin	38	60	98
Eneuresis.....	6	7	13
Nasal voice	3	3	6
Husky voice	24	28	52
Pallor	3	5	8
Enlarged glands	1	7	8
Others	111	154	265
Total.....	292	319	611

TABLE LXX
NUMBER OF REQUESTS FROM WITHIN THE SCHOOL

—	Metropolitan	Country	Total
Physical	6 068	9 548	15 616
Emotional	452	206	658
Social	247	183	430
Educational	1 388	2 054	3 442
Total.....	8 155	11 991	20 146

TABLE LXXI
DETAILS OF HIGH SCHOOL NOTIFICATIONS

—	Metropolitan	Country	Total
Total enrolment			147 123
Number examined	2 403	4 326	6 729
Number examined by School Medical Officer.....	2	10	12
Children with defects notified.....	198	184	382
Total number of defects notified.....	219	188	407
Defective vision	132	108	240
Squints and other eye defects.....	19	20	39
Hearing loss	39	49	88
Spinal defects.....	13	6	19
Colour vision	16	5	21

TABLE LXXII
DETAILS OF SPECIAL SCHOOL NOTIFICATIONS

—	Metropolitan	Country	Total
Total enrolment			4 746
Number examined	1 080	631	1 711
Number examined by School Medical Officer.....	168	10	178
Children with defects notified.....	147	97	244
Total number of defects notified.....	160	101	261
Defective vision	50	38	88
Squints and other eye defects.....	15	18	33
Hearing loss	29	23	52
Spinal defects.....	49	16	65
Colour vision	17	6	23

TABLE LXXIII
REGULAR SCHOOLS cf. SPECIAL SCHOOLS
NOTIFICATIONS
(Expressed as a Percentage)

—	Regular	Special
Children with defects.....	8.6	14.2
Number of defects	9.6	15.2
Defective vision	2.8	5.1
Squints and other eye defects	0.5	1.9
Hearing loss	1.9	3.04
Spinal defects	2.8	3.8

TABLE LXXIV
PARENT CONSULTATIONS (INCLUDING PRE-SCHOOLS)

—	Metropolitan	Country	Total
Home visits.....	274	461	735
Interviewed at school...	3 006	2 357	5 363
Telephone	1 989	1 612	3 601
Letter.....	991	951	1 942
Total.....	6 260	5 381	11 641

TABLE LXXV
REFERRALS TO OTHER AGENCIES

—	Metropolitan	Country	Total
Aboriginal Health	11	67	78
Appointments—Bris- bane Office.....	43	1	44
Children's Services	10	10	20
Division of Community Medicine.....	10	52	62
Division of Youth Welfare and Guidance.....	46	30	76
Guidance and Special Education.....	33	37	70
National Acoustic Laboratories	61	49	110
Paediatric Consultant..	75	2	77
R.Q.B.C.H.S. ....	..	39	39
Social Worker	3	2	5
Speech Therapist.....	7	20	27
Others	123	76	199
Total.....	422	385	807

TABLE LXXVI
IMMUNIZATION

—	Number Checked	Triple Antigen	Diphtheria and Tetanus Booster	Polio/ Sabin
Metropolitan	14 243	12 636	10 769	11 606
Country	19 687	17 269	14 925	15 688
Total	33 930	29 905	25 694	27 294
Percentage .....	..	88.14	75.73	80.44

DIVISION OF PSYCHIATRIC SERVICES

Director of Psychiatric Services: G. S. URQUHART, M.B., B.S., F.R.A.N.Z.C.P., D.P.M.

Deputy Director of Psychiatric Services: P. MULHOLLAND, M.B., B.S., F.R.A.N.Z.C.P., D.P.M. (from 27th January, 1981)

Chief Psychologist: R. M. D. BROWN, B.Sc., Ph.D., M.A.P.S.

Senior Social Worker: K. J. BEDWELL, B.S.W. (acting from 1st July, 1980, to 1st October, 1980; appointed from 2nd October, 1980)

Executive Officer: R. K. POPE (from 1st July, 1980, to 30th July, 1980)

E. F. NORRIS (from 31st July, 1980)

Administration Officer: L. A. DUIGNAN

THE APPOINTMENT OF A DEPUTY DIRECTOR

On 27th January, 1981, Dr Peter Mulholland took up duties as Deputy Director of the Division.

After graduation in 1966, two years at the Mater Hospital and a period in general practice, Dr Mulholland commenced training in psychiatry at the then Neuro-Psychiatric Unit, Chermside Hospital.

He obtained his D.P.M. in 1972 and M.R.A.N.Z.C.P. in 1973. In 1973, he was the Supervisor of Psychiatry at Royal Brisbane Hospital and then entered private practice.

During 1979 and 1980, he was Deputy Director of Psychiatry at Royal Brisbane Hospital.

He has undertaken extensive training in group and individual experiential psychotherapies and has for several years been involved in training therapists in these areas.

He is especially interested in the multi-disciplinary team approach to management of psychiatric patients.

He was elected as a Fellow of the R.A.N.Z.C.P. in 1979.

CO-ORDINATED PSYCHIATRIC SERVICES IN THE MORETON AREA

The Division provides a forum for the meeting of Psychiatrists in Charge of all Psychiatric Services in the Moreton region. Meetings are held regularly every second month and common problems are discussed and resolved.

This forum has enabled an effective catchment area policy to be implemented and has stimulated the development of a range of services to meet expressed needs. It has also facilitated the development of improvement in professional standards of all staff.

An important function of this co-operation has been agreement on a needs and resources survey carried out by an inter-disciplinary team of Officers of the Division.

The Committee for the Rotation and Placement of Psychiatrists in Training has functioned very effectively. The Committee has representatives of the major service providers together with representatives of the Royal Australian and New Zealand College of Psychiatrists, the Association of Psychiatrists in Training and the University of Queensland.

The Committee has concerned itself, not only with appointments of Psychiatric Registrars and their placement, but with the standard of both clinical supervision and academic training of an in-service nature.

This Committee has set a pattern which has now been adopted for other medical specialties.

The Continuing Care Service envisaged in the previous Annual Report has commenced. The State Resource Team has assisted in the development of Service Teams attached to the Community Medicine facilities in the Metropolitan area of Brisbane.

This Service is providing that support which will not only reduce readmissions, but will also enhance the quality of life of discharged patients.

CONTINUING CARE SERVICE

Officer-in-Charge: Mr R. BLAND, M.S.W.

This service was established in October, 1980, with the overall objective of promoting the welfare of the mentally ill living in the community. The service aims to facilitate the reintegration into the community of persons leaving psychiatric hospitals. By keeping up supportive contact with former patients, subsequent rehospitalization can be avoided. Specific needs which are recognized are those of accommodation, vocational and recreational needs.

THE PSYCHIATRIC HOSPITALS

The number of persons resident in Psychiatric Hospitals continues to fall. This fall is most marked at the Baillie Henderson Hospital, but significant reductions have been made at Wolston Park Hospital.

During the year, much attention has been paid to promoting community awareness of the services offered by Psychiatric Hospitals. The Baillie Henderson Hospital conducted a most successful Mental Health Week and preparation has been made for a similar Awareness Week at Wolston Park Hospital.

Mosman Hall continues to have its Open Day.

The promotion of community awareness not only facilitates the effective treatment services of Psychiatric Hospitals, but significantly raises staff morale and goes a long way to diminishing the stigma attached to mental illness and, in particular, the stigma associated with Mental Health Legislation.

As predicted in the previous Annual Report, there has been a marked improvement in the psychogeriatric facilities of Psychiatric Hospitals, a decline in the number of geriatric patients resident and a sharp reduction in the number of admissions.

A major reorganization has been effected at Wolston Park Hospital by the division of that Hospital into clinical units, each unit now being able to define its objectives and develop relevant programmes.

In addition to clinical units, a Clinical Review and Evaluation Unit has been set up, which has materially assisted the staff of clinical units in their development.

A Professional Development Unit has also been set up with the objective of meeting the post-graduate educational programme of all professional staff.

Valuable assistance has also been received from the Management Services Branch in the promotion of in-service training programmes aimed at improvement in management and communication.

SERVICES FOR THE INTELLECTUALLY HANDICAPPED

The outstanding improvements in the care of the intellectually handicapped have continued, and this year has seen a most successful introduction of an Alternate Living Programme.

Co-operation with the Housing Commission has advanced this aspect of the community provisions for the intellectually handicapped, and the redeployment of staff from an Institutional setting to the community setting has been successfully accomplished.

The Office of the Director of the Service has become increasingly involved in both administrative and clinical research as well as expending the concepts of improved Institutional care and community relationships.

The Service is a joint project of the Division of Psychiatric Services and the Division of Community Medicine. The Resource Team of the Service is located at Herschel Street, and has overall responsibility for developing the service and monitoring the way in which clients use the various treatment facilities in hospitals and in the community.

Two Service Teams are part of the Division of Community Medicine and are attached to Community Health Centres at Fortitude Valley and Annerley. These teams provide individual services to patients and their families.

WOLSTON PARK HOSPITAL

Medical Superintendent: Dr V. L. MATCHETT, M.B., B.S., D.P.M., F.R.A.N.Z.C.P.

ORGANIZATIONAL CHANGES

The establishment of the H. R. G. Barrett Psychiatry Centre as the acute unit servicing the Western Suburbs of Brisbane, Ipswich and surrounding districts and the Gold Coast resulted in a re-distribution of remaining patients and the subdivision of the hospital into discrete units.

Overall, the complex was divided into three major divisions—the Barrett Centre, Wacol Repatriation Pavilion and Wolston Park Hospital proper.

Patient distribution in the lastnamed hospital was considered unsatisfactory, being on the basis of nursing need rather than on diagnostic criteria, and seven clinical units were set up to cover both of these factors. These Units are—

- Psychiatric Treatment Unit (including the University Unit and the secure wards);
- Psychiatric Asylum Unit;
- Community Preparation Unit;
- Psychogeriatric Unit
- Nursing Home Unit } later combined;
- Intellectual Handicap Unit;
- Medical Treatment and Rehabilitation Unit.

Additionally, four central resource units were established:—

- Psychiatric Rehabilitation Unit;
- Clinical Review and Evaluation Unit;
- Professional Development Unit;
- Central Support Services.

The functions of all these units are described in their individual reports below.

The units are semi-autonomous and have, as far as is practicable, their own staff establishments resulting in more sharply focussed therapeutic effort from all disciplines and improved staff morale.

Each unit, with the exception of the Central Support Services, is headed by a senior officer who may be one of any of the clinical disciplines. The Officer-in-Charge of the excepted unit is the Manager. Each Officer-in-Charge is assisted by a multi-disciplinary Consultative Committee chaired by the second-in-charge of the Unit.

PATIENT NUMBERS

These changes, combined with the transfer of some patients to Baillie Henderson Hospital and the institution of restricted criteria for the acceptance of psychogeriatric patients, has enabled the patient numbers to be reduced by about 100 during this financial year. This enabled the closure of two wards for refurbishing.

TRAINING OF REGISTRARS AND UNDER-GRADUATES

Owing to the resignation of two psychiatrists at the end of 1980, followed by an increase in the number of registrars allocated to this Hospital, the training of registrars has imposed quite a strain on the four full-time and three part-time psychiatrists. Nevertheless, they have been able to provide training of high quality to nine registrars and, at the same time, provide teaching for the medical undergraduates who attend this hospital for their training in Organic Psychiatry. In this, valuable assistance has been given by Professor A. Whitlock and Dr J. Price, of the Department of Psychological Medicine in the University of Queensland.

SQUIBB WEEK-END

This annual event for candidates for membership of the Australian and New Zealand College of Psychiatrists was again attended by candidates from interstate, as well as by members of the Board of Censors of the College, for whose attendance the hospital is most grateful.

BARRETT PSYCHIATRY CENTRE

A 96-bed unit providing an acute inpatient psychiatric service to the West Moreton region, Brisbane western suburbs and Gold Coast.

Treatment is orientated towards bringing the patient's acute mental disorder into remission sufficient to permit him to function in a community setting and to minimize the risk of chronicity and long-term hospitalization.

The programme is carried out by a staff comprising psychiatrists, psychiatric registrars, resident medical officers, nursing staff, social workers and welfare officers, psychologists and occupational therapists.

The Centre also provides an outpatients service to patients discharged from it and to those presenting from the catchment area who do not require hospitalization.

PSYCHIATRIC TREATMENT UNIT

The Psychiatric Treatment Unit is a 191-bed unit for patients requiring long-term (6 months' and over) treatment and rehabilitation for psychiatric disorders. The unit also acts as an admission section of Wolston Park Hospital, accepting referrals from the Barrett Psychiatry Centre and from any psychiatric unit or hospital throughout Queensland.

Treatment is based on the multi-disciplinary team approach involving medical, behavioural science and nursing staff.

Modes of treatment include chemotherapy, individual counselling and therapy, social skills training, behaviour modification and independent living skills training.

Two wards within the unit provide accommodation for those patients whose psychiatric disturbance is such that they require temporary security.

The University Neuro-Psychiatric Unit forms a part of this unit providing training for medical students and registrars in training in the area of neuro-psychiatry.

PSYCHIATRIC ASYLUM UNIT

A 209-bed unit provides the best possible quality of life and care for patients who are generally under the age of 60 years.

A combination of nursing, medical and social work staff provide individualized treatment programmes, rehabilitation and personal care services to patients, preparing them where possible for discharge to the community.

COMMUNITY PREPARATION UNIT

The function of the 64-bed unit is to assess and accept residents from other units within Wolston Park Hospital whose psychiatric condition has been resolved, or stabilized, but who require further preparation, before discharge, in community living and placement planning to increase their chances of coping with life outside the institutional setting. Programme duration for each resident is estimated to be between six months and one year.

Delivery of care follows the concept of a team approach. The main staffing consists of medical and nursing staff, psychologists, social workers and occupational therapists. Other staff resources available include physiotherapists and recreation officers. In addition to their normal input into the programme, all regular members of the unit team take on a role as "Case Co-ordinator" for up to three residents and are responsible for the formulation of individual treatment plans and evaluation of their progress.

PSYCHOGERIATRIC UNIT

This unit, comprising 218 beds, provides the management, supervision, treatment and rehabilitation of the aged patients' psychiatric and physical ailments. The unit strives to achieve a high standard of care through advanced treatment and personal skills programmes.

Professional staff include psychiatrists, a supervising medical officer, social workers, occupational therapists and nursing staff.

Programme orientation is towards maximizing patients' independent living skills. Therapy groups include exercises and music groups, interest groups and a wide range of diversional activities. Emphasis is placed on maintaining community contact through relatives, social interactions, senior citizens groups as well as re-socialization trips and outings.

INTELLECTUAL HANDICAP UNIT

The function of this 139-bed unit is to devise and carry out individual treatment and training plans to improve the quality of life of the residents.

Professional staff in the unit includes nurses, psychologists and a part-time occupational therapist.

The programme orientation is based on a developmental behavioural approach with emphasis upon skill development and training of residents for eventual community placement.

MEDICAL TREATMENT AND REHABILITATION UNIT

The Medical Centre serves the residents of Wolston Park Hospital and Barrett Psychiatry Centre with their many and varied medical problems.

Weekly multi-disciplinary team meetings are held and individual nursing care plans are formulated within 24 hours of admission. The nursing process has been introduced in part within this unit. A relatively new general practice service has an outpatients department whereby patients from all parts of the hospital have access to a General Practitioner.

Yearly reviews of all patients who have not had a complete physical examination in the last 12 months is being carried out. Preventative medicine in the form of early detection of disease processes, minor surgery and referral to general hospitals is also provided.

The number of patients seen by the visiting specialists and referred to general hospitals has dramatically decreased since the inception of this general practice service.

Supplementary services include central sterilizing services department, dental, X-ray, pathology, pharmacy, physiotherapy, electro-cardiography, electroencephalography, audio visual, chiropody and optometry. The dental service is available also to residents of Challinor Centre and Basil Stafford Training Centre.

PSYCHIATRIC REHABILITATION UNIT

This unit has been developed for those patients requiring development of—

- (1) acceptable work habits, work tolerance and the practice of skills;
- (2) social competence and entertainment; and
- (3) personal expression and self-esteem.

Referrals are received from all areas of Wolston Park Hospital, with the exception of the Intellectual Handicap Unit and Psycho-geriatric Unit, and the Barrett Psychiatry Centre.

The Psychiatric Rehabilitation Unit aims to provide individual programmes for all patients based on an interdisciplinary approach. In delivering therapy to patients, each individual rehabilitation plan takes into account the identification and assessment of each patient's individual needs, staff encouragement of the patient's participation in planning his/her programme, co-ordination of the rehabilitation programme with the patient's total therapeutic programme and continuous review of progress.

Clinical services to patients attending this unit incorporate work related activities, activities to improve physical well being, activities to improve interpersonal relationships as well as activities to encourage personal expression and creative use of leisure time.

The Psychiatric Rehabilitation Unit administers the Hospital's work and recreation areas to assist in the achievement of its goals. These include the Activities Therapy Centre, Woodwork Sections, the Golf Course, Bowling Green, Tennis Courts and the Riverside Recreation Area. The use of the Hospital mini-bus for patient rehabilitation and recreation is also administered by this unit.

Attached to the Psychiatric Rehabilitation Unit is the "Colony Times", a monthly magazine, produced solely by patients offering an information service to both hospital staff and patients.

Reading material for all the hospital wards and library areas is supplied and reviewed by the Remedial Teacher.

CLINICAL REVIEW AND EVALUATION UNIT

This unit operates at a complex level, co-ordinating and providing services to Barrett Psychiatry Centre, Wolston Park Hospital and Wacol Repatriation Pavilion, acting in an advisory capacity to both Clinical Units and to the Hospital Executive.

Functions of Unit

Programme Evaluation.—The unit provides advice on the planning and implementation of treatment programmes and on appropriate utilization of staff skills, and participates in programme evaluation both on a therapeutic and a cost effective basis.

Inspectorial and Review Function.—This is provided to all units in the areas of programme effectiveness, assessing the appropriateness of a particular programme for its goals and objectives with respect to outcome evaluation, client suitability, etc.

Patient Management is also the subject of review function by this unit as well as assessment of the appropriateness and relevance of Manpower input to any unit, ward or programme.

Staffing

Staffing of the unit comprises an Officer-in-Charge (the Senior Behavioural Scientist), a Psychologist, three Nursing Supervisors and two Registered Nurses.

Since the unit's inception, several projects have been undertaken.

Programme Orientation

- (a) *Admissions Survey.*—All admissions to Wolston Park Hospital were monitored for three months, to assess their compliance with stated admission criteria and a report was compiled.
- (b) *Six-Monthly Medication Review.*—A Medication Review Schedule for all hospital wards was designed and compiled—(i) to ensure twice-yearly medication reviews of all patients; and (ii) to cost-effectively distribute this workload amongst medical staff.
- (c) *Physical Environment Survey.*—An extensive questionnaire has been designed and is being completed on every ward in the hospital to provide comprehensive

knowledge of facilities available, quality of patient accommodation, availability of basic equipment for programmes, etc.

- (d) *Cafeteria Survey.*—In an attempt to incorporate patients' mealtime behaviour into therapeutic programmes, the unit has implemented a system whereby each clinical unit's staff supervises its patient population at specific times for each meal and records data on patient's self-help and social skills.
- (e) *Measurable Goals for all Patients.*—This unit assisted in the drawing-up of a Problems and Goals Summary Sheet to be completed for every patient in the hospital and which is tailored specifically to each patient's needs, as a guide to the development of individualized treatment plans.

PROFESSIONAL DEVELOPMENT UNIT

The Professional Development Unit is responsible for the development and expansion of professional skills of all groups of treatment staff. As such, the Professional Development Unit undertakes to structure educational programmes designed to impart job-related knowledge to staff to assist them in the skill development needed to perform their roles effectively. The unit is also responsible for the training of student psychiatric nurses to the standards of the Board of Nursing Studies.

Orientation programmes have been developed for all categories of staff and have been implemented for nursing staff to date.

In consultation with several clinical units throughout Wolston Park Hospital, the Professional Development Unit has undertaken programmes and workshops designed to enhance clinical knowledge of all therapeutic staff involved in programmes. Such projects encompassed nursing process instruction, development of geriatric programmes, techniques in developing social skills programmes, interpersonal skills training, behavioural contact development and implementation of individual treatment plans.

The Nursing School section of the Professional Development Unit conducted in-service training for nursing assistants, registered nurses, deputy charge nurses and charge nurses during the year.

Nurse Educators conducted sessions for all categories of clinical staff on the management of cardio-pulmonary resuscitation.

The Professional Development Unit has also run workshops for Officers-in-Charge and Consultative Committees to aid in identifying and analysing problems arising from the re-organization of Wolston Park Hospital into units.

Lectures from outside authorities on the Mental Health Act have also been conducted.

A workshop was held for senior artisan staff with Management Services Branch in which problems of support staff were delineated. Follow-up from the Management Services Branch is presently being negotiated.

CENTRAL SUPPORT SERVICE

The goal of this service is to provide personnel, fiscal and material resources to enable the clinical and resource units to function, and to provide for the basic needs of food, shelter and warmth to the patients.

The service is administered by the Manager, assisted by a multi-disciplinary Consultative Committee.

During the year, Gladstone and Jenner Houses and the Repatriation Pavilion Ward B were returned to service after refurbishing, and Kelsey House and Repatriation Pavilion Ward A were closed for a similar purpose.

A new canteen and Trust Office building was opened by the Minister for Health, the Honourable Sir William Knox, M.L.A., on 5th December, 1980.

Contract cleaning was extended to Gladstone and Jenner Houses on their re-opening, and also to McDonnell House and domestics were placed in the two first-named wards.

Food prepared by the Frozen Food Facility and reconstituted by the hospital is being served to approximately half the patient population of Wolston Park in addition to the whole of Basil Stafford Training Centre.

A tree-planting programme instituted during the year will enhance the appearance of the grounds in years to come.

WACOL REPATRIATION PAVILION

The Repatriation Pavilion is responsible for the care of patients with psychiatric conditions which have been accepted as being due to war service and which require longer-term management than can be provided at Greenslopes Repatriation Hospital. The unit works closely with the Psychiatry Section of the Department of Veterans' Affairs.

Weekly patient reviews are attended by the senior psychiatrists, a rehabilitation officer and, on occasions, by social workers, occupational therapists and psychologists.

The unit aims to provide immediate and long-term rehabilitation in some cases and long-term shelter management in other cases.

BAILLIE HENDERSON HOSPITAL

Medical Superintendent: J. M. RIDLEY, M.B., B.S., D.Obst., D.P.M.

OVERVIEW OF HOSPITAL ACTIVITIES

The re-organization and definition of areas within the Hospital, which began last year, has now been completed. The activities of the different Units and services provided are outlined below.

A start has been made in the provision of a psychiatric service to the rural areas. A fortnightly outpatient clinic at Dalby serviced by a team from Baillie Henderson Hospital began in October. Extension of this service to Roma is planned.

CLINICAL THERAPEUTIC ACTIVITIES

Rehabilitation Unit

The task of re-assessing and planning the treatment of every patient in the Unit has been completed.

Intellectual Handicap Unit

The general aim of the Unit is to provide a broad range of appropriate experiences for residents—leading, after a period, to a more reliable assessment of their potential and a reduction in the influence of institutionalized behaviour.

Psychogeriatric Unit

The Royal Street Assessment Centre and the inpatient facilities at Conolly Ward are well established. With the extension services to the rural districts, the unit will be in a position to improve psychogeriatric care in the country areas.

Psychiatric Unit, Toowoomba General Hospital

On 26th January, 1981, the Unit moved to better accommodation in the vacant Old Children's Ward. There are 25 beds, three outpatient clinic rooms, four ward offices, and a day room suitable for group meetings. Ward referrals from other Units have increased, providing an excellent opportunity for experience in liaison psychiatry for medical officers.

Service for Alcoholics

This is provided via a weekly clinic and inpatient assessment facilities at Toowoomba General Hospital. Patients requiring an alcoholic treatment programme continued to be referred to Wacol. Those with brain damage likely to require long-term treatment are admitted to Baillie Henderson Hospital. Of these, eight have been transferred for rehabilitation to the Unit at Bedford Street.

Forensic Service

Dr N. Lis, Director of Forensic Psychiatry, visits monthly from Brisbane. The services of a Medical Officer, Behavioural Science staff and Liaison Nurse are provided by the Hospital. The majority of referrals are received from the local Probation Service whose officers attend the monthly clinics.

Industrial Therapy Unit

The Unit has achieved sheltered workshop status. Workers number about 40, some of whom are discharged patients.

STAFFING

Dr J. Ridley, Medical Superintendent commenced an overseas study tour in mid-May. Dr P. Sheehan, relief locum Psychiatrist, assumed duty in her absence.

The resignation of two Medical Officers early this year reduced the complement to three plus one part-time.

Behavioural Science staffing stood at six Psychologists (including Senior Behavioural Scientist), four Social Workers, four Occupational Therapists, one Physiotherapist, one Teacher, one Assistant Teacher and four Recreation Officers.

MOSMAN HALL, CHARTERS TOWERS

Medical Superintendent: I. ATKINSON, M.B., B.S., D.P.M., M.R.A.N.Z.C.P.

OVERVIEW

This past year has seen much improvement at Mosman Hall, with improved facilities for residents and an increased emphasis on rehabilitation and the strengthening of ties with the community.

ORGANIZATION AND THERAPEUTIC ACTIVITIES

The Hospital's wards are organized to provide different types of resident accommodation. One ward functions as an assessment centre to ascertain patients' clinical requirements, together with a small

Sister Margaret, seconded by the Bishop of Toowoomba, has assumed the duties of Hospital Chaplain.

Dr J. M. Sutherland, Visiting Neurologist, ceased his weekly sessions in June this year. His contribution to the teaching of medical officers will be missed.

TRAINING

In-service training for senior nursing staff, including those from Mosman Hall, is continuing.

A three-day seminar for community nurses was conducted twice in the past six months.

A one-week programme for nursing staff was organized in conjunction with the post-graduate nursing course on psychogeriatric nursing at Princess Alexandra Hospital.

All 16 candidates were successful in the State Psychiatric Nursing Finals in November, 1980.

PHYSICAL ENVIRONMENT

There was no major construction within the complex during the year under review. However, approval for the building of cold room facilities for frozen foods has been given and construction will begin in July, 1981. In addition, provision of emergency and evacuation lighting has progressed.

MANAGERIAL, MAINTENANCE, SERVICE

The Hospital artisan staff have continued to play their role in keeping abreast with minor maintenance of buildings, fittings, plant and equipment. Clerical officers continue to receive experience in all sections of Hospital work. The introduction of a Plant and Equipment Register was a major undertaking during the year.

Contract Cleaning of the Hospital has been satisfactory during the year.

The employment of Domestic Staff in Scullery areas of Wards where patients are unable to attend the Cafeteria for meals has improved the presentation of meals in these areas.

Kitchen staff have maintained a high standard of meals in the Hospital, and the introduction of frozen foods in this area will eventuate in the coming year.

Hospital grounds are still a feature, and gardening staff have continued to clear and maintain further areas with tree planting a continuing function. The gardens were again placed in the Annual Carnival of Flowers Competition. A new bush house is planned.

COMMUNITY RELATIONS

The important functions which occurred in the year with active participation by staff and the community included:—

The Hospital Fete—this was a staff organized function with enthusiastic community participation;

Voluntary Services Function—an annual tribute to the voluntary organizations and individuals associated with the Hospital;

"500" Dinner Party—to publicize the community assentation of the service provided by Baillie Henderson Hospital. Dr M. J. Sainsbury, Director, New South Wales Institute of Psychiatry, was the guest speaker;

Mental Health Week—highlights of which included a Ball, Ecumenical Service and a hospital sponsored Race Meeting at Clifford Park.

The Hospital is actively involved with the International Year of the Disabled Persons. A seminar, organized by the Health, Welfare and Rehabilitation Sub-Committee of the State Committee of the International Year of the Disabled Persons, was held at Baillie Henderson Hospital. Speakers included professionals in the handicapped services as well as handicapped persons themselves.

alcoholic unit. Two wards are open with residents having supervised access to both hospital grounds and town facilities. The fourth provides accommodation for geriatric and brain-damaged residents. A pre-hostel training annexe has been established in the Administration Building, providing accommodation for six residents in an environment which is conducive to their return to the community.

The Occupational Therapy Unit consists of a machine shop, carpentry, pottery, leather work, and an arts and crafts section. Residents from all wards attend with a number of day patients and approximately 15 residents of Eventide, Charters Towers.

Residents who are capable, attend outings such as squash, swimming, fishing and town shopping. Facilities within the grounds include a tennis court, bowling green and facilities for indoor bowls.

TRAINING

In-service training for Nursing Staff is currently carried out at the Baillie Henderson Hospital, Toowoomba. Both Charge and Deputy Charge Nurses and Registered Nurses attend, with up to three staff attending at any one time. To date, since the commencement of In-service Training, 16 staff have attended the training programme.

PSYCHIATRY CLINIC, 30 MARY STREET

Psychiatrist-in-Charge: P. J. EDWARDS, M.B., B.S., F.R.A.N.Z.C.P., D.P.M.

OVERVIEW

The Clinic continues to provide an outpatient service to the community, with assessment and treatment for the complete range of adult psychiatric disorders with the exception of cases presenting primarily with alcohol or narcotic drug addiction. A crisis intervention service is available during normal working hours. Liaison and consultative services are provided by Welfare Officers and Social Workers to General Practitioners and various Governmental and voluntary agencies in the community who deal with persons incapacitated by psychiatric illness. Information concerning community resources previously collected by the Welfare Officers and Social Workers has been extended and continuously updated.

STAFFING

At the present time, part-time psychiatrists and medical officers provide 12 additional sessions per week compared with the preceding year. The number of Welfare Officer positions has been reduced from

COMMUNITY ACTIVITIES

Each year, an Open Day is held at Mosman Hall whereby the general community is allowed access to all sections of the Hospital. This, together with other town visits by residents, tends to make the general public aware of the functions of Mosman Hall. Several community groups also participate in activities which involve residents.

The establishment of the canteen has proved highly successful among residents, with the profit going towards better facilities. This canteen is maintained by volunteers from the Hospital Auxiliary on a roster basis.

five to four, and it is anticipated that the two positions recently created for pharmacists will be filled in the near future. Otherwise there have been no changes to the staffing position.

PATIENT POPULATION

The number of new patients and the total number of patients attending the Clinic has shown an increase on last year's figures. The lower referral rate of chronic psychotic patients from Wolston Park Hospital that has been evident in the last two years has continued.

FORENSIC SERVICES

Forty per cent of all new patients were seen for forensic purposes. There was a substantial increase in the number of patients seen and in the consultations provided in Brisbane Prison. The service provided to the Probation and Parole Service continues at much the same level. There was an increase in the number of pre-sentence psychiatric reports prepared for the Courts. There was a very substantial increase in the number of assessments done for the Public Defender's Office.

STONES CORNER PSYCHIATRY CLINIC

Acting Psychiatrist-in-Charge: P. G. MITCHELL, M.B., B.S., D.P.M., M.R.A.N.Z.C.P.

OVERVIEW

During the period under review, this clinic has continued to provide services for a wide range of disorders. A major emphasis has been the continuing effort to improve the quality of service to patients by the formation of an Assessment Group of staff members of differing professional persuasions to monitor all referrals to the clinic. The aim of the Group is the early clarification of the needs of the individual patient for the purpose of realistically planned management in relation to this clinic's resources and those of the community as a whole.

THERAPEUTIC ACTIVITIES

These include—

- (1) assessment of patients and referral to appropriate management facilities to maximize efficient usage of appropriate resources;

- (2) treatment of patients with a range of techniques from psychotherapy to behavioural modification in an individual, family or group setting with or without the addition of psychopharmaceuticals;
- (3) a Day Therapy Centre providing programmes in a group setting for people with a wide range of psychiatric morbidity; the emphasis is on maintenance, rehabilitation and resocialization as is appropriate;
- (4) a crisis service available for use by personal or telephone contact;
- (5) consultative and liaison services provided to a variety of community persons and groups in the medical, social and welfare fields;
- (6) in-service training programmes for all clinical staff.

INTELLECTUAL HANDICAP SERVICES BRANCH

Director: R. N. SHEPHERD, B.A., Dip.Psych., M.A.P.S.

Deputy Director: J. M. C. WRIGHT, M.A., M.A.P.S.

Administration Officer: B. BARLOW (from 1-7-80 to 4-3-81)

R. H. S. YOUNG (from 5-3-81 to 30-6-81)

OVERVIEW

The advances in both residential and community-based services for intellectually handicapped persons which have been made in recent years have proved an excellent foundation for further significant developments in the past year. These developments have reflected the aim of the Branch to provide services which are comprehensive and flexible enough to meet the needs of the individual client or family in the least restrictive way.

This has been accomplished through the selective redeployment of human and material resources. The end result has been the widening of service options for clients and their families. However, the process has also required officers at all levels to be adaptable and to accept considerable individual responsibility. Their readiness to do so has been a key factor in the achievements recorded in this report.

The development which frequently attracted the interest of colleagues locally, interstate and overseas, was the Alternate Living Service, which is now well established in Ipswich and Brisbane. This

has occurred through the assistance of the Queensland Housing Commission in making rented homes available. However, the programme has also now developed to include privately rented accommodation.

The essence of the Alternate Living Service is that the intellectually handicapped residents are indeed the householders. The function of all staff involved is to support the intellectually handicapped residents to carry out the responsibilities of this role. This enables the residents to participate more realistically in the broad community, with positive spin-offs in increased competence and enhanced self-esteem.

The leading role which Queensland has played in the development of residential services has been recognized by visitors from interstate and by invitations to various senior officers to present papers and conduct workshops in several other States. This has culminated in the receipt of a grant from the National Advisory Council for the Handicapped to undertake a study of models of group-home-style living, in the coming year.

VISITORS

During the year, the Branch has been host to several interstate and overseas visitors, notably Professor Alistair Heron of England, Mrs Martha Dickerson of the United States of America and Professor Roy Brown of Canada. The opportunity to have discussions with visitors of this calibre has been much appreciated.

PLANNING

The Programme Management exercise, undertaken several years ago, has continued to prove useful in the application of the methodology of Programme Management to planning within the Branch as a whole. An on-going Steering Committee of senior officers has pursued this approach throughout the year.

STAFF TRAINING AND DEVELOPMENT

A highlight of the year has been the first graduations of Residential Care Assistants in Wacol, Ipswich, Toowoomba and Maryborough, with a further graduation to occur in Rockhampton early in July, 1981. This represents a welcome consolidation of the residential care model initiated in 1977, as these specially trained staff undertake their surrogate parent roles.

Other achievements in staff training and development have included the construction of a Staff Training Centre at Challinor Centre officially opened by the Honourable the Minister for Health on 13th May. This building provides excellent facilities for lectures, demonstrations and has a well-appointed library for individual study.

At the same time, it has been possible to establish a separate staff Training Centre within an existing building at Basil Stafford Centre. It is hoped to refurbish this area progressively in the future to provide staff and trainers with appropriate facilities.

While training has, of necessity, focused on the large number of direct care staff, the needs of administrators for training related to their role have been recognized. A course of training for Centre Duty Officers has accordingly been commenced.

STAFF CHANGES

In the course of the year, Mr R. Young has replaced Mr B. Barlow as the Administration Officer at the Branch.

The Branch has welcomed new faces in professional, direct-care and administrative positions in all sections. The establishment of further professional positions at Maryborough and the appointment of staff has enabled community-based services to be effectively established in that area and to reduce the amount of visiting by the Toowoomba professional team.

A position of Audio Visual Officer was established and filled by Ms F. McFadden, to provide an important support service throughout the Branch.

AUDIOLOGY UNIT

The past year has been one of gradual consolidation of this service. The second year of the Unit's existence has seen a rapid increase in the demand for its services, particularly in the areas of hearing assessment and staff education on the effects of hearing loss and other related topics.

It is pleasing to report that the Brisbane-based service is in heavy demand, with over 1 500 current cases and approximately 2 500 clients seen in the last year. The Unit has also provided a weekly service to Royal Children's Hospital which has proved invaluable to both parties, particularly in facilitating the relationship between the Unit and the Ear, Nose and Throat Department at the hospital.

A significant contribution of the Unit has been in a heightened awareness of the compounding effect of hearing problems experienced by intellectually handicapped persons and increasing emphasis on communication processes within residential environments.

COMMUNITY LIAISON UNIT

The past 12 months has been characterized by an ever-increasing pace to meet the requests for information and consultative services, requiring of staff in the Unit much flexibility and evaluation of the organization of the Unit coinciding with a constant assessment of the needs of the users of the service.

BRISBANE SERVICES CENTRAL ASSESSMENT CLINIC

Superintendent: G. ROSS, M.Soc.Wk.

OVERVIEW

New referrals to the Central Assessment Clinic have been constant over the 12-month period, with approximately 240 new children and 220 new adults being registered. The on-going caseload numbered 1 400.

The Unit's staffing establishment is five, enabling staff to specialize in work activities. Each officer is available on a roster basis as Information Officer, to be present at the Unit to handle all 'phone or personal enquiries during a day. The average number of such enquiries a day is five.

Major areas of service provision are—

- (i) *Information Resource Service*.—To provide a centralized State-Wide information service on intellectual handicap, necessitates constant maintenance of the Information Resources Collection of the Unit. All staff are involved in the process of collection and collation of material.
- (ii) *Production Services*.—Another important area of service, this section concentrates on the dissemination of information through publications, i.e. brochures, magazines, packages, and booklets.

The quarterly magazine, *Community Bulletin*, with a circulation of 1 200 is providing a forum for all—government, voluntary, parent and community to share views on ideology and services available. It is providing a valuable documented record of the development of Intellectual Handicap Services.

The *Bulletin Newsheet* circulates to 950 readers in the South-East Region of Queensland in the majority and is contributed to by an ever-increasing number of service providers and parent bodies, informing all of what is happening. It is also providing a valuable documented record of events, activities and conferences.

- (iii) *Volunteer Programme (VIP)*.—The Volunteer's Task Force produced an extensive report recommending a policy for programmes throughout Intellectual Handicap Services using volunteers: VIP—Volunteers for Intellectually Handicapped Persons. This is a major development in a facet of service delivery active with community involvement and participation.

With the implementation of the programme is the creation of a Volunteer Co-ordinator's Committee for Intellectual Handicap Service, chaired by Senior Community Liaison Officer to oversee the VIP programme, evaluate and recommend changes. This will be occurring during the coming year.

This year the Unit has enabled 15 programmes occurring in Brisbane, Ipswich and Gold Coast to be supplemented by the valuable asset of volunteers. This service is provided by assistance of 300 members of those local communities assisting as drivers, therapist aides, minders or in whatever capacity is required.

- (iv) *Extension Services*.—The on-going activity of maintaining liaison with a range of voluntary organizations and parent groups, and, in particular, the Parents and Friends Groups associated with the various residential facilities of the Branch, involves all officers but is also the particular responsibility of the Community Liaison Unit. This is an increasingly challenging task as such groups develop their knowledge and ability to express the perceived needs of intellectually handicapped people.

RESEARCH ACTIVITIES

Among a range of research activities undertaken by Branch Office has been the development of a need survey methodology and its subsequent implementation in Townsville, Toowoomba and Ipswich areas. Other important activities included service evaluation and the continued development of an innovative Branch-wide Record Keeping System.

INTERNATIONAL YEAR OF THE DISABLED PERSON

During 1981, interest is focused on disabled people and their participation as members of the community. The Branch has been active in community education projects, and officers have served on I.Y.D.P. Sub-Committees dealing with access, education and legal aspects.

Generally, there has been increasing pressures from all areas to provide extended services. This has been most marked in country areas, especially the North and South Coasts.

The Clinic still offers a visiting service to Rockhampton and will, in July, 1981, start an interim service in Townsville.

Work with adults has shown further development. The Alternate Living Service has grown from one house to three houses, with further planned development early in the new financial year. Recreation work and independence training have also shown very effective results.

The continuing work of the Clinic can be spread over five major headings:—

(i) Family Support Services

The goal of the family support services is to provide information, counselling, therapeutic, group and practical support to families with an intellectually handicapped member so that the family as a unit can maintain itself in the mainstream of the community.

This year these services have included—

- (a) Family Counselling;
- (b) Individual Adult Client Counselling;
- (c) Parent Education Courses;
- (d) Child and Adult Relief Placements;
- (e) Information Services through brochures, booklets and library facilities; and
- (f) Lectures.

(ii) Assessment Services

Assessment is an important continuing function of the Clinic and is provided to a wide range of other Government Departments and other agencies. This is used as an integral part of on-going treatment and, by having a multi-disciplinary input, provides a functional basis for future planning. The Clinic has also been called upon to provide consultant assessments for other organizations.

(iii) Intervention Programmes

The aim of the Clinic's involvement in the field of intellectual handicap is to assist to prepare these people for acceptance into generic community facilities.

(iv) Consultancy Services

There is an increasing awareness by the community about the "social problems" of intellectual handicap. Through its work, the Clinic aims to foster the development of and provide professional

support services to voluntary agencies to enable them to maintain intellectually handicapped persons within the community. By joining forces, voluntary agencies and Government Departments can support each other in the provision of quality services.

A major area of consultancy is to the Education Departments' four Early Education Intervention Programmes. The Clinic, while assessing and developing programmes to assist children move on to these facilities, also provides a back-up consultative service to teachers to assist them maintain continuity in the child's developmental programme.

(v) Teaching and Research

There is a constant need to increase professional knowledge and understanding of the needs and problems faced by intellectually handicapped people and their families.

The opening of two Community Villas, one in Toowoomba and one in Maryborough in 1979, meant a rise in the teaching commitments of staff from the Clinic. Representatives of different professional backgrounds have travelled on a regular basis to both these localities to teach residential care staff skills in the treatment of intellectually handicapped people.

The Clinic also provides a basis for research that helps develop a better understanding of the development of intellectually handicapped people and of the technology required for the improvement of intervention programmes.

STAFFING

In-service training schemes have been helped by the appointment of a Senior Occupational Therapist, Senior Speech Therapist and Senior Physiotherapist.

BASIL STAFFORD TRAINING CENTRE

Deputy Superintendent: R. JOACHIM, B.A.(Hons.), M.A.P.S.

OVERVIEW

This year was one of consolidation at the Centre. Very few changes occurred in professional resource staffing and this has allowed the continuation of established programmes.

Training of residential care assistants has now reached the stage where some staff have been able to enter training no more than six months after commencing duty.

Further progress was made toward providing normal community living opportunities for our residents, with two groups of adolescents setting up homes in rented accommodation and a number of individuals being located in other living situations. The five-year plan to rationalize accommodation, professional and administrative space is well on target.

Increased involvement by community service clubs gives cause for optimism as the work they are doing is improving quality of life for residents.

CLINICAL/THERAPEUTIC ACTIVITIES

The last 12 months has seen a continuation of the community residential initiative commenced in the previous year. This necessitated preparation programmes.

As at 30th June, 1981, over 95 per cent of the residents were involved in training programmes for at least three hours per week. Twenty-two residents attend special schools in the community on a full-time basis, and eight attend part-time. Five residents attend full-time at activity therapy centres or sheltered workshops in the community while three attend part-time.

The Basil Stafford school programme provides training for a total of 47 residents, 32 attending approximately half-time and 15 attending for shorter sessions. The curriculum includes gross motor activities, music and movement, total communication training, swimming and water play, cognitive development, social and interpersonal skills, and community awareness.

Other activities, such as drama, woodwork training and holiday experiences, are provided for specific classes.

There are now three adult activity centres operating within the Centre—the Transitional Activity Therapy Centre with 12 residents attending, the Banksia Activity Centre, with 10 part-time residents and the Independent Cottage Craft Centre. The latter project was commenced during the last year and aims to foster independence and social development, within a programme of crafts training and gardening. Eleven residents are catered for in the programme.

The horse-riding programme, under the direction of the recreation officer, has expanded considerably in the last year and now operates three mornings a week and involves around 150 residents.

The Social Club has recently been re-organized to include a greater variety of activities. The programme has included a number of activities located in the community to give residents some experience in the expectations of community living.

A total of 16 residents were discharged from the Centre, all of whom moved to community facilities. One resident returned to her family, six were placed in family group homes, and nine adolescents moved into two houses staffed by residential care assistants in the Brisbane Alternate Living Service.

During the Christmas holiday period, a successful programme entitled School Holiday Activity Programme and Entertainment (SHAPE) was conducted by a residential care worker and a number of residential care assistants.

Future plans for programming activities revolve around the provision of more appropriate community-based accommodation for residents. It is expected that programmes will continue to emphasize the skills which residents need to develop in order to cope with the demands of community living.

STAFF TRAINING AND DEVELOPMENT

Residential Care Assistants Course.—There are now 136 staff involved in this course. Fifty new staff have completed the induction week during the year.

The Division of Health Education and Information ran a series of courses for domestics, supervisors and other staff involved in food handling.

Eleven monthly seminars have been held during the year for all staff at the Centre.

A system to improve feedback from outside hospitals has been instituted so that the nursing service receives information on any treatment begun at the hospital to which a resident was referred.

COMMUNITY RELATIONS

The involvement of volunteers from the community with the residents continued under the co-ordination of the social work section.

The Parents and Friends Association continues to help the Centre in various ways. During the year, it underwent a name change from the Aveyron Parents and Friends Association to the Basil Stafford Training Centre Parents and Friends Association. The Association

has donated funds for Christmas gifts, pocket money and amenities, held a fete in conjunction with Open Day and helped sponsor the Easter Bonnet Parade.

The Little Kings Movement continued conducting weekly sessions with some of the residents.

This year saw the opening of the Olive Sheridan Park, a recreational facility for residents, their families and staff. This park

was constructed by the Salisbury Rotary Club with financial backing from the Parents and Friends Association.

Another service club, the Jindalee Rotary Club, has built two barbeques in the Centre and constructed a fence to assist with the horse-riding programme.

Other community groups are currently looking at the possibility of assisting the Centre in the coming months by way of equipment donations.

IPSWICH SERVICES

Community-Based Services

OVERVIEW

Community-based services in Ipswich have previously been provided by the Central Assessment Clinic, while staff of Challinor Centre have supported a growing independent living service of former residents. The latter has now been incorporated into the Alternate Living Service, providing a continuum of accommodation facilities, varying according to the type and extent of staff input. A training and support service is now provided for 76 clients in 27 separate living facilities.

As of 15th June, the professional staff have assumed responsibility from the Central Assessment Clinic for all resource and assessment activities in the Ipswich area.

ACTIVITIES

During the past year, the service has responded to an increasing need to establish and co-ordinate day activities to assist clients in developing competence in social, work and recreational skills to complement the self-care training conducted within their home environment. An average of 12 clients per day attend structured programmes.

CHALLINOR CENTRE—IPSWICH

Medical Superintendent: G. McCUTCHEON, M.B., Ch.B.

Deputy Superintendent: G. DE GLAS, B.A.

OVERVIEW

This has been a year of planning and implementing initiatives designed to enhance the quality of life for residents and clients, to provide new training options and resources, to further staff education opportunities and to streamline and establish procedures that contribute to the provision of a better service to all.

Information about effective training procedures and techniques, establishing training priorities and use of community resources has been transmitted to Centre staff. Use of this information will result in more economic and relevant training with the Centre and will eventually facilitate resident/client transitions when moving from Centre to community.

A step forward was taken with the development of a set of criteria designed to introduce greater objectivity into methods of selection for community placement. These guidelines are not skill-based, a significant departure from traditional concepts.

THERAPEUTIC ACTIVITIES

A pre-work area has been established to cater for those residents who require basic training in work skills, attitudes and behaviours. The area has, as part of its philosophy, an acceptance of the notion that social recreational and educational development is a necessary supplement in the total development of the person. The range of activities/work tasks available for training purposes is steadily increasing.

Basic formal work options have also provided a source of employment. Opportunities have extended throughout this year to include outside gardening contracts, car washing, etc.

RECREATIONAL ACTIVITIES

The Day Centre has continued to expand the range of crafts and activities available to residents. There has been a significant increase in the number of residents who attend on a regular basis and the total number catered for by the area.

BEHAVIOUR INTERVENTION UNIT

The unit was established in October, 1980, and is co-ordinated by an Assistant Programme Director. Its creation has allowed for a systematic and intensive approach to some long-standing behaviour problems.

HOLIDAYS

Six groups of 78 clients have enjoyed holidays in venues including Lamington National Park, Caloundra, Tallebudgera National Fitness Camp and Binna Burra.

STAFF

Of 25 Residential Care Staff, 16 have completed training as Residential Care Assistants and eight are currently in training.

COMMUNITY RELATIONS

Liaison has been maintained with various other government and voluntary organizations. Considerable effort has gone into the preparation of an Ipswich Service Directory to be launched in August.

Meetings have been held with banks and building societies, to introduce a more flexible system of identification of clients by photographs in passbooks.

STAFFING

Establishments for most professional disciplines are currently filled, and all staff have fulfilled a number of general functions throughout the past year. These include—

- (1) resource staff for areas/units, include planning, supporting and programming input;
- (2) work with individual residents including assessment, programme design, implementation and evaluation in areas of behaviour change, skill development in self-help, social and communication areas;
- (3) participation in staff development activities which encompasses lecturing and supervision of R.C.A.'s in training;
- (4) participation in public relations activities, including fetes, displays and open days;
- (5) participation in local, Branch and other seminars/learning exchanges relating to profession or area of employment.

MEDICAL AND NURSING SERVICE

The service continues to be run along community lines with two part-time medical officers providing a general practitioner service of morning surgeries, house calls and after-hour services. This could not be accomplished to complete requirements without the excellent support of the Ipswich General Hospital.

Despite temporary shortages and vacancies in the Nursing Service establishment of six, a 24-hour service was maintained, and was responsible for organizing medical and specialist appointments and providing a domiciliary service. Surgery appointments totalled 3 043, house calls 212, interviews 60, specialist visits 259, pathology at Centre 255, visits and admissions to General Hospitals and other facilities 494.

PHARMACY SERVICE

With the establishment of a Pharmacy at the Basil Stafford Training Centre in February, 1980, the Challinor Centre Pharmacy was able by June, 1980, to have developed the Medication Distribution System for Basil Stafford Training Centre to the stage of complete independence of Challinor Centre with the exception of— (1) prescribing information service; and (2) occasional supply of emergency medication. This freed the Challinor Centre pharmacy staff to develop and improve their services to the patients and in staff training.

ADMISSIONS AND DISCHARGES

Tables of figures are published elsewhere, but it is worthy of mention that temporary relief placement was given to 61 clients, all of whom returned to the community.

Twenty-two residents were discharged, 13 to the independent living service, seven to voluntary hostels, and two to Dalby Hospital Annexe.

STAFF DEVELOPMENT

The staff development section, Challinor Training Centre has experienced a great deal of change and development in the last year. The opening of the new staff training building and the vital steps towards a comprehensive course review involving the Certificate Course in Residential Care have been two major events.

Permanent staffing presently consists of a Staff Training Officer, two Residential Care Workers and a Residential Care Assistant. Lecturing resources are further strengthened by guest lecturers, Basil Stafford Training Centre staff development officers, Challinor Centre professional staff and administrators and other Branch personnel.

COURSES

Staff Development has been responsible for the organization of the following courses:—

- (1) The Certificate Course in Residential Care;
- (2) One-week Induction Courses for new staff (R.C.A.'s);
- (3) Special Courses/seminars for all categories of staff;
- (4) Co-ordination of Residential Care Worker (Training) practicums.

CERTIFICATE COURSE IN RESIDENTIAL CARE

There are 123 Residential Care Assistants currently in training at Challinor Centre.

INDUCTIONS

Six one-week induction courses have been run for new R.C.A. staff.

SPECIAL COURSES/SEMINARS

A number of special courses and seminars have been held during the year to aid in staff development.

TOOWOOMBA AND MARYBOROUGH SERVICES

Superintendent: C. T. CAMPBELL, B.Sc., Dip.Psych., M.A.P.S.
 Toowoomba Villa Director: A. BARBER, M.N.C., G.N.C., O.N.C.
 Maryborough Villa Director: B. MATTHEWS, B.A.(Hons.Psych.)

OVERVIEW

Within the regional area, major decentralization of personal and family services has been achieved through the establishment of resource and assessment services in Maryborough. The regional bases of Toowoomba and Maryborough now offer a comprehensive range of services, comprising—

- (i) multi-disciplinary professional services to clients and their families in the respective catchment areas;
- (ii) short- and longer-term residential services through Community Villas, with an active training ethos;
- (iii) access to hospital-based accommodation for clients with profound intellectual handicaps through 40-bed units at Tredgold House and the Maryborough Base Hospital.

The administration and overall co-ordination of services are provided through the regional office in Toowoomba. The specialized functions of staff development, family education and community development across the regional area have been consolidated by the basing at the Toowoomba office of positions of Assistant Programme Director and Residential Care Worker forming a Regional Education Unit.

The graduation ceremonies for initial appointees to positions of Residential Care Assistant were significant milestones in the Community Villa concept, indicating the full implementation of the new model in residential care and training. Staff training is now established as an on-going regional function.

Access to services for clients in Western areas has traditionally presented problems for the Toowoomba-based resource team. The establishment of regular air-charters to major population centres in conjunction with associated departmental agencies has greatly improved the frequency and efficiency of our services to geographically isolated families.

PHYSICAL ENVIRONMENT

The new Staff Training Centre was officially opened by the Hon. Brian Austin, Minister for Health, on 13th May, 1981.

This complex comprises a reception area, four large lecture rooms, a very large library with excellent facilities for study, an audio-visual workshop and store-room, an activities and demonstration room, an observation area, an equipment library and four offices. The surrounding area is landscaped and blends well with the landscaping of the neighbouring canteen.

The purchasing of extra machinery for the laundry has allowed considerable progress towards processing 100 per cent of the laundry for the Ipswich General Hospital.

Routine maintenance work included renovations to Ellen House bathroom and the demolition of the water tower, a well-known landmark for local aircraft pilots and a much used facility for surveyors.

COMMUNITY RELATIONS

Family contacts have been maintained and are ever-increasing. A special programme, conducted by a Recreation Officer in liaison with Social Work Section, has resulted in 294 residents' home visits and home leaves during the year.

There were more resident holidays during the first six months of the year than had occurred in any previous 12-month period. A final figure is not yet available.

The Senior Citizens Group continues to enjoy community outings, and St. Pauls Mothers Union have now established a Challinor Centre Wheelie Club, with no fewer than 15 "pushers" at a recent outing.

Community outings for residents in wheelchairs have become greatly enhanced by the donation to the Centre of a minibus with a hydraulic ramp from Friends of Challinor Aid League, assisted by Aid Retarded Persons, Queensland.

F.O.C.A.L. has continued to give support to the Centre by providing pre-workshop incentives and aide scheme payments, and it is generally accepted that the recent granting of pensions to all residents over the age of 16 years was largely due to the negotiations with Federal and State Governments undertaken by F.O.C.A.L.

There has been on-going support of the many church groups in the area, an increase in the number of private citizens who have volunteered their time and skill to assist in training areas, and a one-week placement of two police cadets from the Police Academy, all illustrating increasing enlightenment in the community.

CLINICAL/THERAPEUTIC ACTIVITIES

Personal and Family Services

The establishment of a Resource and Assessment Service in Maryborough has allowed a splitting of the caseload covered by Toowoomba-based staff since 1979. The Maryborough team has assumed responsibility for clients along the coast strip from Gympie to Bundaberg. The Toowoomba-based team now concentrates its services towards clients in South-West Queensland and the South Burnett area.

Within these catchment areas, however, the spread of clients has necessitated a strong domiciliary emphasis in the provision of services. For clients with access to Toowoomba, centre-based services for individuals and groups are available as a result of improved accommodation. Such services will be facilitated in Maryborough with the completion of the new Administration Building now under construction.

Each of the resource teams co-ordinates and rationalizes short- and long-term admissions to residential facilities in its area. Strong community demand exists for residential provision for adults with severe to profound intellectual handicaps, associated with behavioural management problems, across the region. It has been necessary to arrange a number of such placements at Challinor Centre, Ipswich.

The availability of beds within the Community Villas for short-term admissions has continued to provide an essential family resource. Fifty-one families have availed themselves of this facility over the year. This has proved to be a cost-effective service, relieving families for periods averaging one month from the day-to-day demands of living with their handicapped family member. In many instances, such admissions have been used to facilitate intensive training programmes for clients. This tangible family support appears to reduce the demand for longer-term placement by families with more transient problems.

Across the regional area, assessment, counselling and developmental programming services for children are well established.

Services for adults are being improved in both Toowoomba and Maryborough. A separate adult team is planned for Toowoomba. In Maryborough, the resource team has developed programmes for mildly-handicapped adults, in conjunction with the Maryborough Villa, aimed at less restrictive community living. A parallel programme of family education is under way, introducing new concepts and understanding for the families of the clients involved.

Residential Facilities (Villas)

Each of the Villas in Toowoomba and Maryborough now functions as an active training facility for children and adults with intellectual handicaps, requiring supervision on a 24-hour-a-day rostered basis. The level of expertise acquired by trained staff in behavioural management and developmental training appears to justify resources spent in the early stages of establishment of the Villas in staff development.

During the year, major efforts have been made towards community integration, particularly in recreational pursuits. There have been broad programmes involving swimming, roller skating, and bowling, with other groups undertaking gymnastics, camping trips, concerts, fishing, horse-riding and dining out.

A number of adult residents in each Villa attend sheltered workshops and activity training centres, with most children attending community schools on at least a part-time basis. In each Villa, it has been necessary to establish day programmes for residents whose full-time needs are beyond the resources of available community facilities, with regard to both education and work experience. These programmes accept community referrals through their respective resource teams where similar needs exist.

The Maryborough Villa continues to stress the involvement of volunteers in its programmes to foster community acceptance and positive contact with the handicapped. During the year, the number of

volunteers involved has expanded from five volunteers to 35, each participating for three hours weekly. This constitutes a major programme, supplemented by a volunteer training course organized through the Maryborough College of Technical and Further Education.

The Toowoomba Villa has encouraged community knowledge of the Villa through visits by associated practitioners, students and community groups.

There has been progressive movement of longer-stay adults at each Villa into alternative living environments, according to personal competence and needs.

Each Villa is supported by an associated voluntary organization, enabling participation by families and members of the community in the welfare of the residents.

STAFFING

Positions of Psychologist, Occupational Therapist, Residential Care Worker and Social Worker Associate have been deployed in Maryborough in establishment of the Resource and Assessment Team.

The positions of Assistant Programme Director and Residential Care Worker, now based in Toowoomba, form an effective Education Unit for the region, representing the specialized Branch Units of Human Resources Development, Community Liaison and Family Education.

The Speech Therapist position in Toowoomba complements the multi-disciplinary emphasis in assessment and programming.

Seventeen direct-care staff in Toowoomba and 11 in Maryborough have received their Certificates in Residential Care. Training courses for more recently recruited staff will begin in July, 1981. An in-service training and development course for Centre Duty Officers has begun in Maryborough and it is planned to extend this across the regional residential facilities. Regional administrative staff are gradually being absorbed into management development courses in keeping with departmental policy.

The current staff establishment across the region comprises 81 positions.

The initiatives of the past year reflect the policy of progressive decentralization of services by the Intellectual Handicap Services Branch, incorporating regional centres for service delivery, with associated administrative and resource support.

ROCKHAMPTON SERVICE

Villa Director: E. DOWD, B.Soc.Wk.

OVERVIEW

In 1980-81, the Regional Assessment Clinic has increased the scope and variety of services offered to the region, including Gladstone and Mackay.

The Villa complex has developed its functions further as staff have become more proficient and experienced.

CLINICAL ACTIVITIES

The Clinic has continued to provide services to the community, the Villa and Intellectual Handicap Unit at the Rockhampton Base Hospital.

Permanent staff during the year have been able to develop more independent services using Clinical team and Audiologist visits from Brisbane as resources for their on-going work. Currently, a Social Worker and Residential Care Worker staff the Clinic. A Psychologist and second Residential Care Worker positions were filled for part of the year.

A considerable degree of publicity of Clinic services within the region has been undertaken. This had included circulation of Clinic brochure and personal contact made by Clinic staff with Doctors, other professionals and interested groups in the region.

The Clinic anticipates further expansion in the coming year with the appointment of further staff.

COMMUNITY RESIDENTIAL DEVELOPMENTS

January, 1981, saw the extension of the deficit-funded hostels programme to Rockhampton, with the opening of a Hostel for intellectually handicapped school-age children needing to attend a Special School facility, in co-operation with Karakan Hostels Limited.

Regional Assessment Clinic staff were involved in the initial formation of the local Karakan committee and supplying information on the most appropriate need group for the hostel. Close liaison has occurred between Regional Assessment Clinic and Guidance and Special Education in selecting residents. On-going houseparents' and residents' support is offered by Regional Assessment Clinic.

RESIDENTIAL SERVICES

Overview

The Rockhampton Villa completed two years of operation on 25th June, 1981, and this year there were 11 permanent residents cared for, 14 other people had a relief placement and seven made use of a day relief service.

Therapeutic Activities

During the year, efforts have been made to build on to the modular system of residential care by matching the special needs of individual residents with the talents and abilities of each member of the Residential Care staff. Assistance has been received from the Schools Commission funding which has enabled the purchase of toys, swimming pool, and playground equipment. These grants have increased the potential for providing a better learning environment.

STAFFING

The first group of graduates from the R.C.A. certificate course are due to receive recognition for completion of the requirements.

PHYSICAL ENVIRONMENT

The physical setting of the Villas continues to improve with tree planting and gardening projects.

One notable feature of the year has been the transfer of the general administration from the small rooms in the Villa houses to a temporary Administration Building (previously activity building). This has enabled the activities of the residents and R.C.A.s to progress without the hindrance of 'phone calls and visitors to the administration areas.

COMMUNITY RELATIONS

The Villa Parents and Friends Association continues to function actively in the life of the Villa.

The Association has organized activities such as the Christmas Party and has attracted donations toward the purchase of items such as playground equipment. The gift of a freezer was appreciated. The Parents and Friends Association has been a major means to date of liaising with the community at large.

TABLE LXXVII
COLLECTIONS—HOSPITALS AND CENTRES

	Amount	Per Patient Day
	\$	\$
Maintenance paid by Patients—		
Wolston Park Hospital	1,558,852	4.27
Baillie Henderson Hospital	935,034	5.40
Mosman Hall	404,877	5.05
Challinor Centre	757,289	5.75
Basil Stafford Training Centre	308,459	3.97
Community Villas	50,403	2.62
	4,014,914	4.74
Recouped from Department of Veterans' Affairs*	1,498,177	..
Pharmaceutical Benefits	426,109	..
	5,939,200	7.02

*Does not include recoupment of expenditure on Capital Works.

TABLE LXXVIII
DIVISION OF PSYCHIATRIC SERVICES
Loan Fund Expenditure 1980-81

Service	Amount	
	\$	\$
<i>Wolston Park Hospital—</i>		
Storage and Distribution—Frozen Foods	40,559	
Emergency Power	66,074	
Remodelling—Kelsey House	8,169	
Sewerage Installation	219,723	
Hospital Ward Complex	34,586	
Other Works	62,672	431,783

TABLE LXXVIII—continued
DIVISION OF PSYCHIATRIC SERVICES
Loan Fund Expenditure 1980-81

Service	Amount	
	\$	\$
<i>Baillie Henderson Hospital—</i>		
Indoor Recreation Facilities	26,333	
Emergency Power and Lighting	95,553	
Other Works	114,802	236,688
<i>Mosman Hall—</i>		
Emergency Power	69,461	
Other Works	14,903	84,364
<i>Challinor Centre—</i>		
Staff Training Centre	254,377	
Indoor Recreation Centre (Planning)	500	
Renovations to Bathrooms—Ellen House	25,733	
Emergency Lighting	43,311	
Other Works	46,347	370,268
<i>Basil Stafford Training Centre—</i>		
Other Works		47,712
<i>Community Villas—</i>		
Maryborough—		
Administration Unit	10,404	
Other Works	4,001	14,405
Rockhampton—		
Planning Additional Facilities	4,161	
Other Works	4,606	8,767
Toowoomba		1,702
Recurring Maintenance—Existing Buildings based on proportional expenditure		42,699
Total		\$1,238,388

TABLE LXXIX
MAINTENANCE (INCLUDING SALARIES) EXPENDITURE, 1980-1981—DIVISION OF PSYCHIATRIC SERVICES

Service	State Funded	State Proportion (Community Medicine Programme)	Commonwealth (Community Medicine Programme)	Department of Works	Total	Daily Average Residency	Annual Cost Per Patient	Daily Cost Per Patient
	\$	\$	\$	\$	\$	\$	\$	\$
<i>Office of the Director</i> (Includes Intellectual Handicap Services Branch Head Office, some Central Assessment Clinic Salaries and Mary Street Psychiatry Clinic)—	1,894,215	..	..	144	1,894,359	..	..	..
Stones Corner Clinic .....	..	236,591	236,591	..	473,182	..	..	..
Gold Coast Clinic .....	..	18,051	18,051	..	36,102	..	..	..
Supervised Group Homes	57,872	..	..	75	57,947	..	..	..
Totals	1,952,087	254,642	254,642	219	2,461,590	..	..	..
<i>Psychiatric Hospitals—</i>								
Wolston Park Hospital	17,463,802	..	..	103,633	17,567,435	900.60	19,506	53.44
Wacol Repatriation Pavilion*	1,177,272	..	..	..	1,177,272	98.47	11,955	32.75
Baillie Henderson Hospital	9,269,573	..	..	223,851	9,493,424	474.01	20,027	54.87
Mosman Hall	2,307,583	..	..	53,154	2,360,737	219.80	10,740	29.42
Totals	30,218,230	..	..	380,638	30,598,868	1 692.88	18,075	49.52
<i>Intellectual Handicap—</i>								
Central Assessment Clinic .....	..	249,150	249,150	..	498,300	..	..	..
Toowoomba Regional Clinic .....	..	75,266	75,266	..	150,532	..	..	..
Rockhampton Regional Clinic .....	..	11,347	11,347	..	22,694	..	..	..
Challinor Centre	8,028,306	..	..	84,015	8,112,321	360.50	22,502	61.65
Basil Stafford Training Centre	5,266,278	..	..	37,875	5,304,153	212.60	24,949	68.35
Community Villas	1,446,679	..	..	14,943	1,461,622	52.71	27,729	75.97
Totals	14,741,263	335,763	335,763	136,833	15,549,622	625.81	24,847	68.07
Case Equivalent of Long Service Leave	235,642	2,578	2,578	..	240,798	..	..	..
GRAND TOTAL	\$47,147,222	\$592,983	\$592,983	\$517,690	\$48,850,878	2 318.69	21,068	57.72

*Recouped from Commonwealth Department of Veterans' Affairs.

TABLE LXXX
MENTAL HEALTH REVIEW TRIBUNAL—1980-81

Applications adjourned from 1979-80.....	10	
Applications awaiting hearing as at 30-6-80.....	7	
	—	17
Applications received by Tribunal during 1980-81—		
From patients.....	65	
From nearest relatives of patients.....	1	
From others.....	1	
	—	67
		84
Applications heard by the Tribunal during 1980-81—		
Refused.....	33	
Discharge ordered.....	1	
Derestriction recommended.....	3	
Transfer recommended.....	1	
Adjourned "sine die".....	1	
Otherwise adjourned at 30-6-81.....	7	
	—	46
Applicants who failed to appear before Tribunal—		
Withdrawal of application.....	5	
Discharged by Hospital.....	9	
Declared a voluntary patient.....	2	
	—	16
Applications awaiting hearing as at 30-6-81.....	22	22
		84

TABLE LXXXI
PSYCHIATRIC HOSPITALS
Showing Admissions and Discharges During the Year Ended 30th June, 1981

	*Wolston Park Hospital			Baillie Henderson Hospital			Mosman Hall			Grand Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
On the Books as at 1st July, 1980.....	714	329	1 043	313	186	499	247	..	247	1 274	515	1 789
Total Admissions during year.....	330	179	509	185	142	327	69	..	69	584	321	905
Total Under Care during year.....	1 044	508	1 552	498	328	826	316	..	316	1 858	836	2 694
Total Discharges during year.....	378	192	570	217	174	391	65	..	65	660	366	1 026
Resident as at 30th June, 1981.....	619	288	907	262	147	409	217	..	217	1 098	435	1 533
On Leave as at 30th June, 1981†.....	47	28	75	19	7	26	34	..	34	100	35	135
Total On Hand as at 30th June, 1981	666	316	982	281	154	435	251	..	251	1 198	470	1 668
Average Number Daily Resident.....	..	..	929	..	..	474	..	..	220	..	..	1 623
Proportion of number of patients remaining on Books to each 1 000 population as at 30th June, 1981.....												0.73
Proportion of Admissions per 10 000 population for year ending 30th June, 1981.....												3.97

*Wolston Park figures include Repatriation Pavilion, Wacol.

†This figure does not include patients on leave for special care.

The above are preliminary figures only. More precise and detailed figures will be available in late 1981.

TABLE LXXXII
H. R. G. BARRETT PSYCHIATRY CENTRE
Showing Admissions and Discharges During the Year Ended 30th June, 1981

	Male	Female	Total
On the Books as at 1st July, 1980.....	98	69	167
Total Admissions during year.....	404	361	765
Total Under Care during year.....	502	430	932
Total Discharges during year.....	429	375	804
Resident as at 30th June, 1981.....	35	37	72
On Leave as at 30th June, 1981.....	38	18	56
Total On Hand as at 30th June, 1981	73	55	128
Average number daily resident.....	39	31	70
Proportion of number of patients remaining on Books to each 1 000 population as at 30th June, 1981.....			0.05
Proportion of Admissions for 10 000 population for year ending 30th June, 1981.....			3.36

TABLE LXXXIII
CENTRES FOR THE TRAINING ON THE INTELLECTUALLY HANDICAPPED
Showing Admissions and Discharges During the Year Ended 30th June, 1981

	Basil Stafford Training Centre			Challinor Centre			Grand Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
On the Books as at 1st July, 1980	137	104	241	218	163	381	355	267	622
Total Admissions during year	102	74	176	49	29	78	151	103	254
Total Under Care during year	239	178	417	267	192	459	506	370	876
Total Discharges during year	101	80	181	56	35	91	157	115	272
Resident as at 30th June, 1981	133	95	228	207	151	358	340	246	586
On leave as at 30th June, 1981*	5	3	8	4	6	10	9	9	18
Total on hand as at 30th June, 1981	138	98	236	211	157	368	349	255	604
Average Number Daily Resident .....	..	..	213	..	..	360	..	..	573
Proportion of number of patients remaining on Books to each 1 000 population as at 30th June, 1981									0.26
Proportion of Admissions per 10 000 population for year ending 30th June, 1981									1.1

*This figure does not include patients on leave for special care.

DIVISION OF ALCOHOL AND DRUG DEPENDENCE SERVICES

Director: Dr A. H. FREED, M.B., B.Ch., M.R.C.P.E., M.R.C.Psych, D.P.M., F.R.A.N.Z.P.
 Deputy Director (Treatment): Dr F. R. BENSON, M.B., B.S., D.P.H. (to 4-1-81)
 Acting Deputy Director (Treatment): Dr J. R. CLARKE, M.B., B.S., B.M.Sc. (from 5-1-81)
 Deputy Director (Prevention and Co-ordination): Mr L. P. LUMSDEN, M.A. (from 22-1-81)

This has been a productive year. This Service, utilizing programme management via the team-programme-goal-oriented approach, takes advantage of overlapping knowledge bases that are common to treatment, prevention, community development and rehabilitation.

The Consultative Committee has met monthly since October, 1980, and is providing valuable advice to this Service.

TREATMENT PROGRAMME

"Biala"

The Biala in-patient programme continues to function well with 4 491 primary contacts being made over the last 12 months. Of these, 1 784 were admitted for short-term sobering-up and detoxification, including ward activities programmes and social assessments.

The Biala out-patient programme covers many areas—a regular counselling service, group therapy, coffee club, and supervision of our patients at farms, in country areas, including a significant input from volunteers.

Liaison with voluntary agencies continues with increased understanding for both groups. Regular meetings are held in Biala by Alcoholics Anonymous, Al-Anon, Alateen and GROW. We fully recognize the importance of these groups in the patients' (and their families') long-term management of their problems.

The Teenage Programme offers assistance to substance abusers in the under-25 age group and their parents. This area is an expanding one, with liaison with many outside groups, particularly the Education Department.

Drug Dependence Clinic

The Drug Dependence Clinic is playing a very active role in the counselling and on-going management of people with drug dependencies. It is particularly involved with the Methadone Maintenance Programme. This year saw the introduction of procedures to allow new patients to be more effectively assessed and tolerance levels to be more accurately gauged.

The numbers of clients treated were comparable with 1979-80.

The lease of the premises at 30 Herschel Street expired at the end of this financial year and new premises were occupied at 460 George Street.

Wacol Rehabilitation Clinic

This caters for medium- and long-term residential treatment of patients recovering from the effects of abuse of addictive substances. Length of stay is usually from 3-8 weeks, but may be extended to up to 12 months.

Various forms of therapy are employed—they include educational programmes involving lectures, discussions and films; activity programmes involving occupational therapy and manual work; and psychotherapy groups. Patients are also encouraged to attend social skills training, Alcoholics Anonymous and GROW meetings.

Pavilion 4—Royal Brisbane Hospital

This is a 2-week in-patient or out-patient facility with an active follow-up period of 12 weeks. It aims to improve the patient's life in many areas, e.g. physical health, job performance, family interaction and social functioning. Group sessions are the focal point of the therapy programme.

There has been a close contact established with employer representatives, and employee advisors are encouraged to attend at least two sessions with the patient and Pavilion 4 staff members. Relatives are also asked to attend. This helps establish concrete community support and acts as an informative and educational process also.

Community-based Programmes

There has been a marked expansion of services and referrals from Community Health Centres and Hospitals, and other social agencies. This necessitates home visits and counselling, and in some cases, referrals for admissions for detoxification and continuing rehabilitation. A total of 390 client contacts have been made in the community.

Aboriginal Programmes

The service continues to work in conjunction with the Aboriginal and Islander groups, particularly at "Jodaro" in Brisbane.

There is an on-going training programme for Aboriginal counsellors from different communities all over Queensland. This involves a preliminary training course which is consolidated later in the year.

This Service's team is frequently called upon by various Aboriginal Communities to assess their needs and assist them in setting up their own programmes. This necessitates frequent visits to these communities as programmes have to be developed and modified to suit the specific needs of each community as most have no network of support systems. To date, the following areas have been visited by members of the Aboriginal Project Team:—

Mount Isa, Townsville, Cherbourg, Toowoomba, Rockhampton, St George, Mackay, Charters Towers, Woorabinda, Cairns, Cunnamulla, Quilpie, Charleville, Roma, Normanton, Boulia, Lockhart River, Palm Island, Mornington Island, Thursday Island, Weipa, Arakun, Kowanyama.

PREVENTION

A range of prevention-related activities has been carried out by this Service during the year. Many of these have been conducted by staff other than those in the "prevention programme", consistent with the programme management philosophy.

Prevention Strategy

During the period between the creation and filling of the position of Deputy Director, Prevention and Co-ordination, on 22-1-81, a review of prevention strategies attempted in various parts of the world was undertaken to provide background material and to build up interest in prevention. This report provided part of the basis of a workshop conducted by 16 staff members for one week, where a prevention strategy began to be developed.

The overall approach being adopted involved the recognition that simple or single solutions to drug- and alcohol-related problems do not exist. Any choice of a social and technical system has a number of adverse consequences, most of which are predictable. Prevention projects with specific, measurable and attainable objectives (following established project management and evaluation techniques) can be devised to minimize many of these problems. However, it is recognized that since problems are the unintended consequences of the socio-technical system adopted, they must not be viewed in isolation. The adoption of an alternative socio-technical system would not avoid problems in any way, but merely produce different ones. A problem-solving approach was chosen recognizing, as a general principle, the good will and social responsibility of people and organizations involved in legal alcohol and other drug activities. Five specific projects based on these principles have been devised by staff and are at various stages of implementation.

Employee Assistance Programmes

The Service has maintained close contact with Alcohol and Drug Problems Association of Queensland in the development of "Programme Restart" in Townsville. Departmental support has been provided to allow "Programme Restart" to employ an Industrial Programme Co-ordinator.

Continued contact has been maintained with the Public Service Board regarding the Employee Assistance Service. A proposal regarding the development of the Health Department's programme was submitted in March, 1981. While referrals to the Employee Assistance Service have been made, considerable effort is yet required. The assistance of Management Services Branch of the Department of Health in furthering the service has been appreciated.

Two officers of this Service participated in the Second Occupational Drug and Alcohol Programmes Conference in Sydney (27th-29th April, 1981) and actively contributed towards the development of a standardized strategy for Australia.

Rural and Regional Drug Education Programme

Following the recognition of the need to match information on substance use and abuse to the specific requirements of locations and to the available resources, four centres were selected. An integrative approach was adopted where information and perceptions were exchanged and where further steps in the education process were based on specific and mutually agreed needs. Programmes were conducted in Cairns, Blackwater, the Sunshine Coast, and Charleville. Follow-up action encouraging local development was made in each case. In the case of the Sunshine Coast, an officer maintained frequent contact and support.

Prevention Lectures and Addresses

In addition to regular public addresses given by the Director, staff of the Service maintain regular contact with several groups of people in training (*vide infra*), and in all cases the time available is brief; however, contact is valuable:—

- Fourth Year Medical Students;
- Nurses at the Royal Brisbane Hospital;
- The Police Academy;
- Army N.C.O. Promotion Courses;
- School of Catering—Coorparoo;
- Apprenticeship Scheme—
 - Main Roads Department;
 - Telecom;
 - Railways;
 - S.E.Q.E.B.;
- Ipswich Grammar School;
- Kenmore State High School.

Seminars

Seminars involving a component of community development and prevention strategies were conducted with—

- Bundaberg Community Groups;
- Mackay Community Groups;
- Brisbane Guidance Officers;
- Probation and Parole—Drug Clinic (Planning and Information);
- Women's Refuge Co-ordinators;
- Social Security Field Staff;
- Girl Guides (Brisbane).

Journal Articles

A journal article was prepared on request for local employer organization journals reinforcing A.D.P.A.Q.'s work on Employee Assistance Services and providing information about treatment programmes.

An article on Alcohol and Drug Dependence Services was published in "Connections", the Journal of the New South Wales Health Commission.

RESOURCE PROGRAMME

Information and Education

Displays

Displays on various aspects of the work of the Service and substance use and abuse generally were presented at—

- Chermside;
- Woodridge;
- King George Square;
- Royal National Exhibition.

Photographic work for displays was done by members of the Service itself.

Other Activities

Members of the staff have maintained contact with the Alcohol and Drug Programmes Section of the Education Department, Church bodies, and other community groups.

With the development of an extension of The Haven's (Salvation Army) activities to the Sunshine Coast, increasing support and assistance has been given to facilitate the operations of the two hostels. In addition, financial assistance has been rendered to two hostels conducted by the St. Vincent de Paul Society and a further hostel at Townsville conducted by Trephina Hostels.

Community Development in Provincial Areas

Community Development has proceeded in Townsville where staff have continued to support the development of the "Programme Restart" consortium, Community Health-based out-patient treatment, Community Agency Services and After-Care.

In Mackay, the Liaison Officer has facilitated development of significant inter-working between the Hospital and Alcoholics Anonymous, and has participated in development of Hospital-based client programmes and development sessions for Nurses and Medical Registrars.

The Branch has continued training and awareness assistance to groups in Bundaberg and the near North Coast. The Bundaberg Alcohol and Drug Concern Group has progressed in development of client programmes and facilities.

Co-ordination and Presentation of Community Education Programmes

During the past six months, there has been an increase in the number of these programmes; approximately 10 such programmes are being presented each month. A wider range of staff are now being involved in the presentation of community programmes.

An increasing involvement with In-Service Training Programmes have become evident, with Alcohol and Drug Dependence Services staff from various disciplines participating. Programmes for Community Health Nurses, Aboriginal Health Worker, Juvenile Aid Bureau Officers and Prison Officers have made their staff more aware of the nature and extent of Alcohol and Drug Dependence Services.

Audio-visual training has been given to other staff for use in prevention programmes in the community. One staff member participates in group work with clients on a regular basis.

Requests for information on alcohol and other drug issues continue to be met. Approximately 50 000 pieces of literature have been distributed in the last 12 months, with the two pamphlets most in demand being the "Biala Leaflet" and "Do's and Don'ts"—for those who want to help a problem drinker".

Five thousand copies of the booklet "Management of Drug Dependent Persons" were mailed to every registered medical practitioner in the State. Many letters of appreciation were received approving this publication.

LIBRARY

STATISTICS FOR YEAR ENDED 30TH JUNE, 1981,
COMPARED WITH FIGURES AS AT 30TH JUNE, 1980

	ADDS	IHS	Total 1981	Total 1980
No. of users of 'Current Awareness Service'.....	50	88	138	100
No. of articles distributed	3 323	6 794	10 117	4 894
Inter-library loans sought	449	400	849	734
Borrowings	998	1 004	2 002	1 304
Borrowings by other libraries.....	..	..	255	116
Number of books catalogued	343	807	1 150	254
Non-staff users .....	..	..	195	196

As may be seen from the above figures, and comparisons with the 1980 statistics, ever-increasing use is being made of the library at Biala, both by Alcohol and Drug Dependence Services staff and by Intellectual Handicap Services staff.

Whilst inter-library loans increased, the figures show that other libraries used our services more than double the number of times than in the previous year; this pays tribute to the ever-improving range of our books and the interest in them by other libraries.

In-Service training of library staff from Biala and the other centres administered by Intellectual Handicap Services takes up regular amounts of the librarian's time, as do the library services of Basil Stafford Training Centre and Challinor Training Centre. All book-ordering is done through Alcohol and Drug Dependence Services Librarian, for all centres of Alcohol and Drug Dependence Services and Intellectual Handicap Services, and reference work occupies a great deal of time also.

PLANNING AND EVALUATION

Blackwater Project

A literature search relating to social problems/alcoholism/drug abuse/obesity in developing mining towns is under way, and a computer search has been arranged via the University of Queensland Library. There is on-going consultation with professionals in Blackwater.

Planning of Rural and Regional Drug Awareness Programme

This involved—

- (a) awareness seminars;
- (b) liaison with other agencies;
- (c) visits to rural centres;
- (d) data analysis and preparation of reports;
- (e) strategy development and documentation.

Drug Dependence Clinic Planning Project

This entailed—

- (a) Literature review;
- (b) Analysis of existing data;
- (c) Three data collection exercises;
- (d) Data analysis;
- (e) Consultation seminar;
- (f) Preparation of major report.

DIVISION OF YOUTH WELFARE AND GUIDANCE

FULL-TIME PSYCHIATRIC SPECIALISTS

Senior Medical Director: A. B. SHEARER, M.B., B.S.(Qld.), F.R.A.N.Z.C.P., M.R.C.P.(London), M.R.C.Psych., D.P.M.(Qld.), F.R.A.C.M.A.

Regional Supervisor (North Queensland): P. TUCKER, M.B., B.S., D.P.M. F.R.A.C.G.P., M.R.C.Psych.(London), M.R.A.N.Z.C.P.—from 22nd January, 1981.

Medical Directors:

Brisbane: J. P. FOLEY, M.B., B.S.(Qld.), M.R.A.N.Z.C.P., D.P.M.(Qld.), Grad.Dip.Bus.Admin.Q.I.T.
P. TUCKER, M.B., B.S., D.P.M., F.R.A.C.G.P., M.R.C.Psych.(London), M.R.A.N.Z.C.P.—to 21st January, 1981.

CARY BREAKKEY, M.B., B.S.(Monash), D.P.M.(Qld.)

Toowoomba: Vacant

FULL-TIME PSYCHIATRIST

JANE BRADBEAR, M.B.Ch.B., D.C.H., M.R.C.Psych.

PART-TIME PSYCHIATRISTS

HELEN CONNELL, M.R.C.S.(Eng), L.R.C.P.(Lond), M.B., B.S.(Lond), D.C.H., R.C.P.(Lond), R.C.S.(Eng), D.P.M.(Melb), F.R.A.N.Z.C.P.

RUTH GRANT, M.B., B.S., M.R.A.N.Z.C.P.—Brisbane

MARION MORRIS, M.B., B.S.(Syd), M.R.A.N.Z.C.P., D.P.M.(Qld.), D.C.H.(London)—Brisbane

IRENE PHILLIPS, M.B., B.S.(Qld.), M.R.A.N.Z.C.P., D.P.M.(Qld.)—Brisbane

ELIZABETH TAN, M.B.Ch.B.(Glasg.), D.P.M., R.C.P. R.C.S.(England), M.R.A.N.Z.C.P.—Toowoomba

NEVILLE O'CONNOR, M.B., B.S., D.P.M.(Qld.)—Toowoomba

GEORGE CROSSE, M.B., B.S.Madras, M.R.C.Psych.—Townsville (resigned 17th September, 1980)

JEANETTE BEST, M.B., B.S.(Qld.), M.Sc.(London), M.R.C.Psych., D.P.M.(Qld.)—Townsville

RAYMOND KERR, M.B., B.S., D.P.M.(Qld.), M.R.A.N.Z.C.P.—Brisbane

PART-TIME PAEDIATRICIAN

GRANTLEY STABLE, M.B., B.S.(Qld.), D.C.H., R.C.P.(London), R.C.S.(Eng.)

PART-TIME NEUROPHYSICIAN

PETER MANN, M.B., B.S.(Qld.), F.R.A.C.P., M.R.C.P.

The Division of Youth Welfare and Guidance provides services within the specialty area of child and adolescent psychiatry to children and young people with a variety of emotional behaviour and developmental disorders. Family interactions and relationships are increasingly recognized as vitally important in the genesis and continuation of disorders in this age group and hence, involving the family in treatment is an important part of the therapeutic approach. Equally important is the application of principles in the field of developmental psychology which is so vital to the understanding of the symptoms of disorders.

Most surveys have confirmed that approximately 10 per cent of the child and adolescent population could benefit from the advice and help of the clinics' professional workers, and about six per cent of children and adolescents have a more severe disorder which, if untreated, is likely to impair functioning in the community and the home to a very significant extent.

Each of the Division's clinics consist of a team of professional workers, and a full complement consists of Consultant Psychiatrist, Medical Officer or Registrar, Psychologist, Social Worker, Child Guidance Therapist, Nurse and, at some clinics, a Speech Therapist.

For each professional worker there are a number of roles for which they are specifically trained and have special expertise, but there are also a number of functions in the clinics which can be shared, giving a certain flexibility of role structure which is a feature of multi-disciplinary teams in present-day medicine.

The Psychiatrist is recognized as the team leader, and the clinic case conference is a vitally important part of the decision-making and therapeutic process. This is based on thorough investigations with careful history-taking, observations, interviews and examinations, which can be with the individual child or adolescent, and in the family setting.

Approximately half of the cases referred to the clinic come through the suggestion or direct referral of doctors, social workers, teachers or guidance officers, but many cases are referred through the parents who often hear of the clinic's work from friends, neighbours or relatives.

The clinics work in close collaboration with general practitioners, paediatricians, educators and others in the treatment of disturbed children and their families. The Institute of Child Guidance in Rogers Street has a specially close relationship with the Royal Children's Hospital.

Services supplied by the Division are at present located in Brisbane, Ipswich, Redcliffe, Toowoomba and Townsville. Preliminary architect plans have been prepared for a Clinic at the Gold Coast.

The Division has community child and adolescent guidance clinics in the metropolitan areas of Ashgrove, Enoggera, Greenslopes, Inala, Indooroopilly, Nundah and Yeronga. In the greater Brisbane area, there are clinics at Redcliffe, Ipswich and Woodridge.

The Institute of Child Guidance at Rogers Street has both a children's and adolescent's department and also provides consultation services to the Royal Children's Hospital. All of the metropolitan and greater Brisbane clinics are important training centres for child psychiatrists and allied disciplines.

A new booklet setting out what the clinics do, and the aims and philosophy behind their work will shortly be printed.

LIAISON BETWEEN HOSPITAL AND COMMUNITY SERVICES

Children in hospital, particularly those suffering from chronic disease and disability, or those having intensive or unpleasant courses of treatment, may develop quite severe emotional problems which can

benefit considerably from the advice and help of the Child Psychiatrist and members of the team.

As well, many conditions in paediatrics may carry the risk of concurrent or subsequent important emotional disturbances, or the child's personality, characteristics, behaviour and attitudes may be important in their co-operation in the carrying out of treatment.

In addition, children who attend Child Guidance Clinics may be found to have or be suspected of having medical disorders which require proper investigation through hospital services. A small, but significant proportion of cases seen in the community clinics will require hospitalization in the Child Psychiatric Unit at the hospital.

Dr Shearer and Dr Breakey are Visiting Consultants to the Royal Children's Hospital. Two therapists from the Institute of Child Guidance, Rogers Street, visit Turner Ward and the Oncology Clinic to treat children and adolescents with emotional problems related to varying types of malignant disease.

The Institute of Child Guidance gives priority in appointments for children referred from the Royal Children's Hospital. The Rogers Street Clinic for younger children has a special interest in the diagnosis and treatment of neuropsychiatric disorders.

Dr Perce Tucker acts as Visiting Consultant Child Psychiatrist to the Townsville Base Hospital, where he provides consultation and liaison services for the Department of Paediatrics.

The introduction of the Child Abuse Legislation has resulted in closer liaison between the community clinics on the one hand, and the Children's Hospital and Department of Children's Services on the other. Dr Beverley Ledez, part-time Medical Officer in Toowoomba, has been particularly interested in the psychiatric and developmental aspects of abused children in the Toowoomba area.

COMMUNITY CHILD GUIDANCE CLINICS

Each community clinic serves a cluster of suburbs and has a staff of seven or eight. The buildings are converted from ordinary houses and have proved quite suitable for the purpose.

The suburban child and adolescent guidance clinics prove extremely popular with the public because of their easy accessibility to the community, and their friendly and informal atmosphere. They provide excellent opportunity for liaison with schools, pre-schools and community services and agencies. They also provide the opportunity for positive community mental health preventive work to be done by the divisional professional staff in the area. This can take the form of talks, discussions, parent education groups, and visits by Medical Officer or Child Psychiatrist.

Each of the clinics provides services for children and younger adolescents. The Ipswich Clinic was officially opened on 22nd October, 1980.

SERVICES TO THE EDUCATION DEPARTMENT AND TO SCHOOLS

Liaison between schools and the clinics has been of great help and benefit in the treatment and management of behaviour and emotional disorders in children and adolescents.

The clinics receive direct requests for help from teachers, with the permission and support of the parents, and many cases are also referred through the Guidance and Special Education Branch and from private schools. More-seriously disturbed children attending the Tennyson Special School have mostly been assessed by staff from our clinic under the supervision of Dr Irene Phillips.

The Division will be represented on an inter-departmental committee to look at the resources and needs for emotionally disturbed children in Queensland schools.

Close liaison exists between the clinics and the State Pre-schools, kindergartens and special pre-schools. A significant number of children attending State special schools are assessed and treated at the Division's clinics.

LIAISON WITH THE DEPARTMENT OF CHILDREN'S SERVICES

Children and adolescents admitted through the Children's Court to Wilson Youth Hospital, may present with a variety of disorders.

These include minimally brain-damaged children (relating to such causes as birth trauma, past brain infections, head injury and temporal lobe epilepsy); attention-deficit disorders, including hyperactivity, perceptual and motor problems, and psychological reactions to physical disorders, e.g. asthma, diabetes, and disabilities.

Psychological disorder may be associated with unresolved emotional conflicts within the child, relating to their role and relationships in the family, and these may take the form of anti-social acting-out.

Occasionally psychotic children are seen, and moderate to severe degrees of depression are not unknown.

Professional staff under the direction of Dr J. Foley provide assessment for court reports and treatment programmes for residents at Wilson Youth Hospital, in addition to limited out-patient facilities.

THE ELECTROENCEPHALOGRAPHY SECTION

The Division recently purchased a new machine which is housed at the Institute of Child Guidance, Rogers Street. The old machine when repaired will be installed at Wilson Youth Hospital.

There is a significantly high incidence of abnormal tracings in children attending the clinics. The results may be particularly helpful in dealing with problems such as aggressive behaviour, intellectual retardation, epilepsy and children with brain damage from a variety of causes.

The number of E.E.G. tracings done during the year was 731, of which 345 were estimated as abnormal. Some E.E.G. examinations are done at the request of the Mary Street Adult Psychiatric Clinic.

REGISTRAR TRAINING

Participation of the Division in the Rotational Training Programme in Psychiatry commenced in January, 1980. Each year the Division takes two registrars for 12 months and four registrars for six months each, the other six months being spent with the Division of Psychiatric Services.

Although participation in this scheme has put considerable strain on training and accommodation resources, the registrar's presence has been welcomed by the staff, and they have made a very significant contribution to the work of the clinics. They have appreciated particularly the opportunity to work within a multi-disciplinary team, the nature of the community clinics favouring ease of communication and consultation with other staff.

SERVICES TO ADOLESCENTS

The importance of the community clinics in providing help for adolescents and their families has grown in recent years. The Rogers Street Adolescent Clinic is still the main centre, but a significant number of cases seen at other clinics are in the young adolescent range.

Most adolescents can be managed on an out-patient basis, but there are a significant number who require in-patient treatment.

THE GROWTH OF IMPORTANCE OF FAMILY-CENTRED TREATMENTS

Formal family therapy, and treatments involving participation of family members and family meetings, are becoming a highly significant part of the management of emotional and behaviour disorders in both children and adolescents.

Professional staff are gaining experience with these forms of treatment as more of our centres employ them as options of management.

IN-SERVICE TRAINING FOR PROFESSIONAL STAFF

The Division provides a wide variety of opportunities for in-service training for the various professions, including a comprehensive series of seminars in child and adolescent psychiatry. The importance of a sound knowledge of developmental psychology has been recognized in the Division for many years, and seminars in this subject for new medical officers and registrars have been arranged.

A series of seminars in forensic psychiatry related to juvenile delinquency is conducted at Wilson Youth Hospital organized by Dr Foley, and a very active journal club meets regularly at Rogers Street.

A library committee has been formed to foster development and maximal use of the library facilities, and this meets monthly following the meeting of Directors of the clinics.

PREVENTIVE MENTAL HEALTH

The Division recognizes the great importance of a preventive approach in clinical seminars. Some of the more important aspects are:—

1. Early Detection and Treatment of Cases

Primary school children and, more recently, high school children are surveyed by the School Health Services, who find cases of emotional and behavioural disturbance, and with the permission and co-operation of the parents are referred to the clinics.

Staff from our clinics visit pre-schools and kindergartens at the request of Directors for the purpose of identifying children in which early intervention and help with their problems is likely to be of great benefit.

2. Prevention of Relapse

There are some children and families who require long-term supervision, and this supervision and accompanying support often prevents them from suffering relapse or deterioration with more severe consequences. Such a programme may also help prevent difficulties in other children of the family.

3. Help for Parents in Education for Parenthood

Professional staff from the clinics are active in giving talks and arranging seminars and discussion groups, for groups of parents and other organizations in the community. Parent discussion groups have been organized with considerable success at a number of our clinics.

THE MENTAL HEALTH STATISTICS PROGRAMME

The Division joined this programme in 1980, coinciding with the adoption of new clinical records and the use of the ICD9 classification system.

The tabulated results from this system are not yet available, and the list of new cases seen at the various clinics tabulated below are obtained from different sources, so that there may be some variation with the computer figures to be released later.

TABLE LXXXVII
DIVISION OF YOUTH WELFARE AND GUIDANCE
NUMBER OF NEW CASES REGISTERED FOR THE
FINANCIAL YEAR 1980-81

Clinic	New Cases
Institute of Child Guidance—Spring Hill	803
Wilson Youth Hospital	178
Ashgrove Child Guidance Clinic	178
Enoggera Child Guidance Clinic	265
Nundah Child Guidance Clinic	201
Indooroopilly Child Guidance Clinic	189
Greenslopes Child Guidance Clinic	209
Yeronga Child Guidance Clinic	223
Inala Child Guidance Clinic	202
Woodridge Child Guidance Clinic	333
Redcliffe Child Guidance Clinic	244
Toowoomba Child Guidance Clinic	355
Townsville Institute of Child Guidance	350
Ipswich Child Guidance Clinic	178
Total	3 908

SERVICES TO CHILDREN, ADOLESCENTS, AND FAMILIES OUTSIDE THE METROPOLITAN AREA

A joint submission by the Division and the Department of Child Health, concerning the development of visiting services by consultant child psychiatrist and psychologist to country areas, should be implemented in the near future.

At present, special facilities are offered for families from remote areas to be assessed at our Rogers Street clinic, or at Townsville and Toowoomba clinics, and where in-patient assessment is necessary, admission can be arranged to Courier Ward at the Royal Children's Hospital, where limited accommodation for parents is available at Leonard Lodge.

Although these facilities have proved helpful, assessment of children in their own environment and the opportunity to talk to school teachers and relatives are of great value in understanding the problems of the child or adolescent, and there is also the opportunity to work out management programmes which can be implemented locally and reviewed on further visits later.

STAFF CHANGES IN 1980-81

Following the resignation of Dr Crosse as Acting Part-time Specialist at Townsville, Dr Tucker took up appointment as Regional Supervisor early in 1981. At the same time, he completed requirements for his accreditation as Child Psychiatrist by the Royal Australian and New Zealand College of Psychiatrists. This is an extra qualification to the membership, which is awarded after successful completion of an approved in-service training programme, and Dr Tucker is the third Queenslander to gain this award. Dr Tucker's place as Medical Director in Brisbane was taken by Dr Breakey.

Dr Bradbear, on registration as a specialist, became Director of the Adolescent Clinic at Rogers Street. Although Dr O'Connor was appointed Medical Director in Toowoomba, he was unfortunately unable to take up the position and it remains vacant.

CLINICAL PLACEMENTS FOR UNIVERSITY UNDERGRADUATES

By arrangement with the appropriate department of the University of Queensland, undergraduates in Social Work, Psychology, Occupational Therapy and Speech Therapy are placed in various clinics for supervised training. The Division also arranges for visits by medical students in their clinical years.

DIVISION OF DENTAL SERVICES

Director of Dental Services: G. R. McKELVEY, B.D.Sc.(Qld), F.I.C.D.

Deputy Director of Dental Services: R. G. BLAKE, B.D.Sc.(Qld).

INTRODUCTION

The involvement of the Division of Dental Services is described under three headings, namely—

- (A) Queensland (Hospital Based) Dental Clinic Service;
- (B) School Dental Therapists Training Scheme;
- (C) Queensland School Dental Service.

(A) QUEENSLAND (HOSPITAL-BASED) DENTAL CLINIC SERVICE

Dental Hospitals and Dental Clinics—

Dental Hospitals	3
Base Dental Clinics (including 3 attached to Dental Hospitals).....	56
Other Dental Clinics.....	67
Service provided by Private Dentists in their own surgeries..	2
	128

DENTAL STAFF

Approved establishment (Dentists)—Queensland Dental Hospitals and Dental Clinics

<i>North Brisbane Hospitals Board—</i>	
Brisbane Dental Hospital and Sandgate Dental Clinic	32
Children's Dental Hospital	13
<i>South Brisbane Hospitals Board—</i>	
South Brisbane Dental Hospital, Wynnum Dental Clinic, Inala Dental Clinic.....	22
<i>Queen Elizabeth II Jubilee Hospitals Board—</i>	
Queen Elizabeth II Jubilee Hospital Dental Clinic.....	4
<i>Wolston Park Special Hospital, including Challinor Centre</i>	2
<i>Country Dental Clinics</i>	
Full-time Dentists	87
Part-time Dentists.....	5
Part-time Consultant Specialists	9
Private Dentist providing dental services in his own surgery (Part-time).....	2
	Full-time 160
	Part-time 16

Approved establishment (Dental Technicians)—Queensland Dental Hospitals and Dental Clinics

<i>North Brisbane Hospitals Board—</i>	
Brisbane Dental Hospital.....	28
Children's Dental Hospital	4
Sandgate Dental Clinic.....	2
<i>South Brisbane Hospitals Board—</i>	
South Brisbane Dental Hospital	12
Wynnum Dental Clinic and Inala Dental Clinic.....	3
<i>Queen Elizabeth II Jubilee Hospitals Board—</i>	
Queen Elizabeth II Jubilee Hospital Dental Clinic.....	4
<i>Country Dental Clinics—</i>	
Full-time	80
Part-time.....	2
	Full-time 133
	Part-time 2

Approved establishment (Dental Assistants)—Queensland Dental Hospitals and Dental Clinics (including Dental Sisters)

<i>North Brisbane Hospitals Board—</i>	
Brisbane Dental Hospital.....	24
Children's Dental Hospital	11
Sandgate Dental Clinic.....	2
Maxillo-Facial Unit.....	1
<i>South Brisbane Hospitals Board—</i>	
South Brisbane Dental Hospital	13
Wynnum Dental Clinic and Inala Dental Clinic.....	4
<i>Queen Elizabeth II Jubilee Hospitals Board—</i>	
Queen Elizabeth II Jubilee Hospital Dental Clinic.....	4
<i>Country Dental Clinics—</i>	
Full-time	81
Part-time.....	27
	Full-time 140
	Part-time 27

Nature of the Service

The Hospital-Based Dental Clinic Service in Queensland provides a comprehensive general practitioner service to those persons whose economic circumstances make it difficult for them to obtain private dental care and for those, at all income levels, living in areas where no private dental practice exists.

The Service extends to the provision of certain specialist services at Dental Hospitals and at a number of larger base Dental Clinics. For example, full-time orthodontic positions exist at the three metropolitan Dental Hospitals, while part-time consultant orthodontists are included in the establishments of the Bundaberg, Cairns, Gympie, Ipswich, Mackay, Rockhampton, Southport, Toowoomba and Townsville Dental Clinics.

Geographical Spread of the Dental Clinic Service

The accompanying map illustrates the geographical spread of the various clinics and demonstrates the relationship between Base and Subsidiary Clinics.

Areas without private dental practitioners are also shown on the map.

A further extension of private practice has occurred during the year in country areas for example to areas east of Mount Isa to Hughenden and north of Mount Isa to Normanton. Private dental practice has also returned to Moura and Mount Morgan.

IMPROVEMENTS AND EXTENSIONS TO THE DENTAL CLINIC SERVICE

Actual and Proposed during 1980-81

Improvements, including the replacement of major items of dental equipment, were made within a number of Dental Clinics during the year.

The following is a summary of the more significant building projects in progress or planned:—

Boulia.—The construction of a new Hospital which will include a single-surgery Dental Clinic is continuing. The project is due for completion in August, 1981.

Bowen.—The re-development of the Hospital which includes a Dental Clinic is at a stage where working drawings and specifications are being prepared.

Bundaberg.—Sketch plans have been prepared for the re-development of the Hospital which will include a Dental Clinic.

Caloundra.—A planning team has been formed to discuss the re-development of the Caloundra Hospital, the upgrading of existing services, etc., plus the provision of additional accommodation. This project will include a two-surgery Dental Clinic.

Cooktown.—Sketch plans have been prepared for a new Hospital which will include a single-surgery Dental Clinic.

Croydon.—The construction of a new Outpatients Centre including a single-surgery Dental Clinic has recently been completed.

Cunnamulla.—Construction is proceeding for a new Hospital included in which is a two-surgery Dental Clinic.

Jandowae.—A tender has been accepted for certain works at Jandowae Hospital including provision of a new Dental Clinic.

Mungindi.—Approval has been given for the Hospitals Board to call tenders for a new Hospital at Mungindi subject to the availability of finance. The project will include a single-surgery Dental Clinic.

Normanton.—Dental facilities are included in the new Hospital project, and working drawings and specifications for this project are being prepared.

Thursday Island.—A new two-surgery Dental Clinic to serve the Thursday Island Hospitals Board and the School Dental Service is proposed. Funding for the project is presently being considered.

Toowoomba.—A functional brief is under consideration by the Hospitals Board covering the Services Block which will include Dental Clinic facilities.

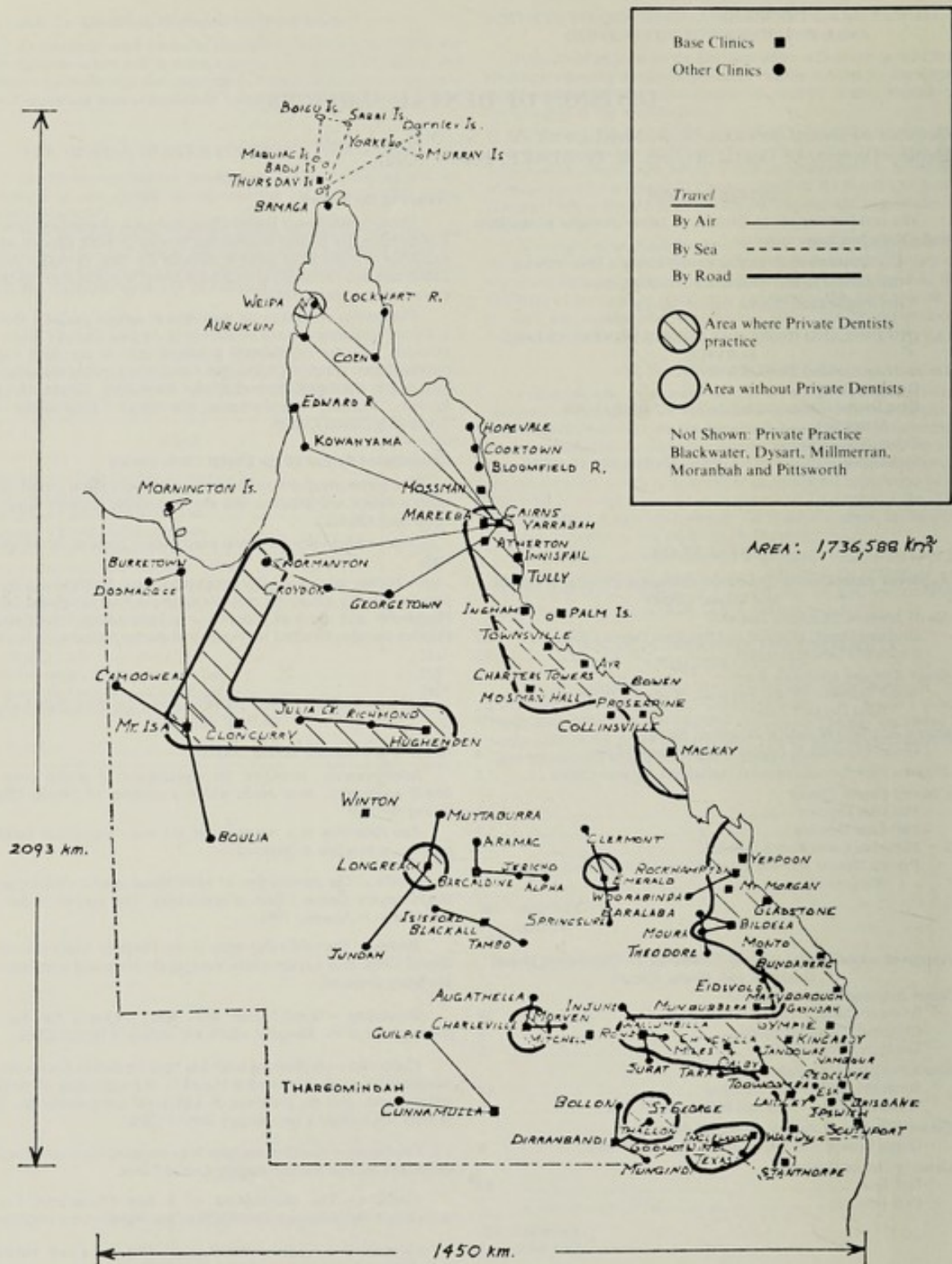


TABLE LXXXVIII
STATISTICS—QUEENSLAND DENTAL HOSPITALS AND
CLINICS—1980-81

Attendances—

Adults	371 161
School Children	95 917
Pre-School Children	9 870
Total	476 948
Teeth Extracted	61 234
Restorations	166 976
Dentures	32 080
Dentures Repaired	15 356

(B) SCHOOL DENTAL THERAPISTS TRAINING SCHEME

Principal Dental Officer (Training): P. C. Comiskey, B.D.Sc.(Qld), F.R.A.C.D.S.

Principal, School Dental Therapists Training Centre (Brisbane): G. E. Grundy, B.D.Sc.(Qld), F.R.A.C.D.S.

Principal, School Dental Therapists Training Centre (Townsville): R. J. Pyle, B.D.Sc.(Qld).

Senior Tutor Dental Officers:

L. F. Bourke, M.D.Sc.(Qld)

P. A. Defteros, B.D.Sc.(Qld)

C. J. R. Mackenzie, B.D.Sc.(Qld) (until 18th August, 1980)

L. H. McAllan, B.D.Sc.(Qld), M.Sc.(Paedodontics, Univ. of London)

R. G. B. Smith, B.D.Sc.(Qld)
P. F. Wood, B.D.Sc.(Durham), D.D.P.H.(London)

A total of 49 School Dental Therapists completed the course in March, 1981, and a further two successfully completed supplementary requirements in June, 1981.

First-year student enrolments at 30-6-81—

Brisbane	34
Townsville.....	12

Second-year student enrolments at 30-6-81—

Brisbane	43
Townsville.....	13

In addition, two first-year students and two second-year students have been enrolled at the Brisbane Centre on behalf of the Northern Territory School Dental Service.

The co-operation of lecturers from other Departments and Institutions and other Divisions of the Department of Health is acknowledged.

Training Staff participated in an Orientation Programme for Field Dental Officers during January, 1981. The co-operation of Mr S. Batts and Mr R. Gray of the Management Services Branch is acknowledged in contributing to the success of this programme.

Organized visits were made by Students of both the Brisbane and Townsville Centres to various other Institutions concerned with the welfare of children.

The Annual Open Day was conducted at both the Brisbane and Townsville Centres on 3rd September, 1980.

Among other recruitment activities Training Centre staff participated in the "Careers Market" organized by the Guidance and Special Education Branch of the Northern Region of the Education Department and held in Townsville, and contributed to the Queensland Government Display by providing photographs and information regarding the Careers of School Dental Therapy and Dental Assisting.

Dr (Dent) Bruce Reidel, Principal of the School of Dental Therapy, Hobart, was the External Examiner for 1981. As well as the direct benefits derived from Dr Reidel's participation as External Examiner, the opportunity for interchange of thought and ideas with a Senior Officer from an interstate Training Centre was undoubtedly beneficial to the Staff of the Queensland Training Centres.

(C) QUEENSLAND SCHOOL DENTAL SERVICES (FIELD SERVICES)

Principal Dental Officer (Field Services): W. T. Videroni, B.D.Sc.(Qld)

Preventive Research and Planning Officer: T. McEniery, B.D.Sc.(Qld)

Orthodontist: R. S. Greenhill, M.D.Sc.(Qld)

Regional Dental Officer (Northern): G. S. Sternberg, B.D.Sc.(Qld)

Regional Dental Officer (Central): A. G. Purcell, B.D.Sc.(Qld)

Regional Dental Officer (Southern): N. H. Eberhardt, B.D.Sc.(Qld)—absent on study leave

Dental Officers (approved establishment)

School Dental Therapists (approved establishment).....

Dental Assistants (approved establishment).....

Further expansion of the Service occurred during the year in accordance with policy which aims to offer regular routine dental treatment to all Primary School children throughout Queensland.

Static School clinics have now been established in many areas of the State as shown in Table below.

TABLE LXXXIX
LOCATION OF STATIC CLINICS

Ayr

Ayr East Primary School

Beaudesert

Beaudesert Primary School

Beenleigh

Beenleigh Primary School

Bowen

Bowen Primary School

Brisbane

Acacia Ridge Primary School

Aspley Primary School

Aspley East Primary School

Boondall Primary School

Bracken Ridge Primary School

Camp Hill Primary School

Cannon Hill Primary School

Carole Park Primary School

Eight Mile Plains Primary School

Geebung Primary School

Grovely Primary School

Inala Primary School

Inala West Primary School

Indooroopilly Primary School

Jindalee Primary School

Macgregor Primary School

Manly West Primary School

Mitchelton Primary School

Morningside Primary School

Mount Gravatt East Primary School

Nashville Primary School

Nudgee Primary School

Nundah Primary School

Our Lady of the Angels Convent School, Wavell Heights

Our Lady of Lourdes Convent School, Sunnybank

Richlands East Primary School

Rochedale Primary School

Runcorn Primary School

St. Marks Convent School, Inala

St. Williams Convent School, Grovely

Sandgate Primary School

Serviceton Primary School

Serviceton South Primary School

The Gap Primary School

Virginia Primary School

Wynnum Primary School

Wynnum North Primary School

Bundaberg

Bundaberg West Primary School

Norville Primary School

Walkervale Primary School

Caboolture

Caboolture Primary School

Cairns

Balaclava Primary School

Cairns North Primary School

Cairns West Primary School

Edge Hill Primary School

Parramatta Primary School

Charleville

Charleville Primary School

Charters Towers

Charters Towers Primary School

Dalby

Dalby Primary School

Gladstone

Gladstone South Primary School

Gladstone West Primary School

Gold Coast

Benowa Primary School

Biggera Waters Primary School

Broadbeach Primary School

Burleigh Heads Primary School

Currumbin Primary School

Guardian Angels Convent School, Southport

Labrador Primary School

Musgrave Hill Primary School

Southport Primary School

Ingham

Ingham Primary School

Ipswich

Brassall Primary School

Bundamba Primary School

Goodna Primary School

Ipswich East Primary School

Ipswich North Primary School

Leichhardt Primary School

Raceview Primary School

St. Marys Convent School, Ipswich

Sacred Heart Convent School, Booval

Silkstone Primary School

Mackay

Mackay North Primary School

Victoria Park Primary School

Mareeba

Mareeba Primary School

MaryboroughMaryborough Central Primary School
Maryborough West Primary School**Mount Isa**Barkly Highway Primary School
Happy Valley Primary School
Sunset Primary School
Townview Primary School**Pine Rivers**Albany Creek Primary School
Ferry Hills Primary School
Kallangur Primary School
Lawnton Primary School
Strathpine Primary School**Proserpine**

Proserpine Primary School

Redcliffe PeninsulaClontarf Beach Primary School
Humpybong Primary School
Kippa-Ring Primary School
St. Bernadettes Convent School, Scarborough
Scarborough Primary School**Redlands**Alexandra Hills Primary School
Birkdale Primary School
Capalaba Primary School
Cleveland Primary School**Rockhampton**Allenstown Primary School
Berserker Street Primary School
Frenchville Primary School
Park Avenue Primary School**Roma**

Roma Primary School

Slacks Creek

Slacks Creek Primary School

Springwood

Springwood Road Primary School

Sunshine CoastCaloundra Primary School
Maroochydore Primary School
Nambour Primary School**Toowoomba**Harlaxton Primary School
Rangeville Primary School
Toowoomba East Primary School
Toowoomba North Primary School**Townsville**Townsville Central Primary School
Hermit Park Primary School
Wulguru Primary School**Wide Bay**

Pialba Primary School

Woodridge/KingstonHarris Fields Primary School
Kingston Primary School
Woodridge Primary School
Woodridge North Primary School**Yeppoon**

Yeppoon Primary School

Mobile Dental Clinics are playing a vital role in the extension of the service to smaller schools without access to static clinics. Seventy-three mobile clinics were in operation at the close of the financial year and a decision had been made to construct an additional 20 two-surgery Mobile Clinics which are expected to be operational by the end of the calendar year 1981.

The operation of modern dental facilities in Mobile Dental Clinics normally demands a considerable draw of electric power, requiring special power outlets as well as other facilities at schools to be visited. These facilities are being progressively provided in schools throughout the State.

A modified Mobile Clinic has been developed which is able to operate for limited periods without the full electric power and other facilities normally required. As these modified Mobile Clinics become available, treatment of the many country schools with very small enrolments is being facilitated.

Special efforts have been directed towards the treatment of handicapped children. Treatment has now been offered to almost all schools catering for children of Primary School age in this category. Full coverage will be achieved before the end of this calendar year.

In providing this care, the special problems and needs of these groups have been recognized.

Thus, while Mobile Clinics have been outstandingly successful in most instances, problems have been encountered in their use in some institutions for the disabled. The restricted door openings and height from ground level have created problems for some patients. In keeping with the spirit of breaking down the barriers for those unable to profit from conventional systems, the Division has set up, where indicated, temporary surgeries within the particular institutions. Standard dental chairs and portable operating equipment have been set up in a convenient location in the institutions for the duration of treatment.

In this way, substantial progress has been made in delivery of care to such institutions as "Halwyn", the centre for the severely disabled at Red Hill, and the Spastic Centre at New Farm. At the same time, special efforts have been made to improve oral hygiene amongst patients in these centres. Oral hygiene devices have been supplied and institution staff members instructed in their use. The Division of Dental Services has been impressed by the high standard of oral health achieved for patients by the dedicated staff of these institutions. It was a pleasing and encouraging finding of the dental examinations and a testimony to the devotion to total patient care shown by the staff members involved.

In a similar vein, it should be noted that the majority of 14-year-olds under treatment by the School Dental Service are to be found in special schools or in institutions for specific handicaps. It is therefore gratifying and particularly appropriate in this year of the disabled, to record a significant improvement in dental decay experience of this age group in Queensland in 1980. A DMF of 6.44 for Queensland 14-year-olds was recorded in the 1980 Evaluation Study results and this is superior to the level of decay which was recorded in the Sydney general population of that age during the International Collaborative study. It was described then by the Dental Director of the World Health Organization, Dr David Barmes, as an important preventive achievement.

Preventive Dentistry and Evaluation

With five years' examination results now available from the Evaluation Study, it can be stated with confidence that there is an established trend of improving oral health in Queensland children. Details are shown in Tables 1 and 2. In 1979, Queensland 12-year-olds with a DMF index (average number of decayed, missing or filled teeth) of 4.12 moved from the World Health Organization's classification of high caries experience into the moderate category. The 1980 results, 12-year-olds with a DMF of 3.85, reinforce this continuing improvement. To put this figure in correct perspective, it should be noted that the Townsville survey of 1975 found that 12-year-old lifetime residents of that city had a DMF of 4.0.

Those children would have enjoyed the benefits of fluoridation for 10 of their 12 years. For all Queensland children of this age in 1980 to be below the Townsville 1975 index figure is indeed a very satisfactory situation in a largely non-fluoridated State.

Within the Division of Dental Services, a specific goal in caries prevention has been set for the end of the decade. By 1990, the Division aims to reach the World Health Organization's low classification of caries experience. The upper limit of this classification is set at 2.5 DMF at age 12, and the Queensland goal is a DMF of 2.4 with the appropriate index scores for ages below 12. Intermediate goals of 3.70 in 1982 and 3.10 in 1985 are necessary stages to achieve this end-of-decade level. If the 1990 goal is achieved, the Australian national goal of a 12-year DMF of 2 for the year 2000 should be within reach.

Clearly, the most serious problem affecting the workload of the School Dental Service is caries in the deciduous dentition. While the deciduous indices have continued to fall, a considerable number of deciduous teeth still require restoration in the children examined for the first time in Grade 1.

An educational campaign directed to expectant mothers and mothers of pre-school children suggests itself as a high priority requirement. A start in this direction has been made by the referral, to this Division, by the Division of Maternal and Child Health, of the latter Division's booklet "Growing" with a view to rewriting the dental segment of that publication. It is hoped that additional activities along these lines will in the course of time lead to a more rapid improvement in the dental state of children entering Grade 1.

TABLE XC
 1976-1980 CARIES STATUS IN PERMANENT DENTITION

Age	Year	Number of Children	D	M	F	DMF	F/DMF	% with Zero DMF Teeth	% with Zero DMF or df Teeth	% with Zero D or d Teeth
5	1976	587	0.11	..	..	0.11	..	94.38	37.31	40.89
	1977	2 582	0.10	..	..	0.10	3.33	94.50	38.10	44.83
	1978	5 284	0.07	..	..	0.07	6.63	95.67	41.22	47.22
	1979	9 480	0.06	..	..	0.06	6.45	96.12	43.05	48.74
	1980	11 364	0.04	..	..	0.04	6.27	97.01	43.84	49.58
6	1976	1 077	0.49	..	0.07	0.56	12.07	76.51	31.38	36.77
	1977	5 005	0.40	..	0.09	0.49	17.50	75.90	32.27	44.10
	1978	10 887	0.31	..	0.09	0.40	21.87	80.38	34.13	46.27
	1979	18 370	0.22	..	0.07	0.29	23.40	84.59	35.24	48.97
	1980	21 010	0.19	..	0.06	0.25	24.38	86.31	37.08	51.96
7	1976	849	1.14	0.01	0.40	1.55	26.08	42.17	17.43	26.74
	1977	4 763	0.80	0.01	0.47	1.27	36.64	49.76	21.90	37.73
	1978	10 735	0.60	0.01	0.44	1.05	42.09	55.67	24.97	44.17
	1979	18 587	0.48	..	0.35	0.84	41.68	62.39	26.47	46.90
	1980	21 410	0.41	..	0.30	0.72	42.24	65.86	27.30	49.21
8	1976	548	1.27	0.02	1.12	2.41	46.56	25.18	11.50	29.74
	1977	4 064	1.07	0.03	0.93	2.03	46.04	30.73	14.94	32.28
	1978	10 023	0.73	0.02	1.03	1.79	57.58	35.81	16.39	41.05
	1979	16 786	0.64	0.01	0.82	1.49	55.18	42.08	18.84	43.56
	1980	22 337	0.49	0.01	0.75	1.25	59.87	48.46	20.67	48.44
9	1976	471	1.04	0.04	1.61	2.69	59.75	20.81	11.89	35.88
	1977	3 632	1.20	0.07	1.30	2.58	50.51	21.34	10.99	30.75
	1978	8 887	0.79	0.06	1.51	2.36	64.04	25.14	12.33	41.98
	1979	15 493	0.69	0.03	1.31	2.05	64.11	30.31	14.30	43.60
	1980	21 201	0.53	0.03	1.27	1.84	69.04	33.97	15.87	48.79
10	1976	274	1.44	0.06	2.31	3.64	58.53	11.68	6.59	33.21
	1977	3 263	1.36	0.09	1.63	3.08	53.07	17.71	9.93	32.12
	1978	8 229	0.80	0.10	2.00	2.98	67.33	18.48	10.54	43.88
	1979	14 427	0.81	0.08	1.75	2.65	66.11	22.55	12.41	44.98
	1980	18 894	0.59	0.06	1.71	2.37	72.35	25.49	13.12	50.34
11	1976	289	2.24	0.09	2.12	4.45	47.59	8.65	6.92	24.57
	1977	2 823	1.75	0.14	2.06	3.96	52.03	13.25	9.25	33.62
	1978	7 427	1.08	0.15	2.45	3.67	66.56	15.24	10.26	45.54
	1979	12 870	0.99	0.13	2.16	3.30	65.59	17.59	12.16	46.68
	1980	17 436	0.75	0.12	2.20	3.09	71.19	18.86	12.58	52.25
12	1976	159	2.09	0.11	3.31	5.52	60.09	3.77	3.14	29.56
	1977	1 834	2.22	0.21	2.53	4.96	50.95	9.21	7.69	32.66
	1978	4 408	1.43	0.23	3.03	4.69	64.55	11.30	8.94	42.60
	1979	8 218	1.27	0.18	2.65	4.12	64.41	14.01	11.52	46.06
	1980	11 119	0.95	0.20	2.69	3.85	69.79	14.59	11.68	51.96
13	1976	15	2.90	0.13	2.33	5.47	42.68	..	..	26.67
	1977	372	3.51	0.16	2.69	6.36	42.27	9.14	8.60	30.65
	1978	835	1.82	0.29	3.50	5.62	62.28	7.31	6.59	37.13
	1979	1 392	1.77	0.33	3.00	5.11	58.70	11.35	9.69	41.03
	1980	1 934	1.33	0.31	3.29	4.94	66.69	9.30	8.22	45.92
14	1976	..	..	..	..	..	..	..	..	..
	1977	91	3.51	0.41	3.80	7.73	49.22	6.59	6.59	23.08
	1978	168	2.17	0.45	4.63	7.25	63.79	4.17	4.17	39.88
	1979	284	2.21	0.61	4.36	7.19	60.67	5.98	5.28	36.98
	1980	349	1.62	0.61	4.21	6.44	65.30	6.30	6.01	41.55

TABLE XCI
1976-1980 CARIES STATUS IN THE DECIDUOUS DENTITION

Age	Year	Number of Children	d	f	df	% with Zero df Teeth
5	1976	587	2.81	0.39	3.20	38.33
	1977	2 583	2.28	0.60	2.88	38.87
	1978	5 284	2.13	0.58	2.71	41.84
	1979	9 480	2.10	0.59	2.69	43.57
	1980	11 364	2.05	0.61	2.67	44.23
6	1976	1 077	2.73	0.60	3.33	35.10
	1977	5 055	1.77	1.20	2.97	36.46
	1978	10 887	1.70	1.19	2.90	36.97
	1979	18 370	1.65	1.30	2.95	37.49
	1980	21 010	1.43	1.46	2.89	39.09
7	1976	849	2.47	1.06	3.53	27.21
	1977	4 763	1.53	1.69	3.21	28.89
	1978	10 735	1.25	1.76	3.01	31.76
	1979	18 587	1.24	1.77	3.01	31.89
	1980	21 410	1.01	2.01	3.07	32.14
8	1976	548	1.89	1.59	3.48	21.35
	1977	4 064	1.54	1.63	3.17	24.04
	1978	10 023	1.18	2.00	3.18	25.67
	1979	16 786	1.11	1.92	3.03	27.76
	1980	22 337	0.89	2.16	3.06	28.44
9	1976	471	1.27	1.69	2.96	26.75
	1977	3 632	1.38	1.42	2.79	26.29
	1978	8 887	1.01	1.83	2.83	26.11
	1979	15 493	1.00	1.81	2.82	26.92
	1980	21 201	0.75	2.05	2.81	27.86
10	1976	274	0.87	1.38	2.25	31.75
	1977	3 263	1.01	1.08	2.10	36.13
	1978	8 229	0.69	1.40	2.10	36.18
	1979	14 427	0.70	1.35	2.05	37.23
	1980	18 894	0.51	1.51	2.09	36.88
11	1976	289	0.60	0.67	1.27	56.75
	1977	2 823	0.58	0.54	1.12	57.46
	1978	7 427	0.40	0.77	1.16	56.56
	1979	12 870	0.40	0.74	1.15	56.96
	1980	17 436	0.33	0.82	1.16	56.73

TABLE XCII
STATISTICS—SCHOOL DENTAL SERVICES—1980-81

Total Attendances	761 893
Number of Courses of Treatment	180 534
Tropical Fluoride Applications	168 776
Restorations	232 666
Extractions deciduous teeth	26 458
Extractions permanent teeth due to caries	1 373
Extractions permanent teeth for orthodontic reasons	1 848
Endodontic and Similar Treatments	10 816

DIVISION OF GERIATRICS

Director: (Position Vacant)

Acting Director: M. CHEONG, M.B., B.S.(Qld.), M.R.C.P.(Edin.)

Senior Social Worker: L. W. VAN DER EST, B.A., A.Ed., B.Soc.Wk.(Qld.)

Senior Public Health Nurse: T. PERRETT, S.R.N., B.Soc.Sc., B.A.(Hons.) (to 17-9-80)

Home Care Programmes for the aged continue to be delivered as part of the Community Health Programme in Queensland, with an objective of providing care for the elderly in their own homes including the support of a prescribed home help service when this help is necessary. The home care programmes are based on multi-disciplinary assessment of the elderly at their own homes and represent the most effective method of assisting them to continue home residence with the assistance of their families and of the community at levels of excellence which the patient is involved in choosing for himself.

Funding of Senior Citizens Centres under the *States Grants Home Care Act 1969* has continued as a co-operative venture with the Commonwealth Government. The provision of medical oxygen and appliances to assist in the home care of the aged has also continued to be a major Departmental responsibility.

It is encouraging to report on the developments in the field of geriatrics in Queensland during the year 1980-81.

The Advisory Committee on the Care of the Aged commissioned by the Queensland Minister for Health tabled its report to the Minister in March, 1981. This report is seen as a most significant document concerning the future development of geriatric services by statutory and voluntary bodies in Queensland.

By redevelopment of existing ward facilities, Geriatric Assessment and Rehabilitation Units have been developed at The Prince Charles Hospital (Brisbane) and Ipswich Hospital. In addition, the Department of Health has approved of the development of a purpose-built 100-bed Geriatric Assessment and Rehabilitation Unit and Day Hospital at The Prince Charles Hospital as a matter of priority at that Hospital. The project team has completed the task of specifying this project. Established geriatric hospital services have continued at Southport, Rockhampton and Townsville Hospitals.

A Director of Geriatrics has been appointed at The Prince Charles Hospital and, following a period of study in London, will return to take up duty at The Prince Charles Hospital in the latter part of 1981.

The post-basic geriatric nurse training course at Princess Alexandra Hospital is providing for the training of two (2) intakes every twelve (12) months, and it will be of some importance to evaluate the course and the value of these specially trained nurses in the health services in Queensland in the future.

Eventide Sandgate Stage I providing 140 beds designed for extensive care patients was officially opened by the Minister for Health on 11th April, 1981. Stage II of this development is presently under construction.

SOCIAL WORK REPORT

Staffing

The establishment of the social work unit remains at two (2), with one (1) Senior Social Worker and one (1) Social Work Associate. The latter has been seconded to Eventide, Sandgate, and the allocation of

an Associate to the Division of Geriatrics by the Division of Psychiatric Services is much appreciated.

Consultation

The specialist advisory service offered by the unit is in great demand and has been utilized by individuals and Queensland Council on the Ageing, Committees on the Ageing, Senior Citizens' Clubs, Day Centres, Service Clubs, Meals on Wheels Services, State and Commonwealth Departments, Local Authorities and secondary and tertiary students.

Education

The education role of the unit is most important and particularly demanding in terms of time. The unit endeavours to raise the level of awareness of the needs of elderly people and to stimulate the development of services to meet unmet needs. The Senior Social Worker has lectured at secondary and tertiary institutions and has also been involved in in-service programmes for community health nurses, the Post-Basic Course in Geriatric Nursing at the Princess Alexandra Hospital, courses arranged by the Department of Technical and Further Education, Pre-Retirement Seminars offered by many groups including the State Service Superannuation Board, Commonwealth Departments, the Association of Superannuation Funds of Australia and the University of Queensland, and seminars organized by Church and other community groups.

Committee Work

The Senior Social Worker is a member of a number of Committees—The Queensland Council on the Ageing; the Australian Association of Gerontology (Queensland Branch); the Red Cross Handcraft and Activities Committee and the Nurses' Rest Home Committee, and is a Departmental representative on the Advisory Committee on Social Welfare of the North Brisbane College of Advanced Education. She was Secretary of the Advisory Committee on the Care of the Aged.

Applications for Admission to Departmental Aged Persons' Accommodation

The Social Work Associate continued to monitor applications for admission to Departmental accommodation in Brisbane in an effort to ensure that the type of accommodation was appropriate for each applicant and that admission was based as far as possible on a need-priority basis. This involved liaison with staff of the Departmental Services Branch, the Director of Community Medicine, the relevant institutions and hospital-and-community-based health staff. Their co-operation is greatly appreciated.

FLYING SURGEON SERVICE

The Flying Surgeon Service, which was established with headquarters at Longreach in 1959, was expanded on 12th November, 1980, with the commencement of operation of a second Flying Surgeon based at Roma.

The commencement of this extended Service has meant that people in a wide area of central, western, north-western and south-western Queensland will now have the benefit of a specialist surgical service. There are now a total of 20 towns being regularly visited by the Flying Surgeon Service.

There were 95 654 miles flown during the financial year, and the total mileage since the inception of the Service is now 1 926 621.

During the financial year, 1 536 operations were performed, consisting of 620 major procedures and 916 minor ones.

The number of consultations this year was 3 319, and the service has now examined 37 473 patients since its inception.

TABLE C

Calendar Year	Miles	Total Patients	Operations	
			Routine	Emergencies
1970	94 259	1 444	706	64
1971	90 667	1 271	681	80
1972	83 111	1 590	735	84
1973	85 067	1 898	830	72
1974	84 669	1 783	831	82
1975	71 440	1 823	744	56
1976	66 454	1 977	900	63
1977	70 568	2 217	899	56
1978	74 890	2 282	1 039	46
1979	76 523	2 223	853	53
1980	83 281	2 424	898	58

DIVISION OF NURSING

Adviser in Nursing: Miss Z. P. ZSEMBAY, S.R.N., Dip. N. Admin., F.C.N.A.

Assistant to Adviser in Nursing: Mrs M. HANKINSON, S.R.N., B.Soc.Sc., Litt.B., M.C.N.(N.S.W.)

Mrs Hankinson took up her appointment as Assistant to the Adviser in Nursing on 27th January, 1981. In the course of her nursing career, Mrs Hankinson gained experience in clinical nursing and in administration through holding a variety of hospital appointments. Prior to joining the Division of Nursing, she was lecturer to students of nursing administration at the Armidale College of Advanced Education for 3 years.

INTRODUCTION

The Division of Nursing has been in existence since 1953, and over that period of time its function and activities have undergone considerable changes. Nursing, in response to developments in science and medicine and changes in society, is also taking on a changing role. One of the major functions of the Division is to keep in contact with trends and developments in nursing in the other States of Australia as well as overseas countries.

The Division is involved in many activities. Also, the Adviser in Nursing is the Chairman of the Nurses Registration Board of Queensland, Deputy Chairman of the Board of Nursing Studies, member of the Education Committee of the same Board, member of the Nursing Advisory Committee Queensland Institute of Technology, and member of the Queen Elizabeth II Jubilee Hospital Board.

Officers of the Division liaise with hospitals and the various Divisions, and are available to individual members of the public concerning nursing matters. They participate in lecture programmes and give public addresses as requested at graduations, seminars and conferences.

NURSING EDUCATION

Post Basic

DEGREE AND DIPLOMA COURSES

Nursing education is continuing to be a major issue. Nurses are very conscious of the need to advance their professional knowledge and skills, and to obtain broader education to enable them to fulfil the role into which modern society has placed them.

The Queensland Institute of Technology offers a degree course in hospital administration, and several nurses are enrolled in that course. The Department of Nursing Studies, School of Health Science, continues conducting diploma courses in Nursing Administration, Nursing Education, Nursing and Unit Management, and plans to conduct a diploma course in Community Health Nursing in 1982. Courses on part-time basis are being planned for 1982.

Many nurses complete a bridging course conducted by the Institute of Tertiary and Further Education to upgrade their educational standard to be able to start a diploma course.

The Department of Health gives support to nurses who wish to further their education in a number of ways and approved 40 scholarships to nurses from public hospitals, institutions and Divisions of the Health Department to attend diploma courses.

Distribution of Scholarships—

Diploma of Applied Science (Nursing Administration)	17
Diploma of Applied Science (Nursing Education)	12
Diploma of Applied Science (Nursing and Unit Management)	11

Results for last year's scholarship holders have been released.

Distribution of diplomas awarded—

Diploma of Applied Science (Nursing Administration)	13
Diploma of Applied Science (Nursing Education)	9
Diploma of Applied Science (Nursing and Unit Management)	16

Some nurses are enrolled in external courses with the Armidale College of Advanced Education. These nurses are granted leave privileges for the residential periods.

COURSES LEADING TO REGISTRATION

Midwifery courses are conducted in 13 government and three private hospitals. There are more applications than positions available for students, although waiting lists are not as long as the previous year.

An upsurge of interest is noticeable in psychiatric nursing. The two training institutions, Wolston Park and Baillie Henderson Hospitals, receive increasing numbers of applications from nurses who have completed the general nursing course.

The Maternal and Child Health course continues attracting a steady flow of nurses.

CLINICAL SPECIALITIES

Approval has been granted to the Royal Brisbane Hospital to conduct a six-month course in Oncology nursing and a short course in Coronary Care nursing at The Prince Charles Hospital. The following hospital based programmes have been approved to date by the Department of Health:—

Course	Hospital	Commenced	No. of Courses Conducted	Total No. of Students Completed
Cardio-thoracic Inten. Care Nursing	The Prince Charles	1970	15	113
Paediatric Nursing	Royal Children's	1974	10	64
Intensive Care Nursing	Royal Brisbane	1980	2	10
Stomal Therapy	Princess Alexandra	1976	10	41
Oncology Nursing	Royal Brisbane	1981	1	10
Coenary Care Nursing	The Prince Charles	1981	1	6
Geriatric Nursing	Princess Alexandra	1979	3	33

IN-SERVICE COURSE FOR REGISTERED NURSES

This programme was introduced by the Department of Health in 1976 to help registered nurses working in country areas to update their professional knowledge and skills, giving them the opportunity to keep abreast with new ideas and developments. It is a very successful scheme. Programmes are of one week's duration and conducted in six Base Hospitals. The following areas have been included during 1980-81, and the following registered nurses attended:—

Surgical/Medical	127
Orthopaedic	9
I.C.U./C.C.U.	39
Paediatric	42
Operating Theatre	17
Midwifery	24
Accident and Emergency	18
Administration	} 50
Management	
Oncology	7
Psychiatric	2
Renal	2
Domiciliary	5
Sterilizing	1
Behavioural Sciences/Clinical Assessment	8
Rehabilitation (Geriatric and Psychiatric)	2
Total	353

In addition, 65 nurses attended the special 2-week programme designed for Charge Nurses, conducted by Princess Alexandra Hospital.

MANAGEMENT COURSES

Emphasis has been placed on the importance of improved management. Management Services conduct an array of courses. Attendance by nurses was as follows:—

Programme	Hospitals	Departmental
Management Improvement Programme (top management level)	18	14
Staff Development Programme	81	12
Work Skills .....	..	1
Basic Supervision	2	..
Workshops (interpersonal relationships, interviewing, meeting procedures, communication)	78	6
Total	179	32

Attendants were sponsored by the employing agency.

SEMINARS, CONFERENCES

A variety of seminars, workshops and conferences have been attended by nurses with financial support from the Department, providing the opportunity for professional contact and development.

Basic Nursing Education

IN INSTITUTE OF TERTIARY EDUCATION

Following Dr Sax's Report on Nurse Education and Training (1978), the Commonwealth Government made an announcement on 13th October, 1980, that funds will be made available to commence a basic nursing course at the Queensland Institute of Technology. Discussions between Q.I.T. and the Department commenced for arrangements to be made for students to gain practical experience in hospitals and community services.

HOSPITAL-BASED

Nursing courses leading to registration as a general nurse are conducted in 21 public, one Repatriation, and eight private hospitals. Two of these are satellite hospitals within the regional training scheme. Hospitals have no problem at present in recruiting students, and the attrition rate during training has declined. This can be attributed partly to careful selection of applicants and partly to the economic situation.

Three hospitals, Townsville, Toowoomba and Rockhampton, have introduced the revised general nursing course which contains 1 200 hours' theory and is based on a patient-centred approach. Additional positions of nurse educators have been approved by the Department in these hospitals, and staff establishments are reviewed on a regular basis to compensate for the loss of working hours in the work force because of the increased classroom hours. The Programme will be phased in to all training hospitals progressively.

The preparation of enrolled nurses is continued in hospitals. Sixty-six public and 14 private general hospitals are approved to conduct courses.

NURSING SERVICE

Staffing

Nurses are usually a mobile population. To gain wider experience they prefer to change positions from time to time. No serious shortage of registered nurses has been experienced, although nurses with midwifery certificates are difficult to attract to hospitals in the Western area.

The Queen Elizabeth II Jubilee Hospital, Dysart Hospital and Karumba Out-Patient Clinic have been completed and nursing staff appointed.

No problems have been experienced in appointments to positions of Nursing Superintendents. Nineteen such appointments have been made during the year.

Applications for additional staff have been investigated by the Division in conjunction with the Inspectorial Branch and appropriate increases granted to new services or areas showing an increase in workload.

The Division receives many enquiries from nurses from other countries who wish to come to Queensland. Officers of the Division endeavour to help suitable applicants to find positions.

Nursing Practice

Hospitals are endeavouring to practice the Nursing Process, which is patient-centred nursing care, in preference to task assign-

ment. Nurses delivering care in this form gain a better understanding of the patients' problems and a better opportunity exists for building up a good relationship between patients and nurses looking after them.

Special Project

The Division of Nursing, together with officers of the Board of Nursing Studies, has been involved in discussions with the Division of Research and Planning. A Commonwealth grant has been approved for the Division of Research and Planning after establishing the feasibility of such a project, to conduct a State-wide patient/nurse dependency study in selected public hospitals. Nurse researchers will be trained to carry out the project.

VISITS TO HOSPITALS

Officers of the Division continue visiting metropolitan and country hospitals. However, routine visits were not made prior to the appointment of the Assistant to the Adviser in Nursing.

VISITS MADE:

Routine	17
Special	16
Staffing	27
—	—
Total.....	60
—	—

Routine visits are most valuable and provide the opportunity to have discussions with Nursing Superintendents, Managers and Medical Superintendents and also to provide assistance when needed. It gives the opportunity to the Division to assess nursing standards in the State.

OTHER ACTIVITIES

The Thirty-first Annual Conference of Nursing Superintendents was held 6th-10th April, 1981, in Brisbane. One hundred and twelve Nursing Superintendents participated, and 11 from private hospitals were present as observers. The theme for the Conference was Accountability and it was considered in relation to self, to the patient, the profession and progression. During the business sessions, many common and individual problems were scrutinized and many ideas discussed. Officers of the Division attend the Conference and make themselves available for consultation. Nursing Superintendents are appreciative of the opportunity given to them to meet and discuss issues of concern with the Honourable the Minister and Departmental Officers.

Officers participate in interviewing and selecting registered nurses who apply to the Public Service for positions.

Many enquiries are directed to the Division from interested persons who want to enter the nursing profession. A great deal of assistance is given to schools and organizations to disseminate information on nursing as a career.

The following tables provide the current nurse registration statistics for Queensland.

TABLE XCIII
FIRST OCCASION OF REGISTRATION ACCORDING TO CATEGORIES OF NURSING 1980-81

Month	General	Midwifery	Child Health	Psychiatric	Enrolled Nurse
July, 1980.....	354	43	5	22	98
August	198	41	39	23	55
September	121	81	5	11	47
October	134	75	3	6	56
November	95	32	2	9	139
December.....	130	19	11	7	80
January	282	77	5	21	67
February	207	59	25	18	62
March	178	35	13	7	44
April.....	148	49	3	5	58
May.....	96	63	3	7	136
June, 1981	98	47	1	4	75
Total	2 041	621	115	140	917

Registrations.....	2 917
Registrants	2 737

TABLE XCV
 NURSES CURRENTLY REGISTERED IN QUEENSLAND
 ACCORDING TO CATEGORIES

General.....	10 756
Midwifery	46
Child Health	Nil
Psychiatric	772
General/Midwifery.....	7 010
General/Child Health	76
General/Psychiatric.....	284
Midwifery/Child Health	15
General/Midwifery/Child Health	1 484
General/Midwifery/Psychiatric.....	92
General/Midwifery/Child Health/Psychiatric.....	31
General/Child Health/Psychiatric.....	1
Enrolled Nurses	6 682

DIVISION OF COMMUNITY MEDICINE

Director: M. CHEONG, M.B., B.S.(Qld.), M.R.C.P.(Edin.)

Senior Social Worker: E. P. DOBBYN, B.Soc.Wk.(Qld.)

Principal Community Health Nurse: G. McCHESNEY-CLARK, S.R.N., Dip. Public Health Nursing, F.C.N.A.

Assistant Principal Community Health Nurse: B. MURRAY, S.R.N., Dip. Nursing Administration, Dip. Applied Science Community Health Nursing, F.C.N.A.

Nurse Educator: G. A. HINTON, S.R.N., Dip.N.Ed., F.C.N.A.

Medical Records Officer: L. A. CLAVARINO, Assoc. Dip. M.R.A.

The Community Health Service in Queensland has continued to provide a valuable helping service to families. Individual clients and their families have derived great benefit from services provided by the multi-disciplinary staff at Community Health Service Centres throughout the length and breadth of the State.

It is pleasing to report that it is now possible to document the effectiveness of the Community Health Service. This modern approach to providing multi-disciplinary assessment and utilizing all of the relevant institutions in a community including the local hospital provides the individual patient with a satisfactory alternative to institutional care. As an example, an evaluation of the method of assessment of patients to Eventide Rockhampton has confirmed the fact that there is no actual waiting list of patients at Rockhampton and that all prospective applicants have been assessed and reassessed by the Community Health staff. This has ensured that adequate help and support of intending applicants has enabled them to continue to live at home for longer periods than was previously possible. We may reach a position in the future where the elderly person admitted to institutional care will be in their eighties and may require extensive nursing home care.

Many supportive programmes have been initiated or maintained by Community Health staff, and it is possible to report that these programmes with carefully documented objectives are achieving their planned targets in many centres. Day Centres for the frail aged are a good example of support programmes for the elderly being supported by the Community Health Service throughout Queensland.

We have co-operated with Griffith University Health Services Research Team in experimenting in delivering a Self Help Health Care approach at Killarney.

A new initiative launched during 1980-81 was for psychiatric patients in metropolitan Brisbane. During the latter part of 1980, two (2) service teams commenced operation as an integral part of the Community Home Care Service at Fortitude Valley and at a new office location at Annerley in association with Community Home Care Service, South Brisbane. These two (2) service teams were charged with an overall objective of promoting individual and community mental health by providing support for people suffering from mental illness. Various types of hostels and vocational training centres are identified as part of the facilities and services needed by the individual. As a community mental health service, the aim is to support existing facilities and to stimulate and encourage the development of new services for the person recovering from mental illness.

It is an objective of the service teams to provide the smooth transition of patients from hospital to the community or from treating facilities to other more relevant centres as the patient's health improves and that the need for readmission to treatment centres might become less frequent as the result of more efficient continuing care. This service is in its early stages of development.

The provision of services for individuals in conjunction with other Departmental Divisions including School Health Services, the Maternal and Child Health Service, the Aboriginal Health Programme, Health Education and Information, Alcohol and Drug Dependence Services, and a wide range of voluntary community services has continued. Close working relationships in provision of services in conjunction with other Government Departments, State and Commonwealth, have also continued.

Integration of services is one of the aims of the Community Health Service. Liaison Nurses seconded to the Mater Hospital and Royal Brisbane Hospital have proved their worth in assisting the individual patient to receive an integrated service from the hospital and community services. Those patients identified as likely to have problems at the time of discharge now have a mechanism of access to an integrated health service. This is of the greatest practical benefit to the patient in transition home after illness and has also assisted hospitals with patients who have recurrent episodes of illness. Unnecessary readmissions have been avoided.

Expansion in Hospital/Community liaison service has been able to be made with the commencement of a full-time liaison nurse at Prince Charles Hospital, Toowoomba General Hospital, Townsville

General Hospital and part-time staff available to Queen Elizabeth II and Nambour and Nanango General Hospitals.

The difficulty in maintaining services in rural areas of the State was again demonstrated. Very limited coverage only was able to be provided to Centres where the one (1) staff member was absent for a prolonged period due to illness or accident and where Centres were unmanned following staff resignation. The lack of suitably qualified applicants for vacant positions at certain rural Centres resulted in additional demands and strain on remaining staff.

At Dalby during the flood of February, 1981, the Community Health Service demonstrated its ability to assist a community at the time of a disaster. All of the community agencies in Dalby, Government and voluntary, worked with great dedication to relieve human suffering and prevent possible epidemic disease during this major disaster for the people of Dalby. Community Health staff at Dalby and on loan from neighbouring towns worked for some months after the event to help individual persons recover their health status.

Continuing care will be available to the residents of Dalby from Community Health staff even though the disaster unit has been disbanded. This will be particularly beneficial over the ensuing twelve (12) months when depression and other problems manifest themselves.

The Brighton hailstone disaster of December, 1980, is another example of how a Community Health Service, in this case, Community Home Care, demonstrated its value in assisting individuals. Clients already known to this service were helped long before they might have presented themselves for assistance to the disaster team organized to assist the community. We were able to see that immediate needs were cared for and continued to be available to those persons in need of help long after the disaster team ceased to function, having fulfilled their specific objectives.

During 1980-81, the record collection of the Community Health Service was improved and a new record manual prepared and implemented by the Medical Records Administrator.

SOCIAL WORK REPORT

The present social worker establishment of the Division remains at fifty-four (54), with thirty-five (35) positions filled at 30th June, 1981.

In addition to this staff, the Senior Social Worker, Head Office, has administrative responsibility for fifteen (15) Social Workers in the Division of Geriatrics and, more recently, four (4) in the Continuing Care Service. Eight (8) Social Work Associates on the establishment of the Division of Psychiatric Services are allocated between the Centres of these three (3) services and are responsible for very valuable support and follow-up welfare services.

Unfortunately, the position of Senior Social Worker at Townsville has, in spite of wide interstate advertising, remained vacant throughout the year. Every effort is being made to fill this position; it is considered particularly important to keep it on establishment in view of the planned regional supervisory role. The location of the Continuing Care Service teams within the metropolitan Community Home Care Centres has been welcomed, providing, as it does, a Senior Social Worker in each Centre for supervision and consultation for both existing and new staff.

New appointments during the year included six (6) new graduates and, with the exception of Charters Towers, all were to Centres with at least one (1) other Social Worker on staff. It is, however, important to note here the particular difficulties in attracting staff to areas such as Emerald and Gladstone. In these towns and, in general, in country areas, the problem is twofold—(a) professional isolation and, where new graduates are concerned, the lack of senior supervision; and (b) social isolation and the difficulty in securing suitable accommodation. It is unreasonable to expect either young single graduates or more settled married personnel to relocate into inferior living conditions.

The situation noted in last year's report with regard to transient low-income families in Caravan Parks has not improved and, in common with similar families and individuals in periphery areas, is

productive of a heavy caseload for some Centres. Unemployment, alcoholism, youth delinquency, psychiatric problems and domestic violence have all been of particular concern to staff. Close co-operation is maintained with other Statutory Agencies such as the Departments of Children's Services and of Social Security and with the relief-giving agencies, church and voluntary bodies. Helpful consideration has been extended by the Queensland Housing Commission in response to advocacy on behalf of clients.

Some specific areas of responsibility for social workers have developed during the past year, for example, the acceptance of responsibility for service to the hostels for ex-psychiatric patients at Caboolture and Nambour, membership of local committees involved in programmes for the I.Y.D.P., the establishment in several areas of local welfare committees and the involvement in the Community Service Orders scheme of Probation and Parole.

Training in grief and bereavement counselling has become the special province of several social workers, and the support and counselling service for parents who have lost a baby through the Sudden Infant Death Syndrome has been extended and strengthened this year. Liaison is maintained with the Department's pathologists and laboratory staff in the immediate notification of cases, and helpful co-operation is extended by police officers, Maternal and Child Health and Community Health Nurses and women's service groups, particularly in country areas.

Special mention is made of the contribution of social workers and associates to the relief programmes in the recent disaster areas of Brighton and Dalby. Members of all disciplines from a variety of statutory and voluntary agencies worked tirelessly and co-operatively in relieving immediate distress and identifying long-term needs.

Supervised training placements have again been offered by experienced social workers in a number of Centres to social work and social welfare students from Queensland and James Cook Universities, and from Colleges of Advanced Education. A new initiative this year was the opportunity given to a number of final year secondary school students to have a short work-experience placement in a Centre. Several social workers have also contributed to the Community Health Nurses Orientation Programmes and to Centre orientation programmes for new members of other disciplines.

Social workers have spoken on the role of Community Medicine to a number of community-based services or welfare groups and have been members of discussion panels and seminars in areas such as retirement counselling, volunteer training, budgeting programmes and effective parenting skills.

The Senior Social Worker, Head Office, carries advisory and consultative responsibility for Ministerial and Departmental referrals, recommendations in relation to staff establishments and appointments in hospital social work Departments, liaison and consultation with social workers in country hospitals and consultation with Directors of Divisions not employing social workers. The Senior Social Worker is a Departmental representative on the Queensland University Social Work Faculty Board and the Advisory Committee of the North Brisbane College of Advanced Education, and an executive member of the Queensland Council on the Ageing, the Queensland Society of Health and the Queensland Sudden Infant Death (S.I.D.S.) Research Foundation.

COMMUNITY HEALTH NURSE REPORT

The year has been a busy year with planned consolidation and co-ordination. Continuing with economic restraint, activities have been assessed and, in some areas, resources reallocated to allow for job expansion to meet identified needs.

New ventures for the year have been the opening of Centres at Texas, Goondiwindi and Annerley, and the appointment of a Senior Community Health Nurse, Gold Coast. The staff establishment has risen by ten (10) Community Health Nurses to 207; however, the year made both an entrance and exit with forty-one (41) vacancies. In spite of this, the nursing staff turn over for the year has averaged 13 per cent.

Educational activities for all newly appointed nursing staff has continued with the completion of an orientation programme in July, 1980, a full programme undertaken by sixteen (16) Community Health Nurses, February to April, 1981, and the commencement of a further programme for twenty-two (22) Community Health Nurses on 15th June, 1981. Five (5) Community Health Nurses required to undertake the assessment of school children in their area were orientated to this particular facet of their work with a 3-week programme in August.

The development of the mental health component with Continuing Care service team nursing staff at Annerley, Fortitude Valley and Liaison Nurses at Wolston Park has resulted in eight (8) new staff positions. These Nurses participated with other staff in a multi-disciplinary orientation to their work on appointment in October.

A Community Health Nurse from Mackay and also one from Brisbane completed the Post Basic Geriatric Course in December, and currently one (1) Community Health Nurse from the metropolitan area is undertaking the present programme. It is unfortunate that full

coverage of the State with Nurses with this speciality has not been achieved; however, priority will remain for Nurses wishing to undertake such courses in the future.

One registered nurse in the Primary Medical Care Area at Inala successfully undertook the Post Basic Paediatric Nursing Course at the Royal Children's Hospital, and this has enhanced the care given to the children attending the Centre.

One (1) Community Health Nurse returned from the Lincoln Institute of Health Science having gained a Diploma in Applied Science, Community Health Nursing. Another Community Health Nurse undertook the 6-week Stomal Therapy Course at Princess Alexandra Hospital and returned to work at the Maryborough Centre.

An in-service programme was made available at the Royal Children's Hospital for a Community Health Nurse from Charleville to aid home care to children in that rural area, and a 3-day programme in diabetic education was provided by the Greenslopes Hospital for a Community Health Nurse from Toowoomba to provide current information on trends and nursing care for Nurses at that Centre.

A 3-day in-service education programme was provided in conjunction with Baillie Henderson Hospital for all Community Health Nurses working in the south-west region. This proved to be extremely valuable as Nurses in rural areas so often have no ready access to specialized back-up, and work with limited hospital resource staff available in some areas.

One of the highlights of the nursing component has been a successful Senior Community Health Nurse Seminar held in May. The aim of the Seminar was to further develop skills in senior nursing personnel to aid their functioning on day-to-day issues by co-ordinating the nursing unit.

Many Community Health Nurses have facilitated and participated in programmes pertaining to the International Year of Disabled Persons in their own area.

Community and professional education programmes/lectures within the role of the Nurse have increased during the year. Involvement has included the following:—Department of Nursing and Department of Nutrition and Dietetics; Queensland Institute of Technology; General Midwifery and Enrolled Nursing Course; Associated Diploma Courses in Community Welfare; Masters Students in Environmental Studies; Post Basic Geriatric Nursing Course; St. John's Ambulance; Nursing Home; Voluntary and Church Organizations; and many Community Health/Welfare Agencies.

Nurses have attended as Departmental representatives to the following Conferences:—Australian Association of Stomal Therapist Conference; The Self Help Health Care Programme, Griffith University; The First National Conference for Home Help Agencies; Assessment and Care of Confused Elderly; Oncological Nurses Seminar; Immunisation Seminar; and the Third National Conference of College of Nursing, Australia.

MEDICAL RECORDS

Once again, the past year has seen the role of the Medical Record Administrator within the Division of Community Medicine expanding to meet the needs of many divisions of the Department of Health.

Advice on medical record systems and filing equipment has been given to a number of country Hospitals during this year. The Medical Record Administrator was involved in implementation of the record system at Q.E. II Hospital. This system is a pilot scheme for country and provincial Hospitals. The effectiveness and efficiency of this system will be evaluated towards the end of 1981.

The Division of Community Medicine Data Collection System has continued to expand, with new Community Health Service Centres at Texas, Goondiwindi and Annerley joining the collection along with a component of Fortitude Valley Home Care Centre specializing in follow-up of patients discharged from Psychiatric Hospitals.

Training programmes have been conducted in conjunction with the Nurse Educator with the aims of improving quality of client information and increasing the accuracy of statistics within this Division.

The Medical Record Administrator has also participated in a number of Departmental Committees including that on storage and retention of Medical Records.

THERAPY SERVICES TO SCHOOLS

Three (3) full-time Therapists were employed, providing services at selected schools in the Brisbane metropolitan area. Therapists employed in Community Health Services Centres in various areas of the State also provided some assessment services for school children referred to them.

The Advisory Committee on Therapy Services in Schools met regularly during the year and formulated guidelines for the provision of multi-disciplinary services to school children. Steps are being taken to implement these guidelines.

With the advice of the Paediatric Advisory Committee, Departmental approval has been obtained for guidelines for referral for therapy services.

The Occupational Therapist, Brisbane West Region, in co-operation with the Occupational Therapy Department, University of Queensland, conducted a project on the effect of Sensor-Motor Therapy on a group of learning disabled children. Learning Disabled Children from various areas were included in the project. Results of the study were quite encouraging and should be published in professional journals in the near future. Further follow-up work to the study will be carried out.

Statistics for the three (3) full-time therapists working at schools in the metropolitan area are detailed herewith.

TABLE XCVI
OCCUPATIONAL THERAPY CASES
Brisbane West Region

	1979-80	1980-81
Total number of referrals over 12-month period.....	142	81
Total number of schools, etc., from which cases were drawn.....	49	32
Total number of children receiving attention.....	189	109
(a) Withdrawn for individual therapy.....	71	51
(b) Classroom/Parental Support Programmes.....	118	58
Total number of parents/teachers counselled per week.....	50	26

Brisbane North Region

Period 1st November, 1980-30th June, 1981	Nos.
Total number of referrals over 8-month period.....	89
Total number of schools, etc., from which cases were drawn.....	30
Total number of children receiving attention.....	89
(a) Withdrawn for individual therapy.....	27
(b) Classroom/Parental Support Programmes.....	57
(c) Referral to a more appropriate source of therapy/not warranting therapy or did not wish to undergo programme.....	5
Average number of assessments per week.....	3

TABLE XCVII
BREAKDOWN OF AGE GROUPS REFERRED
Brisbane North Region

Pre-School age.....	22%
Primary school age.....	76%
(a) Primary schools.....	73%
(b) Special schools.....	27%
High school age.....	1%

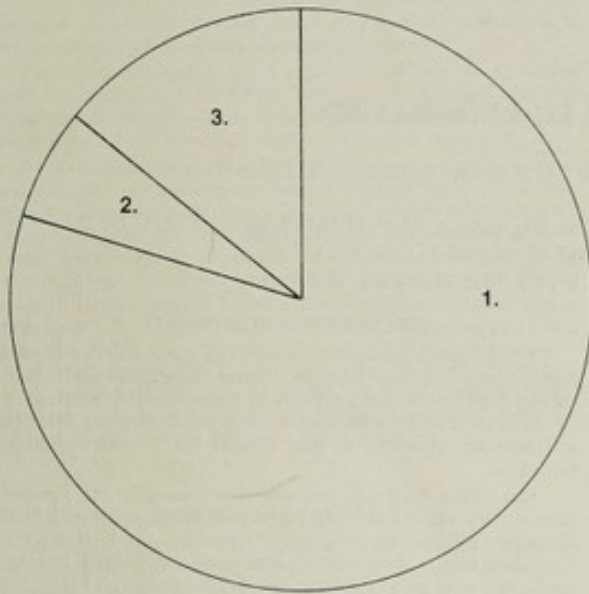
TABLE XCVIII
PHYSIOTHERAPY CASES
Brisbane South Region

	1979-80	1980-81
New referrals.....	137	117
Number of schools from which children were seen.....	31	37
Children receiving attention—Total.....	105	128
(a) Individual therapy.....	25	35
(b) Home programmes.....	59	100
(c) Group Programmes with Therapist.....	22	21
(d) Teacher-based Programmes (Individual or Group).....	16	47
(e) Advice only to Teachers.....	25	33
Children awaiting therapy.....	6	46
Children discharged or case closed.....	7	96
Children awaiting assessment.....	32	23

TABLE XCIX
SCHOOLS FROM WHICH CHILDREN WERE REFERRED

	1979-80	1980-81
Base Schools—		
MacGregor State School.....	32	17
Narbethong.....	29	17
School for the Deaf.....	27	9
Other Schools—		
Mount Gravatt area.....	..	25
Rosedale/Springwood area.....	..	19
Woodridge area.....	49	15
Outlying areas.....	..	10
Inner city areas.....	..	5
New Referrals—Total.....	137	117

COMPUTERIZED STATISTICS
1st July, 1980-31st December, 1980

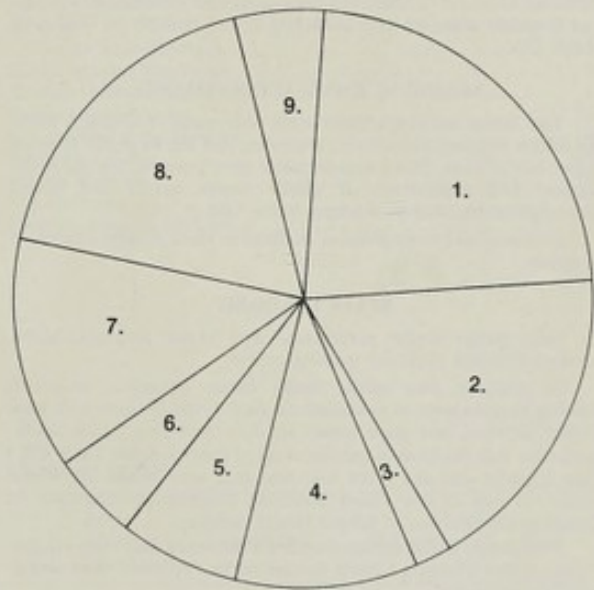


Number of Contacts
Total Contacts = 94 909

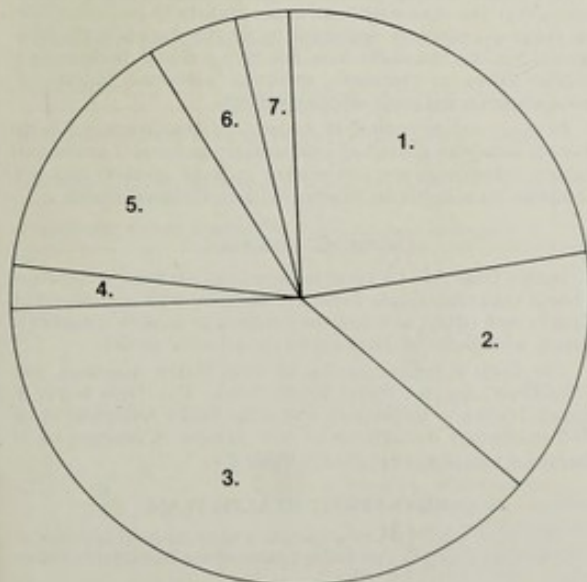
1. Individual	80.1%
2. Group.....	5.9%
3. Other.....	14.0%

New Referrals
Total New Referrals = 6 041

1. Hospital.....	22.9%
2. G.P.....	17.9%
3. Other Pte. Med. Practitioner	2.0%
4. Govt. Agency	10.2%
5. Volunt. Agency	6.7%
6. School	4.8%
7. Self	13.2%
8. Family/Friends	17.7%
9. Other.....	4.6%



MANUAL STATISTICS
1st July, 1980-30th June, 1981



New Referrals
Total Referrals = 3 055

1. Self/Family.....	23.1%
2. G.P.....	13.7%
3. Hospital.....	38.3%
4. Social Work.....	2.2%
5. Community Services	14.8%
6. Dept. of Health	5.1%
7. Other.....	2.7%

N.B. Manual Statistics are kept for two Metropolitan Centres.

ABORIGINAL HEALTH PROGRAMME

Health Officer (Aboriginal Health): R. B. HAWES, M.B., B.S.(Lond.), D.T.M.&H.(Liv.).

Regional Medical Officers:

Southern: J. L. JAMESON, M.B., B.S.(Qld.), D.T.M.&H.(Syd.), M.P.H.(Michigan), F.A.C.M.A.

Central: R. P. DAVISON, M.B., B.S.(Qld.), D.T.M.&H. (Lond.), F.R.A.C.G.P.

Northern: R. W. STREATFIELD, M.B., B.S. (Syd.), D.T.M.&H.(Syd.), B.Pharm.

The Aboriginal Health Programme commenced widespread field operations in 1972 with the objective of improving the health of Aborigines and Torres Strait Islanders to a level comparable with that of the Queensland population. To achieve this objective, field staff have been employed throughout Queensland to allow early detection of groups and individuals at risk, appropriate remedial action, active involvement of the people concerned, follow-up health education and promotion, especially through the activities of Aboriginal/Islander staff, and promotion of the utilization by Aborigines and Torres Strait Islanders of existing health facilities. The Programme is funded by a Commonwealth Unmatched Grant.

Two new health teams have been established, one at Toowoomba and one at Normanton. As at 30th June 1981, the total staff numbered 187, and there were 29 health teams operating throughout the State, including 12 of the 14 Mainland Aboriginal Communities. Aborigines and Islanders make up approximately 55 per cent of the field staff (Table C1).

SENIOR NURSING APPOINTMENTS

Two senior nursing appointments were made in October, 1980, the Senior Nursing Supervisor, Brisbane, and the Regional Nursing Supervisor, Cairns. These appointments have provided for improved support and supervision of public health nurses and health assistants/health workers working in the field.

Lectures have been given to students in basic nursing courses at hospitals.

STAFF TRAINING

Nine public health nurses and nine health assistants/health workers attended in-service training courses.

In addition, five public health nurses completed in-service training in techniques of examinations used by the Division of School Health Services, and these nurses are now providing health assessments for that Division in remote areas of the State (See Table CII.) One hundred and ten (110) four-year-olds were tested for Visual Acuity as part of the Vision Screening Programme conducted on behalf of the Division of School Health Services.

Five public health nurses attended a one-week Self-Help Health-Care Leaders Training Course conducted by Professor Brownlea at Griffith University.

REGIONAL WORKSHOPS

Fifteen public health nurses in the Southern Region attended a training workshop in Brisbane in October, 1980.

Twelve health assistants/health workers attended a Central Region training workshop in Mount Isa in May, 1981.

Nineteen health assistants/health workers attended a Northern Region training workshop in Cairns in June, 1981.

FIELD TEAM ACTIVITIES

In many areas where health teams have been working for some years, detection of individuals at risk and treatment intervention are now being complemented by discussions, counselling and working with families to improve their own health standards. In some areas, however, teams are still primarily involved in detection and management of children at risk. The differences in approach are determined largely by availability of staff and resources and their capability of maintaining a close contact with the people.

All health teams are now involved in weekly training activities to increase the knowledge and skills of Aboriginal and Islander Health Workers and Health Assistants. Training booklets on various subjects are regularly sent to all these staff.

Some concept of the magnitude of health team activities may be gained from Table CIII, although it should be realized that such data reflects only those aspects of their activities which can be easily recorded and cannot provide any indication of the extent of the skilled counselling, advising, supportive and educative activities of the Programme's staff all of which are vitally important.

DIETARY-NUTRITION UNIT

The Dietary-Nutrition Unit (DNU) now consists of two Dietitian-Nutritionists and two specially trained Aboriginal and Islander Dietary-Nutrition Assistants. This unit is expanding the proportion of its activities conducted through these especially trained Aboriginal and Islander Assistants as they acquire the necessary skills and experience.

One of the Assistants has now been located in the Townsville Region. This has increased the number of consultations with Health Teams and extended the influence of this unit in nutrition education. Two more Health Assistants are undergoing specialized training in nutrition education in Brisbane and will later return to their home districts to extend the work of the Unit. One of the Health Assistants from Thursday Island has been especially trained to assist in the on-going diabetes education project there. A recipe book has been devised for use in this project in collaboration with the Division of Health Education and Information.

The other Health Assistant in training is from Mornington Island and is concentrating on techniques relating to correction of under-nutrition.

The Dietary-Nutrition Unit has continued to develop resources designed to prevent undernutrition. It has also provided consultant services to field staff involved in projects aimed at overweight problems, especially obesity and diabetes. All projects are designed to reinforce the Aboriginal Health Programme's efforts to detect and treat malnourished people.

The Cherbourg Slimming Club has now entered its second year, and news of its activities has stimulated requests from communities in other parts of Queensland desiring to be involved in similar projects.

BUILDINGS AND VEHICLES

Four health teams and one team sub-unit have moved into more suitable office accommodation leased from private business. These were Team 40 at Cunnamulla, Team 6 at Mareeba, and Teams 42 and 43 in Brisbane, as well as the Ingham sub-unit of Team 27. Team 16 at Normanton has occupied a pre-fabricated office purchased by the Aboriginal Health Programme.

There was a net increase of two motor vehicles, bringing the total in use to 71. One of these is a four-wheel-drive vehicle.

ENTERIC PARASITES

A summary of faecal parasite screenings during 1980 is provided (Table CIV). This data constitutes approximately 50 per cent of the total faecal examinations performed by microbiologists in the Programme, but the remainder have not been included because they represent follow-up specimens, specimens submitted because of clinical suspicion and other *ad hoc* specimens.

A good level of control of *Ascaris* and Hookworm has been achieved, largely as a result of treatment programmes. *Giardia* and *Trichuris* infestations are still present in large numbers and are responsible for a significant number of cases of clinical illness.

ENTHETIC DISEASES

Health Team No. 4 is based in Cairns and has been in operation in North Queensland since February, 1979. Its staff are concerned primarily with efforts to reduce the incidence of sexually transmitted diseases, with particular emphasis on the antenatal period.

The Team at present consists of three Health Assistants, one Field Officer, and one Public Health Nurse. This Team assists in Contact Tracing in conjunction with other health authorities in an effort to interrupt transmission of these diseases. A summary of its educational activities is provided in Table CV.

TORRES STRAIT HEALTH TEAM

This Team's activities now include a wide range of activities at both Thursday Island and the Outer Islands of the Torres Strait (Table CVI).

VITAL STATISTICS

Table CVII summarizes the Vital Statistics for 14 Aboriginal Communities over three 3-year periods. There has been a marked, continuous fall in the Infant Mortality Rate over the 9 years since this Programme has been operating. This figure is widely regarded as a reliable indicator of the health status of a Community.

The causes of death in the 3 years, 1978-80 for the 32 Infant Deaths are detailed in Table CVIII. The Causes of Deaths for all age groups for the 14 Aboriginal Communities over the three 3-year periods ending 31st December, 1980, are shown in Table CIX.

Of special interest in Table CIX is the marked continuous fall in the significance of "Intestinal infectious diseases" and "Conditions originating in the perinatal period" as causes of death over the 9 years displayed. Deaths due to "Other injuries, early trauma complications" are increasing. Diseases affecting blood vessels, items 25-30 in the ICD basic tabulation list, reflect the major group of related conditions causing death and show a rising incidence in number and as a percentage of all deaths in those Triennia. When summed, the figures are 90 (25.5%), 109 (33.1%) and 119 (33%), respectively. "Other diseases respiratory system" are the next most significant and show a marked decline, e.g. 73 (21%), 61 (19%) and 51 (14%), respectively. Just as in the wider community, malignancy remains a significant cause of death and has a steady incidence.

MORBIDITY STATISTICS

Community hospital staff have provided Monthly Statistical Returns on presentations for investigation and treatment at hospitals and clinics. These have been collated, and Table CX shows the Average Monthly Number of Cases Treated, ranked in order of frequency. The 10 most common conditions in three different age groups are included in Table CXI.

Comparison with previous years indicates some changes in the order of frequency and some changes in the average number of cases of some conditions. Some care in assessing the significance of these changes is necessary as they do not represent prevalence figures, but merely numbers of presentations for attention and as such are subject to such uncontrolled variables as levels of staffing, attitudes to using hospital services, human interactions between patients and staff, and the availability and usage of alternative services in some areas. Nevertheless, it is of interest to observe the continuing significance of various infections as the major causes of attendance and the increasing incidence of "Other trauma (not fractures)" with increasing age.

RESULTS OF HEALTH SCREENINGS

In Table CXII it will be noted that in 11 of the 16 areas where repeated health screening has been carried out, there has been a marked reduction in the incidence of acute (wasting-type) malnutrition.

EPIDEMICS

No notable epidemics were recorded during 1980-81.

MALARIA CONTROL

Mosquito Surveys.—During the year, a survey of Horn Island and Thursday Island was conducted. Three species of importance were found—*Anopheles hilli*, *Culex annulirostris* and *Aedes aegypti*. Larvae of the two latter species were forwarded to Q.I.M.R. to establish colonies for further research. Overall findings suggested that under suitable conditions, malaria, filariasis and some arbovirus diseases, notably dengue fever, could be transmitted on these islands.

A Medical Officer and Microbiologist from the Aboriginal Health Programme joined a team which investigated an introduced cause of malaria at Moa Island in January, 1980. (See report Departmental Anti-malaria Activities Elsewhere.)

TABLE CI
STAFF OF ABORIGINAL HEALTH PROGRAMME AS AT
30-6-81

Health Officer	1
Regional Medical Officers	4
Dietitians	2
Microbiologists	2
Brisbane Office Clerical/Gen. Assistant/Clerk-Typists/Stenographers	14
Senior Nursing Supervisor	1
Regional Nursing Supervisor	1
Public Health Nurses	32
Sisters (Aboriginal Health)	10
Health Assistants	65
Health Workers	26
Field Officers	27
Itinerant Hygiene Officers	2
	187

TABLE CII
SCHOOL HEALTH EXAMINATIONS

District	Cape York Pen.	Torres Strait Islands	Cunnamulla	Eidsvold	Total
Total School Enrolment	305	330	230	255	1 120
Total Number of Children Examined	265	248	180	85	778
Percentage of Enrolment Total Examined	87%	75%	78%	33%	69%
Notifications	25	22	20	7	74
Percentage of those Examined	9.4%	9.0%	11%	8%	9.5%
Referrals to Other Agencies	20	24	25	Nil	69
Percentage of those Examined	7.5%	9.7%	14%	N/A	8.8%

TABLE CIII
TEAM ACTIVITIES

No. of home visits	110 819
Total No. of treatments	320 358
No. of haemoglobins performed	12 882
No. of prescribed nutritional supplements given	34 892
No. of faeces specimens submitted	5 238
No. of persons treated for enteric parasites	17 637

TABLE CIV
RESULTS OF SCREENING EXAMINATIONS FOR ENTERIC PARASITES—1980

Locality	Number Screened	Per Cent Positive										Nil Parasites Found
		Entamoeba histolytica cysts	Entamoeba coli cysts	Giardia lamblia cysts	Ascaris ova	Hookworm ova	Strongyloides larvae	Trichuris ova	Hymenolepis nana ova	Other Parasites	%	
Aurukun	63	5	35	25	..	..	5	75	13	17	..	22
Beaudesert	73	4	18	15	3	..	1	16	1	16	..	48
Brisbane	245	7	26	21	2	..	..	17	8	9	..	45
Cairns	41	2	17	12	..	..	2	22	2	5	..	66
Cherbourg	71	3	34	18	..	..	1	25	11	11	..	42
Cooktown	36	6	22	8	..	..	..	17	6	6	..	42
Cunnamulla	64	9	38	27	..	..	..	..	28	9	..	36
Dajarra	26	4	35	35	..	..	..	..	12	8	..	42
Edmonton	38	..	18	10	..	..	..	34	3	3	..	47
Gordonvale	51	8	27	20	..	..	..	31	4	8	..	47
Ingham	71	7	25	10	3	..	1	37	3	15	..	48
Koah	17	12	47	18	..	..	..	76	18	35	..	24
Koongal/Kaika	11	..	18	27	..	..	..	..	..	..	..	64
Kowanyama	220	2	29	8	..	..	1	80	2	3	..	14
Kowrova	23	13	43	17	..	..	..	78	13	17	..	22
Kuranda	30	7	27	17	..	..	..	57	23	17	..	30
Laura	27	..	11	4	..	..	..	7	4	4	..	70
Lockhart River	172	6	23	16	..	..	1	87	13	8	..	11
Mantaka	15	27	33	13	..	..	..	60	33	20	..	20
Mount Garnet	55	4	45	15	..	..	..	73	4	9	..	15
Mount Morgan	37	11	32	3	..	..	..	30	3	11	..	49
New Mapoon	77	..	4	5	..	..	1	90	12	1	..	10
Ogmore	10	..	60	10	..	..	..	..	..	10	..	30
Palm Island	96	2	33	3	11	..	1	83	10	6	..	11
Park Avenue	71	1	30	23	1	..	1	34	6	4	..	37
Ravenshoe	59	7	34	20	..	..	..	32	17	15	..	39
North Rockhampton	35	..	23	6	3	..	..	20	6	9	..	57
South Rockhampton	24	4	21	17	..	..	..	17	..	13	..	50
Theodore	16	..	50	13	..	..	..	13	19	6	..	38
Umagico	50	..	6	10	..	..	..	80	4	2	..	18
Weipa	201	5	26	19	..	..	4	59	9	7	..	31
Woodridge	82	5	16	17	2	..	..	4	1	7	..	56
Wooranbinda	101	5	30	11	..	..	..	82	12	11	..	11
Wujal Wujal	34	9	50	3	..	..	..	79	9	9	..	12
Yarrabah	128	..	18	14	..	..	1	73	5	5	..	20
Yeppoon	24	..	8	..	4	..	..	8	..	..	..	79
All Localities Total	2 394	4%	26%	15%	1%	..	2%	50%	8%	8%	..	31%

NOTE.— (1) The examinations made were of formal-saline preserved specimens which are unsuitable for the detection of the trophozoite stages of the enteric protozoa. The occasional finding of trophozoites in such specimens is therefore accidental and such findings have not been included in these results.

(2) Examination of faeces is unsuitable for the detection of the nematode *Enterobius vermicularis*. Occasional findings of ova of this worm have therefore not been included.

(3) Cysts of the protozoan *Endolimax nana* and *Chilomastix mesnili* comprised most of the "Other Parasites" findings.

TABLE CV
EDUCATION ON ENTHETIC DISEASES

Area	No. Visits	Gen. Public Talks No.	School Talks	Total No. of Individual Interviews
<i>Cape</i>				
<i>Communities—</i>				
Aurukun.....	3	3	1	154
Bloomfield.....	2	5	3	137
Coen.....	4	4	1	21
Cooktown.....	2	4	1	52
Edward R.....	6	11	3	204
Hopevale.....	2	4	3	195
Kowanyama.....	3	9	..	92
Laura.....	1	3	..	12
Lockhart R.....	4	1	2	67
Mossman.....	5	8	..	155
Weipa South.....	4	14	3	336
Yarrabah.....	6	10	1	344
Weipa.....	4	2	..	..
<i>Cairns Area—</i>				
Cairns.....	..	22	4	873 +
Gordonvale.....	1	1	..	..
Kuranda.....	7	9	..	102 +
<i>Atherton</i>				
<i>Tablelands—</i>				
Atherton.....	..	..	..	..
Chillagoe.....	..	..	..	..
Mareeba.....	..	..	..	..
<i>Other Areas—</i>				
Mornington Is.....	1	3	2	260
Normanton.....	1	..	..	..
Palm Is.....	1	10	3	267

TABLE CVI
TORRES STRAIT TEAM ACTIVITIES

	16 Outer Islands	Thursday Island
Full Medical		
Examinations.....	191	Not Applicable
Vision Tests.....	111	Not Recorded
Home Visits.....	142	6 157
Random Blood Sugars....	14	418
Audiograms.....	255	413
ENT Checks.....	154	4 867
Health Education (MAP Nurses).....	8	Not Applicable
Health Education in the Community.....	2	29
DNU Projects.....	8	Not Recorded
Diabetic Specialist Clinics	6	Not Recorded
Meetings with Council Chairmen.....	11	Not Applicable
Malaria Education Programmes.....	5	Not Recorded
Haemoglobin Estimations.....	35	272
Rubella Immunizations....	12	Not Recorded
V.D. Contact Tracing.....	Not Recorded	700
Tympanograms.....	65	352
Treatments.....	Not Recorded	3 847

TABLE CVII
PERINATAL AND INFANT MORTALITY FOR 14 ABORIGINAL COMMUNITIES

14 Communities	Live Births	Stillbirths		Neonatal Deaths	Perinatal Mortality	Postneonatal Deaths	Total Infant Deaths	
		Number	Rate	Number	Rate	Number	Number	Infant Mortality Rate
1972-74.....	985	33	32.4	34	65.8	44	78	79.2
1975-77.....	995	29	28.3	23	50.8	35	58	58.2
1978-80.....	974	24	24.6	13	38	19	32	32.8

Stillbirth Rate: Number of Stillbirths per 1 000 Births.

Perinatal Mortality Rate: Number of Stillbirths and Neonatal Deaths per 1 000 Births.

Neonatal Deaths: Those Live Born Infants dying within 28 days of Births.

Infant Mortality Rate: Number of Infant Deaths per 1 000 Live Births.

Data for the year 1980 is still subject to confirmation.

TABLE CVIII
NUMBER OF DEATHS OF ABORIGINAL INFANTS UNDER ONE YEAR OF AGE BY CAUSE AND AGE AT DEATH IN 14 ABORIGINAL COMMUNITIES FOR THE PERIOD 1978-80

Cause of Death ICD Basic Tabulation List	Age < 7 days	7-27 days	1-11 months	Total Deaths under 1 Year	
				No.	% of Total Deaths < 1 year of age
01 Intestinal Infectious Diseases.....	..	1	4	5	16
03 Other Bacterial Diseases.....	..	..	1	1	3
18 Endocrine, Metabolic or Immunity Disorders.....	..	..	2	2	6
22 Diseases of the Nervous System.....	..	..	2	2	6
30 Other Diseases of the Circulatory System.....	..	..	..	..	..
32 Other Diseases of the Respiratory System.....	1	..	3	4	13
34 Other Diseases of the Digestive System.....	..	..	1	1	3
44 Congenital Anomalies.....	1	..	..	1	3
45 Conditions Originating in Perinatal Period.....	7	3	..	10	31
46 Symptoms and Ill-Defined Conditions.....	..	..	3	3	9
55 Other Injuries, Early Trauma Complications.....	..	..	3	3	9
Total.....	9	4	19	32	100

TABLE CIX
CAUSES OF DEATH IN 14 ABORIGINAL COMMUNITIES AND MISSIONS FOR THE YEARS 1972-74, 1975-77 AND 1978-80

Cause of Death ICD Basic Tabulation List	*1972-74		1975-77		1978-80	
	No. of Deaths	% of Total Deaths	No. of Deaths	% of Total Deaths	No. of Deaths	% of Total Deaths
01 Intestinal infectious diseases	35	10	15	5	10	3
02 Tuberculosis	2	0.6	1	0.3	..	..
03 Other bacterial diseases	3	0.9	2	0.6	7	2
04 Viral diseases .....	..	..	1	0.3	..	..
07 Other diseases—infected and parasitic	1	0.3	..	..	..	..
08 Malignant neoplasm—lip, oral cavity .....	..	..	..	..	1	0.3
09 Malignant neoplasm—digestive	4	1	10	3	8	2
10 Malignant neoplasm—respiratory	6	2	6	2	6	2
11 Malignant neoplasm—bone, tissue etc.	2	0.6	..	..	1	0.3
12 Malignant neoplasm—genitourinary	4	1	2	0.6	4	1
13 Malignant neoplasm—other, unspecified	4	1	7	2	3	1
14 Malignant neoplasm—lymphatic	3	0.9	1	0.3	3	1
17 Other and unspecified neoplasm	2	0.6	..	..	1	0.3
18 Endocrine, Metabolic, immunity disorders	8	2	4	1	6	2
19 Nutritional deficiencies	1	0.3	4	1	..	..
20 Diseases of blood	2	0.6	1	0.3	2	0.6
21 Mental disorders .....	..	..	..	..	2	0.6
22 Diseases of nervous system	5	1	8	2	9	2
25 Rheumatic fever and heart disease	4	1	2	0.6	2	0.6
26 Hypertensive disease	4	1	6	2	6	2
27 Ischaemic heart disease	28	8	25	8	28	8
28 Diseases of pulmonary circulation	30	9	44	13	49	14
29 Cerebrovascular disease	23	7	31	9	32	9
30 Other diseases—circulatory system	1	0.3	1	0.3	2	0.6
31 Diseases of upper respiratory tract .....	..	..	1	0.3	..	..
32 Other diseases—respiratory system	73	21	61	19	51	14
34 Other diseases—digestive system	5	1	6	2	5	1
35 Diseases of urinary system	5	1	8	2	14	4
36 Diseases of male genital organs	1	0.3	..	..	..	..
37 Diseases of female genital organs .....	..	..	1	0.3	1	0.3
38 Abortion	1	0.3	..	..	..	..
39 Direct obstetric causes	3	0.9	1	0.3	..	..
43 Diseases of Musculoskeletal system	1	0.3	1	0.3	..	..
44 Congenital anomalies	6	2	2	0.6	1	0.3
45 Conditions originating in perinatal period	25	7	19	6	10	3
46 Ill-defined conditions	19	5	14	4	38	11
47 Fractures	4	1	6	2	..	..
49 Intracranial and internal injuries	6	2	11	3	12	3
50 Wounds and blood vessel injuries	2	0.6	3	0.9	7	2
51 Foreign bodies entering orifice	1	0.3	..	..	1	0.3
52 Burns	1	0.3	1	0.3	1	0.3
53 Poisoning	6	2	2	0.6	4	1
54 Medical and surgical complications	2	0.6	..	..	2	0.6
55 Other injuries, early trauma complications	20	6	21	6	32	9
Total	353	100	329	100	361	100

*No data for Aurukan for 1972 and Cherbourg for 1973.

TABLE CX
DISEASES RANKED IN ORDER OF FREQUENCY AS ASSESSED BY THE AVERAGE MONTHLY NUMBER OF CASES TREATED FOR ALL AGES AT *13 ABORIGINAL COMMUNITIES, MISSIONS AND LOCAL AUTHORITY AREAS IN 1980

Disease	Average monthly number of cases†			Rank
	Outpatients	Inpatients	Total Patients	
Other Conditions	1 408	45	1 453	1
U.R.T.I.	667	43	711	2
Bact. Skin Infection	662	24	686	3
Other Trauma	605	20	625	4
Discharging Ears	239	6.6	245	5
Acute Chest Infection	294	28	232	6
Diarrhoea	145	28	173	7
Discharging Eyes	105	1.9	107	8
Diabetes	63	3.2	66	9
Syphilis	57	0.3	57	10
Urinary Tract Infection	51	3.6	54	11
Fungal Skin Infection	50	0.1	50	12
Anaemia	39	6.3	45	13
Chronic Chest Infection	34	6.9	41	14
Pyrexias—Unknown Origin	32	5.3	37	15
Scabies	36	0.5	37	16
Fractures	26	9	35	17
Enteric Parasites	31	0.3	32	18
Mental Disease	25	4.3	29	19
Gonorrhoea	26	..	26	20
Epilepsy	22	4.2	26	21
Other Venereal Diseases	21	0.7	22	22
Oral Infection	20	1.3	21	23
Chronic Rheumatic Heart Disease	14	0.7	14	24
Malnutrition	11	3.1	14	25
Non-V.D. Vaginal Discharge	12	1.1	13	26
Other Pyrexias	12	0.8	13	27
Chicken Pox	9.8	0.9	11	28
Mumps	10	0.4	10	29
Tetanus	9.4	0.1	9.5	30
Leprosy	6.3	1.2	7.4	31
Measles	6.5	..	6.5	32
Active Tuberculosis	4.3	..	4.3	33
Abortion—Threatened	2.8	1.3	4.1	34
Pelvic Inflammatory Disease	3	0.5	3.5	35
Acute Nephritis	2	1.4	3.4	36
Acute Rheumatic Heart Disease	2.5	0.1	2.6	37
Dehydration	1.2	1.2	2.4	38
Rubella	1.7	0.1	1.9	39
Abortion—Actual	1	0.3	1.3	40
Hepatitis	1	0.2	1.1	41
Other Nephritis	0.6	0.1	0.7	42
Neoplasms	0.4	..	0.4	43
Scurvy	0.1	0.2	0.3	44
Snakebite	0.3	..	0.3	44
Meningitis	0.1	..	0.1	46
Total Monthly Average	4 678	257	4 935	..

* No returns for Aurukun for 1980.

† Due to rounding off fractions, totals for rows and columns may not exactly equal the sum of individual values.

TABLE CXI
TEN LEADING CAUSES OF MORBIDITY IN PATIENTS ATTENDING HOSPITAL ON *13 ABORIGINAL COMMUNITIES, MISSIONS AND LOCAL AUTHORITY AREAS IN 1980
Age Group 0-4 Years

Disease	Average monthly number of cases†			Rank
	Outpatients	Inpatients	Total Patients	
U.R.T.I.	196	22	218	1
Bacterial Skin Infection	150	7.9	158	2
Other Conditions	151	4.9	156	3
Discharging Ears	84	4	88	4
Diarrhoea	65	21	85	5
Acute Chest Infection	63	13	75	6
Other Trauma (not fractures)	55	3.3	58	7
Discharging Eyes	34	0.7	34	8
Enteric Parasites	17	..	17	9
Pyrexias—Unknown Origin	14	3.1	17	10

TABLE CXI—continued
TEN LEADING CAUSES OF MORBIDITY IN PATIENTS ATTENDING HOSPITAL ON *13 ABORIGINAL COMMUNITIES,
MISSIONS AND LOCAL AUTHORITY AREAS IN 1980—continued

Age Group—5-14 Years

Disease	Average monthly number of cases†			Rank
	Outpatients	Inpatients	Total Patients	
Other Conditions	332	4.1	336	1
Bacterial Skin Infection	265	7.7	273	2
U.R.T.I.	168	9.3	177	3
Other Trauma (not fractures)	162	5	167	4
Discharging Ears	92	2.5	95	5
Acute Chest Infection	39	3.7	42	6
Discharging Eyes	32	0.4	32	7
Diarrhoea	23	4	27	8
Scabies	14	0.2	14	9
Anaemia	13	..	13	10

Age Group—Over 14 Years

Other Conditions	925	36	961	1
Other Trauma (not fractures)	388	12	400	2
U.R.T.I.	304	12	316	3
Bacterial Skin Infection	247	8.3	255	4
Acute Chest Infection	102	12	114	5
Diabetes	62	3.1	65	6
Discharging Ears	62	0.1	62	7
Diarrhoea	57	3.7	60	8
Syphilis	55	..	55	9
Urinary Tract Infection	43	2.8	46	10

* No returns for Aurukun for 1980.

† Due to rounding off fractions, totals for rows and columns may not exactly equal the sum of individual values.

N.B. Direct comparisons of rates and various conditions between age groups is not possible owing to a lack of age-specific population figures.

TABLE CXII
CHANGE IN INCIDENCE OF ACUTE "WASTING" TYPE OF
MALNUTRITION IN AREAS WHERE HEALTH TEAMS HAVE
DONE MORE THAN ONE SCREENING

Locality	Number Examined		Percentage with Malnutrition	
	Initial Screening	Last Screening	Initial Screening	Last Screening
Rockhampton	249	1 535	1.2%	0.52%
Brisbane	653	436	1.5%	0.46%
Eidsvold	122	123	2.5%	2.4%
Cunnamulla	240	99	1.3%	0%
Cooktown	126	208	3.2%	0.5%
Wujal Wujal	61	71	3.2%	4.2%
Bamaga	224	250	2.2%	1.2%
Cherbourg	490	232	1.8%	0.9%
Mount Isa	299	148	2.0%	1.35%
Cloncurry	34	136	8.8%	2.2%
Atherton Tableland ...	223	74	1.3%	0%
Cairns Non-Urban	465	166	3.7%	2.41%
Lockhart River	137	165	3.6%	4.2%
Aurukun	241	153	17.4%	7.8%
Yarrabah	545	537	2.2%	1.9%
Kowanyama	294	295	10.2%	10.3%

Figures for "Wasting" are those for each child whose weight is less than 80% of Standard Weight for Length using Harvard Standards.

DIVISION OF LABORATORY SERVICES

LABORATORY OF MICROBIOLOGY AND PATHOLOGY

Director: I. S. WILKEY, B.Sc., M.B., B.S., LL.B., F.R.C.P.A.
 Deputy Director: A. J. ANSFORD, M.B., Ch.B., D.C.P., F.R.A.C.P., F.R.C.P.A.
 Pathologist: A. DAVISON, M.B., B.S., F.R.C.P.A.
 Medical Officer: P. S. J. ELLIS, M.A., M.B., B.Chir. (to 9-1-81)
 Laboratory Supervisor: I. COOK, M.Sc., M.A.S.M.
 Senior Scientist in Charge:
 Biochemistry: H. R. M. SELF, B.App.Sc.
 Virology: I. COOK, M.Sc., M.A.S.M.
 Serology: N. D. STALLMAN, B.Sc., M.A.S.M.
 Bacteriology: Y. M. COSSINS, B.App.Sc., M.A.S.M.
 Mycobacteriology: Z. M. BLACKLOCK, B.Sc.
 Haematology: A. B. FINDLAY, Dip.Med.Tech., F.A.I.M.L.S.
 Cytogenetics: J. A. BELL, Dip.Med.Tech.
 Forensic Biology: G. J. HARMON, B.App.Sc., Dip.Med.Tech.

INTRODUCTION

The Laboratory of Microbiology and Pathology provides a public health bacteriology service and a clinical pathology service. It is the only clinical diagnostic virology laboratory in Queensland and is the State reference laboratory for tuberculosis, clinical serology, public health microbiology and forensic biology. The neonatal screening programme for phenylketonuria and hypothyroidism for Queensland is conducted by the laboratory in association with the Division of Maternal and Child Health.

The laboratory includes the Institute of Forensic Pathology which provides the coronial autopsy service for Brisbane and surrounding districts. Wolston Park Hospital is served by a branch of the laboratory. The Animal Breeding Station is situated at The Normanby.

The laboratory moved to its present location in the Health and Welfare Building in 1965. With alterations to the fifth floor which it is hoped will soon be completed, there should be adequate space for the current activities of the laboratory. Many of the services in the building such as lifts, boilers, airconditioning, roofing and plumbing are, however, unsatisfactory or inadequate and considerable problems have been experienced with their maintenance and repair.

The co-operation during the year of the Government Chemical Laboratory, Queensland hospital laboratories and the metropolitan hospitals, the Queensland Institute of Medical Research, the Queensland Police Department, C.S.I.R.O., the Institute of Medical and Veterinary Science in Adelaide, the Institute of Clinical Pathology and Medical Research at Lidcombe, the Australian Radiation Laboratory, the Commonwealth Serum Laboratory, the Commonwealth Health Laboratories and the Centers for Disease Control, Atlanta, Georgia, U.S.A., is gratefully acknowledged.

STAFF AND GENERAL

The staff of the laboratory consists of a laboratory supervisor, 10 senior scientists, 23 scientists, 48 laboratory technicians, technical assistants and cadets, a nursing sister, 13 clerical staff, 11 laboratory attendants and 19 attendants and cleaners. Positions for two pathologists and a medical microbiologist have remained vacant despite advertisements throughout Australia. There continues to be a shortage of pathologists prepared to work in forensic pathology.

Two former directors of the laboratory were honoured by the Queensland Institute of Medical Research. The Derrick-Mackerras Memorial Lecture honours Dr E. J. Derrick who was director from 1935 to 1947. At the inaugural lecture, Fellowship of the Institute was conferred on Dr J. I. Tonge, director from 1947 to 1979. Dr Tonge was also honoured by being appointed a Commander of the Order of the British Empire.

Mr J. Russell retired on 12th January, 1981, after 28 years' service in the laboratory.

Mr J. Cairns, a scientist in the haematology section, was appointed Co-ordinator of Country Hospital Laboratories on 25th May, 1981.

Dr Wilkey is executive secretary of the Country and Metropolitan Pathology Services Committees and is the State Government representative on the National Pathology Accreditation Advisory Council. He is a member of the Red Cross Blood Transfusion Service Committee and has been appointed to the Council of the Queensland Institute of

Medical Research. In May-June, 1981, Dr Wilkey visited the United States and Canada to gain knowledge about the accreditation and licensing of laboratories and the provision of public health and forensic laboratory services.

Dr Ansford is a member of the Committee to Enquire into Deaths associated with Anaesthesia and the Queensland Perinatal Mortality Committee. Dr Davison is a member of the Maternal Mortality Committee.

Mr N. D. Stallman, senior scientist in charge of the serology section, is in charge of the WHO/FAO Collaborating Centre for Reference and Research on Leptospirosis and is secretary of the Subcommittee on the Taxonomy of *Leptospira* of the International Committee on Systematic Bacteriology of the International Association of Microbiological Societies. Mr D. J. Dawson, a senior scientist in the tuberculosis section, is a corresponding member of the Bacteriological Subcommittee of the International Union Against Tuberculosis. He is a member of a task group of the International Working Group on Mycobacterial Taxonomy and the Working Group has designated the tuberculosis section as 1 of 2 world reference centres for MAIS serotyping.

Mr F. Bowling, the scientist in charge of the neonatal screening section, was awarded a Public Health Travelling Fellowship by the National Health and Medical Research Council and visited New Zealand, the United States of America and Britain to study neonatal screening programmes.

Staff members presented papers at meetings of the Royal College of Pathologists of Australasia Queensland Branch and at meetings of a number of other professional societies. The National Annual Scientific Meeting of the Australian Institute of Medical Laboratory Scientists was held in Brisbane in September, 1980. Several scientists were involved in the organization of this meeting and a number of scientists and technicians attended sessions. Staff members of the laboratory have been authors and co-authors of a number of scientific papers accepted for publication during the year.

Visitors to the laboratory included Professor A. Emery, Professor of Human Genetics, Western General Hospital, Edinburgh; Professor Peter Beighton, Professor of Human Genetics, University of Capetown Medical School, South Africa; and Professor R. C. Johnson, Department of Microbiology, University of Minnesota, U.S.A.

Members of the staff give lectures and tutorials on various specialized subjects at the University of Queensland, Queensland Institute of Technology, and the Police College and Academy.

A number of officers are undertaking further study under the Public Service Study Assistance Scheme. Several officers attended special training programmes and seminars, and two are taking part in management and supervision training programmes being conducted by the Department of Health.

Registrars undergoing training in anatomical pathology at metropolitan hospitals work in the laboratory in rotation to gain experience in forensic pathology. This programme is now in its fifth year, and the contribution which the registrars have made to the conduct of the laboratory is appreciated. Several other registrars worked in appropriate sections of the laboratory as part of their training in microbiology.

The laboratory was represented at the following conferences during the year:—

- Annual Meeting, Royal College of Pathologists of Australasia, Sydney (Dr I. S. Wilkey);
- Annual Meeting, International Academy of Pathology (Australasian Division), Sydney (Dr A. J. Ansford);
- Annual Scientific Meeting, Australian Institute of Medical Laboratory Scientists, Brisbane;
- Annual Scientific Meeting, Human Genetics Society of Australasia, Canberra (Mrs J. Bell);
- Annual Meeting, Australian Society for Microbiology, Canberra (Miss D. M. Murphy and Mr N. Stallman);
- Annual Conference, Australian Association of Clinical Biochemists, Sydney (Mr J. Savill);
- Australian Seventh International Symposium on the Forensic Sciences, Sydney (Dr A. J. Ansford and Mr G. Harmon);
- Laboratory Improvement Workshop, Sydney (Mr J. Savill);
- Annual Scientific Meeting, Aerospace Medicine Association, San Antonio (Dr I. S. Wilkey).

SEROLOGY

Introduction

There has been a decrease of 3 per cent in serological investigations in this laboratory, a decrease of 111 on last year. Of these, 240 were from Queensland and 41 from New South Wales. A four-fold rise in antibody titre in paired sera or a titre of 1:64 or greater in a single serum sample was regarded as being diagnostic. The geographical distribution and occupations of the patients are set out in Tables CXIII and CXIV.

Q Fever

During the year, 281 cases of recent Q fever infection were diagnosed in this laboratory, a decrease of 111 on last year. Of these, 240 were from Queensland and 41 from New South Wales. A four-fold rise in antibody titre in paired sera or a titre of 1:64 or greater in a single serum sample was regarded as being diagnostic. The geographical distribution and occupations of the patients are set out in Tables CXIII and CXIV.

Of eight patients with an elevated titre to Q phase 2 antigen and a titre of at least 1:128 to Q phase 1 antigen, five had features of endocarditis.

Coxiella burnetii was isolated by guinea pig inoculation from the aortic valve of a 53-year-old Brisbane man who had been employed as a bacon boner for about 10 years. Aortic valve replacement for endocarditis was performed. Morphologically there was typical Q fever valvulitis. He had a rise in titre from 1:8 to 1:256 for both Q phase 2 and phase 1 antigens in paired sera taken 1 month apart. The rise in titre is not consistent with a long-standing infection.

Brucellosis

Brucellosis was diagnosed in 19 patients on the basis of a four-fold rise in titre in paired sera or a titre of 1:128 or greater in a single specimen using the agglutination test. The geographical distribution of the cases is shown in Table CXV. One case of chronic brucellosis was detected in a postal assistant who had been a meatworker 5 years earlier. Diagnosis was based on a persisting high level of complement fixing antibody and a high titre in the anti-human globulin test for brucellosis.

Typhus

Two probable cases of tick typhus were diagnosed based on a four-fold rise in titre in paired serum specimens or a titre of 1:128 or greater in a single specimen using the agglutination test with *Proteus OX19* antigen. Complement fixation tests using *Rickettsia mooseri* and *Rickettsia australis* antigens were negative in the serum submitted from both cases so that the diagnosis of tick typhus cannot be confirmed.

Mycoplasma pneumoniae

On the basis of a four-fold rise in titre or a titre of 1:128 or greater in a single specimen and a consistent clinical history, 64 cases of *Mycoplasma pneumoniae* infection were identified. Of these cases, 63 occurred in Queensland and one in New South Wales. Almost half the infections were in children under the age of 15 years.

Arbovirus Serology

A further outbreak of epidemic polyarthritides caused by Ross River virus infection occurred. The diagnosis in 45 cases was based on a four-fold rise in titre in the haemagglutination inhibition and/or complement fixation tests. The remainder were identified by demonstrating the presence of a Ross River specific IgM antibody. The geographical distribution of the 402 cases diagnosed during the year is shown in Table CXVI.

Sindbis-specific IgM antibody was detected in one patient who also showed Ross River specific IgM antibody. He was a 30-year-old butcher from the metropolitan area who presented with fever, rash, conjunctivitis and arthralgia.

Of the 10 group B arbovirus infections, six were diagnosed as dengue, one as Japanese B encephalitis, one as Murray Valley encephalitis and two remain undiagnosed. Two of the three dengue cases from Queensland were known to have travelled overseas. The third was a 46-year-old female who lived at Cairns. Her clinical features were fever, headache and a rash which lasted 5 days. She had been bitten severely by mosquitoes 5 days prior to the onset of the illness. A rise in titre was obtained to Group B arbovirus. Further tests indicated that the infection was due to dengue type 1. This case is of particular interest since the patient had not been outside Australia recently. It is possible that the infection may have been transmitted from an imported case. The other three cases were from New South Wales.

The Japanese B encephalitis case had been in Malaysia prior to her illness. The one case of Murray Valley encephalitis was diagnosed in a 2-year-old child who lived at Mount Isa. She presented with fever, encephalitis, paralysis and vomiting. A rise in titre was obtained to Group B arbovirus from the three samples submitted. Further tests confirmed that the infection was due to Murray Valley encephalitis virus.

Routine testing of serum samples in the Northern Territory is continuing. Nine hundred and eighty-six bovine sera from the Katherine and Berrimah experimental farms were submitted during the year.

Arbovirus antigens used in the laboratory are kindly supplied by the Queensland Institute of Medical Research.

Measles Sub-acute Sclerosing Panencephalitis

Specimens were submitted from two children with histories suggestive of SSPE. Both had measles antibodies in their sera and cerebro-spinal fluids. Both patients were from outside the metropolitan area.

Syphilis Serology

All specimens are screened with the automated reagin test (ART). Sera which are reactive are tested quantitatively by the ART, fluorescent treponemal antibody absorption test (FTA-Abs) and the Treponema pallidum haemagglutination test (TPHA).

Legionnaires' Disease

The indirect fluorescent antibody test for the diagnosis of recent cases of Legionnaires' disease was performed on 604 specimens, but no cases were detected. A 35-year-old labourer was found to have presumptive evidence of infection; raised serum levels found in this laboratory were confirmed by the Centers for Disease Control. This man presented with myocarditis and pulmonary disease.

Typhoid Fever

Two cases of typhoid fever were diagnosed on the basis of titres of 1:128 or greater in a single specimen using the agglutination test for *Salmonella typhi* (H) and (O) antigens; *S. typhi* was isolated from faecal specimens from both patients. One patient was a male from Honiara with an undiagnosed fever, and the other was a girl from the metropolitan area who presented with fever, vomiting, diarrhoea, a rash and upper respiratory tract infection.

Mycotic and Parasitic Diseases

Serological tests for cryptococcosis, toxoplasmosis, hydatidosis, amoebiasis and schistosomiasis are performed in this laboratory. Serological tests for other mycotic diseases including histoplasmosis, coccidioidomycosis and blastomycosis, and parasitic diseases including strongyloidiasis, toxocarosis and filariasis are not available in Queensland; serum samples for these tests are sent to the Centers for Disease Control, Atlanta, Georgia.

Cryptococcal antigen was detected in serum from two patients, one from the metropolitan area and the other from Townsville. Both patients were being investigated for pulmonary infections and one had bronchial washings positive for *Cryptococcus*. A further patient being investigated for meningitis had cryptococcal antigen in both serum and cerebrospinal fluid.

Two patients were diagnosed as having toxoplasmosis on the basis of high antibody titres for the fluorescent and haemagglutination tests and the presence of IgM specific antibody in the fluorescent antibody test. One was a 63-year-old man who presented with a 3-day history of atrial flutter, possibly due to myocarditis. A 25-year-old man, presented with a 1-month history of night sweats, rigors and dizziness. This patient had been in New Guinea about 2 months prior to the onset of symptoms.

Two patients were found to have serological evidence of hydatid disease on the basis of a titre in excess of 1:320 in the haemagglutination test; one patient, with a lesion in the right lung field, also had a high titre in the complement fixation test. The other patient was a 9-year-old girl from a farming area who presented with a 12-day history of abdominal pain.

Serological evidence of invasive amoebiasis was found in a 21-year-old female from the Solomon Islands who was found to have an upper abdominal mass after treatment with chloroquine for malaria.

Leptospirosis

Serological evidence of recent leptospiral infection was found in 122 patients. The serovars detected and the geographical distribution of these patients are set out in Table CXVII. The occupations of the patients are shown in Table CXVIII.

Of 313 human sera submitted by the Ministry of Health, Fiji, 83 had an antibody titre of at least 1:50. Serological evidence of recent infection was found in 21 persons. The serogroups identified are shown in Table CXVII.

Sera from 20 pigs were referred to the laboratory by the Ministry of Natural Resource Development, Republic of Kiribati for leptospiral screening tests. All tests were negative.

Forty-eight bovine sera collected from animals for export were submitted by the Institute of Medical and Veterinary Science, Adelaide, for leptospiral screening tests with a wide range of serovars. Multiple cross reactions to the Hebdomadis serogroup were obtained in 16 sera. Titres ranged from 1:50 to 1:1600.

Thirty bovine sera were submitted by the Department of Primary Production, Division of Agriculture and Stock, Berrimah, for tests for the presence of leptospiral antibodies. Sixteen had titres of at least 1:50. Ten of these had antibodies to serovar *hardjo*, four had antibodies to serovar *pomona* and two had antibodies to serovar *tarassovi*.

LEPTOSPIROSIS REFERENCE LABORATORY

Cultures from the reference collection and rabbit anti-sera to reference strains were sent on request to institutions in Queensland, other Australian States, Fiji, Guam, Indonesia, New Zealand, Papua New Guinea, Republic of South Africa and Thailand. Technical information was supplied to institutions in Queensland, New South Wales, South Australia and India. Professor R. C. Johnson, Department of Microbiology, University of Minnesota, U.S.A., visited the laboratory.

Two isolates from the Pasteur Institute, Bandung, which remained to be serovared have now been identified. One was serovar *broomi* and the other has been confirmed to be a new serovar of the Shermani serogroup. It is anticipated that details of this new serovar will be published.

Of the two unresolved isolates received during 1978-79 from the Veterinary Laboratory, Bogor, Indonesia, one was grossly contaminated and could not be purified and the other is still being investigated.

Nineteen of the isolates received during 1979-80 which remained to be serovared have now been identified as serovars *hardjo* (5), *balcanica* (7), *ballum* (1), *pomona* (3), *australis* (1), *zanoni* (1) and *szwajizak* (1).

This year isolates have been received from Veterinary Research Institute, Department of Agriculture, Parkville (1); Oonoonba Veterinary Laboratory, Department of Primary Industries, Townsville (1); Regional Veterinary Laboratory, Department of Agriculture, Bairnsdale (11); Animal Health Laboratory, Department of Agriculture, Perth (5); Regional Veterinary Laboratory, Wollongbar (8); Commonwealth Serum Laboratory, Melbourne (1); Animal Research Institute, Department of Primary Industries, Brisbane (27); Veterinary Research Institute, Onderstepoort, Republic of South Africa (2); Bureau of Animal Industry, Manila, Philippines (1). One strain was isolated from a blood culture submitted to the laboratory. Twenty-five of these strains have now been serovared as *pomona* (19) and *hardjo* (6).

Since the last publication of a list of leptospires isolated in Australia, a number of changes have occurred. The 23 serovars which have now been isolated in Australia are listed in Table CXIX.

The inaugural meeting of the Australian New Zealand Leptospirosis Special Interest Group was held this year in Canberra in conjunction with the Australian Society of Microbiology meeting. The aim is to further the knowledge of those engaged in work with leptospires. The laboratory will participate in information exchange and quality control. Mr Stallman presented a paper at this meeting entitled "Identification and Classification of *Leptospira*."

Mr Stallman is secretary of the Subcommittee on the Taxonomy of *Leptospira* and has been engaged in preparing a standardized method for the identification of serovars. It is hoped that this can be finalized next year. Satisfactory progress is being made in the preparation of a catalogue of published serovars of *Leptospira*. Some delays have been experienced as a result of disagreement amongst committee members on valid publications of serovars. It is expected that these problems can be solved before the next meeting of the Subcommittee on the Taxonomy of *Leptospira* to be held during the Congress of International Association of Microbiological Societies in 1982.

BACTERIOLOGY

The bacteriology section received 38 483 specimens on which 134 120 tests were carried out. There was a substantial increase, 22 per cent, in the public health bacteriology, i.e. food and water testing. This was due, in part, to the State-wide *Vibrio cholerae* surveillance programme.

Cholera

All faecal specimens received were tested for the presence of *Vibrio cholerae*. No clinical cases of cholera were detected in Queensland this year.

Surveillance of water supply intakes throughout Queensland has continued with the assistance of Commonwealth Health Laboratories in Cairns, Townsville, Rockhampton and Toowoomba and the Brisbane City Council Water Laboratory. No isolations were made by the Commonwealth Health Laboratories, but five strains of *V. cholerae*, serotype Inaba, have been isolated from intake points in areas south of Gladstone and east of the Great Dividing Range. Results of testing of four for toxin production are available and three were found to be toxigenic. The non-toxicogenic strain was isolated by the Brisbane City Council Water Laboratory from an area where a non-toxicogenic strain had been isolated last year. Three strains have now been phage typed and all are different types. The micro-organism was isolated on only one occasion from each site and was not grown from treated water. A toxigenic strain of *V. cholerae*, serotype Inaba and similar phage type to Logan River strains, was isolated from river water used for recreational activities in south-east Queensland.

The sewerage treatment plants of Beaudesert and Palen Creek Prison Farm have been monitored since 1st January, 1981. A total of 129 swabs have been examined and six isolations of *V. cholerae*, serotype Inaba, have been made from Beaudesert sewage. Five strains so far tested were found to be toxigenic, and the two strains which have been phage typed are similar in type to the Logan River isolates. By placing swabs in various sewerage lines, one particular area of the town was shown to be positive. Unfortunately, the area was still too large for individual testing when the micro-organism ceased being detected apparently due to the onset of cooler weather. Monitoring of the treatment plant is continuing.

V. cholerae has been isolated from 24 samples of river water. Only one isolate of *V. cholerae*, serotype Inaba, which was toxigenic and of the same phage type as strains previously isolated from the Brisbane River, was found by the Brisbane City Council Water Laboratory. This single isolation is a marked change from last year when there were 31 isolations from the Brisbane River and the Mount Crosby Water Treatment Plant.

One non-toxicogenic isolate of *V. cholerae*, serotype Inaba, was grown from the North Pine Dam.

A programme has commenced to monitor the Albert, Logan, Brisbane and North Pine Rivers for the presence and persistence of *V. cholerae*. The objective is to gather base-line environmental data on the survival of *V. cholerae* in the four rivers over the 3 years from January, 1981 to December, 1983. The Division of Public Health Supervision, the Government Chemical Laboratory and the State Health Laboratory are collaborating in this survey. Fortnightly samples from the Logan and Albert Rivers and monthly samples from the Brisbane and Pine Rivers are being tested.

In the first 6 months of this study, 22 isolations have been made. Ten strains were grown from the Logan River system and 12 strains from the Albert River system. One strain from the Logan system was non-toxicogenic *V. cholerae*, serotype Ogawa. The remainder were *V. cholerae*, serotype Inaba. The 16 strains so far tested were toxigenic. The highest vibrio count was 29 per litre. Six of the Inaba strains have been phage typed and are identical types. *V. cholerae* has been grown from a river sample when the water temperature was 13.3°C. Previously, no isolations had been made when water temperature was below 17°C.

Phage typing was done by Dr J. V. Lee of Public Health Laboratory Service, England; biotyping was performed by the Commonwealth Institute of Health, Sydney, and toxigenicity studies were carried out by Dr Luke, La Trobe University, Melbourne.

Enteropathogens

During the year *Salmonella typhi*, phage type N₁ was isolated from three members of a Brisbane family. The initial isolation, from a 10-year-old girl, was made by the Mater Hospital and forwarded to this laboratory for confirmation. Faecal cultures from both parents grew *S. typhi* of the same phage type. The father, aged 45 years, had had typhoid 28 years before.

The remaining *S. typhi* isolations were received as cultures for identification from Honiara in the Solomon Islands. Phage typing was done by the Microbiological Diagnostic Unit in Melbourne.

One hundred and seven strains of other *Salmonella* species recovered from faeces were submitted to the *Salmonella* Reference Laboratory, Institute of Medical and Veterinary Science in South Australia for serotyping.

Enteric pathogens isolated from clinical specimens are listed in Table CXX.

There has been a considerable increase in the number of isolations of strains of *Salmonella* species from food and environmental sources (Table CXXI).

Eighty-eight samples of unopened oysters were tested and *Salmonellae* were isolated from three. Ten strains were isolated from 206 samples of dehydrated noodle-based quick cooking meals. Thirty samples of frozen pizza were examined and five strains were isolated.

Neisseria

Neisseria gonorrhoeae was identified from 765 patients, and tests were performed on 742 of these strains to determine the minimal inhibitory concentration of penicillin (Table CXXII). Only eight patients were confirmed as having β -lactamase reducing strains of *N. gonorrhoeae*. Seven of these patients were known to have had contact in the Philippines; one patient had not been outside Queensland.

Twelve isolations were made from pharyngeal cultures (six from males and six from females), and 41 isolations were made from rectal swabs (40 from males and one from a female).

The laboratory has continued its participation in an interstate study group investigating methods and results of penicillin testing. All but one of the participating laboratories have changed to a uniform method of testing. Uniformity between laboratories allows more accurate records to be kept of the changes in penicillin sensitivity of isolates of *N. gonorrhoeae* in Australia. It has been noted here and in other States that there is an increase in the number of more resistant strains, particularly in the 0.12 mcg/ml range.

Neisseria meningitidis was isolated from genital sites on four occasions, and in one case, *N. gonorrhoeae* was also grown. An isolate of *N. meningitidis* Group C from cerebrospinal fluid was received for typing.

Melioidosis

Two cultures of *Pseudomonas pseudomallei* were received for identification. Both isolates were from blood cultures from a 50-year-old female from Thursday Island.

Diphtheria

All five strains of *Corynebacterium diphtheriae* isolated during the year were non-toxicogenic. Three of the cultures were from ear swabs of a 51-year-old male and were collected over a period of 5 months. The other isolates were from an ear swab of a 69-year-old male and from pus from an axillary abscess of a 30-year-old male.

Surveillance of Imported Frozen Pre-Cooked Prawns

Only frozen pre-cooked prawns which meet the prescribed standards of N.H.M.R.C. are imported into Australia. The bacteriological examination of prawns being imported through the Port of Brisbane is carried out in this laboratory. During the year, 91 samples each consisting of five units, were tested and six failed to meet the prescribed standard; *Salmonella* species were detected in four samples and two samples had excessive counts of coagulase-positive *Staphylococcus aureus*.

Ciguatera Toxin

Only one sample of fish was tested during the year for the presence of ciguatera toxin, and it was non-toxic. The reduction in samples tested does not necessarily mean a reduction in the number of people affected as samples were tested only if the fish involved was a species which had not previously been known to be toxic or if the clinical diagnosis was not definite.

Outbreaks of Gastro-intestinal Illness

Food samples and/or faecal specimens were examined from eight outbreaks of gastro-intestinal illness which were investigated by officers of this laboratory and the Division of Public Health Supervision. Details are summarized in Table CXXIII.

Salmonellae were responsible for five incidents. In one outbreak involving approximately 50 people, no food was available for testing, but *S. lansing* was isolated from two patients and from the cooler used to carry both cooked and uncooked chickens. In an incident involving 18 people, no faecal specimens were available but *S. singapore* was grown from cooked chicken, ham and potato salad. It is believed that the ham and potato salad were cross-contaminated by the chicken. The chicken involved in this incident was purchased from the same "take-a-way" food supplier as the chickens consumed by the families in two other outbreaks caused by *S. singapore*. In another incident, 21 persons were affected apparently by *Bacillus cereus* in fried rice which was found to contain over a million organisms per gram.

In the largest outbreak involving 172 cases, enterotoxin A-producing *Staphylococcus aureus* was isolated from faecal specimens from seven patients, the hands of a food-handler, the nostrils of a second food-handler and from cooked chicken and fish. The chicken contained over 500 million *S. aureus* per gram. The fish, which had nearly a thousand *S. aureus* per gram, was probably cross-

contaminated by the chicken. This food was prepared for a smorgasbord luncheon in mid-summer and had been allowed to stand at ambient temperatures for a prolonged period.

Meat rolls, prepared at breakfast and eaten for lunch, were responsible for an incident involving 35 people. High numbers of *S. aureus* were grown from left-over rolls, but no specimens were available from the patients.

MYCOLOGY AND PARASITOLOGY

Pathogenic fungi isolated or detected during the year are listed in Table CXXIV and parasites found in clinical specimens in Table CXXV.

MYCOBACTERIOLOGY

Introduction

The tuberculosis laboratory examined a total of 24 644 specimens. This included 124 cultures submitted from other centres for various tests and 141 porcine aortic heart valve fragments tested for exclusion of *Mycobacterium chelonae* contamination.

The actual number of specimens received was in excess of 24 644. In the interests of efficiency it has become necessary to maintain an average daily workload of around 100 specimens. In some cases, sputum specimens submitted simultaneously from the same patient are combined and processed as a single specimen. There is so far no evidence that this practice detracts from the diagnostic value of results.

Variations in the decontamination technique have been introduced to cater for the increased number of non-sputum specimens submitted, and improved culture media are used for isolation of mycobacteria with fastidious growth requirements.

Tuberculosis work for Queensland is now centralized in this section. Pathology trainees from Princess Alexandra and Toowoomba Hospitals, nursing staff from Prince Charles Hospital doing cardiothoracic training and students from various institutions have visited the laboratory for training in this subject.

Diagnostic Tests

Mycobacterium tuberculosis was grown from material submitted from 114 patients including six isolates from genito-urinary sites and four from lymph nodes.

Mycobacterium bovis was isolated from six persons, five of whom had pulmonary disease. In the other case the organism was isolated from synovial fluid and urine. BCG (attenuated *M. bovis*) was recovered from material submitted from two children with complications of vaccination.

A total of 200 atypical mycobacteria isolated from 179 persons were identified (Table CXXVI).

Identification was done only on multiple tube isolates. A repeat set of tests was done if the person was still bacteriologically positive after 6 months. Mycobacteria of the MAIS complex were isolated from 135 persons and isolates from 101 of these were serovared (Table CXXVII). A total of 167 strains were serovared as some persons had repeat confirmatory tests.

Forty-four persons excreting organisms of the MAIS complex had been bacteriologically positive in the previous years. There were 26 new patients with clinically significant pulmonary infections. These have had positive smears with repeated isolations of the same serovar. Seven children with lymphadenitis had MAIS isolated from lymph nodes—two were serovar 43 (Gause), two were unclassified and the others were 16 (Yandle), 19 (Darden) and 28. Several cultures of the MAIS complex submitted from patients in Sydney Hospitals were subjected to selected tests.

Mycobacterium kansasii was isolated from two patients with pulmonary disease. One of these had first been positive in 1979 and had relapsed.

The newly recognized species, *Mycobacterium asiaticum*, was isolated from three persons. One of these has been positive since 1977, another has bronchiectasis and the history of the other is unknown. *M. asiaticum* was first isolated in Hungary from healthy monkeys used for scientific work.

Mycobacterium marinum was isolated from an elbow lesion of a male aged 34 years. *Mycobacterium fortuitum* was isolated from four males and a female who developed necrotic cutaneous lesions after injury. One was isolated from an elbow lesion and the other four from lesions in the leg-ankle-foot area.

Mycobacterium chelonae was considered the causative organism of disease in four cases, all males. One of the isolates was made from pulmonary material and the others from cutaneous lesions which developed after injuries to the arm, back and ankle, respectively.

Mycobacterium smegmatis is rarely isolated from clinical material. It was isolated on two separate occasions from the preauricular lymph node of a 2-year-old girl. Several cultures from cats received from the Veterinary School, University of Queensland, were also identified as *M. smegmatis*.

Mycobacterium haemophilum, another newly recognized species, was cultured from material from a sub-mandibular lymph node of a 4-month-old male infant who was otherwise healthy. The node was resected and healing was uneventful. This organism would not have been isolated without the use of special media.

Sensitivity Testing

There were 226 isolates of *M. tuberculosis*, *M. bovis* and BCG which were tested for sensitivity to streptomycin, INAH, ethambutol and rifampicin including 104 cultures received from Papua New Guinea and the Solomon Islands. If resistance is present, then cycloserine, ethionamide, capreomycin and thiacetazone are tested. As PAS is no longer used routinely for anti-tuberculous therapy, sensitivity testing to that compound has recently been discontinued. Pyrazinamide sensitivity testing is not done because of technical difficulties.

There were 93 patients with *M. tuberculosis* who were known to have had no previous therapy. Primary drug resistance was found in four patients. Two strains were resistant to streptomycin only, and the others were resistant to streptomycin and INAH.

Fifty isolates of atypical mycobacteria were tested for sensitivity to eight anti-tuberculous drugs.

Disc diffusion sensitivity testing to a wide range of antimicrobial agents was done routinely on 17 possibly significant rapidly growing mycobacteria.

Reference Laboratory

Two isolates from BCG vaccination lesions were forwarded by the Institute of Medical and Veterinary Science, Adelaide, for confirmation of identity. Results obtained in Adelaide had shown that the strains had properties not in keeping with the BCG strain. It was found that one of the strains was, in fact, *M. bovis* var BCG, but the other could not be differentiated from *M. tuberculosis*. Workers in Adelaide are preparing a publication dealing with the incident.

A further 29 isolates of MAIS complex from Japanese patients have been forwarded by Dr Michio Tsukamura, National Chubu Hospital. There is a predominance of serovar 16 and auto-agglutinating strains among Japanese isolates, an observation which suggests an unusual epidemiological picture. The autoagglutinating strains are being examined by Dr P. J. Brennan of the National Jewish Hospital and Research Center, Denver, Colorado. It is hoped that chromatographic studies of their lipids will show whether the autoagglutinating strains belong to only one or several serovars. Dr Tsukamura has also submitted 16 strains connected with his study of the effect of UV light on *M. scrofulaceum*. Some of the results have been published.

MAIS isolates for serotyping have been forwarded by the Animal Research Institute, Yeerongpilly; St. Vincent's Hospital, Sydney and the Prince of Wales Hospital, Sydney.

Reference cultures and technical advice concerning serotyping have been provided to the Animal Research Institute, Yeerongpilly.

Special Projects

(i) The finding that three consecutive specimens of bronchial washings submitted by a large general hospital were culture-positive for a MAIS serovar suggested that specimen contamination had occurred. The specimens had been collected through a fiberoptic bronchoscope over a period of 1 week. Because of their tubular design and delicate structure, bronchoscopes are difficult to sterilize and the possibility of carry-over of organisms from one patient to the specimen of the next must always be considered. Investigation showed that the first patient examined was a genuine excretor of MAIS organisms, and that the other patients had no signs of mycobacterial disease. The carry-over of organisms was due to inadequate sterilization of a tube leading from the bronchoscope to the collection vessel. The bronchoscope itself had been adequately sterilized between uses. A publication dealing with the incident is being prepared.

(ii) A young child living on a farm in North Queensland was found to have cervical lymphadenitis caused by *M. intracellulare* ser 7. The household water came from a tank and a well, and since it is thought that the organisms causing cervical lymphadenitis come from drinking water, a health inspector arranged for mycobacteriological examination of the water supply. Not unexpectedly, MAIS organisms were cultured from samples from both the tank and the well. However, serological study showed that these were serovar 16 and nontypable, respectively.

(iii) Collaboration is continuing with Dr Brennan in Denver in an effort to improve the specificity of the seroagglutination procedure. Laboratory isolates are being forwarded periodically to Dr Brennan for lipid analyses which identify the specific agglutinating antigen. The work is especially helpful with strains which are potential new serovars. Five distinct serovars, which have not previously been identified, have been detected in the past year.

(iv) A study conducted at the Queensland Institute of Medical Research in the early 1960's led to the conclusion that culture of bone marrow was useful in establishing a diagnosis in patients excreting atypical mycobacteria. However, although several hundred marrow

specimens have been examined subsequently at the State Health Laboratory, no atypical mycobacteria have been isolated; some of the specimens were from patients with unequivocal evidence of pulmonary atypical mycobacteriosis. This observation cast doubt on the validity of the conclusion of the earlier study. Since the original isolates and the clinical records of patients were available for re-examination, an independent study was carried out. The majority of isolates belonged to the MAIS complex and serological study indicated that several specimens had been contaminated from a common source. Furthermore, some isolates came from patients with no other evidence of mycobacterial disease. There were differences in the identity of sputum isolates compared to bone marrow isolates in some patients. A report of the study has been accepted for publication with the conclusion that culture of bone marrow has no place in the investigation of suspected atypical mycobacteriosis.

VIROLOGY

Virus Isolations

The virology section received 8 555 specimens for virus isolation. Viruses were isolated from 1 481 specimens from 1 421 patients (Table CXXXVIII). The various clinical syndromes with which the viruses were associated are shown in Table CXXXIX.

Influenza viruses were isolated at low levels through July to November, peaking in September. Influenza A/Bangkok/1/79 (H3N2) occurred during July (1 fatal case) and August, but was abruptly replaced in September by isolates resembling A/Texas/1/77 (H3N2). Influenza B/Singapore/222/79, a new variant of B/Hong Kong, was numerically the dominant influenza throughout the period. A curious small outbreak of influenza illness occurred in Brisbane in February, 1981. One influenza strain was isolated from a contact and was identified as A/Brazil/11/78 (H1N1).

Respiratory syncytial virus occurred infrequently from July to October, but an unusually early and much larger outbreak began in February, 1981, peaked in March and April and continued through May and June. Fluorescent antibody testing again proved valuable allowing quick notification of positive specimens.

The total of enterovirus isolations was down on previous years because of the absence of the usual summer epidemic. Consequently, the number of diagnoses of viral meningitis was considerably reduced. Cases of hand, foot and mouth disease associated with Coxsackievirus A16 were widespread through July to February. Only one poliovirus isolate was associated with paralysis. This was from a Papua New Guinea patient.

From January, 1981, the laboratory has been typing all isolates of herpes simplex virus by means of an enzyme immunoassay. Results have conformed closely with previous findings, i.e. isolates from lesions other than genital are usually type 1 if they occur above the waist including arms, and type 2 if found below the waist.

Genital isolates are likely to be type 2, but an appreciable proportion are type 1. From results obtained, 10 per cent of male genital isolates and 27 per cent of female genital isolates were type 1.

An unusual case of herpes simplex virus infection was seen in a 20-year-old male with leukaemia. Herpes simplex type 2 was repeatedly isolated from recurrent generalized vesicular lesions. Serologically there was a marked increase in CF titres to varicella-zoster (V-Z) virus, but no antibodies to herpes simplex could be detected despite repeated testing. This is an interesting example of an anamnestic response to V-Z virus triggered by herpes simplex, with which it shares certain antigens, but, presumably due to impairment of the patient's immune system, there is no production of antibody to the new challenge virus, herpes simplex.

Hepatitis Serology

A total of 5 816 sera were tested for hepatitis B surface antigen by radio-immunoassay techniques, and 152 sera from 114 patients were found to be positive (Table CXXX). This is a 16 per cent increase on the total specimens for last year, but much of this increase represented more frequent monitoring of patients of the renal unit at Princess Alexandra Hospital. The laboratory is now performing tests twice-weekly in order to improve the service. During the year, 162 paramedical staff were tested for antibody to surface antigen and five were found positive.

An important event was the introduction in January, 1981, of tests for hepatitis A IgM antibody using Abbott laboratories' HAVAB-M. Due to expense, this test has been performed only on sera selected according to clinical history. In the 6-month period, 680 sera were tested, and 31 sera from 23 patients were found positive.

Assay for *Clostridium difficile* toxin

The number of tissue culture assays for *Clostridium difficile* toxin in faeces and broth cultures of isolates has increased along with greater demand for the test. A total of 690 faeces were tested of which 146 from 88 patients were positive for toxin (Table CXXXI).

HAEMATOLOGY

There has been a decrease in the workload of this section over the year. The actual decrease is less than the figures would suggest as there has been a change in the method of recording the number of Vitamin B12 and folate assays performed. Since April, 1981, ferritin assays have been performed in the biochemistry section.

A total of 350 samples were examined for the presence of abnormal haemoglobins. Thirty-five cases of α -thalassaemia and 46 cases of β -thalassaemia were detected. In addition, there were four cases of heterozygous haemoglobin E and 1 case each of haemoglobin Lepore, δ - β thalassaemia, HbS trait and G₆PD deficiency. It is intended to introduce quantitative assays of red cell enzymes next year. The present methods are simply screening procedures.

During the year, 124 specimens were submitted for examination for malaria. Eleven cases were detected of which 10 were *P. vivax* and one *P. falciparum*. A further 79 positive specimens diagnosed in other laboratories and referred to the Commonwealth Institute of Health in Sydney were reviewed.

A radioimmunoassay is now available to detect human chorionic gonadotrophin in blood or urine. This test makes it possible to detect pregnancy prior to the first missed period. The method is currently being assessed with a view to introducing it in the coming year.

BIOCHEMISTRY

Commencing 9th October, 1980, any suitable specimens received by this laboratory requiring one or more estimations available on the SMAC multiple channel chemical analyser are submitted to Princess Alexandra Hospital for testing. Normally, if the specimen is received by 11.30 a.m., the results are available for posting or telexing the same day. Lipid profile, iron studies, thyroid function tests as well as miscellaneous tests and those of an urgent nature are still performed at this laboratory.

This section continued to co-operate with the National Heart Foundation and is receiving specimens from Cairns and Townsville, as well as Brisbane, for lipid tests. It is participating in an epidemiological survey that will necessitate further estimations in 3 years' time. Lipid profiles, including estimation of apo-lipoprotein, have been carried out for the Department of Social and Preventive Medicine, University of Queensland.

The estimation of ferritin has been taken over by this section, and a complete range of iron studies is now reported.

A fortnightly biochemical quality control programme for country hospital laboratories is maintained by this section.

CYTOGENETICS

There has been only a very slight increase in the number of tests carried out by this section during the past year. The major component of the work of this section continues to be chromosome studies of amniotic fluid. In view of the cost of this test and limitations on staff and laboratory facilities, specimens have only been accepted for this test from patients in recognized risk groups since January, 1981.

During the year, 404 amniotic fluids were submitted for culture and chromosome analysis. Ten abnormalities were detected and as a result of these diagnoses, six pregnancies were terminated. Two pregnancies in which Down's Syndrome was predicted were allowed to progress to term when the syndrome was confirmed. The abnormalities detected in amniotic fluid, blood and bone marrow specimens submitted are listed in Table CXXXII.

A new technique for staining "fragile sites" on the X chromosome has been introduced. This "fragile site" is present in males with X-linked mental retardation and is invaluable in determining families with this disease. It is also present in most carrier females and can be useful when counselling such women concerning risks of mental retardation in future generations.

Two staff members co-operated with the Queensland Institute of Technology in the conduct of a 15-week course in Cytogenetics at the Institute. This is the first time in Australia that such a course has been held, and 38 students were enrolled.

Renovations of the new premises on the 5th floor are almost complete, and the laboratory should be relocated in the near future.

NEONATAL SCREENING SECTION

The neonatal screening programme tested 36 000 infants who were born in Queensland during the year for phenylketonuria and congenital hypothyroidism. Three cases of hyperphenylalaninaemia/phenylketonuria and nine cases of congenital hypothyroidism were detected. The rates of incidence of these disorders in the community were, respectively, 1 per 12 000 and 1 per 4 500 live births.

Elevated levels of phenylalanine were detected in samples from 125 infants but were not confirmed as being due to phenylketonuria giving a "false positive" screening rate of 0.05 per cent.

Low levels of thyroxine were shown in 2.8 per cent of infant samples tested. Follow-up blood spot or serum sample testing from these infants did not indicate congenital hypothyroidism. Many of these low thyroxine levels in infants were found to be due to low levels of thyroid hormone carrier proteins. A test procedure is being investigated to measure this in an endeavour to lower the recall rate.

Seven of the nine cases of congenital hypothyroidism were females. Four children had thyroid scans performed. One was athyreotic, two had small glands and one with a large gland was thought to have a dyshormonogenesis. The average age of abnormal infants detected by the programme at onset of treatment was 14 days (minimum 6; maximum 21). All these infants are now under treatment and appear to be developing normally.

The time taken to send a request for follow-up tests on an infant with a possible abnormality on screening has been cut by the use of the telex.

New-born screening procedures for galactosemia and cystic fibrosis and screening for maternal phenylalaninaemia are being investigated.

Mr F. Bowling was awarded a National Health and Medical Research Council travelling fellowship which enabled him to visit new-born screening centres in New Zealand, the United States of America, Canada and England.

The screening programme in Queensland uses technical procedures similar to those used in the overseas programmes, and arrangements were made for interchange of methods and control materials.

A number of these centres screen for a number of congenital defects, but screening for several of these is probably only justified in densely populated regions with large numbers of residents belonging to ethnic groups at risk. Some centres screen for maternal phenylalaninaemia which has been shown to be harmful to the foetus.

FORENSIC BIOLOGY

During the year, 641 submissions were received for scientific examination, 27 more than the previous year. The majority were received from the Police Department; others were received from government medical officers, pathologists from the Institute of Forensic Pathology, general practitioners, defence barristers and solicitors, members of the Royal Papua New Guinea Constabulary and the Solomon Islands Police Force.

Items received for examination included clothing, bedding, weapons, hair, blood, saliva and swabs from complainants and suspects. Scientists, at the request of Police, examined scenes of crime on 15 occasions.

Scientists gave evidence in court on 130 occasions, 24 more than the previous year. This reflects the greatly increased workload experienced during the year.

During the year, 14 requests were received for paternity testing. An expanded range of tests has been introduced. Tests performed now comprise the following:—

ABO, Rh (including CW), MNSS, Haptoglobin (a polymorphic serum group), Keel, Celano, Duffy and P. It is anticipated that the polymorphic enzyme systems PGM (Phosphoglucomutase) and AK (adenylate kinase), will be added during 1981-82.

INSTITUTE OF FORENSIC PATHOLOGY

During the year, 1 104 coronial autopsies were performed. Staff pathologists made 22 trips to country areas to perform 26 autopsies in 19 cases of homicide or suspected homicide and four fatal aircraft accidents.

Registrars spent terms at the Institute during the year as part of the rotational training scheme for Pathology registrars from metropolitan hospitals.

Sudden Infant Death Syndrome

The medical staff are continuing to participate in the epidemiological project being carried out in conjunction with a study at the Royal Children's Hospital, Melbourne, and supported by a grant from the Queensland Sudden Infant Death Syndrome Research Foundation.

Fatal Oleander Poisoning

A 3-year-old girl came to autopsy having apparently ingested leaves and/or fruit of the yellow oleander (*Thevetia peruviana*). The diagnosis was confirmed at Prince Charles Hospital by radioimmunoassay using antibodies of differential specificity towards cardiac glycosides.

It was calculated that only two leaves may have been necessary to produce the levels of cardiac glycoside found in the heart of this child. This case confirms the potential danger of ingesting oleander leaves or fruit and the possible usefulness of digoxin assay. A study is now planned in conjunction with the Department of Pathology, University of Queensland Veterinary School, in which serum digoxin assays will be performed on sheep suffering from known oleander poisoning.

COUNTRY HOSPITAL LABORATORIES SECTION

The number of tests performed in country hospital laboratories increased by 19 per cent to an average of approximately 99 000 tests per month. The increased workload corresponds to a decrease in the number of tests referred to the State Health Laboratory from the country laboratories reflecting the developments which have taken place in the country laboratories in recent years.

A continuing education programme in haematology was commenced this year. The country laboratories forward abnormal blood smears, with relevant clinical information, to the haematology section. The smears are processed and then distributed to each of the country laboratories. Quality control programmes for haemoglobin estimation and coagulation studies are being organized. A biochemical quality control programme is maintained by the biochemistry section.

The present system of determining workload and staff requirements is largely dependent on the number of tests performed by the laboratory. As more laboratories are acquiring automated instruments, these figures are becoming less useful and a system based on numbers of tests performed, methodology, instrumentation and the number of hours worked is to be assessed. This may result in a more meaningful comparison of laboratory workloads.

An annual Country Hospital Scientists Meeting is held in Brisbane as part of the continuing education programme. This year the meeting was held to coincide with the National AIMLS Conference in September, 1980. A haemostasis workshop was conducted by Mr A. Findlay of the haematology section and Mr T. Forster of the Queensland Institute of Technology. The workshop involved a discussion of the various reagents available and the reasons why certain products are preferred followed by a laboratory session using the reagents previously recommended. This workshop has laid the foundations for the introduction of a coagulation quality control programme. This section is grateful to Mr T. Forster for his assistance and to the QIT for providing the necessary facilities.

The section has continued to co-operate with the State Stores Board in preparing contracts for laboratory reagents and equipment. These contracts are designed to cater for the requirements of hospital laboratories and encourage the standardization of equipment and methods used throughout the State.

WOLSTON PARK LABORATORY

Since February, 1979, the laboratory located in Wolston Park Hospital has functioned as a branch of this laboratory. Four staff members are stationed there and undertake a range of laboratory investigations. Some specialized tests are provided by the main laboratory and some by Royal Brisbane Hospital. There has continued to be an increase in the work of the laboratory, the average workload rising from about 2 500 tests per month last year to 3 600 tests per month.

There was a further outbreak of shigellosis in a geriatric nursing unit and monitoring for hookworm is continuing.

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TABLE CXIII
GEOGRAPHICAL DISTRIBUTION OF Q FEVER CASES

District	Number
<i>Queensland—</i>	
Metropolitan	53
Moreton	29
Maryborough	9
Rockhampton	18
Mackay	11
Townsville	14
Cairns	26
Darling Downs	42
Roma	15
Central West	5
South West	18
Total 1980-81	240
Total 1979-80	338
<i>New South Wales—</i>	
Northern Rivers	16
New England	23
Newcastle	2
Total 1980-81	41
Total 1979-80	53
GRAND TOTAL	281

TABLE CXIV
OCCUPATIONAL DISTRIBUTION OF Q FEVER CASES

Occupation	Number
Meat Industry	150
Dairy Industry	4
Other	77
Unspecified	50
Total	281

TABLE CXV
BRUCELLOSIS INFECTIONS ON SEROLOGICAL EVIDENCE

District	Number
<i>Queensland—</i>	
Metropolitan	7
Moreton	1
Rockhampton	1
Townsville	3
Darling Downs	3
Far West	2
Total 1980-81	17
Total 1979-80	29
<i>New South Wales—</i>	
New England	2
Total 1980-81	2
Total 1979-80	19

TABLE CXVI
GEOGRAPHICAL DISTRIBUTION OF 402 CASES OF
EPIDEMIC POLYARTHRITIS

District	Number
<i>Queensland—</i>	
Metropolitan	118
Moreton	7
Maryborough	13
Rockhampton	16
Mackay	1
Townsville	108
Cairns	27
Darling Downs	19
Roma	1
Central West	1
Far West	5
South West	3
Unspecified	45
Total 1980-81	364
Total 1979-80	514
<i>New South Wales—</i>	
Northern Rivers	5
New England	1
Sydney	13
Newcastle	18
<i>Australian Capital Territory—</i>	
Canberra	1
Total 1980-81	38
Total 1979-80	26
GRAND TOTAL	402

TABLE CXVIII
OCCUPATIONAL DISTRIBUTION OF LEPTOSPIRAL CASES

Occupation	Number
Meat Industry	25
Dairy Industry	9
Sugar Industry	2
Other	16
Unspecified	70
Total 1980-81	122
Total 1979-80	109

TABLE CXVII
GEOGRAPHICAL DISTRIBUTION AND SEROGROUP OF
INFECTING LEPTOSPIRES IN 122 INFECTIONS

Serogroup	Number
<i>Coastal Area of Queensland, North of Rockhampton—</i>	
Icterohaemorrhagiae	1
Celledoni	4
Canicola	2
Pyrogenes	8
Australis	7
Pomona	3
Hebdomadis	8
Total	33
<i>Coastal Area of Queensland, Rockhampton to New South Wales Border—</i>	
Canicola	2
Autumnalis	3
Australis	2
Pomona	19
Hebdomadis	8
Tarassovi	6
Total	40
<i>Darling Downs and Western Queensland—</i>	
Celledoni	2
Pomona	8
Hebdomadis	2
Tarassovi	1
Total	13
<i>New South Wales—</i>	
Icterohaemorrhagiae	1
Pomona	6
Grippityphosa	1
Hebdomadis	1
Tarassovi	1
Total	10
<i>Fiji—</i>	
Icterohaemorrhagiae	8
Canicola	4
Cynopteri	2
Australis	7
Total	21
<i>Solomon Islands—</i>	
Autumnalis	1
Total	1
<i>Papua New Guinea—</i>	
Icterohaemorrhagiae	4
Total	4
GRAND TOTAL	122

TABLE CXIX
LEPTOSPIRES ISOLATED IN AUSTRALIA

Serogroup	Serovar	Man	Animal Hosts	
			Domestic	Wild
Icterohaemorrhagiae	icterohaemorrhagiae		Dog	..
	copenhagani	+	Dog	..
Celledoni	mankarso	+	..	..
	celledoni	+	..	<i>Isoodon macrourus</i> <i>Rattus fuscipes</i> <i>Melomys cervinipes</i>
Canicola	canicola	+	..	..
	broomi	+	..	<i>Isoodon macrourus</i> <i>Rattus rattus</i>
	bindjei	+	..	<i>Melomys littoralis</i> <i>Melomys cervinipes</i>
Pyrogenes	zanoni	+	..	<i>Isoodon macrourus</i> <i>Rattus rattus</i> <i>Rattus norvegicus</i> <i>Rattus conatus</i> <i>Rattus fuscipes</i> <i>Melomys littoralis</i> <i>Melomys cervinipes</i> <i>Uromys caudimaculatus</i> <i>Mus musculus</i> <i>Uromys caudimaculatus</i> <i>Rattus conatus</i>
	robinsoni	+	..	..
Autumnalis	bulgarica	+	..	..
Australis	australis	+	Cattle	<i>Hydromys chrysogaster</i> <i>Perameles nasuta</i> <i>Isoodon macrourus</i> <i>Rattus conatus</i> <i>Rattus fuscipes</i> <i>Rattus rattus</i> <i>Mus musculus</i> <i>Uromys caudimaculatus</i>
Pomona	bratislava	+	..	..
	pomona	+	Cattle Sheep Pigs Horses	<i>Rattus fuscipes</i>
Grippotyphosa	grippotyphosa	+	..	<i>Isoodon macrourus</i> <i>Rattus conatus</i>
Hebdomadis	valbuzzi	+	..	..
	kremastos	+	..	<i>Perameles nasuta</i> <i>Isoodon macrourus</i>
Tarassovi	szwajizak	+	..	<i>Isoodon macrourus</i>
	medanensis	+	..	<i>Perameles nasuta</i> <i>Isoodon macrourus</i>
Tarassovi	perameles	..	..	<i>Perameles nasuta</i>
	hardjo	+	Cattle Sheep	..
Tarassovi	balcanica	..	..	<i>Trichosurus vulpecula</i>
	tarassovi	+	Pigs	..
Tarassovi	bakeri	..	..	<i>Rattus fuscipes</i> <i>Uromys caudimaculatus</i> <i>Hydromys chrysogaster</i>

TABLE CXX
BACTERIAL ENTERIC PATHOGENS ISOLATED FROM
FAECAL SPECIMENS

Bacteria	No. of isolations	No. of patients
<i>Salmonella typhi</i> (phage type N ₁)	10	3
<i>Salmonella typhi</i> (phage type D ₁)	5	4 patients + 1 sewage sample
<i>Salmonella typhi</i> (phage type E ₁)	3	3
Other <i>Salmonella</i> spp.	107	94
<i>Shigella</i> spp.	37	32
Enteropathogenic <i>E. coli</i>	16	16
<i>Campylobacter jejuni/coli</i>	37	34
non-O group I <i>Vibrio cholerae</i>	1	1
<i>Vibrio parahaemolyticus</i>	1	1

TABLE CXXI
SALMONELLAE ISOLATED FROM FOOD AND
ENVIRONMENTAL SOURCES

Source	No. of isolations
Chicken (cooked)	8
Chicken (raw)	1
Ham	1
Crumbed veal (raw)	1
Prawns (cooked, peeled, frozen)	4
Oysters in the shell	3
Dehydrated noodle-based meals	10
Pizzas	5
Water (untreated)	2
Storm water	11
Soil	1
Sewage	5

TABLE CXXII
NEISSERIA GONORRHOEAE

Penicillin concentration (mcg/ml)	No. of sensitive strains	Percentage of sensitive strains	β -Lactamase producing strains
0.004-0.015	355	48	0
0.03	24	3	0
0.06	93	13	0
0.12	177	24	0
0.25	61	8	0
0.5	16	2	0
1.0	7	0.9	0
2.0	1	0.1	0
greater than 2.0	8	1	8

TABLE CXXIII
EIGHT OUTBREAKS OF GASTRO-INTESTINAL ILLNESS INVESTIGATED IN QUEENSLAND

Persons		Major Manifestations	Place	Vehicle	Cause	Reasons
At Risk	Sick					
520	172	Vomiting, diarrhoea (incubation 3-5 hours)	Hall	Chicken	Enterotoxin A produced by <i>Staphylococcus aureus</i>	Food held too long at ambient temperatures
65	50	Vomiting, diarrhoea (incubation 24 hours)	Club	Probably turkey, chicken or prawns	<i>Salmonella bovis—morbificans</i>	Cross contamination of foods before and during preparation
71	21	Vomiting and diarrhoea (incubation 1½-2 hours)	Restaurant	Fried rice	Probably <i>Bacillus cereus</i>	Inadequate holding temperature
51	45	Vomiting, abdominal pain, diarrhoea (incubation 6-45 hours)	Club	Chicken	<i>Salmonella lansing</i>	Unwrapped cooked chickens were transported in the same cooler used to carry them before cooking
60	18	Vomiting, abdominal pain, diarrhoea	Outdoor Function	Chicken, Ham, Potato salad	Probably <i>Salmonella singapore</i>	Inadequate holding temperatures
2	2	Vomiting, abdominal pain, diarrhoea	Home	Chicken	<i>Salmonella singapore</i>	Inadequate holding temperatures
3	3	Vomiting, abdominal pain, diarrhoea	Home	Chicken	<i>Salmonella singapore</i>	Inadequate holding temperatures
52	35	Vomiting, diarrhoea, abdominal pain (incubation 2-20 hours)	Camp	Meat Rolls	Probably <i>Staphylococcus aureus</i>	Food held too long at ambient temperatures

Salmonella serotyping and enterotoxin production and identification were undertaken by the Institute of Medical and Veterinary Science, Adelaide.

TABLE CXXIV
PATHOGENIC AND OPPORTUNISTIC FUNGI ISOLATED OR DETECTED IN ROUTINE CLINICAL SPECIMENS

Fungi	Material	No. of isolations
<i>Aspergillus</i> species	Sputum.....	2
	Ear swabs.....	16
<i>Candida albicans</i>	Cervical, vaginal and urethral swabs	788
	Skin.....	61
	Throat swabs and sputum	193
	Urine	20
	Pus, etc.....	21
	Faeces.....	6
Other <i>Candida</i> species	Miscellaneous.....	29
<i>Torulopsis</i> species	Miscellaneous.....	20
<i>Epidermophyton floccosum</i> ..	Skin.....	29
<i>Malassezia furfur</i>	Skin.....	23
<i>Microsporum canis</i>	Skin.....	29
<i>Microsporum gypseum</i>	Skin.....	5
<i>Trichophyton mentagrophytes</i>	Skin.....	26
<i>Trichophyton rubrum</i>	Skin.....	54
<i>Trichophyton tonsurans</i>	Skin.....	6
<i>Trichophyton violaceum</i>	Skin.....	2
<i>Mucor</i> sp.....	Sputum.....	2

TABLE CXXV
PARASITES DETECTED IN ROUTINE CLINICAL SPECIMENS

Parasite	Material	Number
<i>Entamoeba histolytica</i> cysts.....	Faeces	15
<i>Entamoeba coli</i> cysts	Faeces	65
<i>Giardia lamblia</i> cysts	Faeces	153
<i>Giardia lamblia</i> trophozoites	Faeces	1
<i>Endolimax nana</i> cysts	Faeces	8
<i>Clonorchis sinensis</i>	Faeces	1
Hookworm ova	Faeces	8
<i>Strongyloides stercoralis</i>	Faeces	4
<i>Ascaris lumbricoides</i> ova	Faeces	6
<i>Enterobius vermicularis</i> ova	Faeces	7
<i>Trichuris trichiura</i> ova	Faeces	39
<i>Hymenolepis nana</i> ova	Faeces	27
<i>Taenia saginata</i>	Proglottids	1
<i>Phthirus pubis</i>	Insect	2
<i>Ornithonyssus bursa</i>	Insect	1

TABLE CXXVI
ATYPICAL MYCOBACTERIA
(179 Persons)

Species or Species Complex	No. of Patients
<i>M. kansasii</i>	2
<i>M. asiaticum</i>	3
<i>M. marinum</i>	1
<i>M. goodii</i>	2
<i>M. flavescens</i>	1
<i>M. avium-M. intracellulare-M. scrofulaceum</i> (MAIS)	135
<i>M. terrae-M. nonchromogenicum</i>	3
<i>M. fortuitum</i>	14
<i>M. chelonae</i>	12
<i>M. smegmatis</i>	3
Unclassified Group IV	3
Nocardia species	1
Total	180*

*One person with two different species. (MAIS-*M. fortuitum*).

TABLE CXXVII
SEROTYPES IDENTIFIED AMONG ISOLATES OF THE MAIS
COMPLEX

Serotype	1979-80 (95 persons)	1980-81 (101 persons)*
1	13	6
4 (IV)	2	..
6 (VI)	2	..
7 (VII)	9	14
8 (Davis)	1	..
9 (Watson)	2	7
12 (Howell)	3	1
13 (Chance)	3	4
14 (Boone)	16	13
15 (Dent)	2	..
16 (Yandle)	6	10
17 (Wilson)	1	4
18 (Altmann)	5	3
19 (Darden)	2	3
22 .....	..	1
23	2	..
27 .....	..	1
28	1	2
Ranchod .....	..	1
41 (Scrofulaceum)	2	2
42 (Lunning)	4	6
43 (Gause)	3	4
Unclassified	15	14
Autoagglutinable	8	11

Serovars 2, 3, 5, 10, 11, 21, 24, 25, 26, Corey, Hammelwang and Wendt were not encountered.

*Six patients excreted two different serovars.

TABLE CXXVIII
VIRUS ISOLATIONS FROM CLINICAL CASES

	Number of Patients with Virus Isolates	Number of Viruses Isolated
Influenza A virus	21	22
Influenza B virus	24	24
Parainfluenza virus	42	45
Mumps virus	7	8
Respiratory syncytial virus	187	189
Coxsackievirus A	48	52
Coxsackievirus B	2	4
Echovirus	78	89
Poliovirus	42	45
Other Enteroviruses	21	21
Rhinovirus	75	78
Adenovirus	119	125
Herpes simplex virus	678	694
Varicella-zoster virus	6	6
Cytomegalovirus	71	79
	1 421	1 481

Number of specimens tested: 1980-81 8 555
1979-80 9 402

TABLE CXXIX
VIRUS ISOLATIONS FROM CLINICAL CASES

Diagnosis	Virus	Number of Cases	
Aseptic, meningitis, encephalitis, paralysis	Mumps virus	5	
	Coxsackievirus A9	10	
	Coxsackievirus B4	1	
	Echovirus 2	4	
	Echovirus 6	2	
	Echovirus 9	6	
	Echovirus 14	17	
	Enterovirus untyped	3	
	Poliovirus 3 (P.N.G.)	1	
	Adenovirus untyped	2	
Cytomegalovirus	1		
Respiratory infections	Influenza A/Bangkok/1/79	7	
	Influenza A/Texas/1/77	13	
	Influenza A/Brazil/11/78	1	
	Influenza B/Singapore/222/79	24	
	Parainfluenza virus 2	9	
	Parainfluenza virus 3	33	
	Respiratory syncytial virus	187	
	Rhinovirus	75	
	Coxsackievirus A9	1	
	Coxsackievirus A—untyped	3	
	Echoviruses	33	
	Enterovirus—untyped	11	
	Poliovirus—Sabin strains	26	
	Adenovirus—untyped	78	
	Herpes simplex virus	24	
	Cytomegalovirus	48	
	Erythematous rash	Coxsackievirus A9	2
		Echovirus 2	1
		Poliovirus 2—Sabin strains	1
Vesicular rash	Cytomegalovirus	2	
	Coxsackievirus A16	26	
	Echovirus 30	1	
Genital ulceration ...	Herpes simplex virus	127	
	Varicella-zoster virus	6	
	Herpes simplex virus	459	
Gingivo-stomatitis ...	Herpes simplex virus	59	
	Conjunctivitis	1	
Vaginitis	Echovirus 6	16	
	Adenovirus—untyped	8	
	Herpes simplex virus	3	
Intrauterine infection	Cytomegalovirus	2	
	Adenovirus	4	
Neonatal infections	Coxsackievirus B2	1	
	Enterovirus—untyped	1	
S.I.D.S.	Adenovirus—untyped	2	
	Echovirus 6	1	
	Echovirus 22	1	
	Enterovirus—untyped	1	
	Poliovirus—Sabin strains	5	
	Adenovirus—untyped	1	
	Cytomegalovirus	6	
Gastro-intestinal disorder	Coxsackievirus A—untyped	5	
	Echovirus 6	5	
	Echovirus 14	4	
	Echovirus 22	1	
	Enterovirus—untyped	5	
	Poliovirus—Sabin strains	9	
	Adenovirus—untyped	18	
	Cytomegalovirus	1	
	Lymphadenopathy	Mumps virus	2
	Renal disease	Echovirus 14	1
Herpes simplex virus		1	
Cytomegalovirus	6		

TABLE CXXX
HEPATITIS B VIRUS SURFACE ANTIGEN SEROLOGY

Source	Number of Sera Tested	Number of Sera with Hepatitis B Surface Antigen	Number of Patients with Hepatitis B Surface Antigen
Patients	2 807	150	113
Renal patients	2 383	2	1
Renal and other donors	198	0	0
Paramedical staff	428	0	0
Totals	5 816	152	114

TABLE CXXXI
CLOSTRIDIUM DIFFICILE TOXIN ASSAY

Specimen	Number Tested	Number Positive for Toxin	Patients Positive for Toxin
Faeces.....	690	146	88
Broth cultures of isolates from patients and environment.....	214	135	N/A
Totals.....	904	281	88

TABLE CXXXII
CYTOGENETICS

Abnormalities	Blood	Amniotic fluid
Down's Syndrome.....	16	4
Klinefelter's Syndrome.....	3	..
Turner's Syndrome.....	7	..
Balanced chromosome translocation.....	1	1
Chromosome deletion.....	4	..
Partial trisomy.....	1	2
Trisomy 18.....	4	2
Trisomy 13.....	1	..
XX Male.....	1	..
Mosaic XY/XY.....	1	1
Miscellaneous.....	5	..
Totals.....	44	10

TABLE CXXXIII
I. SEROLOGY

Test	Totals
SERUM AGGLUTINATION TESTS	
P.U.O. Tests (Routine)—	
<i>Salmonella typhi</i> (O).....	349
<i>Salmonella typhi</i> (H).....	18 287
<i>Salmonella enteritidis</i> bioser paratyphi A (H).....	253
<i>Salmonella enteritidis</i> bioser paratyphi B (H).....	252
<i>Proteus</i> OXK.....	15 167
<i>Proteus</i> OX19.....	18 249
<i>Proteus</i> OX2.....	9
<i>Brucella abortus</i>	18 349
<i>Listeria monocytogenes</i> 1 (O).....	11
<i>Listeria monocytogenes</i> 1 (H).....	11
<i>Listeria monocytogenes</i> 4 (O).....	11
<i>Listeria monocytogenes</i> 4 (H).....	11
<i>Cryptococcus neoformans</i> —Antigen test.....	350
<i>Cryptococcus neoformans</i> —Antibody test.....	350
<i>Leptospira</i> —	
Serovar <i>copenhageni</i>	24 260
Serovar <i>javanica</i>	24 260
Serovar <i>celledoni</i>	24 260
Serovar <i>canicola</i>	24 260
Serovar <i>ballum</i>	24 260
Serovar <i>zanoni</i>	24 260
Serovar <i>robinsoni</i>	24 260
Serovar <i>cynopteri</i>	24 260
Serovar <i>bulgarica</i>	24 260
Serovar <i>djasiman</i>	24 260
Serovar <i>australis</i>	24 260
Serovar <i>pomona</i>	24 260
Serovar <i>grippotyphosa</i>	24 260
Serovar <i>kremastus</i>	24 260
Serovar <i>szwajizak</i>	24 260
Serovar <i>hardjo</i>	24 260
Serovar <i>medanensis</i>	24 260
Serovar <i>bataviae</i>	24 260
Serovar <i>tarassovi</i>	24 260
Serovar <i>panama</i>	24 260
Serovar <i>shermani</i>	24 260
Paul Bunnell Tests.....	20 196
Infectious Mononucleosis Slide Tests.....	708
P.U.O. Tests (Quantitative).....	1 668
Syphilis—	
ART (Serum)—	
Routine.....	15 971
Quantitative.....	1 600

TABLE CXXXIII—continued
I. SEROLOGY—continued

Test	Totals
VDRL (C.S.F.).....	140
COMPLEMENT FIXATION TESTS	
P.U.O. Tests—	
Q fever— <i>Coxiella burnetii</i> (Phase 1)—	
Routine.....	139
Quantitative.....	80
Q fever— <i>Coxiella burnetii</i> (Phase 2)—	
Routine.....	20 970
Quantitative.....	1 334
Typhus fever— <i>Rickettsia mooseri</i> (Soluble)—	
Routine.....	7
Typhus fever— <i>Rickettsia australis</i> —	
Routine.....	7
Chlamydial infections— <i>Miyagawanella ovis</i> —	
Routine.....	20 847
Quantitative.....	817
Brucellosis— <i>Brucella abortus</i> —	
Routine.....	20 912
Quantitative.....	129
Primary Atypical Pneumonia— <i>Mycoplasma pneumoniae</i> —	
Routine.....	19 461
Quantitative.....	2 132
Leptospirosis— <i>Leptospira interrogans</i> serovar <i>patoc</i> —	
Routine.....	24 299
Quantitative.....	230
Viral Infections—	
Influenza A—	
Routine.....	13 245
Quantitative.....	4 383
Influenza B—	
Routine.....	13 245
Quantitative.....	1 774
Influenza C—	
Routine.....	13 313
Quantitative.....	644
Parainfluenza 1—	
Routine.....	12 836
Quantitative.....	982
Parainfluenza 2—	
Routine.....	13 313
Quantitative.....	1 784
Parainfluenza 3—	
Routine.....	13 013
Quantitative.....	2 760
Adenovirus—	
Routine.....	13 315
Quantitative.....	2 748
Respiratory syncytial virus—	
Routine.....	13 317
Quantitative.....	1 196
Mumps virus—	
Routine.....	13 326
Quantitative.....	2 633
Measles virus—	
Routine.....	3 168
Quantitative.....	1 591
Cytomegalovirus—	
Routine.....	10 539
Quantitative.....	4 819
Herpes simplex virus—	
Routine.....	8 406
Quantitative.....	4 327
Varicella-zoster virus—	
Routine.....	1 615
Quantitative.....	719
Lymphocytic choriomeningitis virus—	
Routine.....	182
Quantitative.....	0
Rotavirus—	
Routine.....	124
Quantitative.....	30
Poliovirus 1.....	38
Poliovirus 2.....	38
Poliovirus 3.....	38
Rubella virus.....	226
Ross River virus.....	204
Toxoplasmosis— <i>Toxoplasma gondii</i> —	
Routine.....	9 996
Quantitative.....	307
Hydatid—	
Routine.....	116
Quantitative.....	6

TABLE CXXXIII—continued
 1. SEROLOGY—continued

Test	Totals
HAEMAGGLUTINATION INHIBITION TESTS	
Rubella antibodies	22 410
Rubella specific IgM antibodies	7 840
Arbovirus antibodies—	
Ross River virus—	
Routine	8 152
Quantitative	3 319
Australian encephalitis virus—	
Routine	9 351
Quantitative	1 286
Sindbis virus—	
Routine	7 086
Quantitative	236
Dengue 1 virus—	
Routine	52
Quantitative	30
Dengue 2 virus—	
Routine	52
Quantitative	22
Dengue 3 virus—	
Routine	52
Quantitative	32
Dengue 4 virus—	
Routine	26
Quantitative	12
Ross River specific IgM antibodies	10 272
Australian encephalitis specific IgM antibodies	798
Sindbis specific IgM antibodies	224
Alfuy specific IgM antibodies	216
Kunjin specific IgM antibodies	272
Dengue 1 specific IgM antibodies	640
Dengue 2 specific IgM antibodies	640
Dengue 3 specific IgM antibodies	640
Dengue 4 specific IgM antibodies	520
HAEMAGGLUTINATION TESTS	
Amoebiasis	85
Toxoplasmosis	286
Schistosomiasis	34
Hydatid	137
TPHA	3 744
FLUORESCENT ANTIBODY TESTS	
FTA-ABS Tests (Serum)	3 498
FTA-ABS specific IgM antibodies (Serum)	121
Toxoplasma Fluorescent Tests—	
Routine	5 117
Quantitative	1 315
Toxoplasma Fluorescent specific IgM antibodies	256
Legionnaires Disease Fluorescent Tests	604
OTHER TESTS	
Fractionation of sera by sucrose density gradient ultracentrifugation	2 337
Seminal analyses	88
LEPTOSPIRAL STRAINS TYPED (45)	
Agglutination tests performed in typing	2 214
Absorption tests performed in typing	215
Antisera prepared	36
Total 1980-81	1 011 349
Total 1979-80	1 043 690

 TABLE CXXXIII—continued
 2. BACTERIOLOGY
 A. SPECIMENS OF HUMAN ORIGIN
 (NON-TUBERCULOUS)

Specimen	Examination			Totals
	Microscopy	Culture	Antibiotic Sensitivity	
Swabs—				
Throat and nose	202	1 572	562	2 336
Urethral, vaginal, cervical, Bartholin's glands	6 318	7 536	1 229	15 083
Ear	124	226	198	548
Eye	93	134	90	317
Other	98	128	27	253
Pus	585	1 089	888	2 562
Miscellaneous fluids	56	61	26	143
Cerebrospinal fluids	23	26	4	53
Smears for <i>M. leprae</i>	560	..	..	560
Sputum	386	566	271	1 223
Urine	8 908	9 188	2 136	20 232
Faeces and rectal swabs	1 782	2 731	545	5 058
Culture for identification	52	235	73	360
Miscellaneous	18	35	18	71
Blood	152	177	56	385
Total 1980-81	19 357	23 704	6 123	49 184
Total 1979-80	19 834	23 398	6 504	49 736

B. PHAGE TYPING

	Totals
Cultures prepared	582
Coagulase tests	349
Cultures typed at R.T.D.	293
Cultures typed at 100 x R.T.D.	132
Total 1980-81	1 356
Total 1979-80	1 267

C. FOODS AND WATERS

Specimen	Examination		Totals
	Culture	Plate Count	
Water	24 404	10 180	34 584
Milk	2 171	1 087	3 258
Cream	581	288	869
Other milk products	2 957	1 363	4 320
Meats and fish	6 633	1 434	8 067
Miscellaneous	1 169	265	1 434
Total 1980-81	37 915	14 617	52 532
Total 1979-80	30 308	12 845	43 153

D. VARIOUS MATERIALS AND TESTS

Specimen	Examination	Totals
Disinfectants and Antiseptics	Cultures tested	151
Bottles	Sterility	3
Fish for Ciguatera Toxin	Examination	1
Urine	Albumin	8 909
Urine	Reducing substances ..	8 909
Total 1980-81		17 973
Total 1979-80		19 621

TABLE CXXXIII—continued
3. MYCOLOGY

Specimen	Examination			Totals
	Microscopy	Culture	Antibiotic Sensitivity	
Scrapings (Skin and Nail).....	905	927	92	1 924
Cervical and vaginal.....	..	3 052	857	3 909
Sputum.....	34	103	81	218
Miscellaneous.....	8	327	182	517
Total 1980-81.....	947	4 409	1 212	6 568
Total 1979-80.....	1 151	3 397	1 103	5 651

4. PARASITOLOGY
(EXCLUDING MALARIA)

Specimen	Object of Examination	Totals
Faeces.....	Amoebae (cysts and vegetative).....	1 989
	Helminth ova.....	1 989
Pus.....	Trichomonas vaginalis.....	2 527
Helminth.....	Identification.....	2
Total 1980-81.....		6 507
Total 1979-80.....		5 758

5. MYCOBACTERIOLOGY

Specimen	Examination			Total
	Microscopy	Culture	Animal Inoculation	
Sputum.....	19 802	19 802	..	39 604
Urine.....	1 826	1 826	..	3 652
Others.....	2 748	2 748	5	5 496
Asbestos Bodies.....	3	..	..	..
Total 1980-81.....	24 379	24 376	5	48 752
Total 1979-80.....	26 256	26 254	7	52 517

Other Investigations	1979-80	1980-81
CULTURES SUBMITTED		
<i>Mycobacterium tuberculosis</i> for confirmation and sensitivity.....	54	113
Atypical mycobacteria for— identification and sensitivity.....	17	7
identification only.....	32	4
Total.....	103	124
Atypical mycobacteria identified.....	264 (240 persons)	200 (179 persons)
Atypical mycobacteria serotyped.....	152 (95 persons)	167 (101 persons)
Porcine Aortic Heart Valve Fragments..	157	141
SENSITIVITIES PERFORMED		
<i>M. tuberculosis</i> , <i>M. bovis</i> , BCG.....	202	226
Others.....	62	50
Disc sensitivity tests.....	8	17
Total.....	272	293

TABLE CXXXIII—continued
6. HAEMATOLOGY

Test	Total
Haematology profile with smears.....	15 262
Haematology profile without smears.....	1 821
Blood smears.....	31
Platelet count.....	283
Erythrocyte sedimentation rate.....	6 649
Eosinophil count.....	31
Reticulocyte count.....	343
Stipple cells.....	3
Haemoglobin electrophoresis only.....	89
Haemoglobin studies.....	261
Glucose-6-phosphate dehydrogenase.....	275
Pyruvate kinase.....	275
Glutathione reductase.....	275
Haemorrhagic studies.....	134
Prothrombin time.....	192
Red cell fragility.....	132
Ferritin.....	1 692
Vitamin B12.....	2 479
Folic acid.....	3 013
Rheumatoid arthritis screen.....	1 151
Rheumatoid arthritis test titre.....	223
Anti nuclear factor.....	1 154
Anti smooth muscle antibodies.....	1 154
Anti mitochondrial antibodies.....	1 154
Anti parietal cell antibodies.....	1 154
Adrenal antibodies.....	1
Pancreas antibodies.....	..
Salivary antibodies.....	1
Anti heart antibodies.....	1
Anti pleural antibodies.....	..
Bone marrow.....	31
Neutrophil alkaline phosphatase.....	10
Periodic acid schiffs.....	2
Peroxidase.....	5
Sudan black B.....	3
Iron stain.....	25
L.E. cells.....	8
Malarial parasites.....	203
Group and Rh.....	3 546
Rh antibody screen.....	3 226
Rhesus antibody titre.....	52
Immune anti-A/anti-B antibodies.....	..
Direct Coombs test.....	157
Indirect Coombs test.....	58
Genotyping.....	..
Infectious Mononucleosis test.....	1 580
Cold agglutinins.....	27
Filaria.....	1
Schilling test.....	15
Cryoglobulins.....	9
DNA.....	323
C3.....	486
C4.....	486
ANA.....	124
Anti-ds DNA.....	124
Total 1980-81.....	49 734
Total 1979-80.....	60 636

7. HISTOLOGY

Tissue Specimens Received	1980-81	1979-80
Surgical pathology cases.....	7 931	10 051
Post mortem cases.....	207	216

TABLE CXXXIII—continued
8. BIOCHEMISTRY

Specimen	Examined for	Totals
Blood and/or Serum	Acetyl cholinesterase	151
	Acid phosphatase (Total)	177
	Acid phosphatase (Prostatic)	75
	Alanine aminotransferase	138
	Albumin	1 876
	Alkaline phosphatase	1 599
	Amylase	168
	Apolipoprotein	90
	Ascorbate	53
	Aspartate aminotransferase	1 680
	Bicarbonate	20
	Bilirubin	1 096
	Calcium	693
	Carotene	100
	Chloride	1 537
	Cholesterol	10 607
	Cholinesterase	218
	"C" reactive protein	58
	Creatine kinase	492
	Creatinine	2 466
	Ferritin	426
	Gamma glutamyl transferase	1 009
	Glucose	2 089
	Glycosylated haemoglobin	221
	HDL cholesterol	5 502
	Immunoglobulin	1 077
	Iron	1 311
	Iron binding capacity	271
	Lactate dehydrogenase	223
	Lipoprotein electrophoresis	212
	Lithium	206
	Magnesium	75
	Phosphorus inorganic	235
	Potassium	1 562
	Protein	1 877
	Protein electrophoresis	924
	Sodium	1 535
	Thyroxine	6 367
	T ₃ Uptake	6 336
	Thyroid binding globulin	123
	Thyroid stimulating hormone	1 057
	Transferrin	1 316
	Triglycerides	10 614
	Urea	2 842
	Urate	2 409
Miscellaneous	105	
		73 218
Urine	Calcium	16
	Coproporphyrin and Uroporphyrin	10
	Creatinine	27
	Delta aminolevulate	408
	Phosphorus inorganic	12
	Porphyrin screen	29
	Protein	149
	Protein electrophoresis	55
	Urate	13
	Miscellaneous	65
		784
Faeces	Fat content	198
	Occult blood	75
	Miscellaneous	13
		286
Spinal Fluid	Chloride	2
	Colloidal gold curve	44
	Glucose	14
	Protein	14
	Immunoglobulin/Albumin ratio	35
Functional Tests ...	Creatinine clearance	15
	Glucose tolerance	197
		212

TABLE CXXXIII—continued
8. BIOCHEMISTRY—continued

Specimen	Examined for	Totals
Miscellaneous	Calculus	120
Total 1980-81		74 729
Total 1979-80		143 398
Specimens to Princess Alexandra Hospital for SMAC Profile		8 600

9. CYTOGENETICS

Specimen	1980-81	1979-80
Amniotic fluid	404	391
Blood	301	309
Bone Marrow	4	6
Miscellaneous	7	..
Totals	716	706

10. MEDIA

	Totals	
	1980-81	1979-80
Slopes	170 919	164 315
Plates	283 596	268 399
Tubes and Slopes	287 411	249 466
Total	741 926	682 180
Chemical solutions	19 120.28 litres	16 230.89 litres
Stains	420.45 litres	296.26 litres

11. MEDICO-LEGAL

Exhibits	Totals
Clothing	1 506
Weapons	132
Blood	354
Scrapings (blood)	334
Vaginal smears	320
Vaginal swabs	315
Rectal smears and swabs	35
Hair	275
Miscellaneous swabs	144
Miscellaneous	440
Total 1980-81	3 855
Total 1979-80	3 695
Examinations on Exhibits	Totals
Screening test for blood	1 618
Blood identification	1 463
Species identification	1 382
ABO groupings	1 178
MN groupings	1 081
Rh groupings	980
Haptoglobin	1 127
Miscellaneous groupings	210
Acid Phosphatase screenings	1 211
Smears—Spermatozoa	940
Smears— <i>N. gonorrhoea</i>	320
Rectal smears and swabs—Spermatozoa	35
Hair comparison	310
Miscellaneous	499
Total 1980-81	12 354
Total 1979-80	11 710

TABLE CXXXIII—continued
12. INSTITUTE OF FORENSIC PATHOLOGY

	1980-81	1979-80
Post mortem examinations	1 104	1 100
Histology—		
Paraffin sections	6 900	8 003
Histochemistry	265	228
Frozen sections (routine)	41	54
Frozen sections for fluorescent antibody tests	7 163	8 580
Bacteriology—		
Blood cultures	38	35
Others	203	133
Microscopy—		
Diatoms	25	23
Spermatozoa	1	2
Radiography	294	276
Photography—		
Slides of gross specimen	440	600
Photomicrographs	40	60
Line slides	207	158
Monochrome	160	60

13. ANIMAL BREEDING STATION

	1980-81	1979-80
Animals Provided—		
Guinea pigs	125	370
Rabbits	84	136
Mice—		
Litters	1 167	2 701
Weaned	702	925
Animal Bleeding—		
Rabbit (40 ml)	90	102
Guinea pig (8 ml)	510	276
Sheep (400 ml)	187	161
Geese (10 ml)	105	67
Stock on Hand (30th June, 1980)—		
Guinea pigs	158	170
Rabbits	165	136
Mice	430	614
Sheep	10	9
Geese	7	8

GOVERNMENT CHEMICAL LABORATORY

Director: T. J. BECKMANN, M.Sc., F.R.A.C.I.

Deputy Director: (Research and Specialized Services): J. C. YULE, B.Sc., B.Econ., Dip.Ind.Chem., A.R.A.C.I.

Deputy Director: (General and Advisory): K. H. DEASY, B.Sc.(Hons), A.R.A.C.I.

Assistant Directors:

J. V. FOREMAN, B.Sc., A.R.A.C.I.

C. H. COUPER, B.E.M., Dip.Ind.Chem., A.R.A.C.I. (retired 14-9-80)

D. S. LECKY, B.Sc. (from 2-4-81)

Supervising Chemists:

D. S. LECKY, B.Sc. (until 1-3-81)

G. D. GRAIEG, B.Sc.(Hons)

P. M. GEOGHEGAN, B.Sc.(Hons)

A. J. WEBB, B.Sc., B.Econ, A.R.A.C.I.

R. P. BILTOFT, B.Sc., A.R.A.C.I.

G. S. CRAVEN, B.App.Sc., B.Bus.(Man.), A.R.A.C.I.

A large laboratory has many advantages in range of expertise and availability of specialized instruments, but in order to make best use of resources, their efficient utilization requires that work programmes are known for some time ahead. At the beginning of the year Client Departments were asked for their projected use of laboratory services for the year. Varying responses from Departments enabled some work programming to be done, but it also highlighted the difficulties our clients, too, have in assessing their own needs. However the exercise enabled some consolidation of resources to be effected and indicated areas for future study.

Table CXXXIV in the Appendix sets out the source and total number of samples received in the laboratory for the year. It also makes a comparison with the previous two years.

All sections of the laboratory have experienced increases in their workloads. It will be seen that the Forensic Section and the Industrial Hygiene group in particular, have experienced a considerable increase in the amount and complexity of their work. The workload, indeed, of the Forensic Section is such that the laboratory is unable to guarantee a rapid turn-around of cases.

FUNCTION AND ORGANIZATION

The Services provided by the Laboratory can be briefly categorized as follows:—

- A Chemical Advisory Service to most State Government Departments on chemical and allied problems and to assist in policy formulations;
- A Programmed Chemical Analytical Service devised on the needs and experience of the Health Services, other State Government Departments, and Statutory Authorities not having their own specialized chemical laboratories;
- Assistance to those Authorities, Departments and Hospitals having laboratories, of limited scope, with more difficult analyses;
- Chemical analytical services, by contractual arrangement to the Commonwealth Departments of Primary Industry, and of Science and Technology (Bureau of Customs).

With the exception of some specialized services for private medical pathologists, the chemical analytical services are not directly available to individuals or commercial firms except in those cases where no other facilities are available and the matter is considered to be of some considerable public interest. One such case is an involvement with the Mines Inspectorate of the Department of Mines. Regulations require that exhaust gases from diesel locomotives and other engines used in coal mines meet certain prescribed standards. The Government Chemical Laboratory provides a testing service enabling owners or suppliers of these engines to obtain the necessary certification from the Mines Department. A fee for each engine examination is payable.

With a view to resolving the apparent element of conflict with respect to general laboratory organization described in the previous report, a development programme has been commenced. Models such as those of other similar organizations, e.g. the Laboratory of the Government Chemist, London, and Government laboratories in other States, have been studied to assist in this matter. The assistance of the Management Services Section of the Department has been usefully enlisted in the project. The rationalization of existing staff structure and functional organization is a matter requiring utmost care if services are to be continued and enhanced satisfactorily to both client and laboratory.

STAFF—ESTABLISHMENT, THEIR DUTIES, DEVELOPMENT AND INVOLVEMENT

The staff establishment has been maintained at 109. As previously described the effective staffing at any given time is only about 70 per cent.

The number of chemists declared as State Analysts and for legal purposes under Commonwealth legislation has remained static. As always, considerable time of State Analysts is occupied in attendance at Courts of Law and the ancillary travelling throughout the State necessitated by such appearance as expert witnesses.

This year has seen a further attendance by a Senior Officer at a Public Service Board Management Improvement Programme. Currently, some supervising chemists have begun a Supervisors Development Course run by the Management Services Branch of the Health Department. Other senior officers have been scheduled into Management Development Courses of the Department.

The advantages of the Public Service Study Assistance scheme are now being utilized by 23 officers of the laboratory for self-improvement.

Expert technical committees, as listed below, include a representative of this laboratory. With the exception of two of these, meetings of all other committees were attended during the year.

These committees are:—

- National Health and Medical Research Council (N.H.M.R.C.)—
Occupational Hygiene (Reference) Sub-Committee;
Food Analysts (Reference) Sub-Committee;
- Australian Environment Council—National Advisory Committee on Chemicals;
- Committee of the Standards Association of Australia (S.A.A.)—
DS/2—Chemical Analysis of Dairy Products;
CS/13—Plastics for Food Contact;
CH/1—Laboratory Glassware and related apparatus;
- Association of Australian Port and Marine Authorities (Dangerous Goods Sub-Committee);
- Steering Committee for the Survey of Hazardous and Flammable Substances (under the auspices of the Co-ordinator General's Department);
- Committee for Contingency Planning for the Spillage of Hazardous Chemicals (under the auspices of the Co-ordinator General's Department);
- Council of the National Association of Testing Authorities (N.A.T.A.) Australia;
- Chemistry Advisory Committee of the Queensland Institute of Technology, Applied Science School;
- Inter-Departmental Committee on the Chemical Contamination of Food (I.D.C.C.C.F.) (Qld. Govt. Depts.);
- The Queensland State Paint Group of the Government Paint Committee (G.P.C.) within the Commonwealth Department of Science and the Environment;
- The Collaborative International Pesticides Analytical Council;
- The FAO Panel of Experts on Pesticide Formulation;
- Drafting Sub-Committee of the Advisory Committee on the Transport of Dangerous Goods;
- Advisory Committee on Drugs to Commonwealth Games Medical Committee;

- Chemistry Advisory Committees of the Darling Downs Institute of Advanced Education;
- Inter-Departmental Commodity Committees—sponsored by the State Stores Board, namely—
 - (1) Floor Maintenance Systems; and
 - (2) Laundry Detergents and Chemicals;
- Inter-Departmental Committee chaired by the Director of the Laboratory for the updating of methods of sampling, preservation and analysis of water and waste water under the Clean Waters Act. Two Water Section staff are also members of the Committee.

A laboratory in isolation will soon become outmoded unless its staff utilize every method of obtaining information and retaining an awareness of the latest technology and methodology. Hence, attendance at appropriate conferences, workshops and seminars and tours of other laboratories are essential features of remaining progressive. Locally, the Queensland Branch of the Royal Australian Chemical Institute and its Analytical and other groups arrange seminars and visits of interest to members.

During this year, the laboratory was represented by official delegates at the following regular meetings and conferences:—

- FAO informal meeting of Experts in Pesticide Formulations;
- Collaborative International Pesticides Analytical Council;
- The Australian Institute of Food Science and Technology Convention, Surfers Paradise 21st-22nd April, 1981;
- The Australian Seventh International Symposium on Forensic Sciences, Sydney—9th-13th March, 1981;
- The Thirteenth Annual Conference on Forensic Toxicologists and the Seventh Annual Conference on Forensic Drugs held in Hobart, 27th-31st October, 1980;
- Mines Officers Conference, Booval, 5th August, 1980.

The following Training Courses, Visits and Discussions were pursued or attended by laboratory officers:—

- A Study Tour of Laboratories and offices in the United States by a pesticide residue chemist during May, 1981, as follows:—
 - California Dept. of Food and Agriculture, Downey, L.A. Ca.; Environmental Protection Authority (EPA) San Francisco, Ca.; School of Public Health, University of California, Berkeley, Ca.; California Dept. of Food and Agriculture Laboratories, Sacramento, Ca.; University of New York, Stony Brook, N.Y.; Food and Drug Administration, Washington D.C.; Agricultural Research Centre and EPA Laboratories, Beltsville, Md.; EPA Laboratories, Research Triangle Park, N.C.; Centre for Disease Control, U.S. Dept. of Health, Atlanta, Ga.; EPA Laboratories Gulf Breeze, Fla.;
- A Computer Training Course by Hewlett Packard, Sydney, 7th-28th July, 1980;
- Visits to ANSTEL, the technical segment of the Australian National Library, the Marine Branch of the Dept. of Home Affairs and the Environment and the National Biological Standards Laboratory, in and about Canberra, A.C.T. on 4th December, 1980;
- Visits to the Department of Mineral Resources of the N.S.W. Government, Sydney, to engage in an inter-departmental discussion with Madame Dr Ruth Cybulska of the Polish Research Centre Mine, Barbara, Poland, concerning stone dust suppression of explosions in Coal Mines. 19th-21st November, 1980;
- Official visits by a Deputy Director of the laboratory by an extension whilst on recreation leave in the United Kingdom to:—
 - The Tayside Regional Chemist, Dundee, Scotland (food and forensic matters), March, 1981;
 - The Freshwater Fisheries Laboratories, Pitlochry, Scotland (pollutants in lake, river and estuarine waters), March, 1981;
 - The Laboratory of the Government Chemist, London, March, 1981;
 - The First Annual Congress of the Royal Society of Chemistry Guildford, Surrey (Theme: "Energy"), April, 1981.

MATERIALS RESOURCES (SPECIALIZED AND OTHER EQUIPMENT)

Further improvements have been made in replacing equipment this year. In certain areas, Departments and Sections requiring specialized services have seen that it is to their advantage, as indicated below to assist in obtaining the necessary resources.

The principal new equipment acquired this year is as listed below:—

- Automated organic carbon analyser for water quality analysis;

- Computer Hardware and Software for the Processing of Data Output of Finnigan Gas Chromatograph-Mass Spectrometer. (A Combination System);
- High Performance Thin Layer Chromatography System for separatory work especially of Mycotoxins;
- Scanning Spectrophotometric Densitometer;
- Automatic Cryoscope for determination of freezing point of milk;
- Mettler PC440 Delta Range Top Pan Balance for Surface Coatings Analyses;
- TECO—Oxides of Nitrogen Analyser;
- Foot Treadle Squaring Shears for Metal Working.

In July, 1980, the Laboratory took delivery of two Wostoff gas mixing pumps which were purchased by the Department of Mines. The pumps enable primary gas standards to be produced from pure components with relative ease. The absolute calibration of equipment for the chemical analysis of certain gas samples especially from mines is now possible.

The TECO chemiluminescent oxides of nitrogen analyser was acquired during the year for use in Occupational Hygiene investigations and the analysis of diesel engine exhaust gases. The instrument is transportable and requires only half an hour stabilization time before it is ready for operation. It replaces the convenient to use, but often unreliable reaction stain tubes, and now gives the Laboratory a greater facility in the determination of the oxides of nitrogen.

HOUSING

During the year, some office accommodation has been made available to the laboratory on the ground floor of the old Primary Industries Building, which will permit expansion of some laboratory facilities into areas previously used as offices. The increase in area given to the laboratory is to overcome immediate accommodation problems and cannot be considered a long-term solution. There will be some alleviation of congestion in the Foods, Residues, and Forensic Sections.

The present laboratory site located as it is between a busy city feeder road and the expressway, causes many difficulties in providing trace metal analyses at the low levels now expected for environmental health studies. A search for a new laboratory site has begun in consultation with officers of the Department of Works.

EXPENSE OF OPERATION

The year has seen the cost of Laboratory operations come under close scrutiny from the Auditor-General's Department and from the Operational Audit Section of the Treasury Department. At present, a review of costs and of charges for services in certain areas is being made with a view to recovering further of these costs in certain areas of work. Already, Cabinet has agreed to a fee for service in the mining area for the testing of private diesel (locomotive) engines.

PUBLIC HEALTH CARE AND PROTECTION

Three of the six organizational groups within the laboratory are mainly concerned with public health services. These are Foods, Waters and Chemical Products. The Industrial Hygiene Segment within the Ores and Minerals Section and the Pesticides Residues Section are also involved.

Under nine distinct headings, listed below, reports are provided on the years efforts for health services. These efforts comprise approximately a third of the laboratory's work:—

- Quality of Food and Beverages;
- Pesticide Residues in Food;
- Drinking Water;
- Drugs and Pharmaceuticals;
- Industrial and Household Chemical Products;
- Toys and Other Children's and Babies Articles;
- General Matters concerning Safety in Public Health;
- Assessment of Occupational Hazard in Industry and Agriculture;
- Safety in Mines.

Quality of Food and Beverages

The laboratory monitors the quality of food and drink in Queensland and provides an analytical and advisory service to Government on food quality and nutrition. Analyses are usually concerned with examining a food in relation to the requirements of the Health Act and relevant Regulations.

They commonly provide—

- assessment of the food as to its conformity with compositional requirements and labelling provisions;
- certificates of analysis of official samples for legal proceedings;
- information as to the presence or absence of harmful substances and fitness for human consumption; and
- specific data on certain foods, both natural and processed.

During the past year, the labelling provisions of the Food and Drug Regulations were amended to require ingredient labelling using common names and listed in descending order of proportion on all packaged foods on sale in Queensland. The Regulations now also require the label of packaged foods to show either an easily understood date of packaging together with the minimum durable life of the product or simply a date showing the end of the minimum durable life of the food. The new Regulations have meant a greater workload for the laboratory in validating claims in food labels. The increasing public knowledge and awareness of nutrition and diet fostered by consumer organizations and the media is reflected in the ever increasing number of complaints and enquiries from members of the public about food quality.

Samples are received from the Division of Public Health, the Weights and Measures Branch of the Consumer Affairs Bureau and the Water Resources Commission (Water Quality Division).

Tables No. CXXXV and No. CXXXVI in the Appendix detail the work carried out during this year.

Dairy Products, Fats and Oils

The majority of the samples of milk and dairy products examined conformed with prescribed standards; however, legal certificates were issued for several samples of milk for a deficiency in fat, non-fat milk solids or total solids.

A check on the contaminant, iodine, in milk samples was continued throughout the year with only one sample showing an excessive proportion of iodine (greater than 500 micrograms of iodine per litre of milk). This is a pleasing result in that it shows that the contamination problem has been largely overcome by a responsible industry approach in the use of iodophor sanitizers.

None of the samples of goat's milk examined showed any evidence of adulteration with cow's milk.

Further work on methods used in determining the freezing point and added or extraneous water in milk was carried out during the year. One member of the staff is leading a working group of the appropriate committee of the Standards Association of Australia in reviewing the relevant Australian Standard. New equipment for the determination of freezing point in milk was also purchased and commissioned during the year.

The growth in production and consumption of milk drinks and other modified liquid milk and drink products has been reflected in the number of samples examined. The only problem encountered with these products has been labelling. Two per cent of those examined were not labelled correctly.

Less than two per cent of the samples of cream and slightly less than four per cent of the samples of yoghurt examined contained unsatisfactory proportion of milk fat. Five samples of imported cheeses did not conform with the prescribed standard for milk fat and moisture content.

Twelve samples of vegetable oils were examined, of which only one had not included in the label the required statements concerning cholesterol. Of about 20 samples of polyunsaturated margarine examined, only one contained a higher proportion of saturated fat than is permitted.

A small survey of baby foods marketed both in metal cans and glass jars was undertaken. All the samples examined contained less than the maximum permitted amounts of lead and cadmium.

There has been concern recently that prepared baby foods might contribute to excess fluoride in the diet of young children. A survey of all available brands of baby food, infant feeding formulae and powdered milk was undertaken, the results of which indicated that each sample examined contained less than 3 milligrams of total fluoride per kilogram of food, a value which should cause no concern.

Breads, Cereals and Carbohydrates

In line with community trends away from consumption of highly refined and soft textured white breads there has been an increase in the number of fancy breads and variety breads examined. This caused some increase in workload in this area of cereal chemistry. Again the results from the examination of high fibre, brown and wholemeal breads and flours have been disappointing; approximately 10 per cent of these samples examined showed deficiencies in the quantity of crude fibre present.

Approximately 80 samples of bread were submitted by the Weights and Measures Branch of the Consumer Affairs Bureau for the determination of dry solids and non-fat milk solids content.

Samples of gravy mix, ice confections, breakfast cereals, honey, confectionery, icing sugar and egg noodles were examined. Several samples of icing sugar contained the non-permitted additive starch, and one sample of egg noodles contained no egg solids.

Several samples of sausage meal were examined primarily to check that, if used according to the manufacturer's instructions, they would produce a sausage meat conforming with the prescribed standard.

The majority of 20 samples of molasses, treacle and golden syrup contained less than 25 micrograms of lead per kilogram of sample. All the samples contained less than the permitted maxima:— 0.1 milligrams of lead and cadmium per kilogram of sample and 5 milligrams of copper, chromium and nickel per kilogram of sample. All the samples conformed with the relevant prescribed standards for toxic metals in food.

Carcass Meat, Fish and Poultry

Only 15 per cent of official samples of minced meat contained preservatives in excess amounts:— a slight improvement over last year's results. However, once more 23 per cent of sausages failed to comply with standards for preservatives and meat content. Forty per cent of meat pies examined were found to be deficient in meat.

Another survey of 58 samples of manufactured meat including canned meat, salami and luncheon sausage was made for the presence of the curing agents nitrite and nitrate. Only one, an uncooked sample of salami, contained excessive amounts of nitrate. The remainder of the samples conformed with the prescribed standard for nitrite and nitrate. The results indicate an improvement in the quality of these products for Queensland consumers.

Approximately 200 samples of fish were examined for the presence of toxic metals in the flesh. Several samples did not meet the prescribed standard for mercury.

Other marine products examined, including fish cakes and prawns, conformed with their relevant standards.

A small survey of imported canned fish and molluscs was carried out to assess the quality of the cans and the level of contamination of the flesh with toxic metals. The cans were of poor quality having a peel-back lid with soldered joints, and some cans showed evidence of exterior surface corrosion. However, all the samples of flesh did not exhibit an unsatisfactory level of toxic metals, and the canned fish and molluscs were accepted as fit for human consumption.

Work on fish species identification successfully reached the stage where fish fillets could be characterized. This was done for many samples of fillets submitted by the Division of Public Health. Several samples, alleged to be fillets of some more expensive types of fish, were found to be misdescribed.

Fruits, Vegetables and Nuts and Their Products

Most of the samples of dried fruits examined conformed to standard, but a few samples of imported dried plums contained the prohibited additive, saccharin. Several samples of uncooked chipped potatoes contained excessive amounts of preservative.

Queensland mangoes of both the "Bowen" and "Common" varieties were examined for vitamin C content to assist the Food Standards Committee of the N.H.M.R.C. in formulating a standard for mango juice. For Bowen Mangoes the mean values of vitamin C in the expressed juice were 386 mg/L (green fruit) and 158 mg/L (ripe fruit). For common mangoes, the means were, for green and ripe fruit, respectively, 658 mg/L and 371 mg/L. The range and standard deviation of values found for ripe common mangoes were, respectively, 123-598 mg/L and 95 mg/L. The results show that the vitamin C content of mango juice decreases as the fruit ripens.

A survey of canned tomato products, including pastes and purees, showed them to be satisfactory in terms of soluble salt-free tomato solids and presence of mould filaments.

A survey of some 350 samples of peanuts, peanut products and other nuts was made for the levels of aflatoxins. The majority of the nuts and nut products were from the 1980 Queensland crop, and the results showed that they were of reasonable quality and fit for human consumption.

A survey of 63 samples of imported jams was carried out. The claims in the labels of all the samples examined were reasonable. However, three samples showed a deficiency in water-soluble solids and two samples had an excessive proportion of glucose syrup in the jam.

Three out of 37 samples of sauces, chutneys and relishes did not conform with the prescribed standard, owing to the presence of benzoic acid, a prohibited preservative.

Beverages and Food Adjuncts

Only a small proportion of fruit juices and fruit juice drinks examined failed to conform with the prescribed standards because of either a deficiency in vitamin C or fruit juice content. A small proportion of wines examined failed to meet standards, the chief reason being the presence of excessive quantities of preservative.

Approximately 10 per cent of soft drinks examined failed owing to the presence of an excessive preservative.

Thirteen samples of instant coffee were examined for caffeine content and water-insoluble residue. Difficulties were experienced with the N.H.M.R.C. prescribed method for determination of water-insoluble residue. Comments on the method of analysis were sent to the Food Analysts Sub-committee of the N.H.M.R.C.

Of flavouring essences examined, some were incorrectly labelled; some did not declare the presence of artificial colour; and the labels of others indicated that they were natural flavouring essences when, in fact, the product was an imitation or synthetic essence.

Samples of ground mustard were found to contain an excessive proportion of starch and samples of black and white pepper were found to be adulterated by the addition of starch. These lapses in product quality were detected as part of a survey of food condiments.

Official samples of spirits and waste beers are submitted to this laboratory only after a health surveyor in the field has noted an abnormality in the liquor concerned. The majority of spirits examined were lower than the minimum specified alcoholic strength, while the waste beers had not been properly denatured to render them incapable of re-use.

Suspected Contamination in Foods

Most of the examinations carried out resulted from complaints made by members of the public to the Health Department. Adventitious contaminants such as glass fragments, cigarette butts, rodent excreta, insects and insect frass and webbing, paint flakes and pebbles of mud or cement were found in a number of different foods. In many samples of food, which were alleged to be the source of illness or discomfort, no evidence of unfitness for human consumption could be found. However, in one case, evidence for scombroid poisoning from canned tuna was detected. In some samples of honey where taints were alleged, unusual flavours resulting only from the bee's source of pollen were indicated. Complaints were received concerning mixed citrus peel. Comparison of the commercial product with peel, cut from oranges and lemons, showed a very much lower level of essential oil in the commercial product indicating that it was prepared from spent peel.

Pesticide Residues in Food

The type and quantity of pesticide residues permitted on food types are expressed as Maximum Residue Levels (MRL's) and are prescribed in Regulation 78 of The Food & Drug Regulations (1977). The Regulations are regularly updated to cope with changes in pesticide usage, new toxicological data and the registration of new pesticides. The Regulations are based on recommendations by the National Health & Medical Research Council (N.H.M.R.C.).

This year, monitoring surveys of food commodities were carried out along similar guidelines to the previous year. Fruit and vegetable samples are now screened for carbamate pesticides as well as the organochlorine and organophosphorus classes previously monitored. In the last few years, carbamate pesticides have found increasing use in agriculture as they do not have the bioaccumulation potential of the residual chlorinated pesticides. In most cases, they are not as acutely toxic to humans as some organophosphorus pesticides. This has meant a considerable increase in manhours for fruit and vegetable analyses as carbamate pesticides require a separate and lengthy determination.

The numbers of food samples analysed for pesticide residues is similar to last year. There is a significant decrease in the number of samples containing detectable pesticide residues.

Table CXXXVII shows that 759 samples were analysed, and that 166 contained residues while 593 samples were shown to be free of detectable pesticide residues. The figures for last year were 741 total, 267 with residues and 474 free of residues. The table also lists the samples that contained pesticide residues over the MRL and the concentration ranges found.

There appears to be abnormally high proportions of certain commodities not conforming to the Regulations for maximum residue levels (MRL). Generally, the levels found in these substances are very low. For example, 28 samples of fish were found with chlordane or dieldrin; tea was found with chlorinated hydrocarbons; and breakfast cereals with fenitrothion. In the case of the fish and tea, the concentrations of pesticide found are probably at the environmental levels for such substances.

DDT and its metabolites are widely spread throughout the environment and because of its environmental persistence an MRL has been set for DDT in fish. Other chlorinated pesticides such as dieldrin and chlordane are also persistent, and it is inevitable that through bioaccumulation they will be found in fish. A pronouncement from the N.H.M.R.C. and a recommendation for an MRL would alleviate any possible concern over the levels found. A similar situation obtains with tea. The levels of pesticide found are extremely low but because there is no MRL, legal notice must be taken of the levels found.

There are MRL values for the pesticides used on the raw cereals and for the amounts of these permitted in flour and bread, but not for other products such as breakfast cereals. We are thus faced with the situation that the grain protectant fenitrothion is permitted to be in raw cereals, flour and bread but none is permitted in other cereal products. Consequently, seven samples of breakfast cereals containing fenitrothion did not conform to regulations. Revision of the MRL tables is needed here too.

As seen by comparison of this year's surveys with the previous year, the number of pesticide residues detected in food has fallen due in part to the restricted use of the more persistent pesticides and farmer education by the Department of Primary Industries Advisors on correct pesticides, use and withholding periods, etc. Despite this decline, there is still a need for monitoring of food to anticipate difficulties associated with pesticide usage before they develop into major problems.

Drinking Water

During the year, 1 552 samples were analysed to ascertain their suitability for drinking and other domestic purposes. This is an increase of 607 over the previous year. Sample details are listed in Table CXXXVIII. A majority of these samples were received from the Health Department in connection with the monitoring of town water supplies. This year saw the introduction in Australia of uniform criteria for drinking water drawn up by the National Health and Medical Research Council of Australia and the Australian Water Resources Council. These criteria are used to frame suitability comments on drinking water.

Samples examined for trace metals numbered 346, an increase of 258 over the previous year, reflecting a sharp rise in activity in this area by the Health Department. Determinations of nutrients in water was commenced in connection with the cholera survey by the Health Department. Samples of town and spa water were received for concentration as part of the Health Department Survey of Radium in spa and mineral water. A number of samples of bottled spa and mineral water were chemically analysed in detail. The composition of one of the more expensive imported waters was similar to that of Brisbane reticulated water from Mount Crosby, except in the matter of calcium and nitrate content which were higher.

A portable drinking water purification unit was examined for its ability to oxygenate and filter water. It successfully performed the oxygenation but failed to filter particles less than 30 micron size. With the widespread increase in holiday camping in areas where no public water supplies are available, education of the public in sterilization of local water before consumption is to be encouraged. It is difficult to see boiling of water being displaced as a cheap effective means of sterilization of drinking water in these circumstances.

The routine survey of reticulated fluoridated water supplies revealed that, with few exceptions, there is efficient and effective control on the level of fluoride so that it is in accord with the appropriate standard.

As a result of a request from the Chief Inspector of Environmental Sanitation, the laboratory prepared a new circular to all local authorities and district State health inspectors, setting out the correct procedures for the sampling and despatch of water samples. The primary element of a relevant water analysis is the application of these procedures. Any deviation will render the sample quite useless for analysis.

The Agricultural Chemistry Branch of the Department of Primary Industries and the Government Chemical Laboratory provide a reciprocal service in commenting on the suitability of waters for (a) agriculture and stock, and (b) human consumption and other domestic uses. In this connection, 846 advices were issued on behalf of the Department of Primary Industries during the year. This compares with 710 in 1979-80.

There was a sharp increase in the number of potable waters examined for pesticides. Of 49 samples, mainly from rainwater tanks, 12 contained detectable pesticide residues but only 11 contained a pesticide for which no level is recommended by the N.H.M.R.C.

Table CXXXIX shows the samples origins, number of samples from each source and any pesticides detected in these samples.

DRUGS AND PHARMACEUTICALS

Most of the pharmaceutical samples received are submitted by the Health Inspectorial section, but a few are received from hospitals, or medical practitioners. The samples fall into two main groups:—(a) Dangerous drugs for destruction; and (b) Drugs and pharmaceutical preparations for analysis.

Some analyses are performed following complaints, but most are done for the purpose of ascertaining the correct scheduling of a preparation under the Poisons Regulations. One complaint involved an infant's wind mixture which was found to be improperly prepared. This type of preparation has been the subject of complaints in the past.

A number (84) of herbal and other "natural" preparations were examined, mainly regarding scheduling and labelling claims. One such mixture, claimed by the manufacturer to be a hair-restorer, was said to be prepared from a mixture of after-shave lotion, horse manure and a fertilizer. The labelling on this preparation was considered unsatisfactory. The product has been subsequently reformulated. Another so-called "arthritis cure" contained trace metals in lower amounts than found in Brisbane tap water, and had a recommended effective dose of only 5 millilitres per week!

Seven mineral supplement tablets were claimed to contain small amounts of selenium, usually derived from yeast used in the tablets. Under the Poisons Regulations, such tablets containing selenium are restricted, and may be obtained legally only on medical prescription. In conjunction with the tests done on these preparations, eight different brands of yeast tablets were analysed. None claimed to contain selenium, and no selenium was detected in them.

Six samples of cosmetic and pharmaceutical preparations were received for analysis following complaints of adverse reactions. Chemical analysis did not reveal any abnormality, and the reactions appeared to be individual reactions to the particular products; in most cases of this type, chemical analysis is considered not to be an appropriate means of investigating the complaint. One case involved a reaction experienced by a person who changed brands of steroid tablets, the symptoms being consistent with the patient receiving an incorrect dosage.

The tablets were found to be correct strength, and the problem was probably due to different absorption rates resulting from the different substrates in the new brand of tablets.

Thirty-one legal samples of drugs were received in connection with the illegal, unlicensed sale or improper storage of the drugs in question.

Household and Industrial Chemical Products

A wide variety of chemical preparations was examined, including detergents, disinfectants, paints, insecticidal preparations, and other miscellaneous products. Most investigations were undertaken to determine scheduling requirements. One brand of water-sterilizing tablets was found to be unsuitable for the purpose due to instability, which resulted in ineffective levels of chlorine in the water. A sample of paint thinner was analysed in response to an inquiry by an insurance company following a fire on a truck. Tests were made on a batch of fire-doors which were failing to try to ascertain if the adhesive used in them was faulty, but no firm conclusions could be reached.

Of 29 samples of pesticidal preparations tested, five were found to be incorrectly labelled with regard to the stated strength. These included two samples of a preparation used for the treatment of head lice which were deficient in the active ingredient.

Thirty-eight samples of scrapings of old paint from houses were found to contain excessive levels of lead. Thirty-one samples of paint currently on the market for use on houses were found to have an acceptable lead content.

Toys and Other Children's and Babies' Articles

The number of toys submitted for examination has increased again this year. An Australian Standard sets limits for toxic substances that may be present in toys, as well as various constructional requirements designed to ensure that a toy does not present a hazard to children through normal use.

Thirty-four toys (wooden blocks) were found to have excessive levels of lead in the paint, while 30 had excessive amounts of plasticizer in rubber or plastic components. Two toys were judged to be a hazard because of components made of thin glass, which was easily broken.

Twenty-five baby's pram rattles were examined, and in 14 cases the elastic cord did not comply with the standard. Other rattles and similar toys came apart easily to produce small pieces which could present an ingestion hazard to a child.

A range of imported stuffed toys was examined and the stuffing found to contain pieces of sharp wire. The stuffing used was textile combings, the wire having broken from the wire brushes used in the combing process. All such combings are likely to be contaminated with wire pieces, and this type of stuffing is considered unsuitable for toys. One such toy had 275 pieces of wire in the stuffing.

A cap pistol and a metal "bomb" for exploding caps were examined, and it was considered that there may have been excessive "flash" from them. They were referred to the Chief Inspector of Explosives for comment, as was a sample of the novelty, "Party Poppers" after analysis.

Six plastic water-powered rockets were examined, amid widespread media publicity. It was considered that due to the dimensions and energy of the rockets they would be capable of inflicting an injury on a child.

Two toy doll feeding bottles were found to contain "milk" which was an aqueous emulsion of crude petroleum oil and were regarded as unsatisfactory.

One set of wooden dominoes contained a leachable dye which was not an approved food dye as is required.

Out of 112 samples of modellers paints used to paint toys and models, 21 were found to contain excessive amounts of lead.

A swim jacket and two other devices designed for use as flotation rings were examined, and were considered to be unsatisfactory in terms of requirements of the relevant Australian Standard.

All reports and samples concerning children's articles are forwarded to the Chief Inspector of Environmental Sanitation for the enforcement required.

General Matters Concerning Safety in Public Health

Miscellaneous samples are received from Health Inspectors, hospitals, doctors and other Government Departments. These included 22 suspected dog baits (one of which contained fragments of broken glass), 57 samples of soil, plants, etc. (two groups of which were found to contain arsenic) and one food sample suspected of being poisoned.

Five samples of a white powder found packed in grapes was found to be sodium metabisulphite, placed there to prevent fungal growth.

An investigation into two brands of liquid laundry detergent was made following an explosion in or under a washing machine in which the two products had been used. Analysis indicated that the products were not connected with the explosion, and that some other factor was involved.

Five pottery glazes were found to contain excessive levels of lead, while seven china paints had high lead or cadmium contents.

One sample of urea-formaldehyde foam insulation from a house was examined. The occupants complained of various ill-effects consistent with exposure to formaldehyde. Tests indicated that the foam was releasing formaldehyde. The problem is now being investigated by the Laboratory's Industrial Hygiene Section and the Division of Industrial Medicine.

One sample of women's sanitary pads was tested following a complaint that an open packet containing them had been sprayed by a pest control operator. Traces of pesticides were found in the pads. Another complaint was received concerning a tampon which was found to contain fragments of metal. Microscopic examination indicated that the contamination had occurred during manufacture rather than afterwards. Media publicity on toxic shock syndrome and tampons undoubtedly has promoted greater awareness.

Nine samples were received through the Chief Inspector of Drugs and Poisons from veterinary surgeons for estimation of pesticides. The samples consisted of water, dog food, dog organs and blood, and dog faeces. One sample of organs was found to contain 1.1 mg/kg of paraquat, a desiccant herbicide which causes delayed and often irreversible lung damage. No other samples were found to contain detectable pesticides.

A sample of water was received from an old disused cattle dip in the Laidley area. This sample was found to contain dichlorvos at a concentration of 1.5 milligrams/litre. The sample also contained monochlorinated chlorpyrifos, a degradation product of the acaricide chlorpyrifos, at a similar concentration to the dichlorvos.

Categories of samples received from the Health Department and other miscellaneous sources by the Chemical Products and Customs Section are listed in Table CXL.

ASSESSMENT OF OCCUPATIONAL HAZARD IN INDUSTRY AND AGRICULTURE

The volume of work in this area has increased sharply following the appointment of extra staff in the Division of Industrial Medicine with which this section of the laboratory deals. Staff visited over 30 factories, laboratories or industrial installations to monitor a variety of materials hazardous to the health of workers.

The public concern about the use of asbestos in buildings and its effects on the health of workers has continued, and samples from seven different buildings were submitted for examination. The majority were found to contain asbestos. Examinations of air for asbestos fibre contamination were made in a lecture theatre, a Government Department building and aboard an ocean-going vessel travelling between Brisbane and Cairns. Commercial use of fibreglass and mineral wool as replacements for asbestos in fire proofing and acoustic finishes has resulted in several samples of these being submitted for analysis.

Polychlorinated biphenyls (PCBs), long used as dielectric materials in electric transformers, have been a major health concern of an associated trade union. This has led to the laboratory's monitoring several substations and electrical maintenance workshops for PCBs. In each case, the concentrations were found to be well below the maximum levels recommended by the N.H.M.R.C. PCB estimations were also made in four transformer oils which had been used in retrofilled transformers in mining applications. These ranged from 0.12% to 5.2% PCB.

The use of urea formaldehyde foam for home insulation has resulted in the investigation of several complaints from homeowners concerned about the effects of formaldehyde on their family's health. One residence, which had been sprayed three months prior to testing, was still releasing formaldehyde and 0.2 p.p.m. formaldehyde was detected. The remainder of the houses had formaldehyde levels of 0.05 p.p.m. or less.

Other industrial inspections involved the measurement of oxidant gases in aluminium welding; toluene di-isocyanate in insulating foams; acid vapours, mercury, toluene and other organic chemicals in laboratories or laboratory stores; ammonia from print copiers, photocopiers and their associated chemicals; carbon disulphide in rubber curing and dichlorobenzene separation and packaging. Many of these inspections were facilitated by the use of the portable infrared ambient air monitor. A photo-engraving process which produced trichlorethylene and oxides of nitrogen contaminants was investigated using the new transportable chemiluminescent analyzer. Little dust work was conducted throughout the year apart from monitoring an abrasive blasting process. Here, respirable dust concentrations up to 50 mg/m³ were recorded, exceeding by a factor of five the level recommended by N.H.M.R.C. for unprotected workers.

Large-scale investigations were conducted at a regional foundry and at a gold/copper mine and smelter in Central Queensland. Several work locations in the foundry were found to be dusty, substantially exceeding levels recommended by the N.H.M.R.C. Extensive testing at the gold/copper smelter was in response to union request to assist in establishing the extent of the lead hazard in handling and processing ore containing lead sulphide as a contaminant. Several work stations in the smelter presented a minor lead hazard, along with the assay laboratory which had a known, but well-controlled, hazardous environment.

One hospital was investigated for waste anaesthetic gases to assist hospital staff in assessing the usefulness of a scavenging device. Other samples analysed for industrial health included a heat sink (beryllium), a flame retardant (ammonia), industrial paints (copper, lead, isocyanates, butyl tin) and man-made mineral fibres.

Workers in the uranium industry continue to be monitored for urinary uranium.

Blood samples from workers involved in pesticide formulations and application are monitored regularly as part of the Industrial Medicine programme. This year, 51 samples of blood from farmers, and 53 samples of blood from industrial pesticide workers were examined for organo-chlorine pesticides. Forty-four samples of blood from workers in the electrical industry were examined for polychlorinated biphenyls. Fifty-one samples of blood and 15 samples of urine were analysed for miscellaneous pesticides.

Tables CXLII, CXLIII, CXLIV summarize results for blood and urine for pesticide residues.

Safety in Mines

The dust generated in the mining of coal is considered a hazard from the aspects of inhalation and, in the case of underground mining, explosibility. In contrast to the increase noted under the heading "Dust in Mines" in last year's report, the number of assessments for the Chief Inspector of Coal Mines of respirable dusts in coal mines has fallen slightly throughout the year. Free silica determinations on respirable dusts are still conducted by the Queensland Institute of Technology since the Government Chemical Laboratory has not yet been able to obtain the necessary equipment.

Roadway dust samples were assayed in conjunction with the Coal Inspectorate's programme of mine safety monitoring. The decrease in numbers has occurred following a Mines Department decision to submit samples from the central and northern coalfields to a private analyst to avoid delays in transport and multiple handling.

Several solvent materials, including halogenated hydrocarbon mixtures proposed for use underground, were analysed. Chlorinated solvents, particularly trichloroethane, are finding use as safety cleaning solvents where non-flammability is important.

The object of monitoring the gaseous environment of an underground coal mine is to keep the mine safe by early detection of incipient hazards. Due to the upgrading of the equipment, the laboratory has been able to maintain a "same day" service for mine gas analysis. The year has seen an upsurge in the number of seam gas analyses carried out for the Mines Department, Drilling Branch. The mobile gas chromatograph was extensively tested at the Haenke mine. It performed faultlessly and the results obtained compared favourably with the newly installed monitoring system at the mine.

The data obtained from the analyses of gases associated with the underground mining of coal may be of great value in the event of a heating or fire.

SCIENTIFIC SERVICES TO POLICE AND CORONER

These services are described under four distinct headings. Principally, they are provided by the Analytical and Toxicology and Forensic Chemistry Sections, but other sections contribute their special skills and knowledge as required.

The headings are:—

- (1) "Breathalyser" Services, Alcohol and other Drugs in Motor Vehicle Drivers;
- (2) Illicit (Prohibited) Drugs;
- (3) Post Mortem Investigations (Forensic Toxicology);
- (4) Miscellaneous Forensic Investigations.

As usual, the lengthy periods required for Court attendances as witnesses throughout the State by the State Analysts involved, necessarily reduced at-the-bench time for rapid service and in-depth investigations. Extended remands or lack of investigation are the result.

"Breathalyser" Services, Alcohol and Other Drugs in Motor Vehicle Drivers

The number of specimens tested under the provisions of the Traffic Act for the presence of alcohol and/or drugs was 1 764. Forty-two of the specimens were examined because other drugs were suspected. Of these, 33 were found to contain drugs. The hypnotic, sedative and anti-anxiety drugs represented by the benzodiazepine and the barbiturate groups were again the most common drugs detected. In all cases where drugs were detected in the blood, the drug groups referred to were present either singly, or mixed, or in combination with other drugs. The level of these drugs was frequently found to exceed the normal therapeutic range and also to be accompanied by alcohol. The number of specimens analysed represented a 20 per cent increase over the previous year.

Approximately 3 600 bottles of Standard Alcohol Solution were prepared and supplied to the Police Department for use in the operation of the "Breathalyser". Five hundred and seven ampoules representing a 10 per cent random sampling of ampoules supplied by a contractor for use with the Breathalyser were analysed.

Illicit (Prohibited) Drugs

This category includes items suspected of being dangerous drugs or implements believed to have been used for the administration of dangerous drugs. The items which were submitted for analysis are shown in the Table below.

	1979-80	1980-81
Cannabis and cannabis related products	850	625
Pipes and smoking utensils.....	525	699
Opiates and implements related to their use.....	292	326
Other dangerous drugs.....	35	152
Hallucinogens.....	10	7
Miscellaneous tablets, powders and ampoules.....	40	59
	1 752	1 868

The figures for the previous year are shown in the table to illustrate the variation in the distribution of the samples from year to year.

The fall in the number of cannabis samples analysed is attributed to the increased number of these samples being identified by the Government Botanist and where no chemical analysis was necessary.

This year saw an increase in the number of dangerous drugs other than cannabis and the opiates received in the laboratory. These drugs included lysergic acid diethylamide (LSD) and 4-bromo-2,5-dimethoxy-amphetamine (Bromo-DMA).

The miscellaneous group indicated a sample of the veterinary anaesthetic, ketamine.

Post Mortem Investigations (Forensic Toxicology)

Visceral specimens from 378 post mortems were examined. The majority of these were examined at the request of Coroners. Sixty (60) cases were submitted by the Government of Papua & New Guinea. The number of cases examined represented a 32 per cent increase over the previous year.

The case numbers give little idea of the very considerable number of actual specimens and the workload involved, some cases taking 4 man-weeks to complete.

Poisons and drugs which could have a significant bearing on the cause of death were found in specimens from 147 of the cases. Alcohol was frequently found in conjunction with these drugs and poisons.

Barbiturates continue to be the most common group of drugs encountered, being present in 51 cases either singly (41) or multiple (5), or in combination with one or more other drugs (5). Pentobarbitone (23) continues to be the drug most frequently encountered in lethal concentrations. Itobarbitone was determined in one case.

The cases in which toxic levels of other drugs were found are listed below:—

Chloral 15	Alcohol 4
Chloroquine 14	Paracetamol 3
Amitriptyline 7	Digoxin 2
Doxepin 7	Propoxyphene 2
Methadone 6	Morphine 1
Phenothiazines 4	Dextromoramide 1

Other drugs which may have had some bearing on the cause of death include: theophylline, meprobamate, imipramine, salicylate, alprenolol, propranolol, oxprenolol, nortriptyline and orphenadrine.

Agricultural and industrial poisons including Coumaphos, Malathion, Chlorfenvinphos, Arsenic, Strychnine, Carbon Monoxide, Diazinon, Phenols, Cresols, Propoxur, and Trichlorofluoromethane (freon) were found in a number of cases.

Carbon monoxide, a gas of incomplete combustion, was found at toxic levels in twelve cases.

Drugs and poisons in therapeutic or non-lethal levels were found in 92 cases, while no drug or poison was found in 139 cases.

The number of specimens of blood, urine and other biofluids (not associated with visceral specimens), tested from post mortem cases was 1 199. Five hundred and eighty-seven of these specimens were obtained from bodies involved in fatal traffic accidents. Of 384 blood specimens received in these cases, the alcohol level exceeded 150mg/100ml blood in 119 instances.

The lead content of 47 bone specimens was determined.

At present, the section is participating in two inter-laboratory studies. The first is concerned with the detection of drugs in a post mortem liver specimen; the second with alcohol levels in a reference material and in blood.

Miscellaneous Forensic Investigations

Seventy-nine cases submitted by the Police and other departments are included in this classification. Of these cases, thirty-two (32) included the examination of animal viscera and suspected baits for the presence of poisons. Strychnine was detected in 18 cases. Two cases involved the examination of cyanide baits to support the prosecution of offences related to the possession of this poison contrary to the provisions of the Health Act.

The suspected poisoning or contamination of foodstuffs and beverages resulted in four cases being submitted by Police. In one case a bottle of milk was found to contain 2.6% w/v of ethanol.

Two plastic bags were examined for the presence of a pressure-packed vegetable oil substitute used in cooking. This was to confirm the possible use of this product in a fatality associated with propellant sniffing with the bags.

Five samples of plant material and five samples of soil were analysed for herbicides in connection with suspected plant poisoning cases. Seven samples, comprising bee, honey and honeycomb, were analysed for insecticides in a suspected bee poisoning case.

Two samples of liquid from a farmer's spray drums were analysed for 2,4-D in connection with an assault case.

A sample of food was tested for the alleged presence of the rodenticide, coumatetralyl; none was found.

Two samples of water and a sample of fly bait were analysed for trichlorfon, the active constituent of the fly bait in connection with a complaint of wilful contamination of a swimming pool.

ENVIRONMENTAL MONITORING

A multi-faceted approach in environmental monitoring is the keynote of this segment. The main analytical responsibilities of the laboratory are in the areas of water, biota, sediments, and pollution by oil.

The Water Quality Council which is now administered by the Water Resources Commission, relies wholly upon this laboratory for chemical analytical services.

Senior Staff of the laboratory are members of a variety of State and national inter-department committees on the environment. They also assist in the framing of general policies with regard to environmental monitoring and protection. These committees are listed under the "Staff, etc." heading.

Water Quality Tests for Clean Water

A significant portion of the resources of the Water Section is directed towards environmental protection. This requires close liaison with the Water Resources Commission. In surveying the quality of a body of water, certain basic determinations must be made over a long time to provide data for drawing baselines. Some examinations are for specific substances generally present in man-made wastes, such as nitrogen, phosphorus, and heavy metals. Other are of non-specific parameters such as five-day Biochemical Oxygen Demand and Suspended Solids. Using these measurements and others such as dissolved oxygen, a comprehensive picture of the state of the aquatic environment can be constructed.

Waste Water, Industrial and Sewage Effluents

These substances are examined from all parts of Queensland as part of monitoring of the environment. They derive from Local Authorities, the State Health Department and the Water Quality Council. Examinations are made for the Council to ascertain licence compliance under the Clean Waters Act and Regulations and to assist in investigations of problems and complaints.

The number of waste water samples examined increased by 28 per cent over last year. Wastes discharged from water and sewage treatment plants, abattoirs, oil refineries, railway depots, mining activities, food factories, power station, refuse tips and sugar mills, were examined. One thousand, four hundred and two samples were examined for BOD's; this, together with pH and non-filtrable residues are the most common determinations made on waste water.

The source, number and nature of samples, and the type of analysis for (a) samples of water and bottom sediment for environmental monitoring and (b) samples of waste water, are given in Tables CXLIV and CXLVI respectively.

Tables CXLV and CXLVII list the metals determined and the number of determinations made.

As a result of collaboration between the Chief Inspector of Environmental Sanitation and the Gold Coast City Council, a survey of river, bay and inshore oceanic waters in the Gold Coast area continues. For this purpose, forty-eight (48) samples of water and effluent were examined for organic pesticides this year. The water samples showed no pesticides present (detection level 0.01 micrograms/litre). In three samples of effluent, low levels of dieldrin were detected.

Water and fish were also examined for the Gold Coast City Council in connection with fish deaths associated with treated sewage effluent. The detection of cumulative organochlorine pesticides such as dieldrin and DDT and its metabolites is of little significance in the determination of the relativity of their presence to fish deaths. A fish may have been killed, e.g. by a DDT formulation, yet show low levels of the toxicant in its organs. More likely are the causes to be found in pesticide formulation components, e.g. solvents, emulsifiers, etc. Accumulation of organochlorine compounds over a lengthy period is possible with no observable toxic effects as these compounds are stored in fatty tissue away from physiologically active sites.

Details of samples for pesticide residues and polychlorinated biphenyls (industrial compounds with high stability and extreme bio-accumulation potential) are presented in Table CXLVIII.

Abiotic Indicators of Pollution

The Water Quality Council submitted 414 samples of estuarine sediments from various parts of Queensland. The analytical programme for heavy metals involves, in most cases, drying, sieving and analyses for copper, lead, zinc, chromium, nickel and cadmium; because of its labile nature, mercury is determined on the sample as received. The application of the technique of freeze drying to the sample preparation stage has yielded a more friable dried sediment making for both easier manipulation in the ensuing tests and more meaningful results.

During the year, interest was expressed in the possibility of determining uranium at trace levels in some of the samples. Subsequently, a method was investigated and proven to be satisfactory.

Pollution of waters by oil is another facet of this segment. In this connection, the laboratory examined water and oil for Port Authorities and Harbour Boards. During this year, seven cases involving 32 samples were assessed for investigators with a view to prosecution under the Pollution of Waters by Oil Act.

The techniques used are capillary gas chromatography for separation of hydrocarbons, infra-red spectrophotometry for identification of hydrocarbons, and X-ray Fluorescence for trace metals in oil.

Stream and estuary sediment (clay and organic debris) often act as sinks for pesticides finding their way into watercourses. The number of sediment samples analysed for organic pesticides is given in Table CXLVIII.

Biological Indicators of Pollution

Because of accumulation factors of organic pesticides of up to 1 million times from water to marine organisms, these organisms can be a good guide as to the pesticide content of a body of water. Sessile organisms such as mussels represent the pollution level at a point, whereas free swimming fish will give an indication as to average pollutant levels in a waterway.

CONTRACT SUPERVISION

The State Stores Board, the Works Department and the Queensland Housing Commission are the major clients. The principal work carried for the two latter groups is in the field of surface coatings. Assistance, mainly in the textile fields, is also given to the Railways Department and the Police Department when required.

The work is handled by the Government Contracts section of the Laboratory.

State Stores Board

The laboratory provided an analytical testing service for State Stores Board, contract specifications are prepared and advice given on existing specifications. Technical advice is also given when required. A considerable amount of testing has been carried out for tenders associated with Hospital Standardized Linen.

Table CXLIX in the Appendix lists the number and types of samples received during the year. A considerably larger number of samples was processed this year compared to last year (775 this year; 398 last year). The increase has been due to the expiration of contracts after the two-year period and the introduction of enlarged contracts into the system.

Textiles

The Hospital Standardized Linen Committee is expanding the standardization of linens and textiles used in Queensland hospitals. The laboratory assists the Committee with evaluation of tenders, review of specifications and advice on the introduction of polyester/cotton materials. In addition, flame retardant and normal flannelette material specifications are being reviewed.

In addition, the usual range of towelling, calico, sheeting and blankets for hospital use were assessed, and uniform materials for a number of Departments were examined. The materials included wool/polyester blends, polyester/cotton, polyester/viscose and cottons.

Polyester foam mattress material was also tested.

Detergents, Floor Polishes and Other Products

Hospital laundries have now standardized on a selected number of detergents and laundry chemicals. The laboratory has assisted with the preparation of detailed specifications for these products and has been involved in product assessment for the contracts. In addition, other detergents used in hospitals and institutions such as dishwashing detergents, sanitary cleansers and so on have been assessed.

Floor polishes and related products were examined for the Floor Maintenance System contracts to be used in Government buildings, hospitals and schools. The work was associated with the change-over from wax emulsion floor polish to polymer based (acrylic) polish with a saving in cost associated with floor maintenance and involved chemical evaluation, and the setting up on practical test floors was carried out in conjunction with the Department of Public Works and State Stores Board.

Chemical preparations examined were swimming pool chemicals and insecticides.

The range of office requirements and foods examined for Government use included ball point pens, packaging and masking tapes, paper towels and tea. Other samples were medicine measures, baby powder, filter cloth for the Central Sugar Cane Prices Board and polyester envelopes for the John Oxley Library.

Surface Coatings

Most of the surface coatings examined were decorative paints sampled from painter's pots by the Queensland Housing Commission and the Department of Works. The Queensland Housing Commission is now using only G.P.C. (Government Paint Committee) paints, but the Department of Works, although considering the use of some G.P.C. paints, still uses large quantities of the traditional linseed oil/zinc oxide paint.

When pot samples are not available, paint scrapings are taken, and three samples of paint scrapings were submitted for analysis by the Department of Works. The samples are examined for type of binder present as well as pigment composition. The binder is identified to ascertain whether linseed oil, alkyd resin or latex (acrylic, P.V.C., etc.) binder has been used.

Out of the total of 922 samples of G.P.C. paints from the Queensland Housing Commission, 63 were referred back to the Commission, being either unacceptable for use as they did not meet the G.P.C. requirements for the paint specified or were referred for comment on the labelling of the pot samples. Correct labelling of pot samples is critical for comparison of analytical results with registered data.

A sample of grey film-like materials from a suburban creek was examined for the Water Quality Council. Its constituents were found to be consistent with its being a paint or putty substance.

Fifty-nine tropical paint formulations were analysed from the Department of Works painting trials in North Queensland.

Table CL details the numbers of surface coating samples for the last two years.

CLINICAL SERVICES

Specialized clinical services are provided (in certain fields not covered by hospital and registered specialist's laboratories) mostly for hospital, medical and clinical arms of the Health Department. A limited number of specimens are also handled from private practitioners, their laboratories and Commonwealth district laboratories. Most of the work is performed in one sectional group of the laboratory. Two other sections are also involved to a lesser degree.

Clinical Toxicology

The category includes the specimens submitted by the Hospitals, Medical Practitioners, the Drug Dependence Unit, Pathology Laboratories and the Division of Industrial Medicine, for the determination of the level of drugs or trace metals associated with the health care of patients. The total number of samples derived from these sources was 6 116.

The number of drug determinations was 4 696. These originated from the Drug Dependence Unit (1958), the Hospitals (1978), Pathology Laboratories (669) and miscellaneous sources (61).

The drug identifications for the Hospitals and the Pathology Laboratories were—drug screens 1 544, clonazepam 577, alcohol 197, barbiturates 31, miscellaneous drugs 389.

The number of drug screens performed for the Drug Dependence Unit was decreased markedly, following negotiations between the laboratory, the Unit and Royal Brisbane Hospital since the laboratory was unable to cope with the continuing rapid increase in the number of specimens being submitted in the latter part of 1980. The laboratory then undertook to analyse a limited number of samples per week with minimum delay.

The number of drug screens and analyses performed for various hospitals and private pathologists has shown a 20 per cent increase. Currently, no charge is made for any of these services except when the service is provided for persons outside Queensland.

One thousand, four hundred and twenty trace metal determinations were made for the Division of Industrial Medicine (572), hospitals (382), private pathology laboratories (356) and other (110). The breakdown of elements is—lead (956), zinc (105), copper (47), mercury (94), arsenic (152), cadmium (17), other metals (49).

Clinical specimens (blood, urine, etc.) are analysed for organic and inorganic pesticide residues. A copy of the results of all analyses is forwarded to the Director of Industrial Medicine who provides a clinical advisory interpretive service to medical practitioners.

Table CLI presents the number and type of sample and type of analysis conducted on the particular samples.

Dialysis Waters

Water for use in renal dialysis machines must meet specified standards. The laboratory offers an analytical service for these waters. The renal unit of the Princess Alexandra Hospital continues to make increasing use of this service. One hundred and fifty samples were submitted during the year, 76 for trace metal analysis, and 74 for general chemical analysis.

NATURAL RESOURCES

This segment describes services rendered to the Department of Mines, The Geological Survey of Queensland, The Queensland Coal Board and the Water Resources Department. The work is outlined under sample type rather than departmental origin.

Ores and Minerals

The requirements for general mineral assaying was at the low level experienced last year. Once again gold, silver, copper, lead and zinc were the metals in which most interest was expressed. Natural gas and crude oil analyses were at the level of previous years.

The Laboratory embarked on a comprehensive analysis of oil shale. Samples were submitted not only for tests for the economically important oil yield, but also for the very involved analysis for 26 minor, trace and sub-trace elements. Oil shale is a difficult material to analyse as it is a "mixture" of two distinctly different materials, oil and rock. An approach suitable for one material is often not applicable to the other. Existing Laboratory methods were capable of handling some of the requirements, but a number had to be tested prior to their application to oil shale.

It reflects well on the ability of the staff that they have been successful in examining this analytically difficult material. Undoubtedly, the future will see this laboratory gaining more expertise and adding more refinements to the analysis of this material.

For both the analysis of condensates from gas wells and of shale oil derivatives, capillary gas chromatography has proved to be a useful tool. The technique was also useful for the identification of hydrocarbon types in solvents and in engine additives, some of which were for forensic purposes. One of the more interesting investigations required the identification of hydrocarbon material in a "thunder-egg".

The proximate analysis of coal, that is the determination of both ash and moisture content, and the gross specific energy of the coal liberated on combustion, continued through the year. Occasionally, further information was required on the nature of the coal. This resulted in the determination of sulphur in its various forms, chlorine, composition of the ash, volatile matter and swelling index. All samples were submitted by the Queensland Coal Board.

Samples from prospectors and gougers in the Cloncurry area are forwarded to this laboratory by the Cloncurry Assay Office for the verification of copper content and the determination of miscellaneous elements. These were mainly gold and silver with the occasional interest in minerals such as those of tin, bismuth, tungsten, tantalum, cobalt, nickel, iron, calcium, magnesium, zinc, lead and arsenic.

Water Resources

The Water Section has for many years provided a water analysis service to the Underground and Surface Water Branches of the Water Resources Commission. Recent years have seen a rise in the number of samples submitted in connection with salt water intrusion studies and the slowly increasing salinity in ground water in certain areas of the State.

Comprehensive analysis of 836 samples was performed for the Geological Survey Office of the Mines Department. An increased number of waters connected with petroleum exploration were analysed during the year, reflecting the faster tempo of oil and gas exploration in the present decade.

The source and number of samples; and number and type of analysis are given in Table CLII.

SERVICES TO THE COMMONWEALTH

These services are provided by specific contractual arrangement. Principally, two Commonwealth Departments are involved. With the Department of Primary Industry, the service is arranged on an annual programme of specific workload, but the service to the Bureau of Customs is regulated by the allocation of specific officers to the task and an increased workload would increase throughput time.

For both services, the actual costs are met by the Commonwealth on a yearly payment basis. Minor services on an *ad hoc* cost basis are provided to the Armed Services. Generally, the Services have their own chemical laboratories in southern states.

Primarily, three separate sections of the laboratory are involved in the work, but the resources of other sections are also utilized.

Bureau of Customs

Samples are submitted by the Bureau of Customs for a number of reasons. The analysis of a wide range of imported goods is undertaken to determine the correct tariff classification for the assessment of import duty and this constitutes the major part of the workload, although it does not comprise the greatest number of samples.

Other samples are submitted to ascertain whether goods comply with various requirements under the Customs (Prohibited Imports) Regulations. These Regulations prescribe maximum permissible limits for leachable lead and cadmium in the glazes on crockery, for various toxic metals in the paint on pencils and artists brushes, and for mercury in fish. The National Health and Medical Research Council has recently approved a new sampling plan for the determination of mercury in fish, which applies statistical techniques to the evaluation of the results obtained, and calls for a larger number of samples to be taken than was previously the case. In the new plan the interpretation of the results has also been changed.

Co-operation will be necessary to ensure that the Regulations regarding importation of fish (controlled by the Commonwealth) and those regarding sale of fish (controlled by the States) are amended and remain equivalent, to avoid difficulties in the marketing of fish and fish products.

In addition, some samples are submitted for the detection of prohibited substances, for analysis to allow determination of Fertilizer Bounty, and for Excise investigations.

The results of all analyses carried out for the Bureau of Customs are confidential, and no information regarding individual samples may be disclosed.

Table CLIII shows a breakdown of samples received from the Bureau of Customs, and the reason for their submission.

Commonwealth Department of Primary Industry

The main function is to ensure that exported dairy products and foods conform to the requirements of the various Commonwealth Export Regulations for Food. Other analyses are carried out when they are specified by the importing countries. Twenty-one samples were examined for compliance with the Australian Defence Force Food Specifications. The samples handled during the year are listed in Table CLIV.

The number of casein samples examined was lower than for the previous year and the number of shrimp (prawn) samples dropped considerably. However, the number of pasteurized frozen liquid egg samples rose from 208 to 624.

Sixteen of the cheese samples failed in either moisture or milk fat content, four ice-cream samples failed in total food solids content and four margarines contained a slight excess of moisture.

Thirty-three casein samples, in addition to the normal analyses, were analysed for trace elements (lead, copper and iron)—all conformed to the standard for casein.

Although honey continues to be an important export, the number of samples examined was approximately half that of the previous year.

A defined work programme for the determination of pesticides and trace metals on selected export primary produce is conducted to preserve Australia's name as an exporter. Just as importing countries have differing M.R.L.s (maximum residue levels) for pesticides for imports and home-produced products, so Australia's M.R.L.s may differ from the requirements of importing countries. The products and sample numbers examined are shown in Table CLV.

The examinations range from trace metals (mercury and arsenic) to organochlorine and organophosphorus insecticides. The information is supplied to the collator, the Co-ordinator of Pesticides, Department of Primary Industry, Canberra. The details of this nationwide survey are regularly distributed to participating laboratories and the administrators of State food laws.

RESEARCH

In order to cope with the requirements for greater nutritional information on food products, the laboratory developed methods for the estimation of cholesterol in margarine and vegetable oils. It also developed a method for the estimation of mannitol, sorbitol and other polyhydric alcohols used in some artificial sweeteners.

One chemist was able to complete a project on fish species identification and his paper has been accepted for publication by the Journal of the Association of Official Analytical Chemists (AOAC). Another chemist has carried out some work on the estimation of wax esters found in some deep sea species of fish.

Work was carried out using a high pressure liquid chromatograph on a rapid method for the estimation of preservative and some flavouring substances used in soft drink manufacture. It is proposed to automate the system so that data will be accepted by computerized data handling systems.

Two chemists began a programme of supervised goat's milk in conjunction with the Otto Madsen Dairy Research Laboratory. This was done to obtain authenticated samples of genuine unadulterated goat's milk. The purpose of the programme is to obtain chemical data, including the freezing point of the milk, so that an analyst can arrive at an opinion on the extent of water adulteration of goat's milk on sale to members of the community.

Pesticides

The research into the methodology for determining carbamate pesticides has been completed. Carbamates are now available to be reported in blood, urine and vegetables.

For many years, dieldrin was the standard moth-proofing agent for wool, its persistence and effectiveness being the source of its value in that regard. However, the persistence causes a problem in bio-accumulation and in the environment. A substitute a chlorinated sulphonamide, is now being used. The laboratory is now engaged in research on a method of analysis for that product; being degradable, the problems presented are much more difficult than those involved in dieldrin detection in the environment.

One of the methods of confirmation of pesticide identity is mass spectrometry. In this process, co-extractives interfere. A technique has now been developed to eliminate these interferences by the use of gel permeation chromatography (molecular size exclusion) on the liquid chromatograph. However, the process, although efficient, is time-consuming.

Mines Department

A joint laboratory and Mines Department publication on the use of a gamma ray backscatter unit for roadway dust incombustible measurement was presented at a national coal mining symposium during the year.

Publications by Government Chemical Laboratory Staff

- (1) B. G. LOVELY and D. L. GRANTHAM, "The Rapid Assessment of Coal Mine Roadway Dusts using a Portable Radioactive Device". Proc. Symp. of Aust. Inst. of Mining and Metallurgy on Ignitions, Explosions and Fires in Coal Mines held at Wollongong in May, 1981.
- (2) W. D. HAMILTON, "Fish Species Identification by Thin Layer Agarose Isoelectric Focusing and Subsequent Densitometric Scanning". Journal of the Association of Official Analytical Chemists (in Press).

TABLE CXXXIV
SOURCE AND NUMBER OF SAMPLES EXAMINED FOR YEARS 1978-79, 1979-80, 1980-81

Source (Departmental or Other)	1980-81	1979-80	1978-79
STATE DEPARTMENTS			
<i>Health Department—</i>			
<i>Division of Public Health Supervision—</i>			
Section of Food Supervision	8 156	6 564	*
Section of Drugs and Poisons	821	1 130	*
Section of Environmental Sanitation	3 541	1 485	*
	12 518	9 179	8 512
Division of Industrial Medicine	1 403	1 364	1 728
Division of Maternal and Child Health	1	7	*
Division of Psychiatric Services (Alcohol and Drug Dependence Service)	1 958	3 154	6 793†
Division of Dental Services (School Dental Therapists Training Centre, Yeronga)	1	50	*
Total for Health Department	15 881	13 754	17 033†
Police Department	4 242	3 288	
Justice Department (Coroner)	1 577	1 223	4 228
Queensland Water Resources Commission	3 520	4 600	4 745
Water Quality Council	8 417	7 584	5 891
State Stores Board	776	385	536
Queensland Housing Commission	922	866	1 286
Department of Primary Industries	82	104	*
Department of Public Works	709	1 449	1 446
<i>Mines Department—</i>			
Geological Survey Branch	1 421	1 431	2 319
The Coal Board, Qld.	508	462	509
Mines Inspectorate and Gas Engineer	1 416	1 314	1 977
Cloncurry Assay Office	1 505	1 506	1 173
Total for Mines Department	4 850	4 713	5 978
Railway Department	4	26	*
Main Roads Department	78	*	*
Others	96	150	346
<i>Commonwealth Departments—</i>			
Department of Primary Industry	2 147	1 798	2 294
Department of Business and Consumer Affairs (Bureau of Customs)	1 099	1 146	1 607
Other	6	24	32
Total for Commonwealth Departments	3 252	2 968	3 933
Port and Harbour Authorities	57	*	*
Medical Practitioners, Hospital and Allied Clinical Services	3 445	3 940	†
Local Authorities	217	219	460
Other Countries (Papua New Guinea)	*	29	58
Public and Miscellaneous	624	536	891
Total	48 749	45 834	46 831

*Specific Details NOT available.

† For 1978-79, details of Alcohol and Drug Dependence Unit and the Medical Practitioners, Hospitals and Allied Clinical Services are included in a single heading. These details are dissected for 1979-80 and 1980-81.

TABLE CXXXV
TOTAL NUMBER OF SAMPLES EXAMINED BY THE FOODS SECTION

Description of Samples	Number Examined 1979-80	Number Examined 1980-81	Description of Samples	Number Examined 1979-80	Number Examined 1980-81
Dairy Products, Fats and Oils—			Carcass Meat, Fish and Poultry—		
Milk	866	1 173	Other meat products	70	180
Milk Drinks	508	811	Fish flesh, oysters, crustaceans (trace metals)	345	251
Cream	175	285	Fish and marine products	35	184
Yoghurt, Butter and Cheese	117	142	Fruits, Vegetables, Nuts and their Products—		
Ice Cream	71	69	Fruit and Vegetable Products	205	468
Margarine and Vegetable Oils	14	34	Nuts, pulses and kernels	324	380
Other dairy products	62	106	Beverages and Food Adjuncts—		
Bread, Cereals and Carbohydrates—			Soft drinks, fruit juices and cordials ..	566	815
Bread	566	607	Beer, Wine and Spirit	166	160
Four	28	77	Tea, Coffee and Cocoa	63	33
Saccharine Products (sugar, confectionery, jellies, honey, frozen confections)	151	123	Spices, Extracts and Food Additives ..	80	90
Other cereal products	27	40	Other Foods—		
Carcass Meat, Fish and Poultry—			Suspected or Contaminated Foods	466	425
Minced Meat	268	396	Miscellaneous	213	21
Sausages and Sausage Meat	227	406	Total	5 826	7 459
Meat Pies	213	183			

TABLE CXXXVI
OFFICIAL SAMPLES TAKEN BY INSPECTORS IN ACCORDANCE WITH PROVISIONS OF THE HEALTH ACT

Nature of Samples	1979-1980			1980-1981		
	Number Examined	Passed the Standard	Proportion Passed (%)	Number Examined	Passed the Standard	Proportion Passed (%)
Milk.....	667	657	98.5	947	940	99.3
Cream.....	11	11	100	1	1	100
Cheese.....	6	4	66.6	..	..	..
Bread.....	67	42	62.7	55	51	92.7
Flour.....	1	1	100	9	8	88.9
Minced Meat.....	268	207	77.2	395	335	84.8
Sausages and Sausage Meat.....	215	165	76.7	395	305	77.2
Meat Pies.....	36	30	83.3	40	35	87.5
Beef.....	..	..	..	15	15	100
Spirits.....	61	4	6.5	33	13	39.4
Waste Beer.....	11	1	9.1	17	0	0
Foreign Objects in Foods.....	24	..	..	26	..	..
Food Miscellaneous.....	11	..	..	1	..	..

TABLE CXXXVII
PESTICIDE RESIDUES IN FOOD IN MILLIGRAMS PER KILOGRAM

Food Commodity	Pesticide	MRL	Total No. of Samples	Total No. with Residues	Total Free of Residues	No. 0-25% MRL	No. 25-50% MRL	No. 50-75% MRL	No. 75-100% MRL	No. Above MRL (Details)
Milk and Milk Products.....	Dieldrin.....	0.15	306	33	273	11	1	8	1	1 (0.2)
	DDT.....	1.25								
	Diazinon.....	0.5								
	Parathion.....	NP								
	BHC (Other than Lindane).....	0.1								
Fish (including Crustaceans and Molluscs).....	Dieldrin.....	NP	112	30	82	21			1	23 (0.001 to 0.31)
	DDT.....	1.0								
	Chlordane.....	NP								
Cheese.....			3		3					
Molasses.....			20		20					
Eggs.....			7		7					
Egg Products.....	Pirimiphos-methyl ..	NP	1	1	..					1 (0.02)
Flour.....	Fenitrothion.....	3.0	9	9	..	9				
Breakfast Cereals.....	Fenitrothion.....	NP	18	7	11					7 (0.01 to 0.16)
Dried Fruit.....	DDT.....	3	13	3	10	2				1 (0.03)
	Heptachlor Epoxide.....	NP								
Pumpkin Seeds.....	Dieldrin.....	NP	3	2	1	1				1 (0.01)
	DDT.....	0.5								
Corn (for Tortillas)...	Pirimiphos Methyl ..	7	2	1	1	1				
Tea.....	BHC.....	NP	47	24	23					5 (0.12 to 0.56)
	Dieldrin.....	NP								
	DDT.....	NP								
Apples.....			8		8					13 (0.001 to 0.004) 17 (0.001 to 0.24)

TABLE CXXXVII—continued
 PESTICIDE RESIDUES IN FOOD IN MILLIGRAMS PER KILOGRAM—continued

Food Commodity	Pesticide	MRL	Total No. of Samples	Total No. with Residues	Total Free of Residues	No. 0-25% MRL	No. 25-50% MRL	No. 50-75% MRL	No. 75-100% MRL	No. Above MRL (Details)	
Lemons	Methidathion	2.0	8	6	2	5					
	Parathion.....	0.5				1					
	Fenthion.....	2.0				1					
	Chlorpyrifos.....	0.5				1					
Grapefruit	Methidathion	2.0	9	1	8	1					
Bananas.....	DDT.....	3.0	2	1	1	1					
Cherries.....			7		7						
Mandarins.....			1		1						
Avocado.....	Dieldrin.....	NP	1	1						1 (0.1)	
Pawpaw.....			2	2							
Pineapples.....			10		10						
Grapes	DDT.....	3.0	8	1	7	1					
Peaches			8		8						
Oranges.....	Parathion.....	0.5	19	10	9	1					
	Cabaryl.....	7.0				1					
	Methidathion.....	2.0				9					
Pumpkin.....			1		1						
Capsicum.....	Endosulfan.....	2.0	14	5	9	1					
	Heptachlor.....	0.05				1					
	DDT.....	0.5				3					
Beans.....	DDT.....	1.0	1	1							
Cabbage.....	DDT.....	7	4	1	3	1				1 (0.11)	
	BHC.....	NP									
Potato.....	DDT.....	1.0	1	1		1					
Zucchini.....			1		1						
Brussels Sprouts	Mevinphos.....	0.25	5	5	..	2	4	1		4 (0.1 to 0.3)	
	Diazinon.....	0.7									
	Cabaryl.....	10									
	Methiocarb.....	NP									
Carrots.....	Dieldrin.....	0.1	21	8	13	2	1				
	DDT.....	1.0				..		7			
Tomatoes.....	DDT.....	1.0	17	3	14	2	1				
	Methamidophos.....	2.0									
Canned Vegetables ...	DDT.....	0.5	56	6	50	5					
	Endosulfan.....	2.0				1					
Cauliflower.....	DDT.....	0.5	5	2	3	2				1 (0.08)	
	BHC.....	NP									
Lettuce.....			2		2						
Chokos.....	Cabaryl.....	5.0	1	1	..	1					

TABLE CXXXVII—continued
PESTICIDE RESIDUES IN FOOD IN MILLIGRAMS PER KILOGRAM—continued

Food Commodity	Pesticide	MRL	Total No. of Samples	Total No. with Residues	Total Free of Residues	No. 0-25% MRL	No. 25-50% MRL	No. 50-75% MRL	No. 75-100% MRL	No. Above MRL (Details)
Silverbeet			1		1					
Cucumbers			1		1					
Frozen Vegetables	Cabaryl	5	4	1	3	1				
	DDT	0.5								
Total			759	166	593	..	..	..	..	84

Total Number of Food Samples—759
Number with Pesticides—166
Number without Pesticides—593
Number with Pesticides Exceeding MRL—84

NOTE.—All concentrations in milligrams/kilogram.
NP = Not permitted in this commodity.

TABLE CXXXVIII
SAMPLES OF DRINKING WATER

Source	Number and Type of Analysis			
	General	Fluoride	Trace Metals	Nutrients
Department of Health	1 402	544	346	156
Department of Primary Industries	82	..	..	..
Public Works Department	11	..	..	..
Local Authorities	21	..	..	..
Queensland Water Resources Commission, Water Quality Branch	6	..	..	..
Miscellaneous	30	..	..	..

TABLE CXXXIX
PESTICIDES IN DRINKING WATER

Pesticide Detected	No. of Samples with Pesticides	*Recommended Level (mg/L)	No. of Samples 0-10% RL	Others
Endosulfan	2	0.04	2	
Dieldrin	3	0.001	3	
BHC	1	0.1	1	
Parathion	1	0.03	1	
Formothion	1	No Recommended Level	..	0.000 01 mg/L
2,4-D	3	0.1	3	
2,4,5-T	4	0.02	4	

Total Samples—49
Total with Detectable Residues—12

* Limits for pesticides in drinking water as recommended by National Health and Medical Research Council and Australian Water Resources Council jointly.

Place	No. of Samples	No. of Samples with no Detectable Residue	No. of Samples with Residue	Nature of Residue
Ayr	1	1	..	..
Blackall Range	3	3	..	..
Bowen	1	1	..	..
Bundaberg	2	..	2	Dieldrin, BHC
Cedar Creek, Tamborine	14	14	..	..
Currumbin Valley	5	5	..	..
Emerald	5	3	2	Parathion, Endosulphan, Formothion
Gin Gin	2	1	1	2,4,5-T
Maryborough	1	1	..	..
Maroochy	4	4	..	..
Oakey	1	..	1	2,4-D
Ormeau	3	2	1	2,4-D
South Kolan	4	1	3	2,4,5-T
Thabeban	1	..	1	2,4-D
Warwick	1	..	1	Dieldrin
Wondai	1	1	..	..
	49	37	12	

TABLE CXL
CATEGORIES OF SAMPLES RECEIVED FROM THE HEALTH DEPARTMENT AND OTHER MISCELLANEOUS SOURCES BY
THE CHEMICAL PRODUCTS AND CUSTOMS SECTION

Type of Sample	Normal	Complaint	Legal	Total
Drugs for destruction .....	..	..	476	476
Drugs and pharmaceuticals for analysis	126	6	31	163
Chemical preparations.....	174	12	2	188
Cosmetics.....	6	..	..	6
Glazed ceramic ware	15	..	..	15
Toys and children's articles.....	220	12	..	232
Foods.....	47	6	..	53
Samples suspected of being poisoned—				
(a) Dog baits .....	..	22	..	22
(b) Soil, plants, etc.	2	43	12	57
(c) Foodstuffs .....	..	1	..	1
Paint and paint scrapings	368	..	84	452
Pesticide preparations .....	..	..	29	29
Miscellaneous.....	98	3	..	101
Total.....	1 056	105	634	1 795

TABLE CXLI
FARM WORKERS (BLOOD)

Pesticide	No. of Samples analysed	No. of Samples with this pesticide	Average Concentration (ng/g)	Range of Concentration (ng/g)
Hexachlorobenzene	51	30	2	0 to 13
DDT and Metabolites.....	51	48	17	0 to 100
Dieldrin	51	5	0.3	0 to 8
Heptachlor Epoxide.....	51	1	0.2	0 to 8
BHC	51	1	0.06	0 to 3
Total.....	51	..	..	..

TABLE CXLII
INDUSTRIAL WORKERS (BLOOD)

Pesticide	No. of Samples analysed	No. of Samples with residue	Average Concentration	Range of Concentration
Hexachlorobenzene	56	39	1.4	0 to 6
DDT	56	38	4.8	0 to 18
Dieldrin	56	12	2.5	0 to 48
Bendiocarb	5	..	..	..
Campechlor.....	6	..	..	..
2,4,5-T	23	1	0.5	0 to 10
PCB'S.....	44	..	..	..
Total	134	..	..	..

NOTE.—ng means nanograms.

TABLE CXLIII
INDUSTRIAL WORKS—URINE

Pesticide	No. of Samples Analysed	No. of Samples with Residues	Average Concentration (ng/ml)	Range of Concentration
2,4-D	10	6	43	0 to 247
2,4,5-T	10	7	12	0 to 56
Bendiocarb	5	5	3	1 to 5

TABLE CXLIV
WATER AND BOTTOM SEDIMENT SAMPLES

Source	No. of Samples	Nature of Sample	No. of Analysis	Type of Analysis
WQC.....	5 621	Water	1 964	B.O.D.5,pH, Suspended Solids
		Water	2 643	Nutrients (Nitrogen and Phosphorus)
		Water	572	Trace Metals
		Water	272	Surface Active Agents
		Water	107	Phenolic Compounds
		Water	502	Oil and Grease
		Bottom Sediment	107	Oil and Grease
		Water	424	Hydrocarbon Material
		Bottom Sediment	151	Hydrocarbon Material
		Water	379	Total Organic Carbon
		Water	220	General Analysis

TABLE CXLVI
WASTE WATER SAMPLES

Source	No. of Samples	No. of Analysis	Type of Analysis
Water Quality Council	1 635	1 211	B.O.D.5,pH, Suspended Solids Nutrients (Nitrogen and Phosphorus) Metals 83 Surface Active Agents 20 Phenolic Compounds 129 Oil and Grease 29 Total Organic Carbon 6 General Analysis
Local Authorities.....	191	191	B.O.D.5,pH, Suspended Solids

TABLE CXLV
WATER SAMPLES

Metals Determined	No. of Determinations
Cr,Ni,Cu,Cd,Pb,Zn.....	392
Hg.....	241
Fe.....	196
Mn.....	158
As.....	28
Al.....	18

TABLE CXLVII
WASTE WATER SAMPLES

Metals Determined	No. of Determinations
Al.....	142
Cr.....	40
Mn.....	7
Fe.....	19
Ni.....	18
Zn.....	33
Cu.....	36
As.....	9
Cd.....	17
Hg.....	19
Pb.....	25

TABLE CXLVIII
ORGANIC PESTICIDES AND RELATED INDUSTRIAL
COMPOUNDS IN WATER, SEDIMENT AND FISH
SUBMITTED BY WATER QUALITY COUNCIL

Analysis Performed	Number of Samples		
	Water	Sediment	Fish*
Organochlorine and Polychlorinated Biphenyls	299	306	54
Organochlorine plus Organophosphorus	4	2	3
Organochlorine plus Chlorophenoxyacid herbicides	4	..	..
Organochlorine and Organophosphorus plus polychlorinated biphenyls	1	..	..
Organochlorine plus Pyrethroids	2	..	..
Organochlorine plus Organophosphorus plus Pyrethroids	5	..	..
Organophosphorus plus Organochlorine plus Herbicides	4	..	1
Organochlorine plus PCB's plus Herbicides.....	16	5	..
Organochlorine plus Organophosphorus plus Retenone	1	..	..
Total	336	313	58

*Fish includes teleosts and mollusca.

TABLE CXLIX
SAMPLES EXAMINED BY GOVERNMENT CONTRACTS
SECTION

Nature of Samples	No. of Samples	
	1979-80	1980-81
Textiles and Related Products	273	375
Laundry Detergents; Cleansers.....	50	183
Floor Polishes .....	..	64
Chemical Preparations.....	13	49
Office Requirements, Foods and Miscellaneous Items	62	104
Total	398	775

TABLE CL
SURFACE COATING SAMPLES TESTED

Source and Nature of Samples	No. of Samples	
	1979-80	1980-81
Queensland Housing Commission	866	922
Department of Works— Linseed Oil Paints.....	1 290	605
Paint Scrapings .....	..	23
Tropical Paint Formulations	124	59
Sub-total (Works)	1 414	687
Water Quality Council .....	..	1
Others.....	5	..
Total	2 285	1 610

TABLE CLI
HUMAN FLUIDS (FOR CLINICAL SERVICES) FOR ORGANIC
PESTICIDE RESIDUES

Pesticide Type	Blood†	Urine
Organochlorine (OC).....	19	4
Organophosphorus (OP)	10	1
Carbamates (C).....	3	..
Chlorophenoxyacid herbicides (H).....	20	20
Polychlorinated biphenyls (PCB's).....	2	..
OP + OC	14	5
OC + C	1	1
OC + OP + C.....	4	..
OC + OP + H	9	9
Miscellaneous*.....	6	..
Total	88	40

* Miscellaneous includes triazine herbicides, other nitrogenous herbicides and dithiocarbamate fungicides.

† Blood includes whole, serum and plasma.

TABLE CLII
NATURAL RESOURCES WATER

Source	No. of Samples	No. of Analyses	Type of Analyses
Queensland Water Resources Commission—			
Surface Waters.....	..	968	General
Underground Waters ...	3 472	2 504	General
Queensland Mines Department—Geological Survey Office ...	..	836	Comprehensive
Oil Fields Bores	885	49	General

TABLE CLIII
SAMPLE FROM BUREAU OF CUSTOMS 1980-81

Reason for Submission	No. of Samples
Tariff	210
Import Quality Control—	
(a) Fish and edible marine products.....	140
(b) Glazed ceramic tableware	570
(c) Pencils, artists brushes, etc.	48
Prevention and detection of prohibited imports.....	34
Fertilizer Bounty Investigations	19
Excise Investigations	78
Total	1 099

Following is a dissection of sample types received for tariff classification:—

Nature of Sample	No. of Samples
Textiles	50
Paper	21
Plastics (bulk)	8
Plastics (sheet and articles)	9
Chemical products	49
Defined (pure) Chemicals	7
Foods	30
Alcoholic Beverages	6
Lubricants (petroleum)	15
Lubricants (non-petroleum)	1
Rubber	9
Natural Products	3
Waxes	1
Metals.....	1
Total	210

TABLE CLIV
NUMBER OF SAMPLES RECEIVED FROM
COMMONWEALTH DEPARTMENT OF PRIMARY INDUSTRY

Nature of Samples	No. of Samples	
	1979-80	1980-81
Dairy Products—		
Butter fat and butter concentrate	13	8
Casein.....	235	169
Cheese	46	59
Condensed Milk	7	5
Cream, Sour Cream, Dessert Whips ..	13	43
Dried Full Cream Milk and Lactogen ..	29	61
Ghee.....	13	17
Ice Cream	9	26
Junex (Meleton)	49	73
UHT Milk and Related Products	170	181
Yoghurt	Nil	17
Sub-Total	584	659
Non-Dairy Products—		
Canned Fruit and Fruit Juice	23	17
Canned Vegetables	18	4
Honey.....	222	126
Margarine.....	22	41
Pasteurized Frozen Liquid Eggs	208	624
Shrimps (Prawns)	63	15
Vegetable Oil	Nil	5
Sub-Total	556	832
Total	1 140	1 491

TABLE CLV
PRODUCE EX-COMMONWEALTH DEPARTMENT OF
PRIMARY INDUSTRY FOR PESTICIDE RESIDUE ANALYSIS

Commodity	Number of Samples	
	1979-80	1980-81
Butter	187	192
Cheese	113	129
Eggs (frozen pulp).....	38	104
Eggs (shell).....	142	156
Full Cream Milk Powder	5	29
Honey.....	67	46
Total	552	656

DIVISION OF HEALTH EDUCATION AND INFORMATION

Director: ERROL E. SCHAEFER, M.V.O., M.P.R.I.A.

Assistant Director: NEIL WAIT, B.A., M.A.S.H.E., A.A.I.H.S.

The role of health education as an important strategy of preventive health is well recognized. The reality facing health education is the challenge to convert knowledge into action. A distinct body of knowledge is developing to meet this challenge.

The more people of all ages who can be persuaded to adopt healthy lifestyles and become aware of the advantages of changing inappropriate health behaviours, the greater the quality of life enjoyed by the community.

It is important that young people, particularly, are convinced that their lifestyle today has an influence on their health status in later life.

As part of its contribution to this on-going task, staff of the Division of Health Education and Information have been involved in introducing, trialling and implementing a wide range of health education programmes and activities. This work has been supplemented by the preparation and revision of some 95 pamphlets on a wide range of health-related subjects. In addition, some 60 specialized publications for doctors, dentists and teachers have been prepared. During the past year, the general public and the professions have requested more than 4 000 000 copies of health education material which included booklets, pamphlets, posters, stickers and bookmarks.

As the expectations and demands upon health education increase and techniques become more complex, the need for adequate research and evaluation is greater, and research and evaluation procedures are utilizing increasingly larger proportions of health education resources.

As the results of these endeavours become available, however, the efficiency and effectiveness of health education will be facilitated.

Co-operative working relationships with all bodies working in the field are important and liaison has been established with the Australian Medical Association, Australian Dental Association, National Safety Council, Queensland Cancer Fund, Department of Education, Department of Aboriginal and Islander Advancement, Divisions within the Department, and with commercial and community service organizations.

The activities of the Division are implemented through the following sections:—

- Health Maintenance
- Health and Human Relations
- Special Projects (Aboriginals and Islanders)
- Community Health Education
- Information Services
- Training.

HEALTH MAINTENANCE SECTION

Nutrition

"Eating to Enjoy Life", a new nutrition booklet, has been developed and published and is currently being distributed State-wide. The aim of the booklet is to promote understanding and practice of the Australian Dietetic Association's nine dietary guidelines. The format of the booklet is consistent with a positive and attractive healthy lifestyle approach. Development is following on the production of supplementary teaching and visual aid kits covering each of the guidelines.

Consumer Education

Association has been maintained with TRIPOD, the food working party of the Consumer Affairs Bureau, which is concerned with standards for food marketing. Pamphlets are being prepared on date marking and ingredient labelling to promote awareness among producers and consumers.

Healthy Lifestyle

One pilot programme was undertaken at Park Ridge to further explore the usefulness of the Alameda and Framingham studies into assessment of healthy lifestyle. With its recently acquired display micro-computer, the Division has developed a print-out programme outlining health potential related to various behavioural criteria.

These developments can usefully be employed with the mini computer in display and group programme activities, and also allow for follow-up and evaluation.

A project is being researched and carried out currently in conjunction with Griffith University involving the study of a community to find the relationship between vital lung capacity, heart and respiratory diseases, and home and work environment.

Home Safety Programme

Research on statistics of non-transport accidents, together with a review of accident prevention literature, has resulted in a plan to conduct a State-wide pilot study of a new style home safety health education programme. The programme, as proposed, is initially targeted at mothers-to-be, and will involve attempts to modify home environments which have accident risk potential. Data for the home accident fact sheet was also updated.

Holiday Safety Ranger Competition II

The 1980-81 Christmas holidays competition attracted entries from about 16 000 children throughout Queensland, which represents approximately a 160 per cent increase on last year. Competitors were invited to answer questions relating to prevention of drowning and sun-caused skin cancer/premature ageing of the skin, and to state what relevant preventive measures they planned for the Christmas holidays. Information materials were forwarded as part of the competition package. Prizes of sun hats, T-shirts, stick-on slogans, and stickers were awarded.

Safety in the Sun

A special grant was used for a State-wide mass media sun safety campaign. The campaign was based upon materials developed in the previous year. Approved sun hats were presented to the Surf Life Saving Association for distribution to members on beach patrol. A wide distribution of information materials supported the media component. Also, a survey is under way to assess the effectiveness of the Division's present primary and secondary school kit of teaching notes on sun safety. The results of this survey will assist in a revision of the current kit and the completion of a similar kit for kindergarten and lower primary school teachers.

Dental Health

A "caravan plaque testing tunnel" set up in King George Square as part of Dental Week provided lively public interest. However, the Division's main involvement was in a contest for school food services, tuckshops or their alternatives and school boarding houses. The contest invited submission of menus to accord with entry criteria, with the best entries being reproduced in a School Food Services booklet for State-wide distribution.

Fluoride Supplement Dosages

All pharmacists were advised of the need to correct labels on old fluoride supplement stocks, which recommend higher doses than those currently advised by the National Health and Medical Research Council. In association with the Division of Dental Services, a new label has been prepared, together with a circular letter to all doctors, dentists and pharmacists, advising new dosage levels, dosage modification in areas with full or partial fluoridation ("Full" = optimum level of one part p.p.m., or more), and fluoride content of the State's water supplies.

Food Hygiene and Handling Courses

Courses to demonstrate correct handling of food were conducted at hospitals, including Prince Charles, Royal Brisbane, Southport General, Wolston Park, Toowoomba General, Bailie Henderson, Challinor Centre, Ipswich General, Princess Alexandra and Basil Stafford, and the Wacol Cook-Freeze factory. Kitchen and catering staff, and sometimes nursing staff, were involved. A food hygiene manual incorporating procedures devised in these and associated courses is being developed and will include student notes, audio-visual material and other aids.

Information and resource materials have also been provided to a number of organizations and groups.

Head Lice Education Kit

Kit materials were prepared and are ready for trial in the Brisbane area. The kits contain pamphlets, posters, slide sets, and script, "before and after" tests for knowledge/behaviour changes, story sheet for younger children, microscope slides and hand lens, and background notes for kit users.

Potential Life Years Lost

Most tables appearing in the original booklet have been updated using 1977 morbidity and 1978 mortality figures.

Health Week 1981

Activities included:—

- World Health Day luncheon in conjunction with United Nations Association and Australian Medical Association;
- School Project Competition, with schools entering projects under the theme, "Prevent the Barriers Being Built". Some excellent work was submitted on immunization and accident prevention. The Australian Medical Association presented a prize and shield for annual competition;
- Questionnaire sent to all health and welfare bodies in the State, seeking their views on achieving "Health for all by the year 2000". Outcomes included information suitable for preparation of a health services directory, and collection of data which is now in process.

Immunization Campaigns

Co-operation was given to a restaurant chain in an immunization promotion, in which posters were displayed and children adequately immunized received free food items. Media promotion of general immunization was undertaken in the latter half of 1980, and a specific rubella immunization campaign including posters, pamphlets, radio and television commercials was prepared and launched in 1981. Packages of radio and television advertisements, and posters are being sent to local authorities for their own school rubella campaign promotions.

International Year of Disabled Persons

A co-operative venture with occupational therapists from Prince Charles, Princess Alexandra, Mater and Royal Brisbane hospitals produced an array of audio-visual materials promoting awareness of disabled persons and their conditions. Under the direction of the Rehabilitation Services Director, displays were developed with slide presentations, and an I.Y.D.P. pamphlet was produced.

Swimming Pool Hygiene

Requests have been received for some time from local authorities and the general community for specific instruction on swimming pool and similar hygiene. While technical material has been available, it has not been presented widely enough. A new pool hygiene pamphlet has been drafted and is proposed for release to coincide with the coming summer season.

Pre-Retirement Courses

Officers have contributed to pre-retirement courses organized by the Commonwealth Government, by introducing "health in senior years" components. These components aim to encourage maintenance of physical, mental and social health in post-retirement years.

Talks and Resources

During the year, officers gave many talks and discussions on a wide range of preventive topics to community groups in the Brisbane area. Section officers are also involved in researching and providing information for *ad hoc* enquiries, and also consulting with the production team in the development of a wide range of information materials.

HEALTH AND HUMAN RELATIONS SECTION

"Natural High" is the provocative title of a new resource film produced by the Division for use in drug education programmes throughout the State.

This short (14-minute) colour film raises "quality of life" issues of immediate relevance to adolescents, including personal growth and development, the importance of family and friends, lifestyles and health, and life-coping skills like communication, relaxation, problem-solving, etc.

"Natural High" developed out of current thinking in drug education—that is, recognition that drug use may satisfy important needs in the individual's life and that to be effective, drug education must seek to provide individuals with alternative ways of meeting those needs.

While the production of resources is an essential element in health education, our major effort has been directed at reaching those people in face-to-face contact with our target populations. To do this, we have developed three distinct services—Consultancy; Provision of information; Programme Planning & Development.

Consultancy

We provide a consultancy service for the development of drug education programmes by other organizations. Help and guidance is given to the Education Department on curriculum development, programme design and evaluation, and resources available for use in health programmes. The service has been widely used by secondary and tertiary institutions, community groups, and other Government departments and agencies, for example, Mothers Against Drugs, Youth Council of Queensland, Mental Health Association, Queensland Consumer groups, Citizens' Advice Bureaux, Drug Arm, Pre-School Association, etc.

Information

- *Resources.*—The Section is now a comprehensive resource centre, with up-to-date reference and support materials—posters, fact sheets, etc.—which meet community needs for information and assistance. Regular contact with Community Health Centres ensures a consistent approach to drug education programmes throughout the State.
- *Displays.*—Over the last two years, the Division has considerably altered the format for its health promotion displays to involve greater interaction with the viewing public. In the Division's "Relax in the 80's" display at the 1980 Brisbane Exhibition, 42 000 people played electronic health games, 19 800 listened to tapes on relaxation which were placed in relaxation booths, 30 000 people played computer health games, and 40 000 cups of cold water were distributed, as well as 20 000 copies of pamphlets on stress and relaxation, and 7 000 copies of the "Coping Naturally" booklet.

The aims of the display were to promote stress management without the over-use of drugs, to have show visitors experience a few minutes of relaxation, and to introduce them to alternative ways of controlling stress.

Planning and Programming

Innovative programme development has been the hallmark of this Section:—

- *Stress Management Programme.*—The Stress Management Programme aimed at the whole community was launched in March, 1981. It combined media promotion with education through Community Health Centres and community organizations. Short-term objectives of the programme are to increase public awareness of the relationship between stress, health and disease, and of recommended stress management techniques, and to increase the number of people using the techniques. The long-term aim is to measure a reduction in the consumption of prescribed and non-prescribed drugs, and the incidence of stress-related disease. There has been a strong response to the television commercial and the new booklet "Living with Stress", with some 800 requests received in one month.
- *Personal Development Programme.*—A promotive health education project was designed to investigate the short-term effectiveness of feedback of personal fitness measures on the health behaviour of adolescents at a number of Technical and Further Education Colleges, unemployed youth groups, and high school students. The programme has already been shown to motivate personal responsibility for health and well-being. The course uses films, health and fitness assessments, group discussions, and interactive computers to enable the students to investigate aspects of physical and mental health, to understand health-promoting behaviours, relaxation and leisure skills. Health status data has been collected from students for analysis and evaluation. Results of this evaluation, currently awaiting computer analysis, should be available in the near future.
- *Teacher Training Programme.*—As well as the "Current Health Issues" programme with final-year physical education trainees at Kelvin Grove College of Advanced Education, a number of in-service programmes for teachers was provided. Evaluation of these presentations indicates a high level of satisfaction with our programmes.

Health education camps for Grade 11 students are also co-ordinated as part of the teacher training programme. The camp programme has been highly successful and has been adopted as a format for health education by a number of high schools.

- *Staff Training.*—To further their expertise, staff of the Section undertook in-service training at seminars and workshops, and attended national and international conferences on health education and drugs.
- *Community Development.*—Support and advice have been offered to a number of organizations and community groups in their formulation of community development projects.

In the 12 months to the end of June, this Section conducted 265 programme sessions involving 3 840 participants. Resource material distributed totalled 245 579 individual items.

SPECIAL PROJECTS SECTION

Field Liaison

During the year, health education and liaison officers conducted or discussed health education programming with Aboriginals and/or Torres Strait Islanders in communities or reserves at Atherton, Bloomfield River, Boulia, Bundaberg, Burketown, Cairns, Camooweal, Cardwell, Cherbourg, Chillagoe, Cloncurry, Coen, Cooktown, Dajarra, Doomadgee, Gladstone, Herberton, Hopevale, Ingham, Kennedy, Kowanyama, Laura, Lockhart River, Mackay, Mareeba, Maryborough, Morningson Island, Mossman, Mount Isa,

Normanton, Palm Island, Pialba, Rockhampton, Scarness, Stradbroke Island, Thursday Island, Townsville, Tully, Weipa, Woorabinda, Yarrabah and York Island. Following rationalization of the Health Education Assistants system, new roles have been established in supporting both this Division's health education activities and that initiated by the Aboriginal Health Team. Advantage was taken during field trips to facilitate implementation of the new roles.

Co-operation with other Organizations

Section officers co-operated and consulted with a wide range of State and Commonwealth Government Departments and Divisions, and non-Government institutions and organizations. These included the Department of Aboriginal and Islander Advancement, Aboriginal Health, the Aboriginal and Islander Community Health Service, Aboriginal Hostels, Division of Maternal and Child Health, St. Vincent de Paul, Salvation Army, most Churches and Local Authorities throughout Queensland, Family Planning Association, Queensland Epilepsy Association, and Aderba (a self-help organization working with people suffering from phobic conditions).

Women's Health Programme

During the year, emphasis has been on training non-Division health personnel (e.g. Public Health Nurses and Aboriginal Health Assistants) how to plan, implement and evaluate this programme in their specific areas of responsibility. Work was undertaken in conjunction with the Family Planning Association and the Aboriginal Health Programme on a family planning kit for use by Aboriginal health workers. The kit emphasizes spacing of children rather than limiting the size of families. The teaching kit is due for release in the next fiscal year and will include teaching notes, slides and pictorial flash cards, lists of resources, and teaching strategies.

Nutrition Education and Budgeting Programme

Development is still continuing, and consultation and advice was canvassed during the year's field trips.

Tallebudgera Youth Camp

Some 56 teenage boys and girls from Woodridge and Cherbourg took part in a four-day healthy lifestyle camp at Tallebudgera National Fitness Camp. Participants were taught techniques in relaxation, recreation, and resuscitation, together with individual and social development, nutrition, and body care and grooming. Health Education Assistants who helped supervise the programme took advantage of skills learnt to establish new health education activity in their respective areas.

V.D. Colour Film

This 15-minute colour presentation, produced by the Division in video as well as 8 mm and 16 mm film, is now complete with commentary and facilitator notes for loan to approved health workers and agencies. Copies of the kit may be borrowed from the Division's film library.

"Answers" News Sheet

"Answers", which has been valuable in developing health consciousness among Aboriginals and Islanders, has been put through a process of re-development following consultation with target groups and other agencies. It is now to be printed in colour and the new format includes established preventive health themes together with personalized health liaison.

Aboriginal and Islander Calendar

The 1981 calendar featured portraits of traditional life including corroboree, hunting and fishing scenes, together with artifacts and everyday commodities in use by Aboriginals and Islanders in traditional lifestyle. Distribution remains at 5 000 copies.

Home Programmes

Programmes have been conducted in various private homes for individual Aboriginal families or wider groups. Topics have included women's health, nutrition, services provided by Government agencies, fitness and recreation, and human development.

Student Training

Graduate students in nutrition and dietetics from the Queensland Institute of Technology have been supervised in nutritional programme development at the Aboriginal/Islander rehabilitation hostel, with park people, homeless persons and unemployed youth involved with the youth support scheme.

Epilepsy Week

The Director chaired a seminar held during Epilepsy Week and officers participated in promotional activities. Further assistance was given to the Epilepsy Association and Community Health Services Centres in Rockhampton, Gladstone and Mackay.

Programmes with Homeless Persons

Regular on-going programmes are conducted at the 139 Club (Walk-in Centre); The Shed (Youth Support Scheme); Jodaro Hostel (Aboriginal and Islanders Rehabilitation Unit); Pindaro (Salvation Army residence and alcohol/drug detoxification unit); Hassal House (Church hostel for homeless youth, both male and female). Topics covered included smoking, alcohol, nutrition, hepatitis, diabetes, epilepsy, head lice, scabies, V.D. and budgeting. The primary aim of these programmes is to encourage the largely unemployed homeless apathetic persons to maintain personal interest and health during their period of crisis.

COMMUNITY HEALTH EDUCATION

Community Health Education Officers are located in Community Health Services Centres at Townsville, Mackay, Rockhampton, Toowoomba, Gold Coast, Ipswich and Inala. Currently, no officers are located at Cairns and Redcliffe due to transfers and promotions during the year.

Health Education Officers in Community Health Services Centres fulfil a four-fold role:—

- To implement at the regional or local level the State-wide health education programmes;
- To be a point of dissemination for informational materials and resources produced by the Division;
- To provide a health education resource for the Health Centre's multi-disciplinary team;
- To liaise and co-ordinate with local agencies and community groups in the development and implementation of local health education initiatives.

They maintain close liaison with the Division, which provides them with resource materials, programme development and training. A one-week in-service training programme was conducted in May, 1981, for all Community Health Education Officers to update skills, acquaint them with programme developments and to foster a co-ordinated approach to health education strategies.

In addition to the State-wide programmes, activities at the community level have covered a wide range of health areas, reflecting the varied needs of the local communities.

These programmes have included—Diabetes support groups, care of the ageing, coronary heart disease risk factors, safety and first aid, immunization, nutrition (including school tuckshop seminars), obesity control groups, ante-natal education, drug education and "Skills for Living".

INFORMATION SERVICES

The Information Services Branch produces and distributes materials which may be broadly classified into serving two functions:—

- The provision of a wide range of health information as a service freely available to the public;
- The production of resource and informational materials as integral parts of co-ordinated health education programmes.

In serving both these functions, the Division now distributes publications under eight main classifications:—General Pamphlets (88); Booklets (15); Posters (34); Restricted Dental Pamphlets (7); Bookmarks (5); Stickers (5); Vietnamese Language Pamphlets (5); Miscellaneous Publications (Hat Pattern, Tar Table, Colouring Sheet, Drink Coaster, Immunization Record Card).

This year, a new recording system was introduced which provided a more accurate record of distribution.

Distribution figures for 1980-81 were:—

• General pamphlets	2 405 607
• Specialized publications	475 703

Percentage break-up of requests revealed the following:—

- General pamphlets—General public 20.86%; Health Department (Maternal and Child Health, School Health) 23.72%; Schools 14.45%; Local Authorities 4.62%; Hospitals 11.84%; Private Organizations 18.71%; Division Staff 0.73%; Private Doctors 4.10%; Private Dentists 0.97%.
- Specialized publications—General public 2.09%; Health Department (Maternal and Child Health, School Health) 31.54%; Schools 12.49%; Local Authorities 12.01%; Hospitals 2.12%; Private Organizations 21.17%; Division Staff 0.33%; Private Doctors 5.19%; Private Dentists 13.06%.

EDITORIAL SECTION

The Division's written information continues to be an essential and effective factor of its work.

While the Division's "awareness" publications are in great demand, there has been an acceleration of the "How to live with..." series. These are designed to inform and motivate behaviour changes.

Speech notes were drafted and media releases on the Division's many activities have been instrumental in creating public awareness.

ART/DISPLAY SECTION

Three commercial artists produce art work for such diverse needs as pamphlets, posters, stickers, booklets, overhead transparencies, T-shirt transfers, illustrations. Together with a carpenter, they produce the displays and exhibitions shown by the Division.

Campaigns designed to generate an awareness of preventive health measures (such as rubella, immunization) are supported by the Art Section which designs and produces art work for stickers, balloons, pin-on buttons as well as posters and promotional pamphlets.

The Division has expanded its approach to publications by producing glossy, 4-colour booklets and posters. These include the quarterly publication "We Care" delivered to some 70 000 parents of pre-school children and the newly-launched "Eating to Enjoy Life" booklet.

Art work and display expertise were also provided for other Divisions (Management Services, School Health Services, Dental Services, Hospital Boards and the Public Service Board).

During the past year, this Section has been involved in the production of—17 new pamphlets/booklets; 29 revised pamphlets; 12 posters; 4 periodicals; 23 graphics; 1 calendar; 3 each bus and rail posters; 2 Division envelopes.

Displays prepared by this Section reinforced the following promotions:—1980 R.N.A. Exhibition; School Health Services; Gold Coast "Sun and Skin"; 1981 Telegraph Home Show; Public Service Board "Careers Week"; Pest Control Week; Epilepsy Week; National Mutual Building Society (window display on poisoning accidents); Health Week.

FILM SECTION

Borrowing by hospitals, institutes and ambulance centres increased considerably during the year, particularly institutes. Interest has been stimulated by the Year of the Child and the current Year of the Disabled. There has also been a demand for films for pre-retirement and ageing programmes. Forty-eight new titles were purchased during this period. Following are comparative loan figures:—

	1979-80	1980-81
Films Loaned	12 044	13 386
Borrowers.....	5 071	5 160
Total Audience	676 826	681 342

AUDIO-VISUAL SECTION

The Audio-Visual Officer continues to produce colour and black and white photography for poster, pamphlet and booklet productions and for displays.

Other activities have included production and duplicating of 35 mm slides for audio-visuals, audio-tape production and duplication and video-taping.

The Rubella campaign television commercials were produced under the direction of the Audio-Visual Officer.

TRAINING

During the year, training lectures in health education principles and practices were provided for professional groups in training. These included:—Queensland Institute of Technology students (Health Surveying, Nutrition and Health Administration), Health education and physical education students at Kelvin Grove College of Advanced Education, A.S.E.A.N. Master in Community Health students at Queensland University, various nursing groups and Aboriginal Health Programme staff.

The Division's Training Officer conducted regular in-service training sessions for Divisional staff and was responsible for the conduct of the Community Health Education Officers' in-service training week. Again this year, he provided assistance for Public Service Board staff with segments of its Productivity Improvement Programme.

LEGISLATION

Health Act Amendment Act 1980 (No. 2)—This Act amends the *Health Act 1980* and provides for the establishment and maintenance of a Cancer Registry in Queensland. Assented to on 30th September, 1980, on which day, sections 1 and 2 of the Act came into operation.

Remaining sections of the Act not yet proclaimed.

Food Act 1981—This legislation will, when commenced, amend the *Health Act 1937-1980* by deleting those provisions of that Act related to food. For the purposes of uniformity of legislation on food throughout Australia, the Act provides for the consolidation and amendment of the law relating to the preparation and sale of food, the securing of the wholesomeness and purity of food, and the fixing of standards for Food. Assented to on 12th June, 1981. Act yet to be proclaimed.

Medical Act Amendment Act 1981—Provided for amendment of the *Medical Act 1939-1980* to allow for the incorporation of medical practices. Assented to on 20th May, 1981, on which day, sections 1 and 2 came into operation. Remaining sections of the Act not yet proclaimed.

Queensland Institute of Medical Research Act Amendment Act 1981—Provided for amendment of the *Queensland Institute of Medical Research Act 1945-1980* to give to the Queensland Institute of Medical Research Trust similar powers of investment for money which the Trust itself raises to those available to the Trust for money which it receives from the Council of the Institute. Assent given on 20th May, 1981, on which date the legislation became effective.

SUBORDINATE LEGISLATION—1980-81

HEALTH ACT 1937-1980

Government Gazette

- 9-8-80 **Amendment of "The Poisons Regulations of 1973"**
 (i) Amendment of Sub-Regulation A7.07 prescribing the poisons which may be used by a school dental therapist to enable all school dental therapists to avail themselves of new techniques involving the use of newly developed products which contain ether and phenol.
 (ii) Insertion of new Sub-Regulation to require manufacturers of products containing fluoride supplements to label the product with such directions for use as are specified by the National Health and Medical Research Council.
- 20-9-80 **Order in Council**
 Declaring each of the substances specified therein to be a dangerous drug under and for the purposes of section 130 of the Health Act.
- 20-9-80 **Amendment of "The Poisons Regulations of 1973"**
 Providing for increases in licence fees.
- 25-10-80 **Amendment of the Queensland Radium Institute Regulations 1978**
 Increasing the fees payable to the Chairman and Members for attendance at meetings.
- 1-11-80 **Amendment of "Pest Control Operators Regulations 1977"**
 Increasing fees payable for application for a licence as a Pest Control Operator or for the renewal of a licence.
- 1-11-80 **Amendment of "The Convalescent Home Regulations, 1963"**
 Increasing the fee payable for renewal of a licence for a convalescent home.
- 1-11-80 **Amendment of the Food and Drug Regulations 1977 (Regulation 107(1))**
 Increasing the fee payable in respect of the chemical, physical, combined chemical and physical or bacteriological analysis of a food, drug or article (NOTE.—This Sub-Regulation was subsequently repealed by the Analysis Fees Regulations, 1981).
- 1-11-80 **Amendment of the Private Hospitals Regulations 1978**
 Increasing the fees payable for the issue and renewal of a licence for a private hospital.
- 1-11-80 **Amendment to "The Poisons (Fumigation) Regulations, 1973"**
 Increasing the fees payable for the issue and renewal of licences to undertake fumigation.
- 29-11-80 **Amendment of the Food and Drug Regulations 1977**
 Providing for certain medications to be supplied in child resistant packages.

Government Gazette

- 20-12-80 **Amendment of "The Poisons Regulations of 1973"**
 Amending Sub-Regulation A5.01 and inserting a new Sub-Regulation A5.03 to permit the use of heroin subject to the written approval of the Director-General of Health and Medical Services.
- 1-1-81 **Amendment of "The Poisons Regulations of 1973"**
 Providing for certain prohibited plants to be held on premises of the Queensland Police Department for the purpose of training of Police Officers engaged in drug detection.
- 28-2-81 **Amendment of the Food and Drug Regulations 1977**
 Incorporating the latest standards approved by the National Health and Medical Research Council relating to the labelling and date-marking of food packages.
- 28-2-81 **Amendment of "The Milk-Sellers Regulations of 1973"**
 Deleting the provisions relating to the labelling and sealing of bottles or containers of milk which matters are now prescribed in the Food and Drug Regulations 1977.
- 9-5-81 **Analysis Fees Regulations 1981**
 New Regulations prescribing fees for analysis of any food, drug or article or examination by a State botanist of any prohibited plant and repealing analysis fees provisions in the Food and Drug Regulations 1977.
- 6-6-81 **Amendment of the Food Hygiene Regulations of 1976**
 Amending the list of Local Authorities authorized to issue licences and to register premises for the preparation, sale, manufacture, packing or repacking of food for sale.
- 8-11-80 **Radioactive Substances Act 1958-1978**
 Proclamation fixing 8th November, 1980, as the date on which the provisions of the *Radioactive Substances Act Amendment Act 1978* shall come into operation.
- 20-12-80 **Amendment of "The Radioactive Substances Regulations, 1961"**
 Increasing the fees payable for application for a licence or renewal of a licence to have in possession, use, sell or transport radioactive substances and irradiating apparatus and registration and renewal of registration of an irradiating apparatus.

TRANSPLANTATION AND ANATOMY ACT 1979

- 16-8-80 **Order in Council**
 Declaring Testing Serum and Control Serum not to be a "tissue" for the purposes of those provisions of the *Transplantation and Anatomy Act 1979* which prohibit the sale of human tissue.

ACKNOWLEDGMENTS

I have much pleasure in recording my gratitude to all members of the staff for their loyal services, support and conscientious attention to duty.

Acknowledgment is also made to other Government Departments for their co-operation, particularly the Government Statistician and his officers who, as usual, have been of great assistance in preparing the vital statistics section of this report and have supplied other statistical details from time to time throughout the year.

Every assistance has been given by the President, Dr P. Landy, and members of the Council of the Australian Medical Association, Queensland Branch, and I am indebted to them for the help they have given me.

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 P. G. Grant, Executive Director of Medical Services, North Brisbane Hospitals Board, and Dr H. R. McGregor, Medical Superintendent, Royal Brisbane Hospital, Dr J. G. Golledge, Medical Superintendent, Princess Alexandra Hospital, and Dr K. P. Kennedy, Medical Superintendent, The Prince Charles Hospital, for the assistance they have given during the year.

P. G. LIVINGSTONE.



